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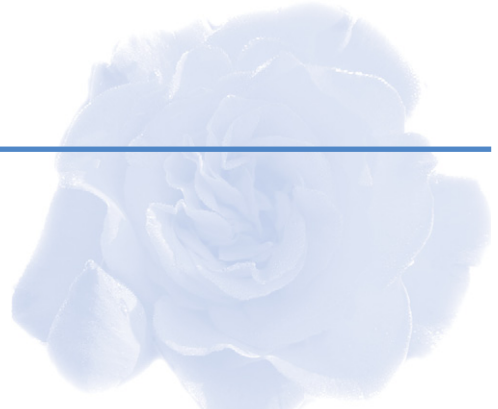
ABOUT THE AUTHOR



Sebastian Pole, Lic OHM, Ayur HC, is an Ayurvedic Practitioner and Chinese Herbalist working in Bath, UK, and is also a passionate ecologist. Sebastian is a member of the Ayurvedic Practitioners Association and Director of the Pharmacopoeia Committee as well as a member of the Register of Chinese Herbal Medicine. He has spent many years living in India studying Ayurveda and Yoga, has a degree in Hindi and Indian Religions and is a qualified yoga teacher. He has dedicated the last 15 years of his life to promoting awareness of the connection between

the health of the individual and the living Earth. The awakening of the link between our ecological awareness and our consciousness is at the heart of his work, hence using organic herbs and ayurvedic techniques to help patients heal themselves is at the centre of his practice. Sebastian is the Herbal Director and founding partner of Pukka Herbs, The Organic Ayurvedic Herb Specialists, planting over 1 million plants a year to benefit the land, the integrity of Ayurveda and the health of society. You can contact him at Sebastian@pukkaherbs.com

FOREWORD



Creation is the expression of cosmic consciousness. It is a journey of energy into matter. The five great elements are uniquely expressed both in mankind and plants. Originating in universal consciousness, the five elements manifest successively into Space, Air, Fire, Water and Earth. From Earth arise the plants that become food for mankind.

Every human cell is a centre of awareness. Each cell has intelligence and choice (mind). The flow of intelligence for communication within and between cells is the flow of *prāṇa*. These factors are present in plant cells as well. The cellular intelligence of plants when consumed is transformed into the cellular intelligence of the human body by *rasa* (taste), *vīrya* (energy), *vipāka* (post-digestive effect) and *prabhāva* (the unique specific action of the herb). Use of two, three or many different herbs that share similar *rasa*, *vīrya* and *vipāka* will promote each other's action and have a synergetic effect on the person's constitutional makeup, the functioning of the body's tissues and excreta.

In Ayurveda, the herbal substances (*dravya*), their potential energy and qualities (*guṇa(s)*) and their ultimate action within the system (*karma*) are regarded as an inseparable biochemical combination. The karmas are actions and suggest various methods of treatment depending upon the gunas. The gunas are not merely attributes or qualities; ayurvedic herbal formulas take into consideration the effects of these qualities such as *lañghana* (lightening), *br̥ṃhāṇa* (nutritive), *rūkṣaṇa* (drying), *snehana* (oleating), *svedana* (diaphoretic) and *sthambhana* (constipating), etc. Substances are classified as *sendriya* (organic) and *nirindriya* (inorganic). Like attracts like or like promotes like, while the oppo-

site regulates or nullifies. These principles are used quite often in ayurvedic pharmacology. Using these principles in herbal combinations helps to restore balance to the person's whole system.

While making individualistic formulas one has to think about the constitution and current altered state (*prakṛti/vikṛti* paradigm) of the patient or client. Charaka gives the gunas of herbal medicines required to fulfill the indications of treatment according to the proper direction of *saṃprāpti* (pathogenesis) and the *prakṛti/vikṛti* paradigm. One can make formulas in several ways: specific to the *doṣa*, specific to disease, specific to both *doṣa* and disease, specific to the tissue or to the channels affected. While making formulas one has to think about *saṃprāpti*, the vector or direction of the *doṣa*, the pathways of disease, and the organ affected. With all this in mind, specific substances are used as a vehicle to carry the herbs' other qualities – *rasa*, *vīrya*, *vipāka* and *prabhāva* – to the specific tissue or organ.

Ayurveda has a vast range of preparation methods of both the substances themselves and delivery methods of the herbs to the body. For example, *anupāna* (the media through which the medicine is given) carries the medicinal properties of herbs to the deep tissues without changing them. Ghee, milk, aloe vera juice or gel is the *anupāna* for *pitta doṣa*. Warm water, dashamula tea or ginger tea is the best *anupāna* for *vāta doṣa*. While hot water, honey or pomegranate juice can be used for *kapha doṣa*. Ayurveda also uses *yogavāhī*, catalytic agents such as ghee or honey. Ayurvedic pharmacology uses herbal remedies in many forms like fresh juice form, powder form, decoction, concoction, pastes, teas, tablets, pills, *āsava* (fermented juice), *aśiṣṭa*

(fermented decoction), herbal medicated oil, ghee, milk and even soups.

The soul of ayurvedic pharmacology is *dravyaguna* and *karma* with *rasa*, *vīrya*, *vipāka* and *prabhāva*.

Mr Sebastian Pole has illuminated ancient ayurvedic wisdom with his clear explanations of the basic principles of *rasa*, *vīrya* and *vipāka* and

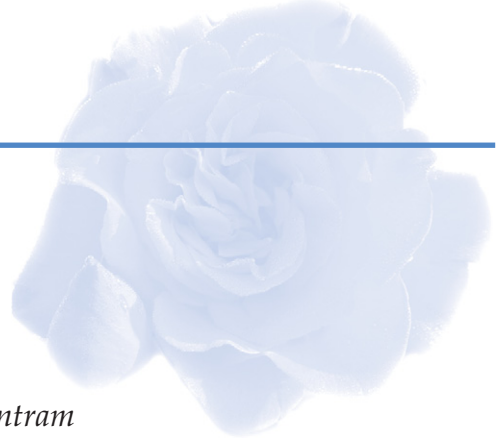
their actions on the *doṣas* and *dhātus*. Paired with his deep concern for sustainable practices, this book is an excellent guide for practical application of herbs in our daily healing.

Love and light,
Dr Vasant Lad, BAMS, MASc.
Albuquerque, New Mexico

July 2005



DEDICATION



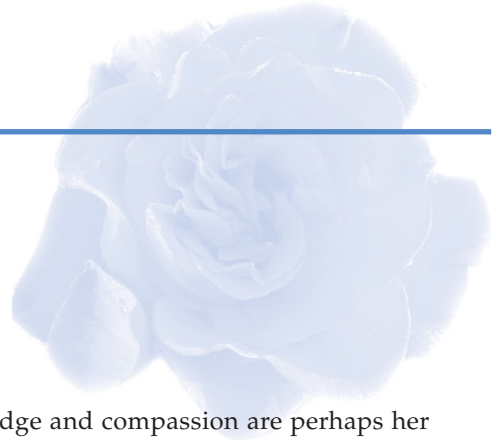
Mahāmṛtyūñjayamantram

*Om tryambakaṃ yajāmahe
sugandhiṃ puṣṭivardhanam
urvārukam iṃa bandhanān
mṛtyor mukṣīya māmṛtāt*

*Om we supplicate the three-eyed lord of the universe (Shiva)
Who is fragrant and nourishes all beings.
Please liberate us from the repetitive cycles of rebirth and suffering
That we may be led to immortality.*

*I dedicate this book to everyone involved in harvesting herbs and making herbal remedies.
I also honour all Ayurvedic Practitioners and herbalists who have committed their lives
to healing. You all preserve the essence of this priceless tradition. This book is for you.*

PREFACE



This book has grown out of my love for herbal medicine, Ayurveda and India. I am deeply indebted to India for many things. For introducing me to Ayurveda, yoga, vegetarianism, to delicious food, to healing plants, to the beautiful Himalaya, the sanctity of all life, the beauty of life-giving water and the majesty of nature and for showing me that spirituality and daily life can coexist in perfect harmony. In some ways, a large part of my life is dedicated to returning some of the favours that have been bestowed on me by India's wise culture and friendly people. 'Ayurvedic Medicine' is a part of this reciprocation and I offer it with all my humble thanks.

It is Ayurveda's ability to empower individuals with the ability to understand and care for themselves and others that has most interested me. The classification of nature according to elemental energetic principles is so subtle and profound. It is also very accessible, tangible and effective. The depth of insight into different disease causes, patterns and differentiations is one of Ayurveda's greatest healing strengths. Combining this understanding of nature with a clear understanding of disease empowers us to offer personalised and individual treatments that effectively remove the cause of a disease as well as treat any uncomfortable symptoms. Ayurveda's ability to instil discrimination,

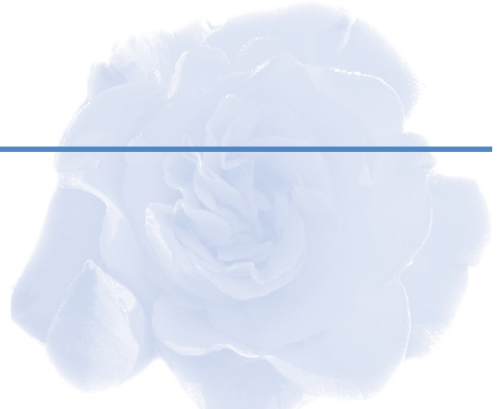
knowledge and compassion are perhaps her greatest gift.

Ayurveda has many exciting opportunities over the next few years but it also faces many challenges. If Ayurveda is going to receive the recognition it deserves and be in a position to help heal those people that need it there is a great need for more maturity and growth within our community. There needs to be more professional cohesion among practitioners the world over, better standards of ayurvedic education, higher levels of teaching, a higher volume of practical reference literature published, more active herbal conservation, stronger defence of our pharmacopoeia and more clinical based research. Luckily for those of us who love and benefit from her wisdom (and also for those who are yet to do so) Ayurveda is in the midst of a renaissance, a genuine *rasāyana* that will see her flourish the world over.

To all of you who read this book I hope that it offers the inspiration that writing it has given me. Nature is the inspiration; watch her, feel her, breathe her, taste her, hear her and then offer this inspiration back to all who can benefit.

Hari om tat sat.
Sebastian Pole
Bath, UK, 2004

ACKNOWLEDGEMENTS



I have written this book with huge amounts of help.

Firstly, my teachers have fed me with words of wisdom and truth. Shri Kamal Das ji, Bal Yogi Balak Das ji, Vedantananda Saraswati, Dr Michael Tierra, Lesley Tierra, Annie McIntyre, Pierre Cousins, Dr Yogesh Bendale, Dr Avinash Lele, Alan Treharne, Anne-Marie Lavin, Dr Jin, Mike Brook, and my mother and father. Herbs of praise.

Secondly, my erudite friends who have read, commented and helped to enhance the quality of this book. Dr Dominik Wujastyk's specialist knowledge of the history of Indian medicine has been invaluable, Sir Dr James Mallinson's unique knowledge of

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Lastly, warm thanks to all at Elsevier for trusting me to come up with the goods.

Om Śānti

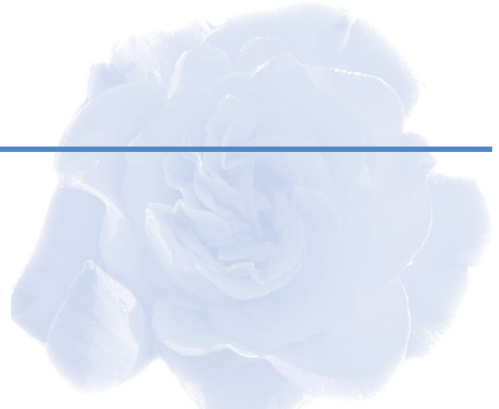
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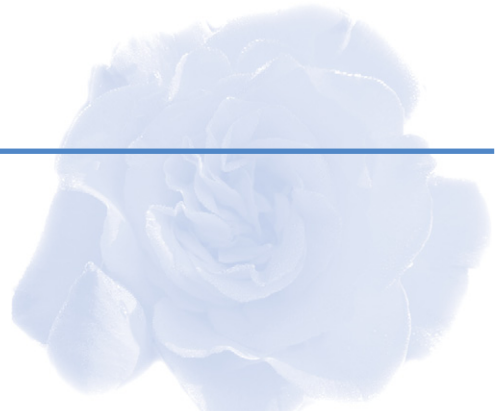
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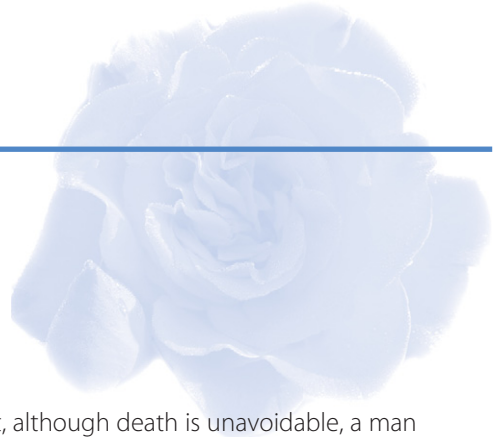
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ABBREVIATIONS



ADHD	Attention deficit and hyperactivity disorder	IUCN	International Union for the Conservation of Nature
ALT	Serum alanine aminotransferase	LDL	Low-density lipoprotein
AST	Serum aspartate aminotransferase	MAO	Monoamine oxidase
ATP	Adenosine triphosphate	ME	Myalgic encephalomyelitis
CAMP	Cyclic adenosine monophosphate	MNIMH	Member of the National Institute of Medical Herbalists
CFS	Chronic fatigue syndrome	NO	Nitric oxide
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	NSAIDs	Non-steroidal anti-inflammatory drugs
CNS	Central nervous system	PCOS	Polycystic ovary syndrome
COX	Cyclooxygenase	SSRIs	Selective serotonin reuptake inhibitors
FDA	Food and Drug Administration (USA)	STDs	Sexually transmitted diseases
GIT	Gastrointestinal tract	TCM	Traditional Chinese medicine
		WHO	World Health Organisation

INTRODUCTION



'Nowhere on earth is there any creature which is immortal. Yet, although death is unavoidable, a man may avoid many diseases'

'Health brings happiness'

Śārngadhara saṃhitā Section 1.5

This ayurvedic herbal is an overview of the wonders of ayurvedic pharmacology: how Ayurveda understands plants, how it prepares them and how these preparations are used. I have written it for ayurvedic specialists, herbal practitioners and interested herbal enthusiasts alike. I hope that these Ayurvedic insights give you the inspiration to incorporate some of its deep understanding of herbal medicine into your life and practice. It is also relevant to note that as Ayurveda receives official recognition as a bone fide medical system in its own right its educational standards are also becoming more standardised. 'Ayurvedic Medicine' attempts to meet these broader curriculum standards that require students to cross cultural boundaries and understand traditional medical models as well as modern sciences. In line with this I have followed the proposed core curriculum standards presented by the Department of Indian Systems of Medicine as well as the European Herbal Practitioners Association in relation to studying the ayurvedic *materia medica* and pharmacology.

Ayurveda is literally translated as 'science of life' but it can also be described as 'the way of living with awareness and promoting longevity.' An early description given in the *Caraka Saṃhitā* written c.150BCE–100CE says:

'It is called Ayurveda because it tells us which substances, qualities and actions are life enhancing, and which are not'

Sūtrasthāna 30.23

(Quotes are translated by D Wujastyk and reprinted with his kind permission from his most poetic translation of ayurvedic texts 'The Roots of Ayurveda'.)

Broadly speaking, Ayurveda is understood to be the generic term for traditional Indian medicine. But as well as being a medical system it includes aspects of philosophy, mythology, diet and yoga as well as mental and spiritual refinement as part of its teachings.

Ayurveda's medical branch uses herbal medicines, minerals, animal products, food, massage, air, water, heat, earth, surgery, detoxification and tonification to bring about health. Ayurveda focuses on preventing disease and optimising vitality as much as on removing an illness. Thus it has a holistic approach to health that includes every aspect of life in a philosophy where mind, body and spirit are considered to be an integrated whole. Nothing in the world is considered to be separate from anything else. Everything is interconnected. Practising Ayurveda is as much about

understanding your own inner nature and fulfilling your own potential as it is about helping your patients to understand their nature and fulfil their potential.

To achieve this end Ayurveda cultivates an intimate understanding of and relationship with nature and thus observing her tastes, aromas, textures and qualities is a central part of learning Ayurveda. If we are not aware of what our nature is and what the qualities of nature are, or we choose to ignore them, then we will certainly become ill. We will look at the causes of illness later but surely a large part of the cause of the modern malaise must be our separation and distance from nature and her natural rhythms. Ayurveda offers the potential to reconnect this disassociation.

Ayurveda understands that disease is due to a dysfunction in the inner processes of the body and mind. It is a disassociation within the whole system. This is different from our modern functional view of disease that regards organs in isolation and bacteria as causes of disease. Although Ayurveda understands the potential of invading organisms (and refers to them as worms [*krmi*]) its primary understanding of disease is systemic rather than reductionist. Many of the causes of disease are seen as originating from within us as are many of the preventative measures that can keep us at optimum health. For Ayurveda, health is more than the absence of disease, it is the whole reason of living because without health you cannot enjoy or pursue the goals of your life. Therefore Ayurveda gives insight into both the causes of disease and the means to obtain the best health.

Ayurveda has grown out of the accumulated knowledge and experience of hundreds of thousands of ayurvedic doctors. The main texts are actually named after renowned doctors, such as the *Caraka Saṃhitā*, 'The Treatise of Caraka' or the *Bhāvaprakāśa*, 'The Light of Bhava'. Following the ayurvedic teachings, these doctors have developed their insights by applying the theory of Ayurveda to clinical practice and then being flexible enough to adjust this theory as their experience dictates. The texts clearly reveal this flexibility; they are full of adaptations and inquisitive questioning which reflect a deep commitment to learn and apply the truth. Different perspectives

on the nature of the humours (*doṣa*), variations on the effects of the tastes, new diseases and numerous ways of treating the same disease are discussed. These adjustments reveal an evolving medical system, steeped in a tradition that is respectful of its divine origins yet open to experiential truth.

The wisdom of Ayurveda is expressed as a way of life that flows with the changes of the seasons, weather, time and place. It teaches dietary and behavioural adjustments that should be adopted as you mature from childhood to adulthood to old age. It gives perennial advice on how to prevent illness as one season becomes another and specific recommendations on how to adjust your daily habits. This way of wholesome living prescribes a routine for all the different climates and geographical regions of the world. It offers particular insights for men and women, children and adults. It is a universal system applicable to every individual living thing/being in any part of the world, and at the root of Ayurveda is its focus on the uniqueness of each individual. In ayurvedic practice no one has the same constitution or disease (even if the 'names' are the same) and certainly no one gets the same medicine just because they have the same disease.

'Ayurvedic Medicine' is an attempt to bring some of these unique theories alive so that they can be used in your daily life as much as in the clinic. My focus on the nature of the plants is inspired by the tradition of energetic herbalism; a tradition full of insight, intuition and excellence. Understanding herbal energetics means that you can 'read' a plant's tastes, temperament and qualities with your senses. Hence you are well equipped to help both your patients and yourself whatever the situation, name of the disease and with whatever 'tools' you have. As nature holds the answers what else is there to study?

To find out more about energetic herbalism I recommend reading all that you can by Jeremy Ross, Peter Holmes, Dr Michael Tierra, Alan Tillotson, Nicholas Culpepper, Dr Vasant Lad, Dr David Frawley, Dr Robert Svoboda, Atreya, Avicenna, Galen, Paracelsus, John Gerard, the ayurvedic canon, the Shen Nong Ben Cao, the Chinese *mate-ria medica*, Dan Bensky, Giovanni Maciocca, Bob Flaws, Phillippe Sionneau, James Duke, The

Eclectics and Christopher Hobbs. I am indebted to the above for the inspirational and insightful literature that has nourished my understanding and practice of herbal medicine.

PART ONE

The first part of the book covers some of the aspects of Ayurveda that are essential to understand before using the herbal remedies in an ayurvedic way. In the first chapter, 'A History of Ayurveda and the Growth of the *Materia Medica*', I have tried to draw a picture of the culture in which Ayurveda has developed. I have discussed some of the controversial areas that have arisen within its evolution, as well as looked at the growth of the pharmacopoeia. Chapter 2, 'The Basic Principles of Ayurveda', is a collection from much of the excellent ayurvedic literature and I encourage you to refer to these books as well (see bibliography). I have tried to collate and clarify. Chapter 3, on 'Ayurvedic Herbal Pharmacology and Pharmacy', looks at ayurvedic energetics and includes the traditional prescriptions for using the herbs in an energetic manner. This chapter also includes a discussion of the sustainable harvesting of herbs and quality control methods for consistent production, as well as a brief discussion of current safety issues regarding using herbs and pharmaceuticals concurrently. Chapter 4, 'Ayurvedic Therapy and Treatment', looks at how to decide when to use the herbs and how to treat certain disease categories. The treatment of specific diseases is a whole book in itself and so I have concentrated on the fundamental treatment principles of the *doṣa*, *dhātu*, *agni* and *āma*. Chapter 5, on 'The Scientific Basis of Ayurveda', is my attempt to show that the universality of ayurvedic thought is confirmed by scientific understanding. This introduction to ayurvedic pharmacology will enable you to successfully use the Plant Profiles.

PART TWO

The Plant Profiles

Plants are the heart of the book, as it is with these valuable herbs that the poetic theories of Ayurveda can be applied. As healing is at the heart of Ayurveda so these healing plants are at the heart of this book. Please read the template at the front of the Plant Profile section to understand this section more fully.

Whereas western philosophy focuses on philosophising, Indian philosophy concentrates on practice. It directs all its attention to putting the theory into practice. This is also what Ayurveda does. It applies a medical theory to a living person by diagnosing the cause and imbalance of disease, creating a treatment strategy and prescribing a mix of herbs unique to that person. The Plant Profiles are a true '*kicharee*', as the classical teachings of ayurvedic pharmacology (*dravyaguṇasāstra*) are drawn together with modern phytotherapy, herbalism and biomedicine. In each Profile there is a heavy emphasis on what the herbs do and when they should be used.

Sourcing

This point is close to my heart; it is very important that you buy your herbs from reputable distributors. I encourage you to buy organically certified herbs or wild crafted herbs that are grown and harvested with a sustainable attitude to our precious world. There are thankfully a lot of people using herbs these days, but the irony of this is that the destruction of the natural world may be hastened by those trying to lead a more natural life. Please check the resource guide for reliable suppliers.

The Formulas

The final section is on traditional formulas. They are the fruits of the combined wisdom of ayurvedic pharmacology. Ayurvedic treatment thrives on formulas and here I have introduced some of the most popular ones. This is only a snippet of a massive pharmacopoeia. Because of the restriction on the use of minerals in the west I have primarily kept to the herbal repertoire.

We do not live in the agrarian culture that Ayurveda grew up in nor do we live in isolation from the effects of the rhythms of nature. Today we live in a world based on the scientific model where herbs are commonly used alongside modern medication. As everything has its place I strongly believe that it is time to integrate these practices and to consciously use the wisdom of traditional natural medicine within mainstream medical practice. For the benefit of people all over the world it is time natural medicine received the respect, support and acceptance that it deserves. 'Ayurvedic Medicine' is an attempt to further this

integration. It is a part of the impetus that is taking place within the natural medicine community, working to preserve traditional knowledge while also benefiting from and adding to the vast knowledge of modern science. Today we are facing the

same trials that Ayurveda has always faced; how to remain true to the tradition while assimilating new insights and also progressing with successful treatments within the changing social and medical climate.

A HISTORY OF AYURVEDA AND THE GROWTH OF THE *MATERIA MEDICA*



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Ayurveda is declared to be eternal, because it has no beginning, because it deals with such things that are inherent in nature and because the nature of matter is eternal. For at no time was there a break either in the continuity of life or in the continuity of intelligence

Caraka Saṃhitā Sūtrasthāna 30.27

AYURVEDA IN CONTEXT

This chapter gives a broad overview of ancient Indian culture and ayurvedic history. It discusses some of the original concepts that developed out of this ancient culture and have had such a profound influence on Ayurveda. Modern Indian culture appears to be a unified tradition and many sources claim that it has always been so, but searching deeper reveals layers of different cultural influences woven together. For example, it appears today that Ayurveda and Yoga have always been a part of the same system, but historical and textual evidence does not back this up. They may now be inextricably linked and even work very well together but, as we shall see, this link has not always been in place. It is an error to claim that they have always been a part of the same system. Some authors and promoters of Ayurveda today claim that Ayurveda has always been a part of mainstream Indian culture. This is not the case. The one continual thread in Indian culture is the trait of absorption,

cohesiveness and collection of ideas within mainstream Indian culture. This integrative tendency of absorbing diverse cultural elements is a recurrent theme throughout Indian history. And so it is with Ayurveda, which is the result of assimilating different cultural strands and medical insights.

Culturally speaking, in India there has always been a competitive atmosphere between an orthodox religious tradition and a heterodox religious tradition. Everything in India had a relationship with religion and Ayurveda developed within this cultural friction. Early in Ayurveda's evolution there was tension between the superiority of ritual practices versus the scientific use of herbs. Which was the most effective medicine, ritual or science, the past tradition or new experience? The Ayurveda practised today is a result of this development in a paradoxically conservative yet progressive culture. These cultural tensions are clearly expressed in the texts as well as experienced in the clinic. Modern Ayurveda is also the

result of scientific research into and experience of nature. The defining context is that Ayurveda is a medical tradition steeped in religious tradition as well as natural medicine, and it is based on both tradition and experience.

HOW THE AYURVEDIC TRADITION BECAME A SYSTEM OF EMPIRICAL MEDICINE

Any history of ayurvedic development requires discussing two different perspectives; a linear religio-historical approach and a circular organic expansion. The first perceives Ayurveda as a timeless system of medicine where its knowledge is perfect and divinely inspired; the second view is that ayurvedic medical knowledge has developed out of ritualistic healing into an empirical medicine system that is grounded in clinical experience.

The introductory verses of ayurvedic texts reflect the perspective that Ayurveda is an eternal revelation. They all start with a mythological account of the gods passing ayurvedic knowledge down to humans. This divine stamp is a well-known Indian method of authenticating a text and making it orthodox (Wujastyk 2003). It is a way of bringing formerly untraditional and perhaps unaccepted ideas into mainstream culture. Much of the secondary and modern ayurvedic literature also implies a consistent tradition that is divinely inspired and eternal (see, for example, Frawley's and Svoboda's insightful books on Ayurveda). But, as you untangle the web of influences that have affected Ayurveda the evidence clearly reveals an expanding tradition that has accumulated knowledge over time and through experience. This latter organic perspective, first introduced by Jan Meulenbeld ('Reflections on the basic concepts of Indian pharmacology', see Meulenbeld 1987), holds that Ayurveda is a science of unfolding truth and as a path of discovery it has not and will not remain static. These developments are not necessarily mutually exclusive, but it is useful to understand the roots of different ayurvedic traits.

The concept of a timeless tradition has great appeal, for the insights of Ayurveda are incredible and they do appear to be divinely inspired. How else have we learnt about the properties of so

many herbs and minerals? How was it discovered, for example, that brahmi (*Bacopa monniera*) is so effective at improving the intellect and guggulu (*Commiphora mukul*) so useful at reducing tumours? How did the pioneers of Ayurveda learn to diagnose illness with only the five senses at their disposal? Having said this, the idea of human knowledge growing through experience, logic and insight has great value. Human development is firmly grounded in endeavour. For Indian minds this duality causes no conflict as Ayurveda can be two things at the same time: both divinely inspired and open to human adaptation. This is a powerful medium for expression of the truth as it is both reductionist and holistic.

Taking the first paradigm, while there is nothing inherently wrong with the claim of eternal divine origins there are some potential problems with this perspective. It could potentially stifle new ideas within Ayurveda as, in order to gain validity, there is a tendency for clinical experience to be referenced back to a divine eternal source. Humble that this approach is, new ideas are not easily propagated. There is an element of this attitude displayed by the core theoretical ground of Ayurveda, having remained very similar over the last 2000 years. The relative lack of modern innovative ayurvedic literature generating improved methods of treatment, in comparison to Chinese and Western herbal medicine, is perhaps partially a result of this. It may be that the inherent theories of Ayurveda are already complete, but effective clinical insights are always of benefit as new diseases and cultural habits arise. The insistence on divine origins has stagnated this process of valuing both clinical experience and theory.

It is not therefore surprising that as Ayurveda has been under continual threat from certain Moghul, British and, currently, allopathic forces in the last 400 years, it has in some quarters been necessary to fall back on its ancient roots in order to validate and justify its presence. This has protected but also weakened Ayurveda. Its strength is really in its present clinical excellence and the ayurvedic community should be harnessing powerful social forces and speaking with confidence about its ability to help our society. However, this is made difficult when Ayurveda is presently only

recognised as an adjunctive medical system, where ayurvedic doctors can only hold the position of a third medical officer at primary health centres in India, and complementary medicine the world over holds a similarly lowly position in the medical hierarchy. As a literature base of over 2000 years, hundreds of thousands of expert physicians, millions of healed patients and numerous positive clinical trials attest, ayurvedic treatment works and practitioners and professional registers should promote this, researchers should publish clinical data and governments should support it enthusiastically. Although Ayurveda has its roots in the past, its practitioners must embrace the present. Ayurveda and ayurvedic physicians deserve greater recognition than they receive today.

Another, and potentially more serious, problem of relying on a doctrine that holds its origins as divinely and infallibly inspired, is that it can and has resulted in right-wing fundamental political groups utilising it to their own ends. This is clearly the case in India today with the current rise in popularity of right-wing fundamental Hindu groups, and shows how the struggle for political supremacy can infect religion (and vice versa). This insistence of the divine origins of Ayurveda may unwittingly reinforce this political doctrine if it continues to ignore modern Indological historical knowledge. By this, I refer to certain quarters of the academic community promoting this ideology as though Vedic knowledge has remained eternally and statically predominant in all aspects of Indian culture for all time. The point is that while religion, medicine and politics are interrelated, the potential repercussions of an ideology must be considered; in this case, pandering to extreme political causes that oppose the central tenet of Ayurveda—caring for all humanity.

The second paradigm, the scientific dependence on empirical evidence, can also be taken too far to the extreme, with similar detriment. This has occurred within the modern medical paradigm of ‘evidence-based medicine’ requiring ethically dubious double-blind clinical trials and animal experiments with a heavy dependence on single active ingredients, synthesised medicines, separate chemical pathways and a reductionist methodology that has lost the holistic view.

Holding onto the primacy of either of these two paradigms means that the complete picture is missed. As we shall see, Ayurveda can offer a balance to these extremes as it contains both paradigms within it.

I think this inner debate between tradition and progression is mirrored in our everyday lives and specifically experienced when using natural medicine. The question is how to respect tradition while integrating personal experience. Internally it is a case of communication between heart and head where intuition and intellect are both valid. As we shall see, intuition and intellect are both essential for medicine to be, as Ayurveda is, truly holistic.

WHAT IS AYURVEDA?

The term Ayurveda is used today as a generic term for traditional Indian medicine. By combining organoleptic (sense-based) empirical medicine with religious ritual perspectives, Ayurveda is a complete medical system. It deals with health in all its aspects; physical health, mental balance, spiritual well-being, social welfare, environmental considerations, dietary and lifestyle habits, daily living trends, and seasonal variations in lifestyle, as well as treating and managing specific diseases. Ayurveda teaches respect for nature, appreciation of life and the means to empower the individual. It is holistic medicine at its best.

HISTORY OF AYURVEDA (BOX 1.1)

Indian culture and medicine before Ayurveda

To see the world from which Ayurveda developed it is necessary to go back 4000 years. Ayurveda had not yet been established. People lived close to the cycles of nature in a thriving agrarian society on the banks of the River Indus, dependent on the abundance of the harvest and the bounty of water for its survival. It was also a world in which the people were subjected to the full force of the power of nature; torrents of rain and the fierce heat of the sun, as well as the reassurance of spring returning and the joy of reaping a mature harvest. Subsistence to the power that controls these natural extremes was at the centre of everyday life in a religious world full of rituals. Regular fire sacrifices were carried out to supplicate the deities upon

Box 1.1**Historical Timetable of Ayurveda**

1500BCE Vedic religion *Rg, Yajur, Sāma & Atharva Vedas*:

125 herbal medicines mentioned in *Atharva Veda*

c.600BCE Rise of heterodox traditions of Jainism, Buddhism. Also growth of what is now called Hinduism

150BCE–100CE *Caraka Saṃhitā*: The earliest complete ayurvedic treatise. Herbs are here classified by action and morphology. Again reformatted by *Dr̥ḍhabala* circa 400CE

c.100–500 *Suśruta Saṃhitā*: detailed surgical text *Bhela Saṃhitā*

500 *Dhanvantari Nighaṅṭu*: an early compilation of herbs into certain functional groups based on the property of the herbs

c.600 *Aṣṭāṅgahṛdaya Saṃhitā* by *Vāgbhaṭa*: a collated work on the essence of Ayurveda

c.650–950 *Mādhava Nidāna* (aka *Rogaviniścaya*): the first text committed solely to pathology

c.875 *Siddhayoga* by *Vṛmda*. Early ayurvedic text of the same type as *Cakradatta*

900–1400 *Gorakṣa Saṃhitā*: early *haṭhayoga* text where many ayurvedic concepts are fused with tantric yogic practice

1075 *Cikitsāsāmaṅgraha/Cakradatta* by *Cakrapāṇi*: professional ayurvedic handbook of the medieval era

1100 *Dravyaguṇasāmaṅgraha*: the first *Nighaṅṭu* written by *Cakrapāṇi*

c.1300 *Ānandakanda*: an early alchemical treatise

1374 *Madanaphala Nighaṅṭu*: a further compilation of herbs and minerals

1300–1400 *Śārṅgadharma Saṃhitā*: collected work on ayurvedic formulas and preparations. First record of pulse-taking as a diagnostic method. A pivotal

work linking early ayurvedic thought with new tantric alchemical techniques

1449/50 *Lakṣmaṇotsava*: a text describing pulse-taking

1474–1538 *Jvaratimirabhāskara* of *Cāmuṅḍa*. The first mention of *aṣṭasthānaparīkṣā*, the eight methods of diagnosis (pulse, tongue, urine, eyes, face, faeces, voice and skin)

1596 *Bhāvaprakāśa Nighaṅṭu* by *Bhāvamiśra*: the most important ayurvedic *materia medica* treatise

c.1600 *Ayurvedasūtra*: a text mixing ayurvedic, yogic and tantric thought *Rasaratnsamuccaya*: a pivotal alchemical text compiling much earlier thought and theory

1676 *Yogarātnākara*: a pivotal work reflecting the assimilative trait of Unani and European influences on Ayurveda

1760 *Rājavallabha Nighaṅṭu*: progressive *materia medica*

1815 *Saṃgraha Nighaṅṭu*

1893 *Bhaiṣajya Ratnāvalī*: Govindadāsa's work listing numerous medical preparations and introducing different European diseases

c.1900 *Nāḍiprakāśana*: Śāṅkara Sen

1924 *Nighaṅṭu Ratnākara*

Note: I have relied heavily on Jan Meulenbeld's works for categorising dates, notably 'A History of Indian Medical Literature' (1999–2002). While the dates that I have given are the commonly-decreed historical dates of authorship, Indian Indologists often place the dates of the early ayurvedic texts significantly earlier (c.4000–1000BCE). This is a contentious issue and reflects some of the different perspectives on history, origins and tradition that exist between certain European and Indian medical historians.

whose favour the world depended. Ritual performance was as central to maintaining health as eating enough food; both were needed to live and flourish. To treat disease, herbs and potions were used alongside the incantations of the priests. In fact the priests were both doctors and religious specialists. Disease spread fast in these warm and humid climes. Fear of illness and of the death of loved ones was an everyday reality. According to their belief system disease could be imposed from the spiritual world, from an accident, or from the natural world. Here is the world in which the eternal tradition and the empirical experience of everyday life could meet and intermingle.

It was out of such a cultural context that Ayurveda developed. Here was a fast-changing society that was exploring its ideals of religion, royalty, leadership, law, medicine, and family. Philosophical insight expanded as agrarian culture flourished. This is now known as the Vedic period (c.1500–500BCE) (Jamieson & Witzel 1992).

The orthodox and heterodox traditions

With hindsight we can see that an orthodox religious tradition (*āstika darśana*) and a heterodox religious tradition (*nāstika darśana*) developed out of this *milieu*. In Indological terms 'orthodox' means adhering to the *Vedas* and 'heterodox' means not

following the *Vedas* (e.g. Buddhism). The *Vedas*, including the *R̥g*, *Yajur*, *Sāma* and *Atharva Vedas* are the receptacles of traditional wisdom whose oral tradition goes back at least 4000 years. They codify ritual hymns, sacrificial rules, poetic metres and medical incantations. As we will see, Indian medicine faced many challenges to become a part of the orthodox culture.

Vedic medicine and the origins of Ayurveda

It is very difficult to place the exact origins of Ayurveda. Our first meeting with Ayurveda proper in a fully coherent and documented format is in the texts of *Caraka*, *Suśruta* and *Bhela* (150BCE–500CE). These texts were clearly codified long after Ayurveda was fully established and was thriving as an oral tradition. An earlier text is known to have been compiled by *Agniveśa*, the *Agniveśa Saṃhitā*, but it no longer exists, although the *Caraka Saṃhitā* is said to be a revised edition of this work. There are of course medical facts found in earlier texts, but they are not classical Ayurveda with *doṣa*, *dhātu* and *mala* at the heart of their teaching.

Prior to this codification of Ayurveda as a complete medical system it seems as though two patterns emerged as Indian medicine developed. One represented the worship of and subordination to the supernatural forces, while the other pattern was the development of ideas based purely on empirical experience. Two concurrent and inter-linked medical traditions appeared from within the Vedic literature:

- The orthodox Vedic tradition, full of elaborate religious rituals dedicated to the powerful nature divinities; *Sūrya*, the sun god, *Agni*, the lord of fire, *Indra*, the lord of heaven and thunderstorms. This was the ritual tradition where the gods were appeased through prayer, chanting, amulets and ritual offerings. These were also the healing tools used to treat disease.
- The heterodox tradition that was outside this ritual fold and was based on the direct experience of medical physicians where herbs, minerals and surgery were the healing tools.

These patterns, like two rivers running through the same Vedic land, later converged to form Ayurveda.

An example of these two patterns and how they were connected can be found in an ancient Vedic prayer. It includes both the ritual and the experiential approach where the priest-doctor is praying to the plant and the disease:

‘He through whom you plants creep limb by limb, joint by joint, you banish disease from him like a huge man coming between fighters. Fly away disease along with the blue jay; disappear with the howl of the wind, with the rain storm’ *R̥g Veda* 10.97 (Trans. Wendy Doniger O’Flaherty)

Here the invocator is both priest and doctor. Both the prayer and plant seem to play the same healing role.

Imagine the priest-doctor standing by the side of a patient racked with fever. The room is full of the heady smell of incense. The priest-doctor is chanting and praying. The smells and sounds waft towards the delirious patient. The priest-doctor’s incantation is directed at the healing of the bed-ridden patient. He is also preparing a medicinal brew of special herbs that are empirically known to cure fever. While feeding the infusion to the patient he is also praying to the gods that the herbs cure the patient. This is ritual medicine; prayer, invocation, sound, smell and intention. It is intermingled with the empirical human-based medicine as well as specific disease-based herbal knowledge.

Medicine falls out of favour with the orthodox

This harmony was short lived and the role of the priest as doctor changed. At some time after the *Atharva* Vedic period (c.1000BCE), medical practice fell out with religious ritual practice. As the medical experience and perhaps the clinical results of the physician started to supersede the authority of the priest the priest became superfluous to the healing rite as it then was. The so-called priest-doctor occupation divided into two roles of priest and doctor. Society’s dependence on the priests for maintaining the cosmic and social well-being guaranteed their position at the top of the social ladder. The doctors’ ideas and methods were pushed away from the centre to the outside. There was an evident paradigm shift from religious supernatural medicine being the *modus operandi* to a scientific observation-based practice being the primary medical model. There were

social and cultural reasons for this as well as empirical.

It must be remembered that Indian society was strictly class based, dependent on a caste system with a clear division of labour and with rank determined by birth. It was a society governed by a system of ritual purity that was loosely governed by physical contact with people, wastes, food and water. Any transgression of the rules caused pollution and led to a state of ritual impurity; a state that excluded the transgressor from experiencing Vedic healing rites and authority. As the higher priestly caste sought to enforce their identity as the holders of ritual power and this ritual purity became a more rigid definition of caste hierarchy it started to cause problems for the medical profession.

Because of the requirements of their job, physicians touched people from any caste, performed surgery and came into contact with bodily fluids. The higher castes started to consider them to be extremely polluted. Physicians were finally excluded from the *soma* sacrifice (an essential religious rite) and not recognised in the social hierarchy (*Taittiriya Saṃhitā* 6.4.9.1–2). The *Manu Smṛti*, a text codifying Hindu custom, was positively aggressive in its exclusion of the physician from the sacrifices and asserted that food accepted from a physician was like ‘pus and blood’ (*Manu Smṛti* 3.108,152; 4.212,220). Physicians were out of favour and out of the orthodox fold. They were still doctors but, at this point, not included within the central social hierarchy.

Around this time (1000–600BCE) the Vedic religion moved into a further period of transformation as the authority of the priests was called into question. The growth in the influence of the wandering ascetic (*parivrajaka*) tradition, the Upanishadic awareness of the possibility of liberation from the perpetual cycles of birth and rebirth, and a growing disillusionment with the excessively elaborate Vedic ritual sacrifices led to branches of knowledge splintering from Vedic practice. These movements resulted in the growth of Jainism, Buddhism and Hinduism. These were dynamic and progressive traditions not content to rest on the conventions of the past. They sought explanations about life and the universe through direct experience, and especially through knowledge of nature and the

self. This had a profound influence on developments within Ayurveda by establishing its growth in the bed of empiricism and its acceptance by the orthodox. It is at about this time that Ayurveda as a complete medical system became codified.

Empirical medicine

Much of the evidence from this time points to the fact that the empirical-based medical science of Ayurveda and the Indian ascetical tradition both grew up outside the orthodox religious hierarchy. Beyond the confines of ritual and convention, physicians explored the energetics of the natural world; the taste (*rasa*), energy (*vīrya*) and the specific action (*prabhāva*) of plants and minerals. Meanwhile, the ascetics explored the inner realms of consciousness; the layers of the mind (*buddhi*, *manas*, *citta*), energy centres (*cakra*) and supernatural powers (*siddhi*). These two traditions met in the heterodox realm as they were united by their separation from the mainstream culture. It seems evident that early ascetics used plant medicine and possibly were among some of the pioneers of Ayurveda. There is some evidence for this; *Brahmajālasuttānta* of the *Dīghanikāya* 1.1.27 and 1.12 confirms that the *śramaṇas* (wandering mendicants) used various medical techniques to earn a livelihood. A Greek writer, Strabo (c.64BCE–21CE), in his *Geography*, refers to Megasthenes’ comments that these *śramaṇas* were known as physicians (see Zysk’s works on Indian medicine). Later, these new developments were absorbed into mainstream culture as ayurvedic physicians and ascetic yogis became accepted by the orthodox traditions. The Sanskritisation of early *haṭhayoga* texts, i.e. *Gorakṣasataka* (c.1300CE), is a good example of this.

Despite being heavily influenced by Buddhism, Ayurveda’s primary reference point for the last 2500 years has been Hinduism (Zysk 1991). The two have evolved within the same cultural framework. To summarise the Hindu worldview, orthodox Hindu culture perceives reality as an existence in which the nature of the self (*ātman*) is obscured by a veil of ignorance (*avidyā*). Individuals are destined to play out the effects of their *karma* in a perpetual cycle of rebirths. *Karma*, the causal relationship that effects every action, has a reaction; the results of previous actions determine our

present condition and, in effect, 'trap' the self in this physical world. This is seen as pure suffering. But, 'from torment by three-fold misery (endogenous, exogenous and supernatural) arises the inquiry into the means of terminating it' (*Sāṃkhya Kārikā* 1.1, see Radhakrishnan & Moore 1957). From this developed the purpose of finding a way out of this misery. In order to fulfil this purpose of life, to be liberated from enslavement, the orthodox Hindu must pursue the four ends of life; these are wealth (*artha*), sensual fulfilment (*kāma*), religious observances (*dharma*), and liberation (*mokṣa*). To ensure that these ends can be achieved Ayurveda embraces the health (*ārogya*) of the body as its main aim.

Ayurveda is absorbed by the orthodox culture

What is now known as Ayurveda is the blending of a tradition that has contained elements of purely ritual medicine as well as empirical practice. Ayurveda becomes Ayurveda 'proper' through its association with the respected philosophical systems of *Nyāya-Vaiśeṣika*, *Sāṃkhya-Yoga* and to a lesser extent with *Vedānta-Mīmāṃsā*. The *Nyāya-Vaiśeṣika* philosophy is concerned with perspectives of logic and analysis, *Sāṃkhya* is an ontological system that deals with the metaphysical nature of being, *Yoga* deals with the soteriological methods to attain liberation, *Mīmāṃsā* deals with the knowledge of Vedic rituals and *Vedānta* deals with the esoteric nature of reality and its expression as an experience of both unity and duality or what is known as 'non-dual'.

Ayurveda has the classical philosophies of Indian culture at the root of its principles. These philosophies infuse Ayurveda with a solid theoretical structure that shape its practical framework; the ideas behind the development of matter (*prakṛti*), the formation of the five elements (*pañcamahābhūta*), how consciousness (*puruṣa*) pervades reality and the various methods of gaining knowledge (*pramāṇa*), so essential to diagnosis, are all found in the Indian philosophical tradition (*śat darśana*). In fact Ayurveda is an embodiment of these philosophies; it makes the theory real. Its codification in Sanskrit in the *Caraka* and *Suśruta Saṃhitās* confirms its absorption by conventional tradition.

The philosophical view of Ayurveda is infused with this culture of attempting to understand reality.

Poignant throughout later and more classical Indian philosophy is the theory of duality propounded through the *Upaniṣads* and *Vedānta* philosophy. What we perceive as reality is really just an illusion or *māyā*. We experience reality as separate from ourselves and it is our ego nature that causes this duality. This representation of duality is seen in the mythology of *Śiva* and *Śakti*, the two poles of masculine and feminine energy that together hold all the opposites of life together. Our self-identity fragments this unconditional unity of *Brahman* into segmented parts. Hence we feel separate from the whole and as a result lead a life in self-perpetuating ignorance that results in us accruing numerous karmic bonds that tie us to endless lives of rebirth in the wheel of life, known as *saṃsāra*. Taking steps to alter this worldview and 'unify' our individual consciousness with the universal consciousness is the goal of all Indian philosophical systems. They offer the path to enlightenment and the means to get there.

This experience of indivisible unity is meditated on as '*tat tvam asi*' meaning 'that art thou'. It cannot be described as it is '*neti, neti*' or 'not this, not that'.

The *Īśa Upaniṣad* says

'It moves, It moves not,
It is far and It is near.
It is within all this,
And it is outside all of this.'

The result is a tension between the individual experience and the ritual experience, between individual consciousness and social hierarchy. The journey through Indian philosophical literature mirrors our own journey through our perception of our experiences; a deep search for truth, peace of mind and undivided bliss.

THE STRUGGLE BETWEEN TRADITION AND INNOVATION IN AYURVEDA

This tension that occurred in a broad sense within Indian culture also occurred in the development of Ayurveda as a whole. This is shown in the earliest extant sources of ayurvedic theory and practice, the *Caraka Saṃhitā*, *Suśruta Saṃhitā* and *Aṣṭāṅgahṛdaya Saṃhitā*. Their content clearly displays the continual efforts to assimilate empirical

experience within the divinely revealed Vedic tradition. This creates theoretical tension as well as confusion over some ayurvedic principles.

For example, the *Caraka Saṃhitā* starts with revered salutations to the divine propounders of Ayurveda, Lord *Brahmā*, the *Aśvins* and Lord *Indra*. The tradition says that when *Brahmā* awoke to create the universe he also generated the wisdom that is Ayurveda. He passed this onto Lord *Dakṣa-Prajāpati* (the protector) who then taught it to the *Aśvin* twins (the physicians to the gods) who taught it to Lord *Indra* (the lord of the universe). When human suffering had become so unbearable Lord *Indra* met with the great Himalayan sages and through his student *Bharadvāja* passed this knowledge onto these enlightened beings. Hence the great student *Agniveśa* came to study Ayurveda, under *Ātreya*, and eventually to compile this wisdom in the now lost *Agniveśa Saṃhitā* that is said to be contained in the *Caraka Saṃhitā*. This marks Ayurveda's claim to divine origins and its connection to an eternal tradition for, as we know, all Indian traditions that have sought recognition by the orthodox have invoked the authority of the Vedic deities as an expression of their allegiance.

But as you compare the *Caraka Saṃhitā* with the other texts clear inconsistencies in this premise arise. Divergent theoretical opinions appear, thus disqualifying this attempt to seek an eternal and divine foundation. For example, *Caraka* and *Suśruta* (*Caraka Saṃhitā Sūtrasthāna* 26.57–58, *Suśruta Saṃhitā Sūtrasthāna* 50.10–12) differ in their opinions of the post-digestive effect of the flavours (see Chapter 3 on Ayurvedic Pharmacology); *Suśruta* only lists sweet and pungent as the flavours that remain after the process of digestion whereas *Caraka* also includes sour. There were also differences in the understanding of human physiology; were there three or four humours (*doṣa*)? Is blood a *doṣa* or not? (Meulenbeld 1992). Another example is the discussion over the energetic nature (*vīrya*) of herbs; are there two primary energetic classifications of herbs or eight? Is it just hot and cold or hot–cold, unctuous–dry, heavy–light and soft–sharp? The texts seem to differ (*Caraka Saṃhitā* 26.64–65; *Aṣṭāṅgahṛdaya Saṃhitā* 9.12–13 from Meulenbeld 1987).

This is the difficulty in determining the meaning of the texts: on one hand they are divinely-inspired knowledge and on the other they are evolving human debates that are seeking to unravel the nature of nature and develop a medical system that is accurate and effective. What emerges later is a collective opinion drawn together by commentators and practitioners.

AYURVEDA AND YOGA

The development of Ayurveda continued alongside the growth of the mystical tantric and yogic traditions, each fulfilling their different roles. While Ayurveda concentrated on the 'health' of the body, Yoga was mindful of the state of 'consciousness' and tantra with the deification and immortality of the body. Yoga is a tradition of mental and spiritual refinement; the art of joining the individual-self (*ātman*) with the universal-self (*Brahman*). It rejects the first three goals of Hinduism (wealth, sensual pleasure, and religious duties) in preference of seeking the ultimate goal of life, spiritual emancipation (*mokṣa*).

As with many Indian traditions, philosophical differences were often overcome by a broadening of perspective on either side. *Haṭhayoga*, growing out of the tantric yogic tradition, seems to have adopted many ayurvedic principles, notably the 'purification' of the body. The *Haṭhayoga-pradīpikā* is full of references to the *doṣa* and techniques to remove phlegm, bile or the winds (Box 1.2). With *haṭhayoga* becoming filled with ayurvedic practices and Ayurveda adopting yogic attitudes, the two traditions connected. The body became a priority in order to attain the goals of liberation and health. Yoga, after centuries of interest in the mind and self, became fascinated with the body. *Haṭhayoga* adopted an ayurvedic language, as well as similar practices, to facilitate this new focus on the body. There is a very close similarity, in activity and intention, between the cleansing practices of the yogic *śaṭkarma* and the purification of ayurvedic *pañcakarma*. This movement from yogic spiritual practice to physical purification of the body has been termed, significantly, 'corporealisation' (Mallinson 2002). The body, as it became the terrain of spiritual experience, became the focus of spiritual interest.

Box 1.2**Haṭhayogapradīpikā**

The *Haṭhayogapradīpikā* is a seminal work on *haṭha-yoga* that represents the contemporary approach to spiritual liberation using physical, breath and meditative techniques.

'He in whom fat and phlegm are predominant should perform the six cleansing practices before *prāṇāyāma*. Because their *doṣas* are in equilibrium other aspirants need not practise them.'

Haṭhayogapradīpikā 2.21

'*Nauli* is the foremost *haṭhayogic* technique. It kindles a sluggish digestive fire, it strengthens the digestive and other functions, it produces bliss and it cures all imbalances of the *doṣas*.'

Haṭhayogapradīpikā 2.34

'Inhaling and exhaling quickly like a blacksmith's bellows is called *kapālabhāti*. It cures imbalances of the *kapha doṣa*.'

Haṭhayogapradīpikā 2.35

'This excellent *Sūryabheda* should be performed over and over again. It cleanses the skull, destroys imbalances of the *vata doṣa* and removes problems caused by worms.'

Haṭhayogapradīpikā 2.50

Translated by James Mallinson

Ayurveda also adopted insights from this yogic realm. It began to incorporate the tantric practice of using various mineral substances (notably mercury, gold, and silver) and re-emphasised its objectives from merely maintaining a long and healthy life to that of virilisation (*vājīkaraṇa*) and rejuvenation (*rasāyana*), which is, potentially, immortality. These concepts essentially oppose the mortification of the body and seek a long life filled with rejuvenative potential. Thanks to these yogic influences the body is no longer considered to be mortal! Today Ayurveda and Yoga are practically synonymous in the pursuit of good health and a calm mind.

Here we can see that Ayurveda continued to display the wonderful Indian trait of absorbing everything around it, even if that meant broadening and modifying its own perspectives.

MODERN TIMES

Modern-day Ayurveda, as practised in India today, is based on a resurgence that occurred around the 17th century. One cause of this may be the increased competition that Ayurveda faced by the coming of the Moghuls and the rise in use of Unani medicine. Another may be the new energy in Ayurveda from the synthesis that occurred between Ayurveda and yogic-tantric thought. Two fundamental new techniques that arose from this synthesis were the introduction of pulse diagnosis and the use of new mineral remedies. They are both central to the practice of contemporary Ayurveda. Pulse-taking seems to have arisen from the Shaiva yogic tradition that thrived in South India under the guidance of the Tamil Siddhas. It later arose in North India, with such works as the *Śārṅgadhara Saṃhitā*, *Nāḍīvijñāna* and *Nāḍīcakra* adding to this theoretical base (Meulenbeld 2001). The Unani hakims were also useful teachers in the art of pulse-taking. The mineral remedies (mercury, gold, silver ashes) are very potent and revolutionised the ayurvedic pharmacopoeia. These additional techniques greatly enhanced the efficacy of Ayurveda and this gave impetus to its resurgence.

The 19th and 20th centuries saw a further revival with the building of new ayurvedic colleges (approximately 100 in 1983), the creation of the Central Council for Ayurveda in 1970 to oversee standards and practice, and the establishment of ayurvedic pharmaceutical companies. Its patronage by the Indian government now gives Ayurveda some form of nationally recognised status but this really needs to be more proactive and supportive. The 21st century really is a time of challenges and opportunities for Ayurveda. As Ayurveda spreads throughout the world it is facing many challenges to the traditional way in which it has been practised. There are legislative, environmental, educational, clinical, and cultural challenges that are facing the ayurvedic community (Box 1.3). It is a time to act or be acted upon, meaning that the ayurvedic community must unite and speak up to express its needs or will face legislation on which it has had no influence. How Ayurveda meets these challenges will steer its fate in the future.

Box 1.3**Challenges faced by the global ayurvedic community****Political patronage**

Ayurveda is considered a second-rate medical system by the Indian authorities with a poor professional standing given to ayurvedic doctors. This results in a weak image being projected from its native country to the rest of the world and does not send a supportive message to other national governments looking to India for guidance.

Cultural

The fact that Ayurveda contains certain cultural traditions could potentially cause conflict when meeting other cultures with different agendas. The complexities of defining how Ayurveda should be taught and practised outside India reflect this.

Scientific

The competition between western science and the traditional medical paradigm practised by Ayurveda. The lack of evidence-based research and clinical trials is hindering its acceptance by mainstream medical institutions and practitioners. While there are many respectable research institutes in India many of the clinical trials that are carried out are not available in easily-accessible journals and some do not meet rigorous research standards.

Conservation

A lack of environmental awareness among ayurvedic practitioners about the pressures that harvesting

herbal medicines from the wild is placing on herbal supplies.

Legislative

Increased popularity of herbal medicine throughout the world is resulting in fears about safety issues, leading to further herbal legislation regulating the prescription and sale of herbal remedies. Some examples of these are:

- The legislative threats to the use of certain medicinal substances such as vidanga (*Embelia ribes*) being banned from use in the UK. The illegality of using many *bhasmas* (oxidised metallic and mineral preparations), that are often considered to be the mainstay of internal treatments, is another challenge.
- The environmental pressure on many species used in ayurvedic remedies is serious. For example, chandana (*Santalum album*) and kushtha (*Saussurea lappa*) face increased demand on the domestic and international markets while natural populations dwindle.
- There are also pressures on the educational front as different countries define in law how complementary and alternative medicine (CAM) as a whole can be practised.

THE PRIMARY AYURVEDIC TEXTS AND TREATISES ON MEDICINAL SUBSTANCES (DRAVYAGUṆĀŚĀSTRA)

The central works of Ayurveda, The Great Triad (*br̥hat trayī*), are the *Caraka Saṃhitā*, *Suśruta Saṃhitā* and *Aṣṭāṅgahr̥daya Saṃhitā*, The Lesser Triad (*laghu trayī*) are the *Mādhava Nidāna*, *Śārṅgadhara Saṃhitā* and the *Bhāvaprakāśa Nighaṇṭu* (or *Yoga Ratnākara* according to some authorities). The growth of the ayurvedic *materia medica* is clearly displayed in these texts. The increase of 'alchemical' medicine and developments in chemistry are included from the 12th century onwards with the introduction of *Rasa Śāstra*, or alchemical literature, in such texts as the *Ānandakanda*, *Rasaratnasamuccaya* and *Āyurvedaprakāśa*. From here onwards metals, gems and mercurial

medicines are included in the ayurvedic pharmacopoeia.

One of the difficulties facing ayurvedic pharmacology today is the botanical identities of many of the Sanskrit-named plants. Many are lost to history. The translation of their Sanskrit name gives a tantalising indication of their potential. For example, *jīvaka*, 'the life giver', still remains unidentified. The precise identification of many ayurvedic plants has been a source of continual frustration, debate and botanical challenge. Having said this, many do remain in the herbalist's realm. Although the *Vedas* mention around 260 plants (Gogte 2000), the first insights to the ayurvedic pharmacopoeia are found in the *Caraka Saṃhitā*. Here we find the beginning of a pharmacopoeial trend of

collating substances (*dravyas*) into specific classes; herbs, cereals, liquids, fruits, metals, gems, vegetables, meats, cow products, flowers, salts, oils, alcohols, sugarcanes, sources of water and urine.

In the *Caraka Saṃhitā* herbs are classified into 50 groups (*varga*) of 10 according to their primary actions (*Caraka Saṃhitā Sūtrasthāna* 4). For example, herbs that are *jīvanīya* or life-giving include the well known licorice or *madhuka* (*Glycyrrhiza glabra*) and the group that is *br̥ṃhaṇīya* or strength-promoting includes Ashwagandha (*Withania somnifera*).

Suśruta has also classified herbs according to groups with specific actions (*Suśruta Saṃhitā Sūtrasthāna* 38,39). But instead of being titled with a specific action they are named after the most representative herb. For example, the *pippalyādi varga* (meaning ‘the pippali, etc. group’) describes the group of herbs that have a similar action to pippali or long pepper (*Piper longum*). This is a digestive, warming, carminative group of herbs that also includes black pepper, cardamom, asafoetida and calamus. Interestingly, there are also groups of herbs classed together because of their cleansing (*śodhana*) effects: emetics, purgatives and *vāta* pacifying herbs.

The *Aṣṭāṅgahṛdaya Saṃhitā* also looks at groups of foods and herbs. For example it mentions five types of liquids; water, milks, oils, sugarcanes, and alcoholic drinks. The *Aṣṭāṅgahṛdaya Saṃhitā* follows the herbal classification of *Suśruta* by grouping the substances according to specific actions.

Later texts consolidated this trend of classifying groups of herbs based on their action. Again the group title is usually named after the herb that is renowned for that group’s primary action. The *Dhanvantari Nighaṇṭu* (c.500CE) lists the first group as *guḍūcyādi varga* or the ‘*Tinospora cordifolia*, etc. group’. All the herbs in the group have the dual action of removing the aggravated *doṣa* from the body as well as rejuvenating the system, just as *guḍūci* removes *pitta* as well as rejuvenating the blood and reproductive fluids.

The *Bhāvaprakāśa* is the most commonly used *materia medica* today. Written by *Bhāvamiśra* around the 16th century it is a compilation of many earlier texts. The *Bhāvaprakāśa* lays out the rules and

guidelines for collecting herbal materials and understanding the language of the pharmacopoeia. For example, ‘when there is no mention of the part of the plant to be used, the root is to be used’.

There are some wonderful descriptions of how to identify herbs, how to collect the fresh plants and what the ideal growing conditions are. Specific pointers to quality are mentioned; ‘haritaki (*Terminalia chebula*) which has a small seed inside, more fruit and which sinks in water is considered the best form for all purposes’. It includes a very useful section on replacing an unobtainable herb with: ‘In the absence of tagara (*Valeriana wallichii*) kushtha (*Saussurea lappa*) should be used by the wise physician’. The text is also full of invaluable insights into the nature of the tastes, *gūṇas* and pharmacological properties of the herbs. There are 24 groups of herbs and minerals listed in the *Bhāvaprakāśa* and it is actually very systematic as only the herbs that should be in each group are actually listed (not always the case in other pharmacopoeias!). For example, only flowers are found in the flower group (*puṣpavarga*) and only aromatics are in the camphor group (*karpūrādivarga*). It is a must for any serious student of Ayurveda.

Sanskrit plant names are sometimes used generically to cover various botanical species. While the Latin nomenclature that I have used in this book to define the equivalent for the Sanskrit name is based on the works of numerous scholars, common clinical practice, and accepted norms, it cannot represent hard and fast scientific certainty. The discovery of the ayurvedic pharmacopoeia is a work in progress that will continue for many years to come.

And so we can clearly see that Ayurveda has grown out of a dynamic tradition that has survived and thrived in the face of much intervention, influence and change. As a medical tradition existing in Indian culture it has faced a complex task: that of fitting into the orthodox fold while also remaining true to its holistic aspirations and prioritising its ultimate goal of the health of the patient. These requirements were not always compatible but Ayurveda has managed to grow organically into the respected position that it holds today. Ayurveda is now experiencing a worldwide revival and it faces many challenges as it blends with the legal, social and climatic conditions of

different cultures. Ayurveda's main challenge is whether it can thrive as a global medical system.

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THE BASIC PRINCIPLES OF AYURVEDA



The *sāṃkhya* philosophy and the *pañcamahābhūta*: the five primordial elements **15**

The universal constituents: *guṇa* **17**

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The main characteristics of each *doṣa*: *doṣa lakṣaṇa* **27**

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Ayurvedic anatomy:

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roga karaṇa **56**

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According to Ayurveda all matter is constituted of the five elements (*pañcamahābhūta*). Some parts of matter are animate and others are inanimate.

Caraka Saṃhitā Sūtrasthāna 26.10

It is the opinion of the wise that if an action produces a bad result, now or later, one should not perform it.

Caraka Saṃhitā Vimānasthāna 3.45

This chapter is an introduction to the fundamental principles of Ayurveda. It will cover the unique theories that give a foundation to the practice of Ayurveda, ranging from ayurvedic cosmology and evolution theory to anatomy, physiology and the ayurvedic mind, and to an understanding of the cause and progression of disease.

The fundamental principles introduced here are:

- The *sāṃkhya* philosophy and the five elements (*pañcamahābhūta*)
- The three qualities (*guṇa*) of nature: *sattva*, *rajas*, *tamas*
- The three humours (*doṣa*)
- The seven tissues (*dhātu*)
- The sixteen channels (*srotāṃsi* [pl.] and *srotas* [sing.])

- Anatomy (*śarīraracanā*)
- The digestive fire (*agni*)
- Toxins (*āma*)
- The ayurvedic mind (*manas prakṛti*)
- Seasonal routines
- Disease aetiology (*roga karaṇa*)
- Pathology (*saṃprāpti*)

THE SĀṂKHYA PHILOSOPHY AND THE PAÑCAMAHĀBHŪTA: THE FIVE PRIMORDIAL ELEMENTS

Ayurvedic cosmology is based on the theory of natural evolution that is presented in the *Sāṃkhya Kārikā* (Fig 2.1; *Īśvara Kṛṣṇa* 3CE. The concepts expounded by the sage Kapila were clearly evident before this and played a role in Indian evolutionary thought from c.700BCE.). This philosophical text describes evolution as expanding

out of a state of primordial stillness when all-pervading consciousness (*puruṣa*) and manifest nature (*prakṛti*) are in a state of equilibrium. The cosmic balance is disturbed by desire, causing the differentiation of this unity. From this subtle state of stillness comes the dynamic state of movement. It is out of movement that the natural world evolves.

Sāṃkhya means ‘enumeration’. This refers to the categorisation of evolution into a set of 24 principles (*tattvas*). It is a system of duality based on a continual dialogue between the dichotomy of the universe. These opposites refer to the pairs of subtle–gross, subject–object, unmanifest (*avyakta*)–manifest (*vyakta*) experiences. Within the *avyakta* state primordial consciousness (*puruṣa*) and

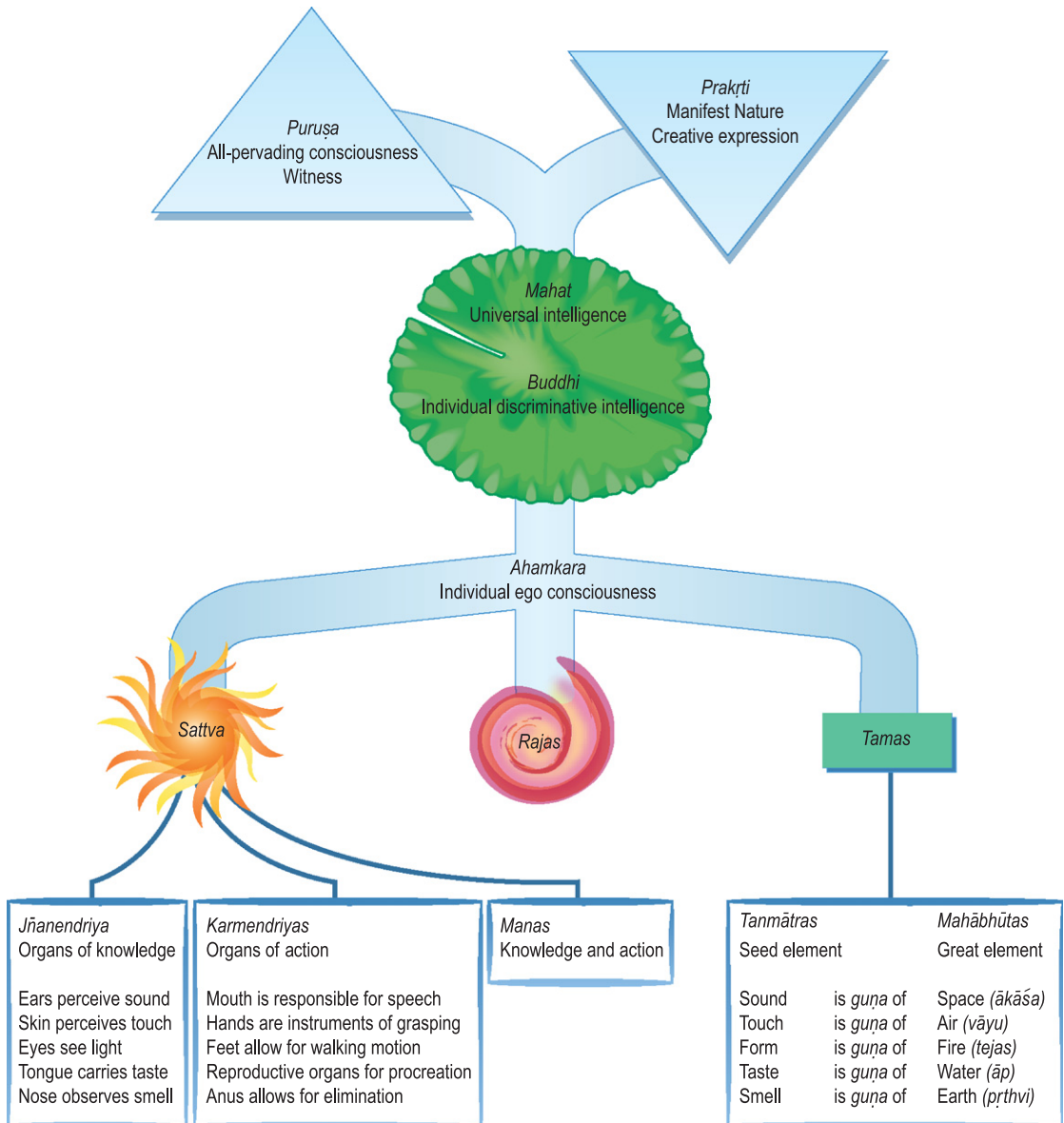


Figure 2.1 *Sāṃkhya*. The evolution of consciousness into material nature

matter (*prakṛti*) co-exist; existing in a state of perfect equilibrium, they represent the original state of balance. *Puruṣa* is the state of passive awareness, the *sākṣin*, the silent observer. Referred to as a masculine energy, it is formless, colourless, odourless and without discernable qualities. In line with the Indian Upanisadic approach to describing reality it is defined through the negative of 'neti, neti'; 'not this, not that'. *Prakṛti* in the *avyakta* state is the unmanifested seed that holds the potential for all of phenomenal creation. *Prakṛti* can be translated as 'first action'; that force that contains both the spark and expression of creation. Referred to as a feminine quality she has form, colour and the attributes of experience. More than this, *prakṛti* refers to the capacity for experience. This points to an active consciousness that has choice, direction and will. She is both the generator and the generated.

THE UNIVERSAL CONSTITUENTS: GUṆA

All experience is based on this duality between the conscious subject and the active evolutes of nature. Consciousness needs something to be conscious of and matter needs to be experienced. *Prakṛti* is held together in a balanced state of tension by three universal constituents (*guṇa*). These three aspects combine in variable proportions to create manifest phenomena. They are the causal form of nature. They are present in every expression of *prakṛti*, be it subtle or gross; if it is 'observable' it contains the *guṇa*. *Sattva* refers to qualities of balance, equality, and stability. It is light (*laghu*) and luminous (*prakāśikā*) and holds the capacity for happiness. It is conscious and intelligent, moving inwards and upwards. *Rajas* generates activity, change, and disturbance. It is mobile (*cala*) and excitable (*upastambhaka*). It is the motivator and expressor. It has a centrifugal force causing dispersion and disintegration. This movement away from the centre causes pain. *Tamas* is the immobile, still, and stuck quality. It is heavy (*guru*) and causes obstruction or lack of perception (*varaṇa*). It moves down and is responsible for degeneration. Through the force of *tamas* there is delusion and confusion.

Tamas has a bad reputation for being a negative, downward-bearing energy. To perceive it negatively is to misinterpret its role. The *guṇas* exist 'for

a single purpose, like that of a lamp'. That they possess contradictory properties does not give any one quality priority over another. They come together for the single purpose of liberation (*mokṣa*), the ultimate goal of all *darśana(s)* and conscious existence. They are one force, with different aspects unfolding to be mutually 'supportive', 'productive', and 'subjugative.' They help each other and keep each other in check. They are accountable to each other; maintaining, encouraging, or restraining. Their varied proportions explain the variety in nature.

The disturbance of the primal balance between *puruṣa* and *prakṛti*, which releases the patterns of the *guṇa*, is a conceptual pattern. The *Sāṃkhya-kārikā* describes the process: 'For the perception of nature by the spirit and for the isolation [*kaivalya*, concomitant with *mokṣa*] of the spirit, there is union of both. From this union proceeds evolution'. The analogy of the seer (*puruṣa*) guiding the active blind (*prakṛti*) is used. From this catalyst of seeking 'enjoyment' and 'isolation' comes the seed of all philosophical and mystical work and debate: 'Who am I?'; 'What am I doing here?'; 'What is matter and what is spirit?'. This 'union' of *puruṣa* and *prakṛti* causes the confusion or *avidyā* of our true nature. We think that we are the observable and not the observer. This quandary inspires all soteriologies in Indian culture.

The evolution of consciousness

The imaginative power of *rajas* and the elements of desire (*rāga*) that this stimulates play a role in the initial germ of creation. The first evolute from *prakṛti* is called *mahat*. This is universal intelligence. It is differentiated into *buddhi* as individual consciousness. This intellect is determinative and discriminatory. Because of its close proximity to *puruṣa* in the evolutionary hierarchy *buddhi* is sentient. Through this faculty we can discriminate between eternal and transient, real and unreal. In a state of *sattva* it is virtuous, wise, detached and powerful. In a state of *tamas* it holds to the opposite of these properties. Here the *guṇas* show how the multiple variety in life manifests; sometimes 'light' and at others 'dark'.

As nature differentiates further it creates *ahaṃkāra*, the 'I-maker'. This is individualised awareness

that operates as a process whereby the *ahaṅkāra* 'owns' different aspects of evolution as its own. It identifies with these aspects. We use the 'I' in language to refer to an individual identity that exists in its own right. This linguistic misnomer creates an intellectual and experiential inaccuracy as we identify with the 'I' and not the source. *Ahaṅkāra* is a process necessary for the individuation that takes place in nature's evolution. The fault of ignorance (*avidyā*) arises on association of *ahaṅkāra* as a 'real' and 'separate' entity. The 'I-ness' that perceives us as independent from consciousness and not interdependent is the *ahaṅkāra*. Through this individuation the *guṇa*, as different aspects of nature, diversify and manifest with their own ego-identity.

The material world

From the sattvic and rajasic aspect of *ahaṅkāra* evolve 'the set of eleven' senses (*indriya*); the five sense faculties (*jñānendriya*), the five organs of action (*karmendriya*), and the mind (*manas*). The *jñānendriya* are the potential for experience of nature. We experience the manifest world through the senses. They are receptive and receive the flow of *prakṛti* in her multiple forms. They operate on a subtle and gross level; the ears perceive sound moving in space, the skin perceives touch carried by air, the eyes see light generated by fire, the tongue carries taste that manifests through water and the nose observes smells exuding from earth. Through these senses we know about the world; hearing, feeling, seeing, tasting and smelling it. They are the interface between the inner and outer world. For the physician they are the tools of diagnosis.

The *karmendriyas* allow for certain actions which direct certain experiences. They are pure expression and allow the manifestation of ideas. The mouth is responsible for expression that is carried by ether and sound. The hands are instruments of grasping, utilising air and touch. The feet allow for motion, requiring the dynamics of heat and direction of sight. The reproductive organs are the potential for reproduction held in water and taste. The anus allows for the expression of elimination relating to earth and smell. How we perform these expressive actions is a product of *ahaṅkāra*, but the inherent quality necessary for their manifestation is everywhere in *prakṛti*.

Manas, the mind, is both expressive and receptive. It observes, perceives, and projects. It is a conditioned mind dependent on the particular modalities of *ahaṅkāra*. The influence of the mind comprehends and directs the organs of sense and action.

The tamasic aspect of *ahaṅkāra*, propelled by the dynamism of *rajas*, generates the *tanmātras*, the seed elements. They are the 'primal measure' (*tanmātra*) and are the causal root energies that hold the potential of all sensory and elemental manifestation. *Śabda* is sound, *sparśa* is touch, *rūpa* is form, *rasa* is taste and *gandha* is smell. That is, *śabda* is the proto-element containing the experience and expression known as sound. They define the pentagonal structure of the universe having five main constructive elements. Under a process known as *pañcikaraṇa*, or quintuplication, a *tanmātra* transforms the causal *pañcatattoas* ('that-ness' or element) into its gross and manifest form (*pañcamahābhūtas*). The *tattvas* first exist in the sphere of consciousness (*mahat*). They manifest as an expression of universal intelligence that has become differentiated and individuated as they pass through the filter of *ahaṅkāra*.

Each element (*bhūta*) contains a certain collection of atoms (*paramāṇu*). They become more dense as they evolve through the different states of matter; ethereal to gaseous to thermal to fluid to solid. Each state of matter contains a special attribute (*viśeṣa guṇa*), which is a seed element (*tanmātra*). Ethereal *ākāśa* has *śabda* sound, gaseous *vāyu* has *sparśa* touch, thermogenic *tejas* has *rūpa* form, fluid *āp* has *rasa* taste and solid *pṛthivī* has *gandha* smell. These *tanmātra* combine in specific configurations resulting in the gross elemental atoms (*bhūta paramāṇu*). This theory combines some Vedantic thought. Essentially a Vedantic *bhūta* (subtle element) relates to a Samkhyan *tanmātra* (proto-element).

This diversity is a variation in density. Ether (*ākāśa*) is the source element, growing out of mind. They both have an expansive and limitless quality. Ether is the arena of activity allowing for interaction and connection between all phenomena. It is expansive, light, clear, subtle, infinite and all-encompassing. It transforms into air (*vāyu*) through motion. Air is like the wind, light, subtle, clear,

mobile, rough, dry, gives direction and potential for change. The continual movement causes friction that creates fire (*tejas*). Fire is hot, sharp, penetrating, fluid, luminous, ascending and dispersing. It allows for perception and warmth. It creates condensation that collects to form water (*āp*). Water is the moisture necessary for life. It is fluid, heavy, wet, soft, cool and cohesive. It coagulates to form earth (*prthivī*). Earth is solid and stable. It has resistance, is thick, heavy, dense, hard and still. Each element contains a part of the other elements within itself.

Ayurveda develops the 24 *tattvas* of *Sāṃkhya* to create a framework for understanding the flow of vitality (*rajas* as *prāṇa*) in the body and universe. It explains the anatomy of *dhātus* (tissues) and *srotāṃsi* (channels) and the physiology of constitution (*prakṛti*) through a humoral (*doṣa*) scheme derived from combinations of the elements.

Sāṃkhya is a scientific philosophy directed at explaining the human predicament of suffering, the evolution of consciousness and nature, as well as being a soteriology, seeking a path to liberation from all the misidentification and misassociation that results in cycles of suffering. It is limited, like any philosophy, by defining set phenomena that describe reality. It benefits from being a part of a larger philosophical framework that includes other perceptions. Ayurveda is magnified and clarified by this larger perspective. It is given structure through the evolutionary theory of *Sāṃkhya*.

As discussed above the material world is comprised of building blocks that evolve as increasing concentrations of density from the subtle to the gross, from ether to earth. These 'bricks' are known as the 'five great elements' (*pañcamahābhūta*) or 'that-ness' (*tattva*). They are the five primordial elements; space/ether, air/motion, fire/heat, water/fluid, earth/solid (Box 2.1).

These elements combine in different proportions to make up the material universe. They are relevant to Ayurveda as they form the substrate for the constitutional humours, tissues, channels and wastes, as well as the framework for determining tastes and properties of herbs and foods. They are different from the periodic elements of modern chemistry that are the irreducible components of matter, indivisible

Box 2.1

The *pañcamahābhūta*

ĀKĀŚA—SPACE/ETHER: the principle of all pervasiveness

Quality: expansive, light, subtle, clear, infinite and all-encompassing space.

Relates to the sense of sound and the ear. It is the arena within which 'life' takes place. Sound travels through space.

VĀYU—AIR: the principle of motion

Quality: like the wind, light, mobile, clear, rough, dry and erratic.

Relates to the sense of touch, the nerves and the skin. Sensation travels through the skin and nerves just as you can feel the wind on your skin.

TEJAS—FIRE: the principle of illumination

Quality: hot, sharp, fluid, penetrating, luminous, light ascending and dispersing.

Relates to the sense of sight and the eyes. Light and perception travel through the eyes due to the metabolic activity of light-sensitive photons in the eyes.

JALA/ĀP—WATER: the principle of cohesion

Quality: fluid, heavy, wet, lubricating, cool, soft, cohesive and stable.

Relates to the sense of taste and the tongue. Flavours and tastes are only perceptible when the tongue is wet.

PRṬHVĪ—EARTH: the principle of cohesion

Quality: thick, dense, solid, hard, heavy and stable.

Relates to the sense of smell and the nose. Earthy and dense objects give off smells.

by chemical intervention. The *pañcamahābhūtas* are more closely associated with 'states' of matter as opposed to their reducible molecular elements.

GUṆA: The qualities of nature

The qualities of nature have a direct effect on the physical behaviour, mental outlook and emotional balance of every individual (Box 2.2). As a broad example the yogic vegetarian is *sattvic*, the driven executive is *rajasic*, and the slothful couch potato is *tamasic*. I have heard it explained that a box of matches is *tamas*, the striking of the match is *rajas* and the light of the flame is *sattva*; stillness, movement and light. A healthy balance of all three *guṇa* is required for a healthy existence.

Box 2.2**Sattva, rajas and tamas**

Sattva represents all that is illuminating, intelligent, creative, compassionate and pure

Rajas represents all that is dynamic, metabolic, hot, restless and selfish

Tamas represents all that is inert, still, dull, unconscious, sluggish and ignorant

The 20 ayurvedic qualities of matter

The ayurvedic *guṇa* theory broadens this understanding and expands this subtle tripartite system into a division of ten pairs of opposite physical qualities (*gurvādiguṇa*) (Table 2.1).

TABLE 2.1 The twenty qualities of matter (*gurvādi guṇa*)

Quality	Example
Hot (<i>uṣṇā</i>)	ginger, garlic, alcohol
Light (<i>laghu</i>)	gotu kola, popcorn, rice
Dry (<i>rūkṣa</i>)	guggul, honey, millet
Penetrating/sharp (<i>tīkṣṇa</i>)	calamus, alcohol, salt
Smooth (<i>ślakṣṇa</i>)	sesame oil, ghee
Stable (<i>sthira</i>)	yoghurt, sweets
Soft (<i>mṛdu</i>)	porridge oats, ghee, avocado
Liquid/fluid (<i>drava</i>)	water, juices
Subtle (<i>sūkṣma</i>)	brahmi, ghee, honey, alcohol
Slimy (<i>picchila</i>)	oil, porridge oats
Cold (<i>sītā</i>)	neem, mint, wheat
Heavy (<i>guru</i>)	ashwagandha, yoghurt, meat
Greasy/unctuous (<i>snigdha</i>)	oils, nuts, shatavari
Dull/sluggish (<i>manda</i>)	nutmeg, tofu, yoghurt
Rough (<i>khara</i>)	bibhitaki, popcorn
Mobile (<i>cala</i>)	spices, chilli
Hard (<i>kaṭhiṇa</i>)	nuts, coconut, almonds, sesame seeds
Solid/dense (<i>sāndra</i>)	roots, cheese
Gross (<i>sthūla</i>)	bala, meats, mushrooms
Clear (<i>viśada</i>)	sprouted beans

This description of the different qualities of nature gives us the language with which to understand pathology, physiology and energetic herbalism. It is a vital part of this medical system that relates the 'energetic' condition of an individual with the particular remedy that is 'qualitatively' appropriate for them. Simply put, a 'cold' and 'wet' disease gets a 'hot' and 'dry' remedy (Table 2.2).

These qualities combine in plants in unique proportions. This results in a certain dominance of one or two of the qualities. For example, dry ginger (*Zingiber officinale*) is hot, light and dry. This tells the practitioner that ginger warms coldness, is easy to digest and dries wetness. The clinical parameters are clearly guided by the *guṇa* and energetics of the plant. On top of this the ayurvedic *materia medica* describes the character of the plant and its effect on the constitutional principles of *vāta* (V), *pitta* (P), and *kapha* (K). This is more fully explained in the Plant Profiles section of the book.

THE DOṢAS: THE THREE HUMOURS: FRIEND OR FOE?

Vāta, *pitta* and *kapha* move in the whole body producing good or ill effects upon the entire system according to their normal or provoked states. Their normal state is *prakṛti* and their abnormal state is *vikṛti*

Caraka Saṃhitā Sūtrasthāna 17.62

The three *doṣas*: wind, fire, and water are shown in Figure 2.2.

What is a doṣa?

Doṣa is the ayurvedic term that generically describes our inherited traits, individual characteristics and tendencies. This refers to such things as the body frame, eye colour, digestive capacity, emotional balance as well as disease tendencies. We all have a different balance of the *doṣas*. For example, some of us are tall, others short, some cannot bear the cold and others dislike the damp. Many of these attributes are genetic while others are acquired from our diet, climate or living conditions. The constitution is fixed at birth but the traits have a tendency to accumulate. If this accumulation does not leave the body through the normal routes (stool, urine, sweat), it increases. This, according to Ayurveda, is the cause of most disease. Despite this tendency to veer out of

TABLE 2.2 The <i>guṇas</i> and their effects on the elements and <i>doṣas</i>			
Quality (<i>guṇa</i>)	Element (<i>tattva</i>)	Action (<i>karma</i>)	Effect on <i>doṣa</i>
Hot (<i>uṣṇa</i>)	Fire	Heating, digestive, moves upwards and outwards, diaphoretic (<i>svedana</i>)	V–P+K–
Light (<i>laghu</i>)	Fire, air, space	Easy to digest, reduces accumulations, reduces (<i>larighana</i>)	V–P+K–
Dry (<i>trūkṣa</i>)	Earth, air	Drying, astringing, dehydrating, constipating	V+P–K+
Penetrating/sharp (<i>tīkṣṇa</i>)	Fire	Enters deeply into the body and mind, immediate effect	V+P+K–
Smooth (<i>ślakṣṇa</i>)	Water	Eases tension, brings together, and reduces roughness	V–P+K+
Stable (<i>sthira</i>)	Earth	Encourages relaxation, creates sluggishness	V–P–K+
Soft (<i>mṛdu</i>)	Water	Eases tension, increases tenderness, reduces hardness, pacifies (<i>śamana</i>)	V–P+K+
Liquid/fluid (<i>drava</i>)	Fire, water	Holds together, lubricates and moistens	V–P+K+
Subtle (<i>sūkṣma</i>)	Air, space	Penetrates deeply into the tissues, expansive, increases awareness	V+P+K–
Slimy (<i>picchila</i>)	Water	Heals broken bones, soothes, creates lack of clarity, plasters (<i>lepana</i>)	V–P+K+
Cold (<i>śīta</i>)	Water	Cooling, slows digestion, contracting, moves inwards and downwards, restrains (<i>stambhana</i>)	V+P–K+
Heavy (<i>guru</i>)	Earth, water	Difficult to digest, builds tissues, moves down, creates tiredness, nourishes (<i>br̥mhaṇa</i>)	V–P–K+
Greasy/unctuous (<i>snigdha</i>)	Water	Difficult to digest, lubricating, nourishing, increases love, moistening (<i>kleśana</i>)	V–P+K+
Dull/sluggish (<i>manda</i>)	Earth, water	Increases tissues, causes stagnation, slowness, pacifies (<i>śamana</i>)	V–P–K+
Rough (<i>khara</i>)	Air	Reduces lubrication, causes dry skin, brittle bones, increases inflexibility, scrapes (<i>lekhaṇa</i>)	V+P–K–
Mobile (<i>cala</i>)	Air	Encourages movement and changeability, releases	V+P+K–
Hard (<i>kāṭhina</i>)	Earth	Difficult to digest, gives strength	V+P–K+
Solid/dense (<i>sāndra</i>)	Earth	Difficult to digest, increases structural strength, mental fortitude	V–P+K+
Gross (<i>sthūla</i>)	Earth	Difficult to digest, causes obstructions	V–P–K+
Clear (<i>viśāda</i>)	Air, space	Increases clarity	V+P+K–

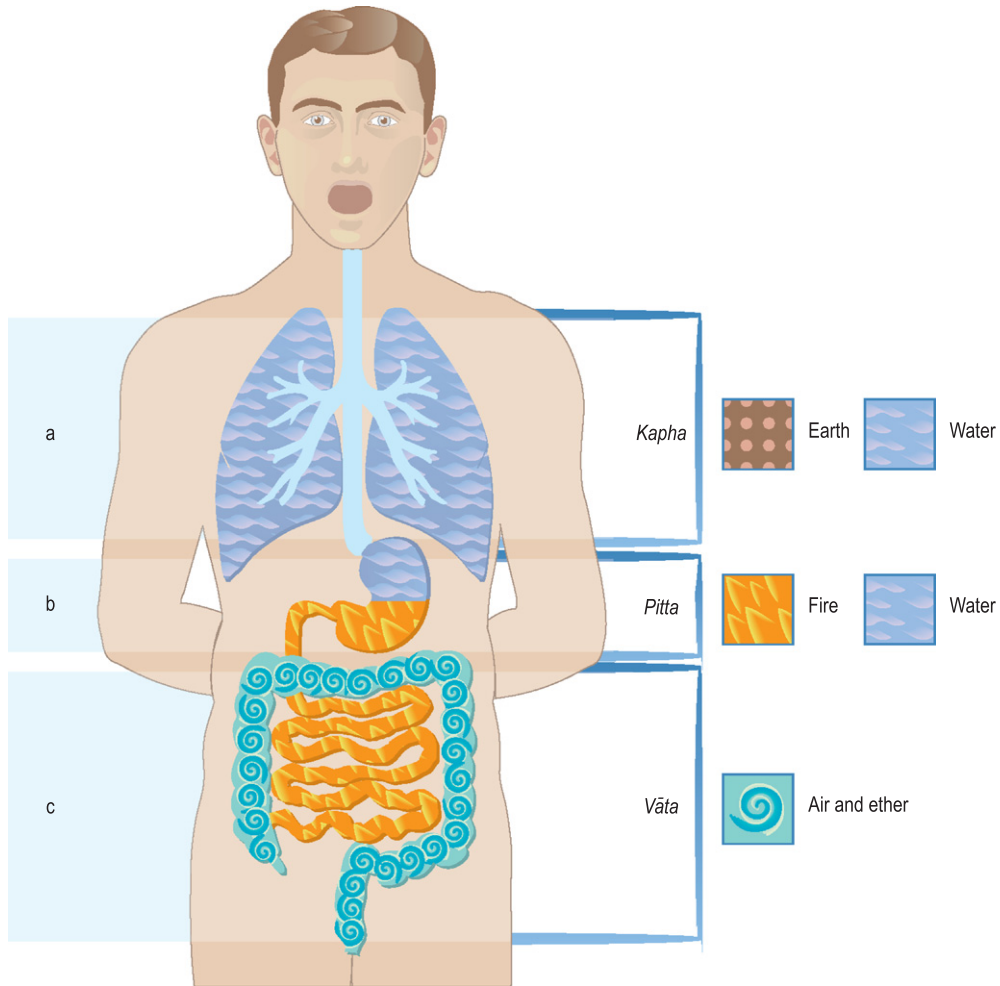


Figure 2.2 The three seats of the *doṣa*: *vāta*, *pitta*, *kapha*

balance the *doṣas* offer much potential for health and vitality, if cared for properly.

The *doṣas* are not physical entities but subtle by-products of the cosmic evolution of the five elements (*pañcamahābhūta*). They cannot be seen, only known through inference as they manifest through the products of disease; phlegm, swellings, inflammation, bleeding, nervous imbalance and dry skin. In perfect health they remain out of sight.

The meaning of '*doṣa*'

'*Doṣa*' is described and translated in many different ways; 'constitution', 'functional principle', 'humour'. There is no single word that accurately translates the breadth of meaning implied to '*doṣa*'

when it is used in different situations.

'Constitution' implies one's fixed and life-long inherited health, 'functional principle' implies an invisible catalytic active, and 'humour' is often used because of the European cultural familiarity with the Greek humoral system of medicine. 'Humour' comes from the Latin '*umere*' meaning 'moist' and again refers to the constitutional make up as well as something that can increase or decrease in volume as well as quality. The *doṣas* can have all of these tendencies, depending on the context.

There are three *doṣas* (*tridoṣa*: *vāta*, *pitta*, *kapha*) that are discussed in detail below. The constitution is described in terms of the *doṣas*.

Constitutional make-up means inherent nature (*prakṛti*). Each individual has a mental nature (*manas prakṛti*) as well as a physical humoral constitution (*doṣa prakṛti*). When the humours are relatively balanced the *doṣa prakṛti* brings health and support. Conversely, when there is an accumulation of a particular *doṣa* (or *doṣas*), an aggravated state of the humours (*doṣa vikṛti*) arises. This brings ill health. It is important to note that it can be easy to confuse *vikṛti* with *prakṛti* as many health imbalances appear on the surface. This is examined further below.

The literal meaning of *doṣa* is ‘fault’. This comes from the Sanskrit ‘*duṣ*’ meaning ‘err’ and relates to the prefix ‘*dys*’ (from the Greek), as in dysfunctional, dysentery or dyslexia. The word *doṣa* is commonly used to refer to the three humours of *vāta*, *pitta*, and *kapha*. It is also occasionally used to describe other physiological functions such as disrupted tissues, wastes, as well as specific disorders, for example, *agnidoṣa*, meaning a defective digestive fire (*Aṣṭāṅga Saṃgraha* 6.22), *āmapradoṣa*, meaning the defective toxic residue (*Caraka Sūtrasthāna* 23.6), and *grahaṇidoṣa*, meaning the disturbance of the small intestines (*Caraka Saṃhitā Sūtrasthāna* 26.3; Meulenbeld 1992).

It may seem ironic that the constituents of an individual’s physiological constitution should be referred to as destructive ‘faults’. Yet Ayurveda clarifies this irony through its broad approach to understanding the processes of the body–mind.

The defining characteristics of a *doṣa* (Box 2.3)

The texts define *doṣas* as ‘faults’ because they are *dūṣaṇatva*; they have the ability to corrupt the *agni*, the channels (*srotas*), and the tissues (*dhātu*) (*Aṣṭāṅgahr̥daya Saṃhitā Sūtrasthāna* 1.13). It is also relevant to point out that the *doṣas* are not the sole causes of corruption. *Caraka* clearly states that if a

dhātu, or a channel, become corrupted then they can also destabilise the other *dhātu* and channels (*Caraka Saṃhitā Vimānasthāna* 5.1, Meulenbeld 1992). Hence the normally supportive *dhātu* can also become ‘faults’. The digestive fire or *agni* is also seen to be a source of imbalance of the *doṣa* (*Aṣṭāṅga Saṃgraha Śarīrasthāna* 6.22). Food is also able to corrupt the *doṣa* and *dhātu* (*Suśruta Saṃhitā, Sūtrasthāna* 45.66). Thus health is not just about the ‘balance’ of the *doṣa*, it is about an overall vitality and proper functioning of the *doṣa*, *dhātu*, *srotas*, *mala* and *agni*.

The *doṣas* are also *ārambhakatva*; able to generate disease. When the *doṣas* are aggravated they can be, in themselves, the beginning of disease. Interestingly, Jan Meulenbeld (1992) also points out that blood (*rakta*) can also be a causative factor in disease, as clearly seen in gout (*vāta rakta*).

The final defining characteristic of a *doṣa* is that of *prakṛtyārambhakatva*, the ability to determine the constitution of a subject. A *doṣa* determines the *prakṛti* (*Cakrapāṇidatta*; Meulenbeld 1992).

So, when in a healthy qualitative and quantitative condition, the *doṣas* help manage the physiology of the psyche and body. They help to support the system and facilitate the five elements’ assimilation into the body. When out of balance they become pathological and act as impurities in the body that damage the digestive fire, the tissues and channels.

When the *doṣas* manifest they are actually the result of the imperfect digestion of the higher cosmic forces of *prāṇa*, *tejas* and *ojas*.

The essences of nature: *prāṇa*, *tejas*, *ojas*

These cosmic substances are the essences of nature. *Prāṇa* is the breath behind all the vital essence of the universe, *tejas* is the spark behind all conscious perception and *ojas* is the seed behind all nourishment and creativity. *Prāṇa* infuses the physical–mental–spiritual realms with life, *tejas* gives them clarity, and *ojas* connects and sustains them. *Ojas* holds a special place in Ayurveda as its quality and quantity have a direct effect on the quality of life: ‘When *ojas* is low the person is fearful, weak, worried, has deranged senses, poor complexion, weak mind, is rough and thin’ (*Caraka Saṃhitā Sūtrasthāna* 17.73). Its

Box 2.3

The functions that define a *doṣa*

Dūṣaṇatva: to have the ability to corrupt the *dhātu*

Ārambhakatva: to be able to generate disease

Prakṛtyārambhakatva: to have the ability to determine the constitution of a subject

beneficial qualities are seen in the lustre of the eyes, strength of the body, resistance to disease, efficient digestion, potent fertility and lucidity of the mind.

Ojas has an interdependent relationship with *agni* and *tejas*. Even though they have some seemingly opposite qualities *agni* is responsible for the correct formation of *ojas* (see How herbs and nutrients reach the tissues, below). Likewise, appropriate quality and quantity of *ojas* is responsible for the generation of healthy *agni*. They are the perfect duality of solar vitality (*agni*) and lunar nurturing (*ojas*) forces. *Prāṇa* also plays a vital role in promoting *ojas* and the practice of yogic *prāṇāyāma* and vital breathing help to build *ojas* via the inherent life-force that they bring into the body. It engenders tranquillity, so important for the maintenance of *ojas*. When there are poor breathing habits or poor air quality then *ojas* can be depleted. *Ojas* is also depleted by excessive alcohol, fever, ejaculation, orgasm (both men and women), overwork, undernourishment, excess sport, depression, sadness, irritability, anger, anxiety, and stress.

Vāta is a result of undigested *prāṇa*. The weakened digestive fire cannot absorb all the potential *prāṇa* and this creates an excess of *vāta*, hence the frenetic rush of excessive *vāta* being burnt off. *Pitta* is the result of undigested *tejas*; hence the expression of heat and rage. *Kapha* is the result of undigested *ojas*; hence the excessive slothfulness and stagnation that wallow in the system. Therefore the *doṣas* are manifestations of unutilised potential (see Svoboda 1992).

Ojas is the first thing to be created in the body of all living beings. It is ghee coloured, it tastes like honey and smells like roasted puffed rice

Caraka Saṃhitā Sūtrasthāna 17.74

THE THREE DOṢAS: TRIDOṢA

While the general signs of the *doṣas* are clinically relevant, understanding their subdivisions adds further precision to the clinician's diagnosis. Each *doṣa* has general characteristics and then five subtypes that are a more detailed expression of each function. These five subtypes are a later addition, first appearing for all three *doṣas* in the *Aṣṭāṅgahṛdaya Saṃhitā* around the 6th century.

Vāta

The *vāta doṣa* is comprised of *ākāśa* (ether) and *vāyu* (wind). Each *doṣa* contains aspects of all the *pañcamahābhūta*, but space and wind are predominant in *vāta*. *Vāta* is the air element that is held within the confines of ether. It shares qualities familiar to both elements. So, *vāta* is cold, light, rough, mobile, subtle, clear, dry and astringent. When *vāta* manifests these qualities are apparent. The primary site of *vāta* is the colon. It also resides in the bladder, thighs, ears, bones and the sense of touch. The root 'va' means 'to spread' and it is responsible for all movement in the body; the flow of breath and blood, elimination of wastes, expression of speech, it moves the diaphragm, muscles and limbs, regulates the nervous system and it also stimulates the function of the intellect. It is like a current of electricity and is responsible for regulating all electrical impulses in the body–mind. It is the messenger. In fact without *vāta* the other *doṣas* are inert. As it is said in the *Śārṅgadhara Saṃhitā* 'pitta is lame, kapha is lame. They go wherever the wind takes them, just like the clouds' (*Śārṅgadhara Saṃhitā* 1.5.25). Because of this dynamic function an aggravated *vāta* is often involved in the movement of the other *doṣas* around the body.

There are five subcategories of *vāta*, called the five winds (*pañca vāyu*): *Prāṇa*, *Vyāna*, *Udāna*, *Samāna*, *Apāna* (Fig. 2.3).

Prāṇa vāyu: This is the chief impulse. In its macro-aspect, as described above, *prāṇa* is the 'life-force' and literally means 'that which moves towards'; i.e. breath, vitality, inspiration. *Prāṇa* is said to surf on the breath and is more than just oxygen, nitrogen and material gases. It is inherent within fresh air, fresh food, well-prepared medicine and effective healing work. It can be directly experienced as the tingle or warmth felt in your body after a good meditation, yoga session or healing experience. It brings well-being to every cell and promotes immunity.

Prāṇa vāyu's micro-aspect as a part of the *pañca vāyu* has its chief seat in the brain and occupies the region from the throat to the abdomen; it moves inwards. It is the chief regulator of interdependent homeostatic physiological functions; ascending–descending, inhaling–exhaling, assimilating–excreting and stimulating–relaxing.

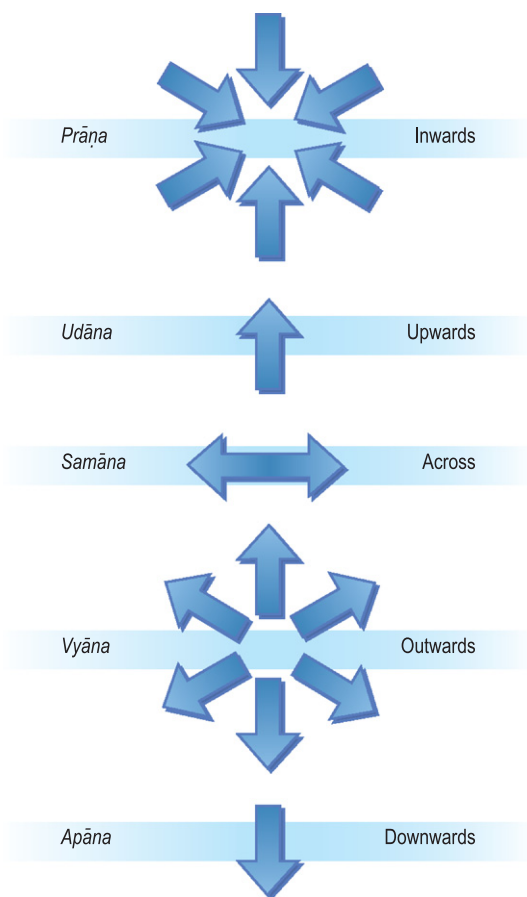


Figure 2.3 Movement of the five subtypes of *vāta*

It regulates nerve impulses, swallowing, breathing, the heartbeat, the intellect, and memory. It brings life to the body and mind. It expresses itself as the nitrous oxide responsible for the transmission of nerve impulses in the brain. When imbalanced it can manifest as nervous disorders that can be managed by a *vāta*-regulating lifestyle. Breathing exercises, meditation practice and aware living heighten the quality of *prāṇa vāyu*.

Vyāna vāyu: This is the aspect of *vāta* responsible for spreading outwards from its root in the heart. It is responsible for cardiac activity, circulation, oxygen transportation, delivering nutrients, heat distribution and the reflex response. Poor circulation, coldness and coordination problems are caused by a *vyāna vāyu* imbalance that can be corrected by appropriate massage, exercise and warming spices such as ginger (*Zingiber officinale*).

Udāna vāyu: It occupies the head and throat. It is responsible for controlling the tongue, speech and moving upwards from its seat in the chest. This upward movement regulates exhalation and the removal of carbon dioxide wastes from the body. It regulates belching, hiccups and communication. It also carries memories into consciousness and works as a partner with *prāṇa vāyu* to manage memory. Problems associated with an inability to exhale, such as emphysema, certain types of asthma, hiccups and a croaky voice are *udāna vāyu* problems best treated by demulcent expectorants such as licorice (*Glycyrrhiza glabra*) and bala (*Sida cordifolia*).

Samāna vāyu: This is the wind that lives in the stomach and is responsible for all oscillating movements from side to side within the digestive system. Its function is to circulate *vāta* in the centre of the abdomen, promote digestion, assimilation of nutrients and intestinal peristalsis. Most digestive disorders involve *samāna vāyu* including bloating, malabsorption, indigestion, constipation and diarrhoea. These are treated by regulating *vāta* with digestive herbs such as cardamom (*Elettaria cardamomum*) that aromatically warm and balance *vāta* in the digestive tract.

Apāna vāyu: This aspect resides below the navel in the lower abdomen also known as the *apānakṣetra* or 'field of the descending wind'. It lives in the bladder and colon. Its function is to move downwards. It regulates all descending motion; urination, bowel movements, flatulence, ejaculation, ovulation, menses and giving birth. It plays an important part in facilitating conception as the ovum and sperm join together as well as in encouraging delivery at the end of pregnancy. It is commonly implicated in disease, as any obstruction to its natural flow causes it to 'rebel' upwards causing all sorts of complications from constipation and bloating, to heartburn, asthma, menstrual irregularities and delayed delivery. It is also implicated in miscarriage, ectopic pregnancies, infertility, dysmenorrhoea, uterine and colon prolapses, premature ejaculation, urinary incontinence and haemorrhoids. It has a primary place in treatment and is often the first and primary '*vāyu*' that is treated as this can help to correct any disturbance of the other *vāyus*. Its treatment often involves using herbs that recorrect the flow of *vāta*

such as gokshura (*Tribulus terrestris*) and haritaki (*Terminalia chebula*) or by using softening and lubricating laxatives such as psyllium husk (*Plantago ovata*) or oily enemas.

Vāta is aggravated by astringent, bitter and pungent flavours (as they all increase dryness), at the end of a meal, early morning and evening ('windiest' and lightest times), by fear and insecurity, in early Autumn and any change in the season, at the later stage of life (the driest stage), by excessive movement, by dry and cold climate, by going to bed after 11pm. Dry foods, such as popcorn, aggravate *vāta*, as do foods that are dry in nature such as pulses.

Pitta

The *pitta doṣa* is made up of *tejas* (fire) and *jala* (water). The seemingly contradictory combination of fire and water to form *pitta* is actually complementary. *Pitta* exists as water or oil in the body, thus preserving the tissues from the destructive aspect of fire.

It is pungent, hot, penetrating, greasy, oily, sharp, liquid, spreading and sour. Its primary function is transformation. It is the force of metabolic activity in the body associated with the endocrine function, hormone levels, digestion, body temperature, visual perception, hunger, thirst, and skin quality. Mentally it plays a role in understanding and in digesting sensory impressions. Again, the five aspects of *pitta* determine its location in the body. It resides in the eyes, blood, sweat glands, the small intestine, stomach and lymph. Its primary site is in the small intestine.

Ālocaka pitta: Resides in the eyes and is responsible for transforming light. *Ālocaka pitta* gives lustre and shine to the eyes. It moves inwards and regulates the dilation and contraction of the pupil. When aggravated it causes conjunctivitis, styes, blepharitis or glaucoma, which are treated using anti-inflammatories such as rose petals (*Rosa centifolia*).

Sādhaka pitta: Resides in the 'heart' and is the centre of ayurvedic consciousness. It controls a rhythmical heartbeat and the ability to digest intellectual information. It can transform a feeling into emotion and, when healthy, gives clarity. It functions via the neurotransmitters that are responsible for the production of dopamine and serotonin. Its regulatory function is seen as controlling the

hypothalamus and the balance of *sādhaka pitta* is often related to the balance of homeostasis in the body. Imbalances manifest as imbalanced hormone production, being excessively critical and inability to concentrate. Use *medhya* herbs that nourish the mind such as brahmi (*Bacopa monniera*) to cool any excess *pitta* and regulate any imbalance.

Rañjaka pitta: Occupies the liver and spleen and gives colour to blood by generating red blood cells from the bone marrow. It is responsible for the colour of the body and our appreciation of the colour of life, giving enthusiasm and vigour. Hepatitis, jaundice, anaemia, skin discolorations, myalgic encephalomyelitis, gallstones, cirrhosis, and high cholesterol are often related to a *rañjaka pitta* imbalance best treated on a pattern by pattern basis including red-yellow-coloured herbs such as manjishtha (*Rubia cordifolia*) and daruharidra (*Berberis aristata*).

Bhrājaka pitta: Resides in the skin. It keeps the sweat glands active and maintains complexion by regulating pigmentation. It processes the sensation of touch and carries messages of temperature, texture and pain to the brain. It also metabolises the light that touches the skin; this regulates skin colour, vitamin D production and melatonin levels, responsible for sleep and mood patterns. When imbalanced it causes skin problems such as eczema, psoriasis, acne and skin cancer which can be effectively treated using sweet and bitter herbs such as aloe vera (*Aloe barbadensis*).

Pācaka pitta: Occupies the small intestine between the lower portion of the stomach and the ileocaecal valve as the digestive fire of the gastrointestinal tract. It helps to break food down into an absorbable medium. It is the aspect of *pitta* responsible for digestion and assimilation and is regulated by the health of *prāṇa vāyu*, hence weak *prāṇa* causing weak digestion. Being purely hot and sharp *pācaka pitta* expresses the inherent qualities of fire. When in excess it can cause hyperacidity, ulcers, nausea and diarrhoea. When deficient it can cause poor digestion, low appetite, bloating, constipation and lethargy. *Pācaka pitta* is the most commonly aggravated of all the five *pittas* and is treated by clearing it from the system with mild purgatives that are bitter and cooling such as rhubarb root (*Rheum palmatum*) or the more gentle amalaki (*Emblia officinalis*).

Pitta is aggravated by pungent, salty and sour flavours (as they increase heat) in the middle of a meal, at midday, by anger and irritation, repressed emotions, in summer and late spring, from adolescence to middle age, from excessive ambition and in a hot and damp climate. Hot and oily foods like garlic and fried foods disturb *pitta*.

Kapha

The *kapha doṣa* is a combination of the *prthivī* (earth) and *jala* (water) elements. As the water element it is contained within the earthen structures of the tissues and skin, the dry earth is moistened by the reviving water element. It is slow, heavy, cool, dense, soft, greasy, unctuous, sticky, cloudy, liquid and sweet. *Kapha* literally holds the body together. It is cohesive, gives shape and form, aids growth and development, lubricates and protects, helps smelling and tasting. It relates to phlegm in the body. It resides in the chest, throat, head, pancreas, stomach, lymph, fat, nose and tongue. Its primary site is the stomach.

Its five aspects are:

Bodhaka kapha: This is found in the tongue and gums. It gives perception of flavours. Its presence in saliva plays a part in the initial stages of digestion of carbohydrates. When aggravated it causes receding gums, lack of taste or strange tastes in the mouth that are often treated with bitter or astringent herbs as a gargle such as haritaki (*Terminalia chebula*).

Tarpaka kapha: This is the mental form of *kapha* which leads to contentment. It is the fluid that nourishes the brain as the cerebrospinal fluid and is also found in the white matter of the brain (Lad 1996). All sensual experiences are carried to *tarpaka kapha* and stored there. It is the bed of mental experience. If deficient it results in a lack of unctuous mental faculties involving loss of memory, insomnia, multiple sclerosis, balance problems and dry eyes requiring nourishing tonics such as ashwagandha (*Withania somnifera*). If excessive it can result in obstructions to the cavities of the head with excessive earwax, nasal secretions, eye secretions, swelling of the brain and tumours requiring strong reducing therapy with herbs that penetrate deeply into the tissues such as vacha (*Acorus calamus*).

Śleṣaka kapha: This lubricating aspect of *kapha* nourishes the joints as synovial fluid. Its binding aspect

holds the joints together and is therefore involved in the health of the ligaments and cartilage. When aggravated there is swelling in the joints as well as degeneration of the bones requiring lubrication and regeneration.

Avalambaka kapha: This is the nourishing component of the lungs, bronchi, alveoli and heart. It resides in the chest in the pleura of the lungs and the pericardium of the heart. It is the great protector. It circulates through the heart from where it moistens and nourishes the other organs and tissues. When deficient it creates asthma, wheezing, dry cough, weakness and heart disease, which can be treated using sweet tonics such as bala (*Sida cordifolia*). When excessive it results in congestive mucous symptoms, tiredness and congestive heart disorders requiring strong anti-*kapha* herbs such as guggulu (*Commiphora mukul*).

Kledaka kapha: This *kapha* protects the digestive tract from the acid *pitta* enzymes. It primarily lines the stomach and intestines but also lubricates all the mucous membranes of the body. It plays a major part in digestive wellness. As it resides in the primary *kapha* site it can easily become aggravated. It is directly linked with the nutrition of the tissues. It mixes with the food essence, the first part of *rasa* that forms the material substrate of plasma tissue (*rasa dhātu*). *Kapha* is best treated by focusing on clearing *kledaka kapha* from the stomach by using expectorants and emetics such as long pepper (*Piper longum*). If *kledaka kapha* is deficient it will cause dryness and lack of protection to the stomach lining. Oppose this dryness with soothing demulcents like licorice (*Glycyrrhiza glabra*) and shatavari (*Asparagus racemosus*).

Kapha is aggravated by sweet, sour and salty flavours (as they increase moisture), at the beginning of a meal, morning and afternoon, by greed and possessiveness, in winter and early spring, in childhood, from a damp and cold climate and from sleeping in the day.

THE MAIN CHARACTERISTICS OF EACH DOṢA: DOṢA LAKṢAṆA

Here is an in-depth look at some of the particular characteristics of each *doṣa* (Box 2.4). By becoming familiar with these signs you will be able to

Box 2.4

Vāta (V): dry, cold, light, mobile, subtle, rough, irregular

Pitta (P): hot, sharp, penetrating, slightly oily, greasy, fast, irritable

Kapha (K): cold, wet, heavy, stable, solid, unctuous, slow

quickly determine the prevalent *doṣa*. This has the purpose of determining whether the *doṣa* is in a state of increase (*vṛddhi*) or deficiency (*kaṣāya*). The clinician looks for symptoms of increase as these are usually the patterns manifesting as disease and most effectively treated.

The classifications are divided into the different senses (sound, touch, smell, asking and looking) that display the character behind the expression.

Sound (śabda)

This relates to the quality and nature of the voice and includes all physical noise.

- V** Dry/hoarse and high-pitched or quiet voice. Fast talker, jumps from topic to topic with erratic rhythm and focus. The *vāta* predilection to expending energy is reflected in their love of speech. Their joints make cracking noises. They make audible burping noises, have loud flatulence and borborygmus. Their breath may be audible due to dry, tense and constricted alveoli in the lungs producing a wheezing sound. *Vāta* is very sensitive to excess noise.
- P** Loud and sharp voice. Focused, persuasive, dominates conversation, argumentative, challenging, due to their impatience they tend to finish other people's sentences.
- K** Moist, soft, deep and calm voice. Have to clear phlegm from throat or nose as they talk. The *kapha* tendency to conserve energy means they are slow to initiate conversation and when they do, they speak slowly. *Kapha* types have a heavy footstep and they commonly snore.

Touch (sparśa)**Pulse and palpation: circulation**

The three basic pulses are shown in Figure 2.4.

- V** The *vāta* pulse feels cold, hard, thin, fast, variable, and irregular, and slithers like a snake

under your fingertips. It is strongest under the index finger. Hands, feet and abdomen are often cold and dry.

- P** The *pitta* pulse is warm, soft, regular, wiry, strong and bounding like a frog bouncing up to your touch. It is strongest under the middle finger. Circulation is good to the extent that they may be flushed red in the face and the hands feel warm and moist.
- K** The *kapha* pulse feels cool, strong, broad, slow, rhythmical, regular and flows as gracefully as a swan floats along the river. It is strongest under the ring finger. Circulation is regular with cool skin that feels soft and the flesh has depth (Lad 1996).

Sight (Dṛṣṭi)

This method of diagnosis is pure perception—what you can see.

Frame (Fig 2.5)

- V** Has an irregular bone structure, unusually tall or short, thin and out of proportion with slender fingers, arms and legs. They have predominant joints with knobby knees and elbows. You can often see the bones clearly on *vāta* types.
- P** Has a medium, balanced build with defined muscles. The energy-efficient *pitta* has a proportionally balanced frame.
- K** Often has big bones with a stocky body that is well built with wide shoulders and hips. Their joints are not easy to see. They have short and stubby fingers.

Weight

- V** The dry quality caused by a lack of nourishing fluids exacerbates a tendency to low body weight. The poor assimilation of nutrients and continual release of physical and mental energy means that they find it difficult to put on weight. Their irregular nature can also lead to fluctuations in weight. This is usually caused by poor digestion, by overeating or by being extremely stressed or relaxed.
- P** *Pitta* types have an average weight for their build. Their balanced nature tends to spread excess or deficiency equally around the body. There is good muscle definition. *Pitta*-increasing meat, alcohol and greasy food can lead to an overweight condition in *pitta* types that do not exercise enough.

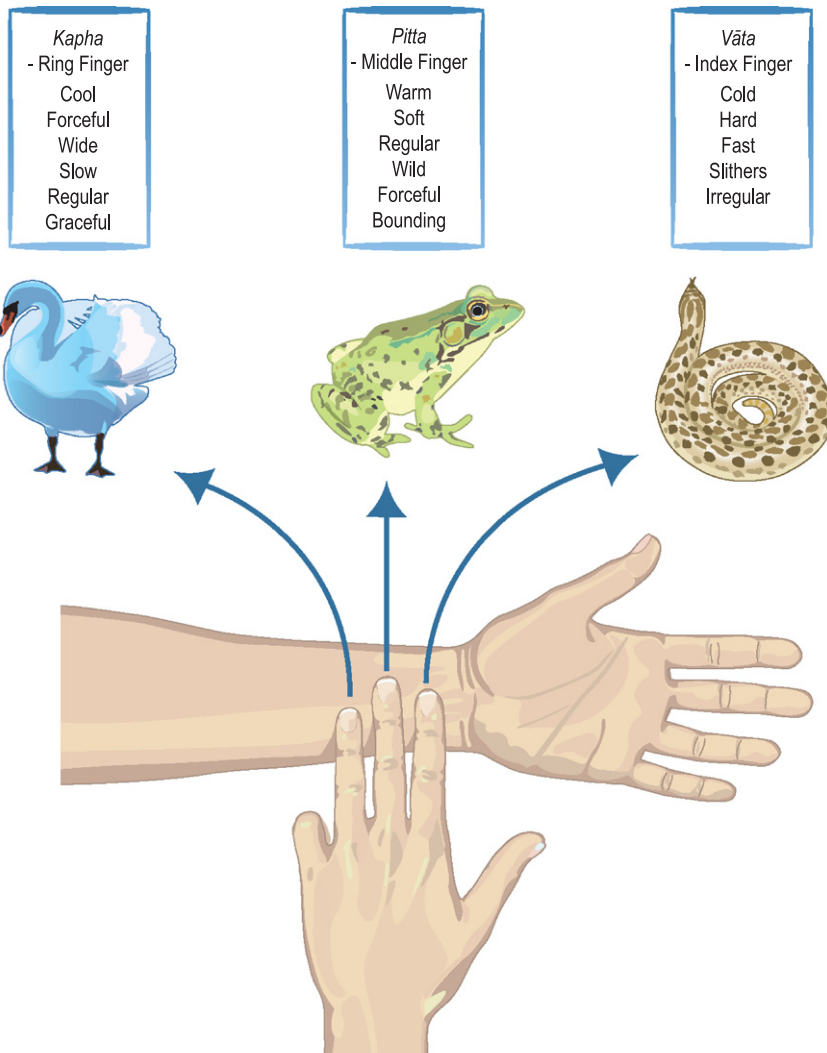


Figure 2.4 The three basic pulses

K The dominance of the heavy quality in *kapha* types tends towards excessive body weight. *Kapha* people can easily put weight on. The thighs, abdomen and buttocks hold and store this excess weight. They lose weight with great difficulty as they have a tendency to conserve energy

Skin: quality and complexion

V *Vāta* types have a tendency to have dry (*rūkṣa*) skin due to excessive movement burning off all lubrication as well as the constitutional deficiency of nourishing fluids. The skin looks rough and chapped. Cracks on the hands and

feet are common. Their variable nature may lead to some oily areas and other dry ones. The veins are clearly visible through the thin skin. Dry skin problems are a common *vāta* imbalance. The skin colour is dull, dark and lacking in lustre. They tan easily and their cold nature draws them towards the sun. The poor circulation may lead to pale lips, nail beds and skin.

P *Pitta* is the delicate or *mṛdu doṣa*. Their skin is easily aggravated and they cannot tolerate the sun. They are prone to inflammations, rashes and acne. The skin flushes easily and may appear red. The skin is commonly freckled or with many moles. As *pitta* is a by-product of the

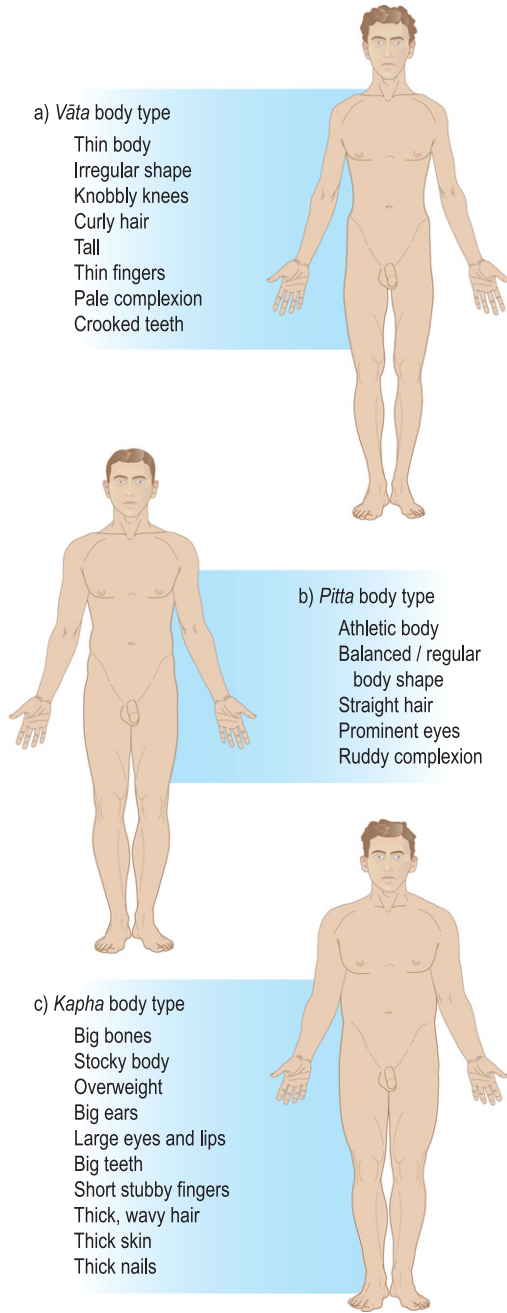


Figure 2.5 Frames of different types. (a) *Vāta*; (b) *pitta*; (c) *kapha*.

blood tissue (*rakta dhātu*) they have deep red lips. A *pitta* type is easy to spot in an embarrassing situation as they blush very easily.

- K** Healthy skin that appears thick and oily. They have smooth skin. It has a slightly 'pasty' look. Their cool nature draws them to the sun. They burn easily but will soon tan.

Hair: an indicator of overall tissue quality

- V** Tends to be dry, lustreless, thin, curly, wiry, dark, frizzy and with split ends. The dry quality manifests as dandruff.
- P** Usually straight, light blonde, brown or red hair. High *pitta* can cause early greying of the hair. Moderate and fine quality of hair. Early balding is a *pitta* quality as it derives from high testosterone and *pitta* secretions.
- K** Often a brown colour. Abundant hair with a thick, wavy and heavy quality. It can be oily and is full of lustre.

Nails: an indicator of mineral assimilation

- V** Dry, rough and hard with an irregular length and shape. They may have white spots and ridges as a reflection of *vāta*'s poor nutrient absorption. Bitten nails indicate a *vāta* nature.
- P** Soft, strong and pliable. Deep red nail beds due to effective circulation.
- K** Large, thick and strong. The *kapha* balance is displayed in their symmetrical regularity. They have a whitish hue.

Eyes: the 'gateway to the soul', revealing innate vitality and spirit

- V** Grey, dark blue or dark brown. Different-coloured eyes. *Vāta* eyes are small in relation to the head size and are at irregular levels or close together. Dry eyes that itch. The sclera is often dull. The eyebrows will be thin and irregular.
- P** Any light colour indicates *pitta*. A yellow or bloodshot sclera is a common sign when there is excess *pitta* in the system. *Pitta* eyes are light-sensitive and they often require sunglasses. They have sharp and piercing eyes. The eyebrows and eyelashes are balanced.
- K** Smooth brown colour. Large, oval shaped eyes with a white sclera. Their eyebrows are lush and bushy, often joining in the middle. The eyelashes are thick, oily and long.

Tongue: reflects digestion, circulation and metabolism (Fig 2.6)

Some general signs:

- V** Thin, dry, quivering, deviated, small, pale, cracked, thin white coating or black coating. Imbalances are identified at the back portion of the tongue.

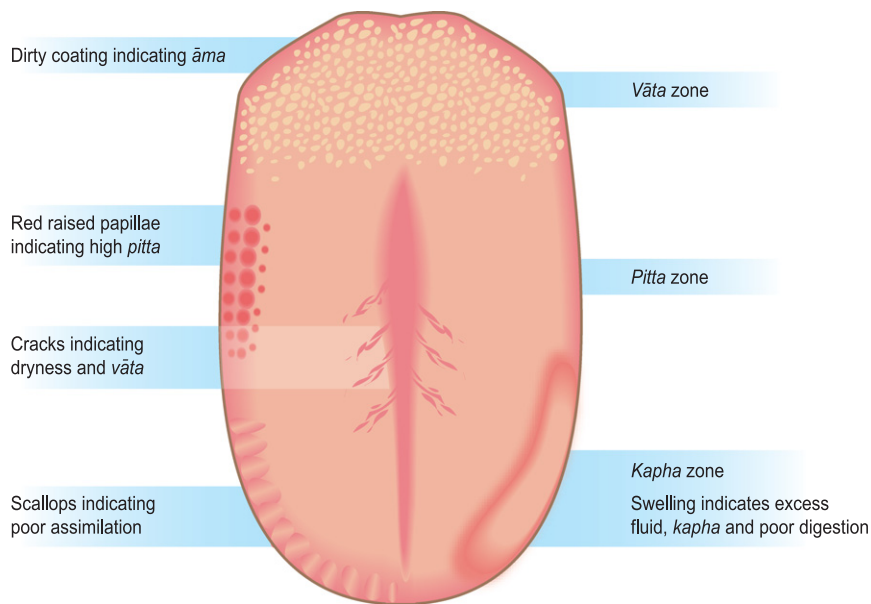


Figure 2.6 Tongue diagnosis

P Moist, medium-sized often with a pointed red tip, red, orange, purple or bluish, yellow coating, raised papillae. *Pitta* imbalances are often found in the middle of the tongue.

K Thick, wet, swollen, large, pale, teeth marks, thick white coating. *Kapha* conditions can manifest at the front section of the tongue.

Smell (*gandha*)

V Little body odour due to the cold metabolism and lack of fat tissue (*medā dhātu*) from which sweat comes as a waste product. Spontaneous sweating.

P Strong, rotten flesh smell due to the high *pitta* content in the sebaceous glands. *Pitta* types sweat profusely in hot weather.

K Moderate and sweet aroma. *Kapha* types sweat easily with exercise as the increased metabolism releases the excess sweat as a waste product. They can be very sensitive to strong smells due to the damp condition being 'stirred up' by strong aromas.

Asking (*praśna*)

Digestion: vital reflection of metabolism

The concept of 'fire' or *agni* is at the centre of Vedic religious life. This paradigm is frequently referred

to in yogic and ayurvedic models. It is the central hearth that maintains the warmth of life, that transforms and transmutes substances and impressions. A healthy *agni* is the equivalent of good health.

V The *vāta* digestion is *viśamāgni* or variable. In line with the typical irregular nature of this *doṣa* their appetite is irregular. There are symptoms of distension, flatulence and a nervous appetite. Their eyes are bigger than their stomach, they are sometimes hungry and at others not. *Vāta* types have a *krūra koṣṭha*. This means a 'hard' digestive tract. This rigid astringency means that they are prone to constipation that requires relaxant, oily laxatives (hemp seed or castor oil). Their bowel movements are irregular; sometimes hard and dry, at others, loose. *Vāta* types become spaced out and weakened from fasting due to their inability to store reserves. They do best with small, unctuous, warm and regular meals but have a tendency to overdo the heavy and grounding hard-to-digest foods. Pungent flavours help to regulate the digestive secretions. In a balanced state they will benefit from sweet, sour and salty food that is oily and spiced.

- P** The *pitta* person has a *tikṣṇāgni* that is sharp and strong. They have a fierce appetite and can digest whatever they eat. They become easily irritable if they are hungry. This may lead to heartburn, as will too much *pitta*-aggravating food such as spicy chutneys and oily food. Their innate heat means that they are rarely constipated and a glass of milk will serve as a mild laxative. Their digestive passage (*koṣṭha*) is *mṛdu*, which means that they have a 'soft' alimentary canal. Fasting is good for them but they do not tolerate it well due to their desire for more energy and more fuel to drive them on. Mild sour flavour (buttermilk or a few drops of lime) helps to regulate their hypersecretion of digestive juices. Sweet, bitter and astringent flavoured food that is cool, raw, unspiced and lightly cooked is best for them. Out of balance they crave alcohol, pickles and spices.
- K** The *kapha* appetite is stable and digestion is *mandāgni*, a slow system. They have little secretion of digestive enzymes, which can be increased with a little bitter and pungent flavour. They like food and their need for love may lead them to comfort-eat. The *koṣṭha* is *madhya* with regular and medium bowel movements. Medium strength laxatives are effective for them; for example triphala. Their ability to store energy means that they can skip meals easily. Fasting helps to lighten the tendency to heaviness in *kapha* types. Pungent, bitter and astringent or dry-flavoured foods keep them healthy. When out of balance they will crave sweet and oily food.

Sleep

- V** *Vāta* types have an irregular pattern of sleep that is usually light but when extremely tired will be very deep. They can have difficulty getting to sleep and may wake in the night. They average about 4–7 hours of sleep per night. Sleepwalkers and -walkers have a *vāta* tendency. Teeth grinding is quite common. They dream a lot but can rarely remember them. Dreams are of motion, adventure and of being chased. They need a soft bed to absorb their protruding bones.
- P** *Pitta* types sleep well and if they do wake up they can fall back to sleep easily. They average about 4–7 hours per night. Sleep can be disturbed by dreams as they have intense dreams that are colourful and involve action. They prefer a hard bed with few covers.
- K** *Kapha* types are heavy sleepers who have difficulty waking up. *Kapha* people like bed. They prefer 8+ hours. They have calm and smooth dreams that veer towards the strongly emotional. They like a soft bed with soft covers.

Energy levels

- V** Erratic energy which comes in bouts. It can be bountiful and is expended to the point of exhaustion. *Vāta* types are bad managers of vitality and they try to keep going with pungent stimulants when really they need a rest.
- P** Good energy levels that are efficiently managed. Expending energy is a buzz for a *pitta* and they may become addicted to certain intense forms of energy release.
- K** Solid and consistent levels of energy. They are reluctant to release energy and would rather drive than walk.

Sex drive

- V** *Vāta* sexual appetite varies with the wind of their variable nature. They are avid fantasisers. Intensely passionate, but they need rest once they have expended their energy.
- P** Their hot temperament gives them a strong sexual appetite. They know what they want and usually get it. If not the heat flares upwards and they can become irritable.
- K** Their consistent nature gives them a steady sexual appetite. Their desire to hold onto their energy keeps them away from excessive sexual desire. They are very loving and compassionate. The fire is slow to burn but once kindled it burns brightly and for a long time. They have excellent fertility.

Thermal quality

- V** *Vāta* people easily feel cold; they desire the warmth of the sun or a fire and wear lots of clothes in winter to make up for their lack of subcutaneous fat. They like hot drinks and food to keep them warm.
- P** *Pitta* people feel warm and are averse to excess heat. They usually wear thin and light clothes and seek out cool places in order to stay refreshed. They crave cool drinks and raw food.
- K** *Kapha* types feel cool and wear soft and comfortable clothes. They like the warmth and warm drinks to keep them hot and stimulated inside.

Signs of the *doṣa* balance and excess are shown in Table 2.3.

TABLE 2.3 Signs of the *dōṣa* balance and excess Reference: *Aṣṭāṅgahṛdaya Saṃhitā*

Doṣa	Balanced state (<i>sāmya</i>)	Increased state (<i>vṛddhi</i>)	Decreased state (<i>kaṣāya</i>)	Colour
Vāta	Conveys movement, inspiration, expiration, enthusiasm, desire, excretion of wastes	Promotes wasting, thinness, weight loss, weakness, aversion to cold, desire for heat, softness and comfort, experience of piercing pain, mobile pain, numbness, erratic digestion, bloating, constipation, incontinence, urinary tenesmus, cracking joints, contraction, dry skin, dehydration, astringent taste in the mouth, spasms, rigidity, dark complexion, dark discolorations, dizziness, fear, anxiety, nervousness, loneliness, insomnia, depression. Symptoms worse for changes in the seasons, dry and cold climates, early in the morning, early in the afternoon and later in life	<i>Kapha</i> -like symptoms: sluggish, sloth, lack of enthusiasm, no desire to speak, confusion, delirious, loss of consciousness	Blue, black, brown, orange, clear
Pitta	Oversees metabolism, digestion, regulation of appetite and thirst, hormones and enzymes, intelligence, courage, flexibility, the quality of the complexion and eyesight	Causes burning, fever, inflammation, redness, bleeding, sweating, septic conditions, necrosis, putrid smells, fainting, aversion to heat, sour or bitter taste in the mouth acidity, heartburn, loose stools, dark red urine, burning urine, yellow, green and red discolorations, aversion to heat, desire for cold, impatience, anger, frustration, critical, judgemental. Aggravated by hot and humid weather, middle of the day and night and mid life	Increased signs of <i>vāta</i> and <i>kapha</i> , poor digestion, pallor, coldness	Red, yellow, green, red
Kapha	Gives strength, solidity, structure, endurance, lubrication	Causes mucus, sticky phlegm, excess salivation, wet cough, itching, coldness, heaviness, stagnation, congestion, growths, cysts, tumours, dull pain, obesity, oedema, sluggish digestion, cloudy urine, excessive desire to sleep, sweet and salty tastes in the mouth, thick and white discharges, aversion to wet and cold, greed, apathy, attachment, depression. Worse for cold and damp weather, childhood and mid-morning and mid-evening	Signs of <i>vāta</i> increase; emaciation, dizzy, cracking joints, dryness and anxiety	White

Mixed constitutions (*saṃsarga* and *sannipāta prakṛti*)

The *doṣas* commonly exist as a combination of two or all three together.

Dual constitutional combinations (*saṃsarga prakṛti*)
Vāta-kapha

This seemingly contradictory constitution has long bones but is not as stocky or strong as a pure *kapha*. The combined elements of cold in both *prakṛti* make them very sensitive to cold. The *kapha* influence can cause mucus problems and digestive sluggishness. The mucus can be dry and plug-like secretions that are difficult to expectorate.

Vāta-pitta

Filled with determined ambition, this constitution has a healthy build that is stronger and more defined than in a pure *pitta*. The mobile nature of *vāta* can cause *pitta* to be pushed round the body making these types very sensitive to environmental and emotional changes. Their digestion has the intensity of a *pitta prakṛti* but can also suffer from *vāta*-prone anxiety causing irregularity.

Pitta-kapha

This is a very healthy and resilient constitution with the strength of a *kapha* and the power of a *pitta*. Still maintaining the *kapha* layer of subcutaneous fat they have extra heat signs with a good appetite but can easily put on weight. Fortunately they are not as sluggish as a pure *kapha* and regular exercise can keep them balanced.

Triple constitutional combination (*sannipāta prakṛti*)
Vāta-pitta-kapha

This balance of all three *doṣas* is less commonly seen and difficult to diagnose as so many of the presenting signs are in opposition. Although a healthy combination they are very sensitive to change as the relative equality of *vāta* can so easily tip out of balance. Hence, they tend to manifest with a dominance of *vāta-pitta* or a *vāta-kapha* constitution and should be treated accordingly.

All the above combinations require strict dietary control that must be adjusted with the seasons if they are to maintain optimum health.

**THE SEVEN SUPPORTIVE TISSUES OF THE BODY:
SAPTA DHĀTU**

The chief functions of the body tissues are said to be, in order: nourishing, enlivening, surrounding, lubricating, supporting, filling, and giving rise to an embryo.

Aṣṭāṅghṛdaya Saṃhitā Sūtrasthāna 11.4

The word *dhātu* is etymologically derived from the root '*dhā*' meaning 'to support'. It is used in a broad and specific sense. In a broad sense *dhātu* refers to the general support any substance or function gives the *doṣas*, *dhātus* and *malas* (wastes) as 'that alone which supports the body is a *dhātu*' (*Suśruta Saṃhitā Sūtrasthāna 14.18*). In a specific sense it refers to the seven anatomical tissue-supports (*sapta dhātu*) of the body.

There are two aspects to the *sapta dhātu* theory as it is both broad and narrow in its perspective. Broadly speaking, the *dhātu* are structural supports to the body, and narrowly speaking they are the nourishment to those supports (*Caraka Saṃhitā 8.39*). As structural supports they are combinations of the elements (*pañcamahābhūta*) that give the body form. They are *rasa* (plasma), *rakta* (blood), *māṃsa* (muscle), *medas* (lipids), *asthi* (bone), *majjā* (marrow) and *śukra* (reproductive essence). These seven are referred to as the stable (*sthāyi*) or nourished (*poṣya*) aspect of the *dhātu*. They are the basic tissues of the body. The other nourishing aspect of a *dhātu* is the unstable (*asthāyi*) or potential (*poṣaka*) nutrient portion. This aspect is the dynamic part that nutritionally sustains the stable *dhātu*. The understanding of how food and medicine transform into this unstable portion and then nourish the stable portion is an important ayurvedic debate.

How herbs and nutrients reach the tissues

The unstable portion has to transform into the stable tissue. Each *dhātu* has a membrane, known as a *kalā*, that is a vital interface in the development of a tissue. This *kalā* houses the metabolic tissue fire (*dhātu-agni*) that is responsible for transforming the unstable potential portion into the stable manifest portion. Ingested food (*āhāra*) goes to the stomach and the digestive fire in the stomach (*jaṭharāgni*) creates an essence of food, known as *āhāra rasa*, which contains the necessary nutrition for each

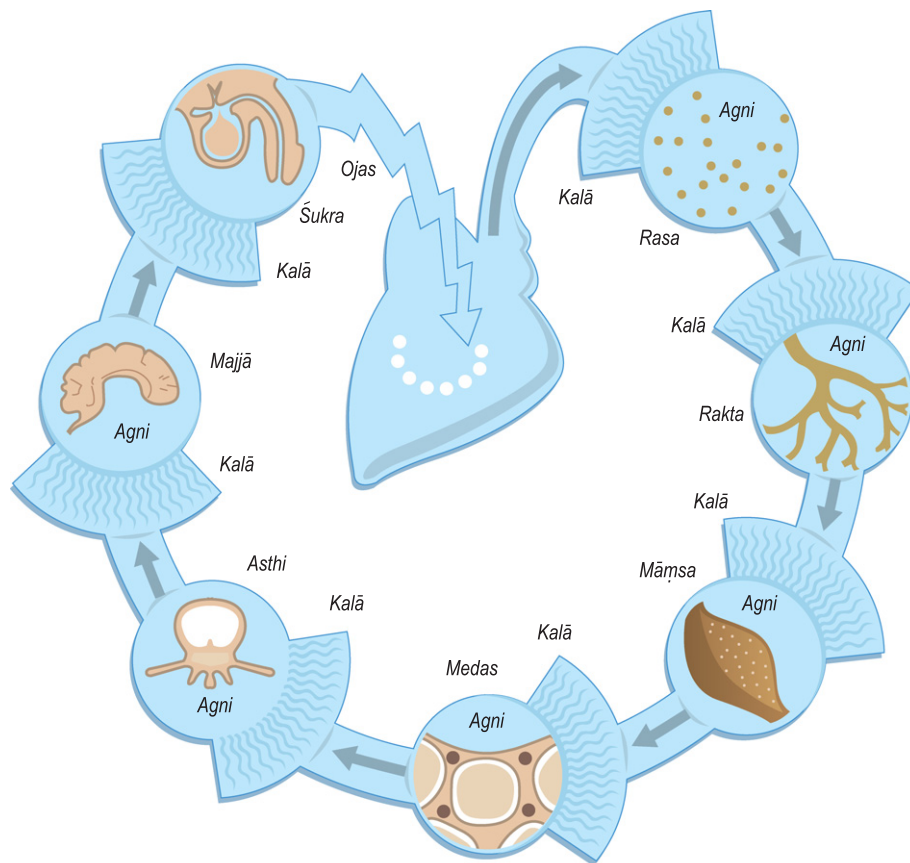


Figure 2.7 Kalā in relation to doṣa. Permission—Lad 1996 Secrets of the pulse

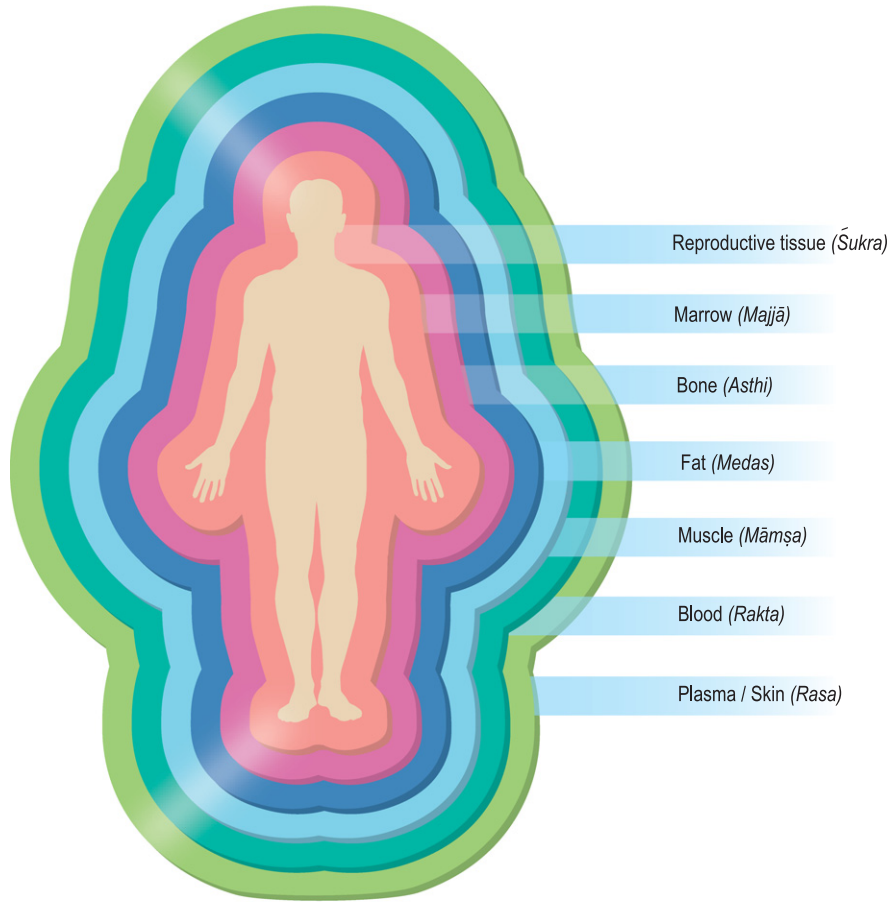
dhātu. There are various overlapping theories how this *āhāra rasa* nourishes each individual *dhātu* (Fig 2.7). Refer to *Caraka Saṃhitā Sūtrasthāna* 28. 1–5 for a good commentary on this process.

a) The milk and curd transformation theory (*kṣīra-dadhi*)

This is a linear pattern where there is a step-by-step progression of nutrients transforming from *rasa dhātu* through to *śukra dhātu*, just as milk transforms into sour milk and then into curds (Fig 2.8). Here *rasa* is completely converted into *rakta*, *rakta* to *māṃsa*, *māṃsa* to *medas* etc. Progressively refined tissue densities develop as each *dhātu* transforms into the next. It results in *śukra* as the most refined nutritious substance that creates *ojas* that then converts back into *rasa*. It operates on a time-scale where each *kalā* takes five days to transform the unstable portion (*asthāyi dhātu*) to the stable portion (*sthāyi dhātu*). Based on this analysis it takes

35 days (5×7 *dhātu*) for *śukra* to be formed from food essence. Due to incompatibility between the theory and actual experience this idea has been criticised by *Cakrapāṇidatta* (a famous commentator on *Caraka* and *Suśruta Saṃhitās*) as some substances appear to create the tissues more quickly; for example, milk is said to create *śukrā dhātu* after just one day (Dwarkanath 1996). Although this approach is not absolute, this theory is the predominant paradigm used by ayurvedic physicians today.

There are of course pathological consequences of each particular theory. The milk-curd theory considers that nutrient deficiencies happen in a sequential fashion. This means that a deficiency of plasma will lead to a deficiency of blood and so forth. Another example is that an obstruction in the fat channel leading to obesity will create a deficiency in the following *dhātus* of bone, nerve and



5 days at a time each *dhātu* converts to the next

Figure 2.8 Milk-curd theory (*kṣīra-dadhī*)

reproductive tissues. This can actually happen as obesity and infertility are frequently linked. The next two theories allow for a more general approach to nutrition that is dependent on the functional quality of each tissue.

b) The irrigation transmission theory (*kedāra-kulyā*)

Another perspective is presented by the irrigation (*kedāra-kulyā*) theory (literally field and channel theory) (Fig 2.9). It is a progressive overflow theory using the metaphor of water flowing from a tank into an irrigation channel to water the fields. These fields are filled consecutively and overflow in connecting channels into the next field. The field (*kedāra*) represents the stable portion of the *dhātu*. The channel (*kulyā*) represents the unstable portion

of the *dhātu*. In this theory the food essence (*āhāra rasa*) circulates through these interconnected channels nourishing each *dhātu* in turn. After nourishing the *rasa dhātu* the remaining food essence nourishes the *rakta dhātu* and so on. The *dhātus* take what they need from the remaining nutrient flow.

c) The pigeon pecking selective theory (*khale-kapota*)

The third theory is the pigeon pecking (*khale-kapota*) concept (literally land and pigeon theory; Fig 2.10). Here each *dhātu* takes the nutrients it wants from the central pool of nutrition, just as a pigeon selects the grains it wants from the land (Ranade 2001). This is a very specific approach and

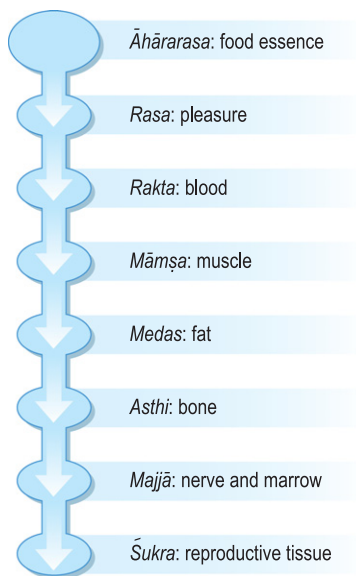


Figure 2.9 Irrigation theory (*kedari-kulyā*)

assumes some discriminatory faculty of the *dhātu*; they have the ability to select what they need from the pool of the unstable (*asthāyi*) *dhātu*.

Dhātu metabolism

The transformation of the food-essence has four results (Fig 2.11):

1. The unstable portion becomes stable in the form of another *dhātu*. This is the beneficial portion (*prasādapāka*).
2. A secondary tissue called an *upadhātu* is created.
3. A waste portion known as a *kiṭṭāpaka* is produced.
4. The formative layer or *asthāyi* portion of the next tissue is formed.

The strength of the digestive fire (*dhātu-agni*) is vital to the quality and quantity of tissue produced. An *agni* that is too high will result in deficient tissues due to hypermetabolism and an *agni* that is too low will result in an excess of low quality tissue due to lack of use. *Agni* is the determinant of tissue quality as it has the ability to transform *āhārarasa* into the assimilable form for each *dhātu* to develop from.

The seven tissues

The tissues have many vital functions, qualities, secondary tissues, wastes and disease tendencies. The *dhātus* represent the essence of the whole con-

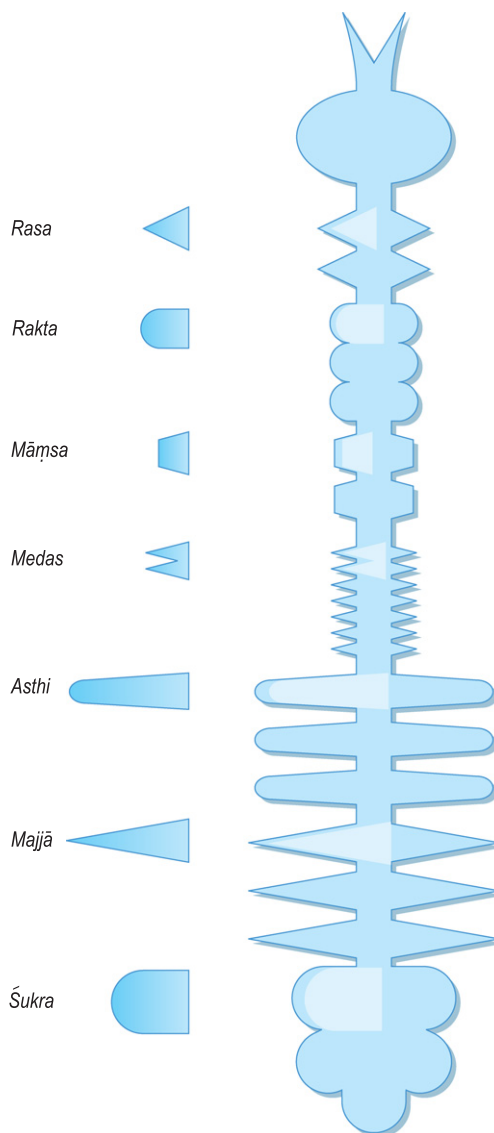


Figure 2.10 Pigeon pecking theory (*khale-kapota*)

cept of that particular tissue. For example, *rasa* is not just ‘plasma’ as we understand it but the whole nutrient transportation system. Every tissue and organ has all five elements, all three *doṣa* as well as all seven *dhātus* existing within it; certain qualities are more dominant than others. This is a detailed look at the *dhātus*:

Rasa dhātu: plasma tissue (Box 2.5)

Rasa dhātu is the first tissue created from food. The *rasa* of something is its essence, juice or sap. It provides a zeal or taste for life in its sufficient (*sāra*)

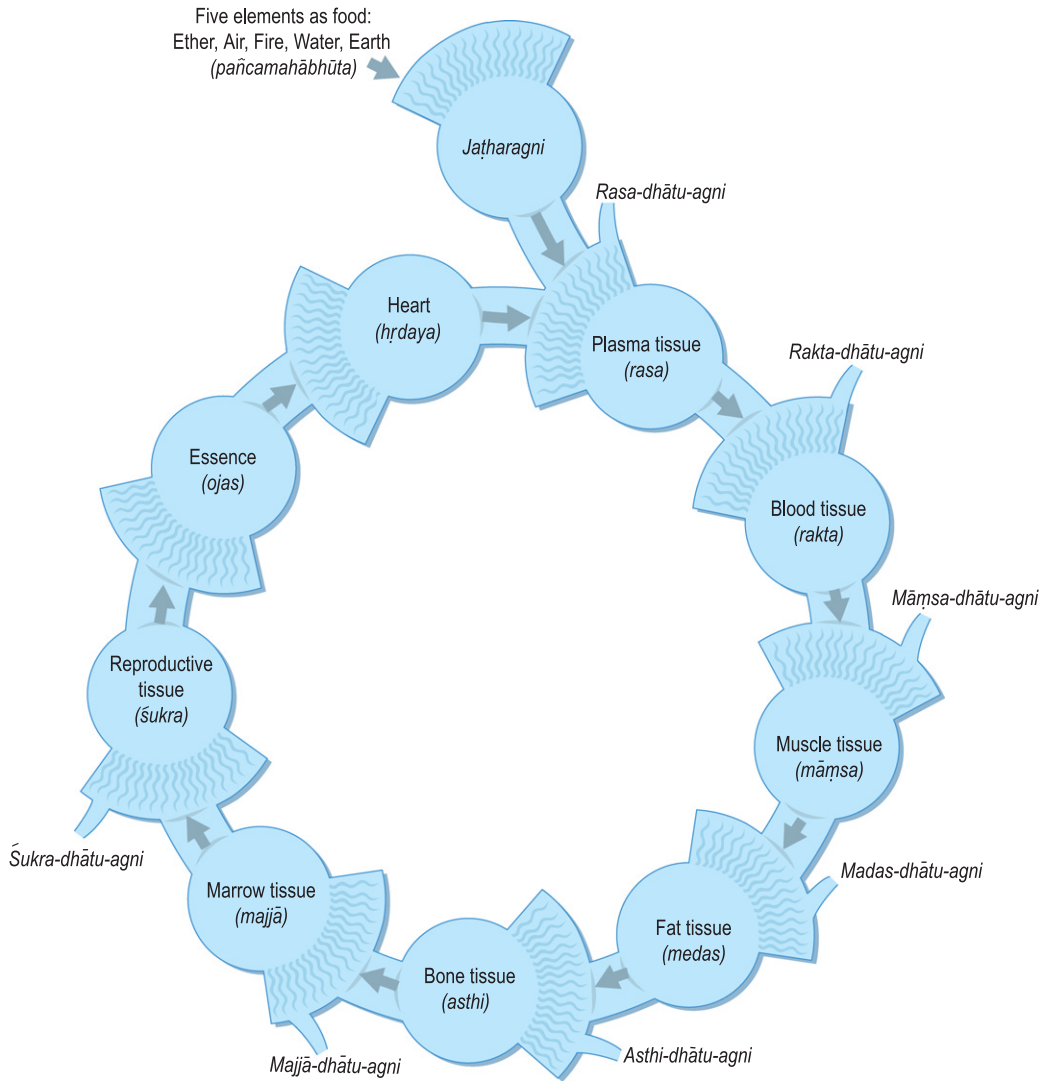


Figure 2.11 The nutrient cycle

Box 2.5

Plasma tissue: *Rasa dhātu*

Element: water

Secondary tissue (*upadhātu*): top layer of skin, breast milk and menstrual fluid

Waste (*kiṭṭa*): *Kapha doṣa* and mucus secretions

Source: heart

Qualities (*guṇa*): liquid, fluid, opaque, viscous, unctuous

Function: giving pleasure (*prīṇana*), nourishing the blood, moistening the skin and mucous membranes, protecting and preserving

state and an apathy or dryness for existence when it is insufficient. As the condition of the secondary tissue (*upadhātu*) is a reflection of the quality and quantity of the main tissue any weakness in *rasa dhātu* directly affects the flow and quality of breast milk and the menses.

Rasa relates to the plasma, interstitial fluid and lymph. It supports immunity and builds resistance to disease (*vyādhiḥkṣamatva*). It is tonified by liquid, unctuous, sour and salty foods such as grapes, milk, lemons and licorice. It is regulated by the heart and circulates around the body by

vyāna vāyu until returning to its source, the heart. It continues its circulation with blood (*rakta*) as a *rasa-rakta* continuum. The *rasa* thus carries the nutritious *asthāyī* portion of food to the remaining *dhātu* as well as picking up waste products. It also circulates the vitiated humour (*prakopa doṣa*) and plays a part in the spread of disease around the body. The like qualities of *rasa* aid the formation of *rakta dhātu*.

Rakta dhātu: blood tissue (Box 2.6)

Rakta corresponds to the haemoglobin portion of blood. As it is made from both water and fire it is both a fluid and a catalyst. It carries oxygen and hormones that regulate metabolic processes and thus gives vitality (*jivana*). *Rakta* literally means 'that which is red' and it gives colour to life; red blood, lustreful eyes, rosy cheeks, enthusiasm and passion. It has a direct affinity with the skin and is responsible for its growth and health. Hence when blood is corrupted the skin often manifests signs of this imbalance. Blood is increased by like qualities of a liquid, unctuous, warm, heavy and blood-like nature; iron, Vitamin A, betacarotene, red or orange foods, sweet and sour flavoured herbs, such as amalaki (*Emblīca officinalis*) and salty herbs such as shilajit (*Asphaltum*). Any weakness in *rakta* is clearly shown in pale skin and tight tendons. Its affinity with the *pitta doṣa* means that if *pitta* become aggravated it easily corrupts the blood and causes either haematological diseases or the growth or wasting of the other tissues.

Māṃsa dhātu: muscle tissue (Box 2.7)

Māṃsa dhātu is responsible for all the connective tissue (except for blood and bone) and the skeletal

Box 2.7

Muscle tissue: *Māṃsa dhātu*

Element: earth, and secondarily water and fire

Secondary tissue (*upadhātu*): ligaments and six layers of skin below the top layer

Waste (*kiṭṭa*): all wastes found in the cavities of the body such as navel lint, ear wax and nasal secretions

Qualities (*guṇa*): gross, solid, heavy, rough, hard, smooth

Function: binding the body together (*lepana*), strengthening, facilitating movement, nourishing fat tissue and waste products

and visceral muscle. The root 'mam' means to hold, so *māṃsa* is the holder and it holds the body together by enveloping the ligaments, tendons, organs, muscles, veins, arteries and bones. The stable aspect gives strength to the body and helps to facilitate movement. When it is healthy *māṃsa dhātu* gives you a muscular build and enduring strength with the ability to be brave in the face of adversity. In excess it can lead to growths and in deficiency to wasting diseases and fatigue. It is increased by like qualities of heavy, hard and solid such as are found in ashwagandha (*Withania somnifera*).

Medas dhātu: fat tissue (Box 2.8)

Medas dhātu means that which supports and nourishes the 'oily' or lipid tissues. It is responsible for the protective quality of lubrication as well as storing energy in the reservoir of *medas dhātu*. It is increased by oily nuts and herbs, such as sesame and hemp seed. *Snehana* means affection and this *dhātu* carries love for the other tissues and for

Box 2.6

Blood tissue: *Rakta dhātu*

Element: water and fire

Secondary tissue (*upadhātu*): blood vessels and tendons

Waste (*kiṭṭa*): *Pitta doṣa* and acidic, inflammatory secretions

Source: liver and spleen

Qualities (*guṇa*): liquid, fluid, opaque, unctuous, soft, viscous, red colour, sweet, sour and salty

Function: giving vitality (*jivana*), giving colour, nourishing the muscle tissue

Box 2.8

Fat tissue: *Medas dhātu* (correctly written as *medodhatu*)

Element: water

Secondary tissue (*upadhātu*): omentum around the stomach

Waste (*kiṭṭa*): sweat

Qualities (*guṇa*): unctuous, heavy, soft, liquid, smooth, oily

Function: oleating the joints, insulating the body, producing sweat, nourishing the bone tissue

other people. Someone with good-quality fat tissue (a *sāra-medas-dhātu* type) loves themselves and those around them, has a melodious voice and has a joyful nature. As the waste portion is sweat we commonly see how overweight people sweat easily. This displays how the waste portion re-enters the *rasa-rakta* continuum and is then carried to the skin.

Asthi dhātu: bone tissue (Box 2.9)

Asthi dhātu forms bone. 'Sthā' means to stand which is a function of the skeletal system. In a state of balance it is reflected in people's confidence, flexibility and hard working nature. Bone is nourished by hard resinous herbs, such as guggulu (*Commiphora mukul*) and frankincense (*Boswellia serrata*) that work via the blood to feed the bones. These two herbs are specifics for repairing bone tissue. *Asthi dhātu* supports muscle tissues and the body systems. Bone is the container of *vāta doṣa*. There is evidently some connection between the nourishment of *medas* and *asthi* as diseases of one often affect the other. The evidence for a connection between obesity and osteoporosis is strong, but an increase in fat does not lead to an increase in bone (and thus negates the milk/curd hypothesis). The excess fat appears to antagonise the *asthidhātvaḥni* leading to a weak supply of transformed potential nutrition from the circulating *rasa*.

Majjā dhātu: nerve tissue (Box 2.10)

Majjā dhātu relates to bone marrow and nerve tissue. It fills the empty space in the body (bones, brain cavity, spine and nerve channels) and is the tissue that carries nervous electrical impulses. Its etymological root is 'maj' which means 'to sink' and this sinking quality keeps us grounded. A *sāra-majjā* person is clear thinking and focused and is filled with compassion. It is nourished by walnuts (*Juglans regia*) and ashwagandha (*Withania som-*

Box 2.9

Bone tissue: *Asthi dhātu*

Element: earth and wind

Secondary tissue (*upadhātu*): teeth and cartilage

Waste (*kiṭṭa*): nails, head and body hair

Qualities (*guṇa*): heavy, rough, hard, solid, static

Function: giving support, protecting internal organs and nourishing the nervous tissue

Box 2.10

Nerve tissue: *Majjā dhātu*

Element: water

Secondary tissue (*upadhātu*): sclerotic fluid

Waste (*kiṭṭa*): tears and other eye secretions

Qualities (*guṇa*): unctuous and soft

Function: giving oleation, filling the bones, feeling, memory, communicating and nourishing the reproductive tissue

nifera). A deficiency of *majjā dhātu* easily leads to feeling ungrounded, unfulfilled and increased *vāta* signs.

Śukra: reproductive tissue (Box 2.11)

Śukra means 'seed' and it is the germinating result of what has gone before (effective digestion and appropriate lifestyle) and the cause of what may be produced, pregnancy and offspring. It is nourished by seeds, nuts, and milk (all of which hold the potential for life) as well as herbs like ashwagandha (*Withania somnifera*), kapikacchu (*Mucuna pruriens*) and shatavari (*Asparagus racemosus*). It is increased by that which is sweet, cold and oily; like ghee. It displays the circular nature of nutrition so that eventually a sufficient *śukra* will create *ojas*, the most refined essence of digestion, and then overflow back to *rasa* in the heart and feed *avalambakakapha*. In fact *rasa* and *śukra* are intimately connected; both are primarily made from the water element, both relate to immunity: *rasa* is the outer circle that purveys inwards and *śukra* is the core circle that spreads outwards, *rasa* means essence and *śukra* is the refined essence and most potent quality of nutrition. Certain orthodox

Box 2.11

Reproductive tissue: *Śukra dhātu*

Element: water

Secondary tissue (*upadhātu*): *ojas*

Waste (*kiṭṭa*): smegma (the secretion of the glands of the foreskin or labia) or none

Qualities (*guṇa*): like a crystal, liquid, unctuous, sweet, heavy, sweet smelling and thick

Function: generating reproductive fluids, producing an orgasm, achieving conception, strengthening the body, generating *ojas* and creating fondness

schools of Ayurveda and Yoga maintain that preservation of the *śukra* through the discipline of *brahmacarya* (celibacy, appropriate sexual activity) leads to a long and lustrous life. Positive signs of a healthy reproductive tissue is exuding attractiveness, self-confidence and having a radiant glow.

Śukra is often referred to the male aspect of reproduction and *ārtava* to the female aspect. *Ārtava* is really the menstrual blood and more a sign of healthy fertility and egg production as opposed to reproductive fluid *per se*. In line with my teaching, I refer to *śukra* as the generic term of reproductive fluid for both male and female.

These are the *dhātus* and, along with the *doṣas*, they are at the centre of ayurvedic diagnosis and treatments. I want to discuss briefly the use of the words '*doṣa*' and '*dhātu*' because the ayurvedic literature uses the words with different meanings.

The *doṣas* and *dhātus* appear to both create faults and act as supports. The three *doṣas* can also be 'supports' (*dhātu*) when they are in a balanced state and they are even referred to as the three supports (*tristhanam*) (*Suśruta Saṃhitā Sūtrasthāna* 21.23). On the other hand the *dhātu* seem to share some of the characteristics of the *doṣa* as blood (*rakta*) shares many of the qualities of *pitta doṣa* and, according to Jan Meulenbeld, may even have been regarded as a *doṣa* by Suśruta. A distinctive factor of a *dhātu* is that it also nourishes (*poṣaṇa*) the tissue (*Caraka Saṃhitā Sūtrasthāna* 28.1–5). Hence the boundaries between the *doṣas* and the *dhātus* blend and part depending on the specific or broad understanding of the words.

Interestingly, the three wastes (*mala*) are also perceived to contain dhatuness. When functioning normally the three wastes support the channels (*srotas*) of the body. They help give form to the colon, urethra and sweat channels eliminating the wastes of faeces (*purīṣa*), urine (*mūtra*) and sweat (*sveda*). Too little of the wastes causes the channels to wither away (*Aṣṭāṅgahṛdaya Saṃhitā Sūtrasthāna* 11.5, 23).

THE CHANNELS: SROTĀṂSI

Another crucial part of the ayurvedic understanding of the body is the channels through which life, *doṣas*, tissues, wastes, and toxins flow. They link

the whole body and mind through an intricate network of channels.

There are 16 channels that carry air (*prāṇa-vāhasrotas*), food (*annavāhasrotas*), water (*ambuvāhasrotas*), faeces (*purīṣavāhasrotas*), urine (*mūtravāhasrotas*), sweat (*svedavāhasrotas*), milk (*stanyavāhasrotas*), menstrum (*ārtavavāhasrotas*), and the mind (*manovāhasrotas*), as well as the seven tissue channels that specifically nourish the *dhātus*.

They suffer from four main imbalances:

1. Excess flow (*atipravṛtti*): any hyperfunction causing an overflow, e.g. diarrhoea or vomiting.
2. Deficient flow (*saṅgha*): any hypofunction causing accumulation often with *āma*, e.g. constipation, blood clots or lymphatic congestion.
3. Blockage of flow (*śira granthī*): any serious stagnation caused by an internal growth, swelling or dilation, often with *āma*, e.g. intestinal obstruction due to a tumour or stagnation of the breath due to emphysema.
4. Overflow or moving outside of the proper channel (*vimārga gamana*): this is very serious and results in damage to the surrounding tissues, e.g. perforated colon, bleeding conditions, fistula or oedema.

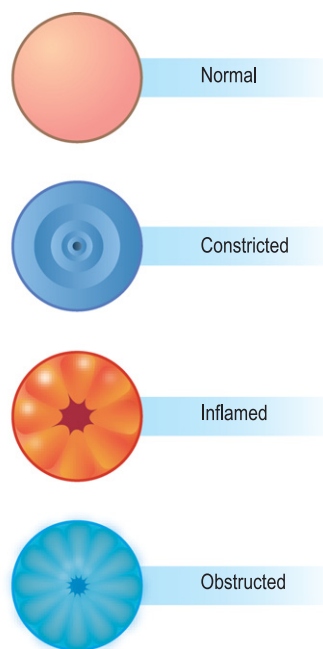


Figure 2.12 Channels: normal, constricted, inflamed and obstructed

Treatment focuses on restoring normal flow. It can help to visually perceive the channels (Fig 2.12).

Vāta constricts and causes tightening, spasm and constriction in the channels and tissues; e.g. asthma, where the bronchioles are tight and the restricted airways cause wheezing, shortness of breath and coughing.

Pitta expands and causes inflammation and swelling in the channels and tissues; e.g. colitis, where the intestinal lining is inflamed and swollen causing digestion to be irritated.

Kapha accumulates and causes adhesions and wastes to build up in the channels and tissues; e.g. atherosclerosis, where fatty deposits of plaque build up on the arterial lining which obstructs and blocks blood flow.

AYURVEDIC ANATOMY: ŚĀRĪRARACANĀ

Ayurvedic anatomy is based purely on observation and clinical experience. It traces an intricate body that has connecting principles from the smallest atom to the interrelationship of the whole being.

The body is called *śarīra*, meaning 'that which decays'.

Tvac is the skin. It has seven layers.

Āśaya refers to the viscera or hollow organs where food, wastes and liquids are contained, e.g. *āmāsaya* (the abode of *āma*) is the stomach. There are seven of them.

Nāḍīs are the nerves that spread out from the brain and spinal cord. Traditionally numbered at 72 000 they carry the essence of the life-force (*prāṇa*), sensation and control movements.

Dhamanīs are the arteries carrying blood away from the heart. There are said to be 24 of these pipes emanating from the navel. Ten of them go up to the heart where they split into 30 pipes, and fulfil the function of the arteries as well as carrying the *doṣas*, blood and nutrition. Ten go down and carry waste substances, sensations, food, water, menses and semen. The remaining four pipes move horizontally outwards and mesh the whole system together. They end at the hair

follicles and release sweat and carry nutrition (massage oils) back in. They have some similar functions to some of the channels (*srotas*) but are not as systemic.

Śīrās are the 700 veins spreading from the navel bringing blood back to the heart. They also carry the three *doṣa*. *Suśruta* writes 'as a garden or a field is irrigated by water-carrying channels, and each part receives nourishment, so the ducts provide nourishment to the body by means of their contraction and dilation. Their branches are just like the veins on a leaf' (*Śārīrasthāna* 7.3).

Keśikas (lit. 'hairlike') are the capillaries linking the arteries and veins. *Rasa* and serum plasma filter through this web to feed the tissues.

Hṛdaya is the heart, intimately connected with *rasa* and *rakta*, is affected by their state of vitality. Herbs for the heart often work via *rasa* and *rakta dhātu*. Muscle tissue is also essential to the health of the heart; hence herbs that are good for the muscles are often beneficial for the heart. It is also considered to be the seat of consciousness.

Pephra are the lungs responsible for purifying blood of impurities and vitalising the system with *prāṇa* and oxygen.

Plihā is the spleen that is the seat of blood where red blood cells are produced.

Yakṛt is the liver, home of *rañjaka pitta* and channels carrying blood.

Klomā is the pancreas.

Grahaṇī is the small intestine where *pitta* digests food.

Pakvāsaya is the large intestine.

Bastī is the urinary bladder.

Vṛkka is the kidneys.

Śukra is said to pervade the whole body and physically rests in the seminal vesicles (*śukrāśaya*).

Yoni is the female genital tract including the uterus.

Garbhāśaya is the uterus.

Anda/Antarphala are the ovaries.

Śīras is the head holding the brain, *prāṇa* and the senses.

Marmas are special junction points (Fig 2.13). There are 107 described by *Suśruta* and up to 220 by other traditions in South India. The *marmas* are the subtle energy network of Ayurveda and are similar to the Chinese meridians. They are crucial to life and death to the extent that if you are wounded at these points death is caused.

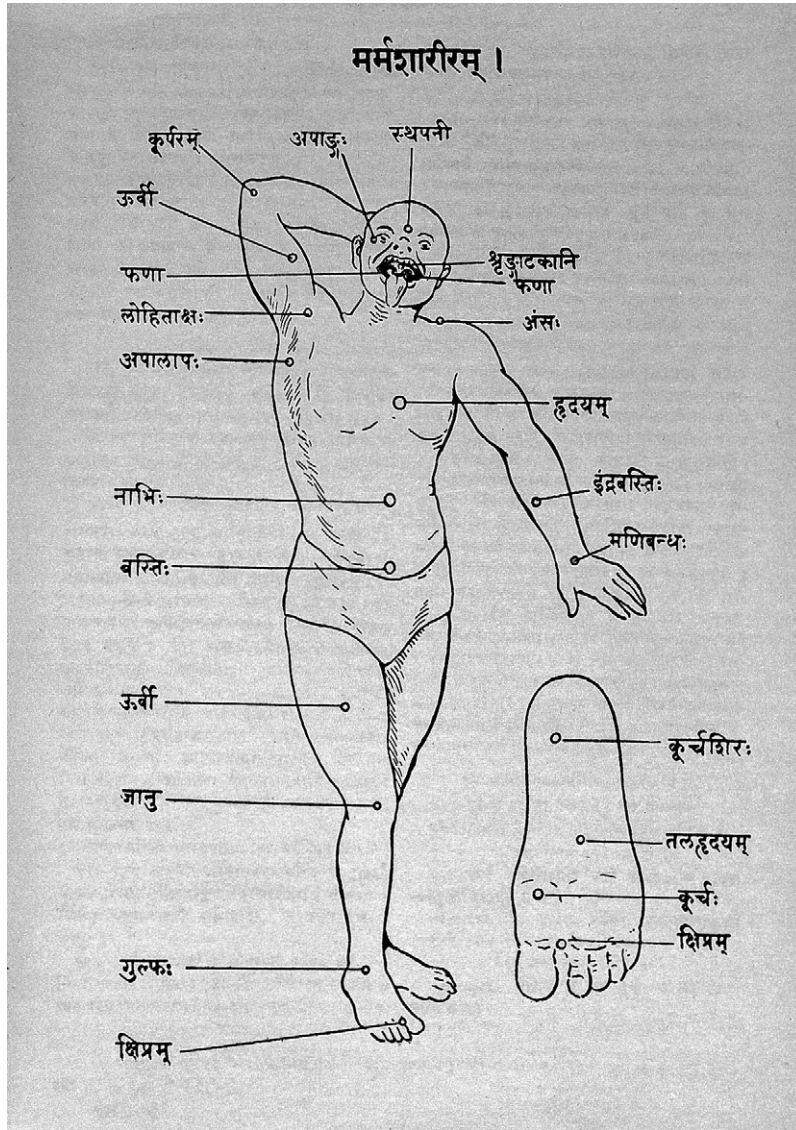


Figure 2.13 Marma points. (Reproduced with kind permission from the Wellcome Library, London, UK)

THE DIGESTIVE FIRE: AGNI

Jaṭharāgni is the root of all the digestive fires in the body. As it causes the increase or decrease of *bhūtāgni* and *dhātvaṅni* it should be treated with great care.

Aṣṭāṅgahṛdaya Saṃhitā (Śarīrasthāna 3.71–72)

The Indian Vedic culture revered *agni* or fire. It gave them light, warmth and cooked their food.

Agnideva is the fire god who acts as a messenger between the mortal world and the heavens. In Vedic rituals humans offer oblations to the sacred fire. The fire takes a portion for himself and then vaporises the rest for the benefit of the gods. The gods imbibe this nutritious fragrance and in return give life-giving waters and favourable environmental conditions from which crops flourish and humans can feed themselves. This benevolent cycle continues as long as both parties are happy.

It is a metaphor of our own digestive system. We eat and 'offer' food into the fire of our bellies. *Agni* digests this food and the control centres in the brain are nourished by these fragrant 'vapours'. This nourishment releases the nervous impulses which release enzymes and hormones. This stimulates systemic metabolic activity so that the whole body–mind complex functions efficiently. Hence eating is seen as a sacred act that should be given its full attention away from stress, disturbance and lack of awareness.

Agni is seen as the metaphor for all metabolic functions in the body. It includes the digestive function, sense perception, cellular metabolism and mental assimilation. *Agni* is involved in many functions: absorption, assimilation, metabolism, digestion, perception, taste, touch, hearing, vitality, clarity, alertness, regular appetite, chemical combustion. It gives *ojas* or immunity, a sparkle in the eyes and lustre to the whole body.

Qualities of *agni*: hot (*uṣṇa*), light (*laghu*), sharp-penetrating (*tīkṣṇa*), pungent (*kaṭu*), luminous-clear (*prakāśika-vīśada*). Although these qualities are similar to *pitta*, *agni* is not the same. *Agni* represents the healthy functioning of the metabolic processes in the body while *pitta* represents these qualities in a deranged state.

When it is balanced it causes emotions that are beneficial to health: courage, cheerfulness, lucidity, optimism, enthusiasm and intelligence. It also provides energy, vitality and a system able to maintain homeostasis. When it is out of balance it causes emotions that are destructive to health: fear, anger, confusion, idiocy. This also leads to low energy, congestion and an accumulation of wastes.

The thirteen *agni*

Jaṭharāgni

This is located from the mouth to the anus and is present throughout the gastrointestinal tract. Its main function is to help digest complex foods to a simple form known as '*āhāra rasa*', the food essence. It is of four types; *viśama*—irregular, *tīkṣṇa*—intense, *manda*—sluggish and *sama*—balanced. It separates the pure nutritious portion (*āhāra rasa*) from the waste (*kiṭṭa*) portion, which is further divided into the wastes (*mala*) of sweat, urine and faeces.

Five *bhūtāgnis*

These are the metabolic fires which digest the 'elements'. They act on *āhāra rasa* to release the *mahābhūtas*, the five elements which are the building-blocks of the universe; space, air, fire, water, earth. The *bhūtāgni* exist in the liver.

Seven *dhātu-agnis*

These are specific 'enzymes' that help to transform the unstable tissue portion that helps to build the *dhātus*. These are the seven tissues of the body that give it material structure; skin, blood, muscle, adipose tissue, bones, nerve tissue, reproductive tissue.

TOXINS: ĀMA

When *āhāra rasa* is undigested because *agni* is low it becomes vitiated and collects in the stomach. It is known as *āma*.

Aṣṭāṅgharīdaya Samhitā Sūtrasthāna 13.25

Āma is the unmetabolised waste that is not utilised by the body. It can be formed from foods that are absorbed but then not used, or that are undigested and create fermentation and imbalance all three *doṣa*.

Āma means unripe, uncooked, immature and undigested. It takes the form of *kapha*: sticky, heavy, viscous, slimy, unctuous, wet, cold and is sweet. It causes blockage of the channels (*śrotorodha*), mucus congestion, loss of strength, lack of movement and reverse flow of *vāta*, accumulation of wastes, oedema, low digestive fire, bloating, constipation, itchy anus, thick tongue coating, sluggish and slippery pulse, lack of enthusiasm and stagnation in the tissues. While it manifests similar symptoms to *kapha* the difference between *āma* and *kapha* is that *āma* causes obstructions to the channels, which causes a build-up of *vāta*, *pitta* and *kapha*.

Obstructions in the body cause *vāta* to reverse its flow and cause derangements to the flow of the *doṣa*. *Astanga Hridaya Sutra (Sūtrasthāna 13.25)* states that the impairment of the *agni* causes a fermentation of *annarasa*, the first part of *rasa dhātu*. This fermented food creates *āma*. When *agni* is low then *āma* is created instead of *ojas* and this leads to the creation of disease instead of vitality. This degenerative cycle becomes mutually reinforcing so that low *agni* creates more *āma* and low production of *ojas*, which in turn does not nourish *agni*

and the whole cycle is repeated. The opposite is true in good health and benevolent cycles of abundant *agni*, healthy tissue creation and vital *ojas* production all coalesce to improve the quality and quantity of life, hence creating a literal *āyur-veda* (knowledge of longevity).

Causes of *āma*

Mandāgni (low digestive power), overeating, raw food, heavy food, cold food, contaminated food, too wet food, incompatible food, irritating foods, gaseous foods, fried foods, extreme emotions, irregular eating habits, dairy products, processed foods, yeast, excessive sweet, salty and sour flavour, sleeping or eating before food is digested, sleeping in the day as well as lack of exercise.

Signs of *āma*

Feeling heavy, muzzy-headed, unclear thinking, dull eyes, aches and pains, poor circulation, joint inflammation and pain, bloating, gas, skin blemishes, fever, lack of energy, stickiness of stools, phlegm and urine, foul smells (breath, sweat, urine, stools, phlegm), sinking stool, mucus in stool, turbid urine, lack of appetite or taste, indigestion, tired after eating, a sticky or sweet taste in the mouth, copious phlegm. Pulse: deep, dull, slippery; tongue: thick, dirty and greasy coating, swollen body.

All the above symptoms are aggravated by the cold, the wet and at night. The symptoms are also aggravated by eating foods with a similar quality to *āma*; heavy, wet, unctuous, sticky and sweet, cold.

Āma mixed with the *doṣa*: *sāma* and *nirāma*

Sāma, meaning 'with *āma*', occurs when the aggravated *doṣas*, *dhātus* and *malas* become mixed with *āma*. This is also referred to as *āma-viṣa*, which literally means 'poison toxins' and occurs when *āma* mixes with the *doṣa* and sub-*doṣa*. It usually only occurs after *āma* has been present in the system for a long period of time.

Nirāma means without '*āma*', but the *doṣa* is aggravated.

Sāma kapha

Indigestion, congestion, thick sticky white phlegm, thick white tongue coating, sour or salty taste in

the mouth, blocked sinus, congested and tight chest, mucus in stool and urine.

Treatment

Use expectorant and emetic herbs; *trikaṭu*, guggulu, garlic.

Nirāma kapha

An excess *kapha* condition with clear, watery discharge.

Treatment

Follow normal *doṣa*-balancing programme.

Sāma pitta

Indigestion, hyperacidity, diarrhoea, fever, toxic blood, skin eruptions, greasy yellow tongue coating, bad breath, little thirst, loss of appetite, bitter or sour flavour in mouth, tight abdomen, mild burning, yellow urine and faeces.

Treatment

Purge using bitter herbs; *aviṣṭikāra cūrṇa*, rhubarb root, aloe vera.

Nirāma pitta

A red inflamed tongue, excess thirst and appetite, strong burning sensations, overly acute perception and tissue depletion.

Treatment

Follow normal *doṣa* balancing programme.

Sāma vāta

A brown tongue coating, bad breath, irregular appetite, abdominal pain, distention, gas, constipation, dry and flaky skin, cracking joints with pain.

Treatment

Purge using softening demulcents, castor oil, *hiṅgvaṣṭaka*, *trikaṭu* + aloe vera.

Nirāma vāta

No tongue coating, dry mouth, astringent taste, thirst, dehydration.

Treatment

Follow normal *doṣa* balancing programme.

Modern signs of *āma*:

High triglycerides, atherosclerosis, late-onset diabetes, high blood sugar levels, some forms of

depression, rheumatoid factor, the presence of helicobacter bacteria, leukocytosis or leukocytopenia (deficient and excess white blood cells), excess antibodies, *Candida albicans* in the gut and uterus, blood urea, gout, excess platelet count, high IgE levels from allergic reactions, excess red blood cells, gall stones as a sign of excess bile, kidney stones as a sign of unmetabolised calcium and oxalates, high liver enzymes (serum alanine aminotransferase [ALT], serum aspartate aminotransferase [AST]), intraocular pressure (glaucoma), bacterial infection, high temperature, tumours.

THE AYURVEDIC MIND: MANAS PRAKR̥TI

The ayurvedic concept of mind is both broad and illuminating. Not only does it include mental activity but also a consciousness that is housed in the heart, 'the heart is indispensable for normal mental and physical activities as the entire waking consciousness rests there' (*Caraka Saṃhitā Sūtrasthāna* 30.6). Mind is built from different aspects. *Buddhi* is intellect and is really like a mirror reflecting universal consciousness as it cognises and clarifies. It is the digestive system of the mind as it discriminates between different aspects of mental 'nutrition'. *Sādhaka pitta* corresponds to *buddhi*. *Manas* is that which conceptualises, analyses and interacts between our inner subconsciousness and our experience of the outer world. It includes memory and the ability to recall (*smṛti*) events. *Tarpaka kapha* relates to memory. *Ahaṃkāra* is our 'I' maker and identity former that personalises every experience. It makes us identify with every experience so that we say 'I am reading a book about ayurvedic herbs'. There is also *citta* that is considered to be consciousness and awareness. *Prāṇa* connects these different aspects into something that is known as *antaḥkaraṇa*, the inner active.

A peculiarity is that in contrast to the nature of the physical constitution (*deha prakṛti*) the mental nature (*manas prakṛti*) can be altered through action. The qualities of *sattva*, *rajas* and *tamas* are predominant in the mind and can be altered according to lifestyle, diet and mental attitudes. *Rajas* and *tamas*, passion and lethargy, are considered to be the causes of mental disease (*Caraka Saṃhitā* 1.57).

Each *doṣa* has certain tendencies:

Vāta: Full of creative ideas, good at linking concepts and communicating inspiration. They are easily anxious, scatty, the classic 'space cadet' is a *vāta*. They are quick to learn and easily forget. *Vāta* cannot hold onto anything. They are predisposed towards fear and often expect the worst. The pessimist tends to be *vāta*. Their irregular nature means that they often start new projects but become easily distracted. They oscillate between expending enormous amounts of energy into their social life and craving total solitude in order to recharge. They are sound- and word-orientated. Their emotional background is one of fear and *vāta* people often have to face issues regarding security.

Pitta: Very intelligent and quick thinking, the *pitta* mind is the collator of information. They are excellent at organising and bringing information together. They will be judgemental and critical in their outlook. They are driven by ambition and determined to succeed. They are effective managers of anything; people, time, money, information. Their inherent heat can overbubble into irritability and anger that will be soon forgotten (but not by the *vāta* or *kapha*!). They are focused on their own development, which can make them intolerant of change and impatient with others. They are primarily visual in their thought processes. When imbalanced *pitta* can manifest as anger and they are often confronted with the challenge of patience.

Kapha: They have steady minds that can concentrate on a wide number of issues at a time. The *kapha* has an excellent memory once the facts have been assimilated. They remember feelings, smells and tastes. Their love of stability makes them ignore signals for change. They are loyal and affectionate friends. They tend to avoid challenging situations in order to maintain status quo and protect their conservative nature. They like a stable and regular environment. Their thought process is emotive and related to feeling. *Kapha* types have a tendency to greed and are often coping with issues of attachment.

The mind is integrally connected with the cause of disease as psychological experiences are somatised. As you will read below, the main causes of disease have a mental seed.

SEASONAL BEHAVIOUR: RTUCARYĀ

The winds of change are regularly upon us. The seasons consistently roll from one into another. Ayurveda recognises that this has a profound effect on our health and recommends many helpful suggestions for how we can adapt our lifestyle to stay balanced in each season. Ayurveda makes this person-specific; i.e. there is not just one lifestyle or diet that fits everybody. This is because Ayurveda perceives everybody as individuals with a unique constitutional makeup or *doṣa*.

Constitution (*doṣa prakṛti*) and the seasons are intimately related. Health is affected by the qualities of the climate; the inner world is influenced by the outer environment. For example, when the air is damp, cold and wet these qualities are increased in the body. Hence the increase in mucus, catarrh and colds in winter.

The ayurvedic understanding of the disease process is that certain doshic qualities accumulate in one season and are then aggravated in the next. See Table 2.4 for a full explanation. This table is for the seasons in temperate climates of Europe and North America. There are different patterns for different climates. To understand these patterns you have to watch nature and this is at the heart of learning how to live ayurvedically. Start to observe the different qualities and patterns of nature and you will start to understand the principles of Ayurveda.

The trick to staying healthy is to stay one step ahead of the changing seasons causing any accumulation of the *doṣas*. Reduce the *doṣa* that will be

imbalanced in the following season before it gets aggravated. Hence follow a *pitta*-reducing diet in early spring before it gets aggravated in late spring with symptoms of spring fevers and hayfever. Follow a *vāta*-reducing diet in the summer before it gets aggravated in the autumn with patterns of dry skin, flare-ups of dry eczema, dry coughs and cracked soles of the feet. Follow a *kapha*-reducing diet in the winter before it gets aggravated in the spring with spring colds and allergies to tree pollen. See the recommendations in the treatment chapter to know how to balance each *doṣa*.

The central teaching of Ayurveda is that in order to optimise your health you must clear the accumulation of the *doṣas* from your system. Any increase in the *doṣas* can cause illness. The *doṣas* exit via the orifices; primarily the bowel, bladder, stomach, lungs (via the mouth), uterus and skin. The classic herbal laxatives (encouraging bowel motions), diuretics (encouraging urination), emetics (encouraging vomiting), expectorants (encouraging clearing of mucus), emmenagogues (encouraging menstrual flow) and diaphoretics (encouraging sweating) do this.

Specific seasonal daily regimes (*dinacaryā*)

Ayurveda recommends adherence to a strict regime of daily activities (*dinacaryā*) that facilitate clearing accumulated *doṣas* from the body and optimising health. It is also called *svasthavṛtta*, referring to healthy lifestyle habits.

Lifestyle (*svasthavṛtta*)

It is important to note that regarding all lifestyle recommendations the individual *prakṛti* supercedes the general rules given below.

TABLE 2.4 Seasonal fluctuations of the *doṣas*

Season	Accumulating	Aggravating	Treatment
Early spring: March–April	<i>Pitta</i> ++	<i>Kapha</i> +++	Reduce <i>pitta</i> and <i>kapha</i>
Late spring: April–May	<i>Pitta</i> +++	<i>Pitta</i> ++	Reduce <i>pitta</i>
Summer: June–September	<i>Vāta</i> ++	<i>Pitta</i> +++	Reduce <i>pitta</i> and <i>vāta</i>
Early autumn: September–October	<i>Vāta</i> +++	<i>Vāta</i> ++	Reduce <i>vāta</i>
Late autumn: October–November	<i>Kapha</i> ++	<i>Vāta</i> +++	Reduce <i>vāta</i> and <i>kapha</i>
Winter: November– March	<i>Kapha</i> +++	<i>Kapha</i> +++	Reduce <i>kapha</i>

Daily activities (*dinacaryā*)**Rising**

Rise in accordance with the seasons (see seasonal routines below). This is traditionally at a time known as *brahma muhūrta*, between 3 and 7am as it is regarded as a time when we can most easily access our consciousness. As it is a *vāta*-predominant time *kapha* problems such as lethargy, mucus, bowel congestion, sluggish liver, muzzy-headedness can be overcome. Sleeping into *kapha* time aggravates *kapha* and causes the above symptoms. People who are ill, pregnant, breast-feeding, elderly and children do not need to rise during *brahma muhūrta*.

Elimination

Evacuate the bowels and bladder. Drink hot water to facilitate any sluggishness in the bowel. If further stimulation is required Ayurveda recommends taking some mild laxatives, regulating the digestive fire and diet.

Oral hygiene

Clean the teeth using astringent/bitter/pungent flavours to clear accumulated bacteria from the mouth and tongue and stimulate the digestive system via the gastric reflex stimulus considered to be caused by tongue scraping. Gargle (*gaṇḍūṣa*) with warm water, herbal infusions or oil to treat excess *kapha*, *pitta* or *vāta* in the mouth and throat.

Physical hygiene

Wash the body; eyes using eyedrops (rose water or corrylium), nose using nasal oil drops (*nāsya*) or wash using a *neti* pot with a salt-water solution (1 part salt to 100 parts water) to draw *kapha* osmotically from the sinuses, lungs using breathing techniques (*prāṇāyāma*).

Oil massage (*abhyāṅga*)

Massage is a central feature of the daily regime; it cleans the body, regulates the *doṣa*, moves displaced *doṣas* back to the digestive tract, emolliates and nourishes the skin. It specifically protects from old age and *vāta* diseases while promoting good vision, sound sleep and a long life. Use a small amount of warm oil to coat the skin and then wash off with warm water after it has been absorbed. *Vāta* types can use more oil but oleating massage should be avoided in *āma* conditions and with *kapha* accumulation. Caution should be observed

with *pitta* skin inflammations as the unctuous nature of oil can irritate eczema, acne and rashes. Tradition suggests starting massage at the feet and legs, then progressing to the arms and back and then to the chest and abdomen. This brings lymphatic fluid back to the heart for elimination via the blood where toxins and wastes are cleared by the liver and kidneys.

Vāta: emphasise the feet, lower back, colon area, neck, shoulders and head using warm organic sesame oil.

Pitta: emphasise the areas over the chest, liver, stomach and head using organic coconut or brāhmī oil.

Kapha: emphasise the areas over the lower abdomen, chest, throat, sinuses using organic sesame or mustard oil. Dry massage using herbal powder (*udvartana*) or a skin brush is also useful for regulating the lymphatic system, clearing fluid accumulation and cellulite from the skin.

Complete the massage by applying pleasant aromatic scents of essential oils of rose, sandalwood, jasmine or frankincense between the eyebrows and at the throat.

Exercise (*vyāyāma*)

Practise stimulating exercise up to the point of a mild sweat. *Hāṭhayoga* postures (*āsana*) are relevant as is any metabolic exercise. Do not practise any repetitive exercise that stresses any one part of the body excessively (jogging, skipping, weight-lifting). Exercise should not be carried out by anyone suffering from aggravated *vāta* or *pitta*, young children, the elderly and by those suffering from indigestion.

Washing (*snāna*)

Use warm water to wash the body after massage and exercise. *Pitta* types can have a cold bath or shower.

Meditation (*dhyāna*)

Using meditative techniques can help to raise awareness, instil intention in spiritual practice, remove attachments to the things we like and aversions from the things we dislike and give clarity of mind. There are many different practices used for stilling the mind and releasing it from its continual

infatuation with the sensual and illusory world. *Vāta* types should practise creative visualisation involving order, ritual and regularity to help harness its 'monkey-mind' from swinging from thought to thought. *Yantra* meditation on constructive patterns may be an example of this. *Pitta* types can emphasise regulatory disciplines involving counting and harmonising the breath or focusing on a sense object to clear irritability and purify *sād-haka pitta*. This helps to develop clear thinking. *Kapha* types can practise more dynamic forms of meditation involving different sequences to offset sluggish mental habits or devotional forms of meditation (*bhakti yoga*) that will enhance their natural tendency for compassion and giving love.

Digestive stimulation (*agnidīpana*)

Stimulate the digestive fire by taking digestive spices such as ginger (*Zingiber officinale*).

Eating (*āhāra*)

Dietary habits should result in satisfaction, nourishment and contentment. Eat until the stomach is half full of food, one quarter full of water and the remainder left for digestive *samāna vāyu* to circulate. For specific details of the appropriate foods for each *doṣa* see the treatment chapter.

Other considerations

- Take a light breakfast of nourishing grains.
- Chew cardamom, fennel, anise to freshen breath.
- Do not restrain any of the 13 natural urges.
- Have the meal in the middle of day when the solar energy and inner *agni* is strongest.
- Follow a wholesome occupation that accrues good *karma*. This allows you to fulfil your social and familial duty (*dharma*), achieve satisfaction and pleasure (*kāma*), accrue wealth for a stable life (*artha*) and attain spiritual realisation (*mokṣa*).
- Observe your local geographical terrain and climate and adapt your daily lifestyle accordingly.
- Live according to your stage of life:
0–16: *kapha* stage of life
16–50: *pitta* stage of life
50+: *vāta* stage of life.
- Live according to the times of day to regulate your lifestyle in accordance with your daily needs.

- *Ayurvedic daily cycle of doṣas* increasing and decreasing:

3am–7am 3pm–7pm *vāta* early morning until just after sunrise, early afternoon until just after sunset (accounting for seasonal variations)
7am–11am 7pm–11pm *kapha* morning, evening
11am–3pm 11pm–3am *pitta* mid-morning, mid-evening

Perform activities that reduce the aggravation of the *doṣa*.

The cusp of every season aggravates *vāta* and so a *vāta*-pacifying regime should always be followed during these times. A period of reflection and dietary adjustment for seven days either side of the solstices and equinoxes will promote health during the following season.

It is important to say that the suggestions below are for seasonal balance and that you must always pay attention to any personal needs above and beyond this.

An ayurvedic spring (*vasanta*)

The qualities of spring

Spring is a time of growth, ascendancy and new potential. The fresh leaves unfurl and dormant seeds germinate. Spring is a time of increased warmth and wetness from a thawing of the congealed damp of winter. Because of the high amount of cold and wet qualities of winter and the heavier diet that we take, *kapha* has also accumulated by this time. Just as there are spring floods from rivers overflowing so there are internal 'floods'. The increased heat 'melts' this *kapha* accumulation, causing spring colds and hayfever. This is a common time to cleanse the body and to assist the 'melted' *kapha* to flow out of the body. This can help *kapha* imbalances to be removed from the body before they impact negatively on your health. While *vāta* types like spring with its slightly warmer and wet qualities, it is a time of change and so appropriate attention should be given to a *vāta*-balancing lifestyle if you have any associated *vāta* problems. *Pitta* is balanced in the early part of spring but can accumulate as the warmth increases and this needs to be managed later in the season. As *kapha* imbalances are the main threat during spring try and follow a *kapha*-reducing lifestyle.

- Water qualities: wet, cold, fluid, cohesive, slimy, unctuous, heavy.
- Water anatomy: taste, kidneys, lungs, pancreas, mucous membranes, bladder, blood, synovial fluid, secretions, lipids, ova, testes, knees to feet.
- Water physiology: reproduction, urination, breast-feeding, moistens earth to give cohesion to physical system, saliva, mucus, pus, menses, lumps.
- Water season: most active in winter, spring.
- Water flavour: increased by sweet and salty.
- Water *āsana*: to decrease *kapha* practise more vigorous postures, emphasising metabolic invigorating sequences and including back bends and forward bends to warm the kidneys and increasing chest opening postures to help clear phlegm.

With spring being a time of cleansing the body and mind try to practise the yogic *śaṭkarmas*; the six purificatory practices that facilitate the flow of any imbalanced *doṣa* out of the body. The *Haṭhayoga-pradīpikā* (2.21-38), and *Gheraṇḍa Saṃhitā* (1.12-60) list the *śaṭkarma* for rebalancing the *doṣas*. If the humours are in excess it is necessary to reduce them, if they are deficient they should be increased. Performing the cleansing *śaṭkarma* in a body that is already deficient will weaken the humours. Evidently, most of us can benefit from occasional cleansing but it is essential that it is carried out according to personal constitution, seasonal patterns, and stage of life. The 21 types of cleansing listed in the *haṭhayoga* texts are detailed and specific instructions of how to maintain health. They are prerequisites to yogic practice. They are divided as:

- *Dhauti*: internal cleansing including therapeutic emesis (*vamana* or *kuñjal*) to clean the stomach and lungs
- *Basti*: autoenemas or mild laxatives to clean the intestines
- *Neti*: nasal cleansing using *neti* pot or medicated oils to clear the sinuses
- *Trāṭaka*: steady gazing to cleanse the skull, sinuses and eyes
- *Nauli*: abdominal massage to regulate digestion and stimulate the digestive fire
- *Kapālabhāti*: frontal brain cleansing to clear accumulations from the lungs.

The *Haṭhayogapradīpikā* also states an interesting addition to all these cleansing practices, ‘that *prāṇāyāma* alone can remove the impurities’ (2.37).

Learn these procedures with a qualified teacher. In spring cleansing *kapha* from the lungs and stomach is emphasised. So, if therapeutic emesis does not appeal or is inappropriate, use *prāṇāyāma* to benefit the lungs and seat of *kapha*.

Spring routine (*vasanta ṛtucaryā*)

- Wake early, during *brahma muhūrta* (3–7 am), and utilise the new-found seasonal vitality. As *kapha* is especially aggravated by sleeping in beyond 7am rising early is a useful way to reduce *kapha* aggravations of fatigue, lethargy, mucus and muzzy headaches.
- After completing your daily ablutions have an oil massage using organic sesame or sunflower oil to reduce *kapha* from the skin.
- Have a hot shower to refresh the body.
- Practising skin rubbing can be very valuable at this time of year for stimulating lymphatic circulation. Tradition suggests starting massage at the feet and legs, then progressing to the arms and back and then to the chest and abdomen. This brings lymphatic fluid back to the heart for elimination via the blood where toxins and wastes are cleared by the liver and kidneys.
- Dry massage using herbal powder (*udvartana*) is also useful for regulating the lymphatic system, clearing fluid accumulation and cellulite from the skin. Ayurveda recommends using chickpea flower or other more fragrant herbs such as sandalwood or amalaki. Ensure that you do not block your plumbing by doing this as the flours can congeal into a sticky mass.
- If you can have a sauna during this early part of spring it will help to dry the excessive secretions that occur at this time of year.
- Take a cup of hot ginger and lemon water to stimulate digestion and cut through any mucus that has accumulated overnight.
- Yoga practice can include *kapha*-regulating postures that are dynamic, expansive and stimulating. This is really a continuation of winter practice but with a greater emphasis on elimination via the lungs. Practise with an increased emphasis on breathing. Perform vigorous sun salutation (*sūryanamaskāra*)—up to twelve rounds—until warm and breathing is deep.

Also include strong backwards and forward bends that open the chest, such as the fish (*matsyāsana*), the wheel (*cakrāsana*), the camel (*uṣṭrāsana*), and the tiger (*vyagrāsana*) to stimulate the kidneys and lungs. Also include the locust (*śalabhāsana*), spinal twists such as rotated triangle (*trikoṇāsana*) and *matsyendrāsana*.

- During *prāṇāyāma* practice emphasise frontal brain cleansing (*kapālabhāti*) as it encourages exhalation with a spontaneous inhalation. It greatly encourages the clearing of *kapha*.
- The spring diet should emphasise the bitter, pungent and astringent foods that help to clear mucus and excess moisture from the body. The bitter and pungent flavours also help to open the channels of elimination. Conversely, avoid the sweet, sour and salty flavours that are heavy and cause water stagnation in the body. Your meals should be warm, light and very easy to digest. While the nature of most foods is sweet it is important to add these other recommended flavours into your diet.
- Increase light grains such as rice, quinoa, barley, millet, corn. As pulses are considered to be astringent they can be emphasised at this time of year, with red lentils, aduki beans and chickpeas good for clearing *kapha*.
- Avoid ice, refrigerated foods eaten cold, eating too much, eating between meals and sleeping in the day, as these will offset the other good work that you are doing.
- Assist elimination from the lungs by using mild expectorants such as organic long pepper (*Piper longum*) every day. Long pepper is a great rejuvenative to the lungs and also helps to clear *kapha*. 0.5g of this can be mixed with honey and taken twice a day to help strengthen the lungs. Honey is considered to be slightly astringent and warming and is the only sweetener *kapha* is allowed as it helps to clear mucus.
- You will notice a dominance of yellow flowers in the spring and the ‘doctrine of signatures’ (the idea that God has laid a signature over the earth to guide us to which herbs are good for which diseases or parts of the body) states that yellow and the liver are connected. Many of these yellow flowers, such as dandelion (*Taraxacum officinalis*), benefit the liver. After the initial course of *kapha*-clearing move towards cleansing the liver of fatty and hot *pitta* accumu-

lations by using some bitter herbs. Try using turmeric (*Curcuma longa*) or daruharidra (*Berberis aristata*) with organic aloe vera juice (*Aloe barbadensis*).

An ayurvedic summer (*grīṣma*)

The qualities of summer

Summer is a time when the element of fire (*tejas*) is increased; there is more warmth, dryness and lightness. These are qualities that increase *pitta* and can also cause *vāta* to accumulate. The digestive *agni* becomes easily displaced by the increase in external environmental heat drawing the internal fire to the surface. The *jatharāgni* in the stomach moves to the exterior of the body reducing appetite and aggravating the skin. We often associate summer with such problems as the inflammatory symptoms of hay fever, prickly heat and other skin inflammations. These all have some itchy, hot *pitta* symptoms that come to the surface with the rising heat. Hence summer is naturally a time of calming and reducing *pitta*. As summer progresses the dry and light qualities increase causing *vāta* to accumulate to eventually aggravate in the autumn. Hence, keeping *vāta* in check is also important.

- Summer qualities: light, warm, dry, penetrating, sharp, transformative, subtle, ascending, expansive.
- Fire anatomy: *pitta* can build up in the digestive system, liver, eyes, skin and heart at this time of year.
- Fire physiology: sight, digestion, appetite, metabolism, assimilation, warmth, thermal conduction are all affected by the increased warmth of summer.
- Fire flavour: *pitta* is increased by pungent, sour, salty and so too much of these flavours in the summer may aggravate people prone to *pitta* inflammations.

Summer is a perfect time to apply the wise teaching of Swami Satyananda Saraswati and increase *viveka* and *vairāgya*. These refer to discrimination and non-attachment respectively. By discriminating we are choosing what is best for us and not just following the perpetual attractions and revulsions of our mind. By following the path of non-attachment we can grow to be free from the pleasures and pain of our experiences and move towards living in the present moment.

Ayurveda also prescribes that one of the main causes of illness is inappropriate attachment of our senses to their sense objects. For example, I like ice cream, so I eat some. I want some more as I can remember that delicious sweet creamy flavour, and so I have some more and the next day my nose feels congested. Now there is nothing inherently wrong with ice cream but it must be used wisely so that you absorb the full pleasure and nourishment that it can offer. If it is abused it will harm you, if it is used with *viveka* and *vairāgya* then it can bring you much joy.

Summer routine (*grīṣma ṛtucaryā*)

- Start the day by brushing your teeth with some cooling tooth powder—a dash of neem and peppermint on your brush will help clear *pitta* from the mouth.
- A light massage with coconut oil at room temperature will nourish the skin and clear any heat. Wash this off with lukewarm water.
- Try and walk with bare feet on a cool dewy lawn for a calming and peaceful start to your day.
- Start yoga practice with some cooling and calming *śītalī prāṇāyāma*—this is an especially calming and soothing practice where the tongue is rolled into a tube and then cool air is drawn in through this tube and out through the nostrils.
- *Pitta* can accumulate in the digestive system and especially the liver and small intestine. Do some abdominal stretch, twist and massage exercises for helping to clear *pitta* from your belly. Try *trikoṅāsana* (triangle series), *bhujaṅgāsana* (cobra), *matsyāsana* (fish), *matsyendrāsana* (twist), *uṣṭrāsana* (camel) to massage *pitta* out of the intestines. As *pitta* can also accumulate in the eyes, via the liver, try doing a range of eye exercises to relax the eyes and increase circulation that can carry away any excess heat.
- It is important to not do too many inverted poses as these bring heat up to the head if you are a strongly *pitta* person.
- After yoga anoint yourself with some fragrant sandalwood or rose oil. Place a drop on your third eye, throat and navel to keep these centres of awareness cool, calm and collected.
- Diet in the summer should consist of sweet, bitter, astringent flavours and be light and easy to digest.
- Breakfast: eat liquid nourishing breakfasts such as almond milk. Grind some soaked and peeled almonds, mix into some warm milk (cow or rice), add saffron and some sweetener (not honey).
- Lunch: eating at around noon when the sun is at its zenith is best.
- Supper: have a light meal of basmati rice, sprouted mung beans and green leafy vegetables. Do not eat salad at night as it will aggravate *vāta*.
- In the summer it is best to avoid all dark meats such as beef, lamb and pork as well as citrus fruits, tomato, garlic, onion, salt and sour dairy products as these all increase *pitta*.
- It may be useful to take organic aloe vera juice (*Aloe barbadensis*) (50ml/day) throughout the summer to clear *pitta* from the digestive system. Take it first thing in the morning.
- A good way of flushing *pitta* out of the body is via the bowel; Ayurveda recommends amalaki (*Emblīca officinalis*) as a mild laxative. *Triphalā* can be mildly heating and so it is best to move over to amalaki in *pitta* constitutions.
- When thirsty try drinking cool herbal teas of peppermint, licorice, fennel and rose. Another delicious delicacy is to collect a glass of fresh rose petals and cover them in sugar overnight (in the moonlight). In the morning you will have a delicious rose syrup elixir to mix in your almond milk or just dilute with water.
- It is very important to watch out for *pitta* emotions arising such as criticism, being judgemental, irritation and anger. If you feel a bit ‘hot under the collar’ a good trick is to hold a glass of water in your mouth as the water cools your *pitta* and keeps you quiet.
- Before going to bed, especially if it has been a hot day, rub the soles of the feet with coconut or castor oil to bring all the heat down to the feet.
- Wash the face in organic rose water and spray it in your bedroom. It is important to fill the house and bedroom with fragrant roses and jasmine in the summer.
- It is important to get to bed before 11pm as *pitta* peaks at around midnight. Sleeping on the right side activates *iḍā nāḍī* in the left nostril and guarantees a blissful night’s rest.

An ayurvedic autumn (*śarat*)

The qualities of autumn

Autumn is a time when the air element (*vāyu*) is predominant; there is more lightness, dryness (temporarily) and coolness. There is also the tendency for ‘the winds of change’ to blow ever more erratically. These qualities in nature have a tendency to aggravate *vāta* that has already been accumulating throughout the end part of the summer. As *vāta* regulates the nervous system, levels of moisture in the body, how relaxed we feel and how well we digest food, these can easily become disturbed. As the digestion is disturbed *āma* can also increase and diseases where *āma* and *vāta* mix together (*sāmaṅvāta*), such as arthritis, can become aggravated. Autumn is naturally a time of balancing *vāta* and reducing any symptoms of wind, dryness and erratic behaviour. Towards the end of autumn *kapha* starts to accumulate with the increase in wet and cold qualities. Remember that in Ayurveda *doṣa* means ‘fault’ so it is important to avoid *doṣa* accumulation.

- Autumn qualities: light, dry, cool, erratic, rough, mobile, subtle and clear.
- Air anatomy: *vāta* can build up in the lungs, nervous system, brain, large intestine, hair, nails, bones, skin, and hands. This can cause dry skin, constipation and increased anxiety, which may cause nervousness and insomnia.
- Air physiology: breathing, speech, nervous impulse, touch, muscular movement, thought movement, cellular communication, burps, hiccups, and flatulence.
- Air flavour: wind is increased by pungent, astringent, bitter flavours that are found in very hot spices, strong black tea and raw salads.
- Air *asana*: to decrease an excess of *vāta* practice grounding, relaxed, opening and slow movements using slow and steady breathing practices.

One of the main causes of disease in Ayurveda is ‘crimes against wisdom’ (*prajñāparādha*). This means violating the inner sense of intuition as well as ignoring past experience. Denying this wisdom results in acting inappropriately for who you are. This gives you great responsibility for your health and is a very empowering tool for taking control of your health. Also classified under this heading is the ‘restraint of natural urges’ (*vegāvarodha*); there

should be no withholding the need of thirst, hunger, sneezing, yawning, crying, urinating, defecating, breaking wind, burping, orgasm, sleep, waking and breathing due to overexertion (*Caraka Sūtrasthāna* 7.1). This does not mean wanton indulgence of needs but appeals to the individual to follow physical needs without letting mental attractions and aversions get in the way. A teacher once taught me ‘graze like a cow and let your spirit soar’, meaning live simply according to the needs of your body and let your consciousness flourish. Simple and true. Ayurveda and yoga both teach us that the practice of observation is the path to understanding.

Autumn routine (*śarat ṛtucaryā*)

- Rising early when the world is still and calm brush your teeth with some nourishing tooth powder such as licorice, haritaki and mint.
- Hold some warm sesame oil in your mouth for three minutes. It has a wonderfully nourishing effect on the mouth, strengthens the teeth and stops bleeding and receding gums.
- A specific autumnal practice is to then rinse your mouth with haritaki water (1 teaspoon of haritaki soaked in warm water overnight). After rinsing you can swallow some of the haritaki, as it is the main rejuvenative for balancing *vāta* and sending *apāna vāta* downwards. *Apāna vāta* is one of the subtypes of *vāta* that is responsible for moving everything downwards. As wind can aggravate constipation it is a very useful practice for this time of year.
- Massage yourself with warm sesame or mahānarayan oil. This can offset the seasonal tendency to dryness, joint cracking, and stiff muscle pain. Wash off in a warm shower. Place a drop of oil in your nostrils and ears to offset the damaging effect of the elements. A special oil called *nāsya* nasal oil is prepared with herbs that protect the nose and ears from infections and can be useful during the autumn.
- Start yoga practice with some alternate nostril breathing (*nāḍī śodhana*). The *Haṭhayogapradīpikā* says, ‘By proper practice of *prāṇāyāma* all disease are eradicated. . . . The *vāyu* should be skilfully inhaled, exhaled and retained so that perfection is retained’. (*Haṭhayogapradīpikā* 16, 18). What better time to master the art of breathing than in autumn when there are such high levels of *prāṇa* in the atmosphere? *Nāḍī*

śodhana does what it says; it purifies the channels of toxins, and especially *vāta*-toxins that accumulate from tension and constriction of the channels. We all know that breathing helps us to relax, but it also relaxes the subtle channels that can easily become constricted and tight.

- Practise *āsana* that regulate *vāta* and send *apāna vāyu* downwards; this especially includes *pavanamuktāsana* (the wind-relieving poses), all inverted poses where the head moves below the waist (as air moves up and inverting ourselves can help *apāna vāyu* move down), all twists as this helps to regulate *samāna vāyu* in the intestines, slow sun salutation with breaths in each pose and then lots of *śavāsana* (corpse pose) for proper grounding.
- Apply grounding scents such as vetiver or a *vāta* essential oil on the eyebrow centre and throat.
- Autumnal diet should consist of warm foods that are sweet, mildly spicy, sour and salty as these are all flavours that increase moisture and encourage feeling nourished and grounded.
- Breakfast with a small bowl of porridge of oats, rice or quinoa that can be flavoured with maple syrup and cinnamon.
- Take a teaspoon of organic cyavanaprasha in the morning to keep your energy and immunity intact at this time of change. *Cyavanaprāśā* is a great remedy for reducing *vāta* and maintaining inner strength.
- If you are easily destabilised by the changes in the autumn season and can suffer from *vāta*-imbalanced symptoms such as insomnia, erratic digestion, constipation and anxiety then the most appropriate ayurvedic remedy is ashwagandha (*Withania somnifera*). It is great for calming while strengthening, giving energy while also settling the nervous system. It can be taken morning and evening. It is a great herb for enhancing stability and strength in yoga practice as well.
- For lunch and/or supper have more nourishing foods such as steamed vegetables, soup or *kichaḍī*.
- Avoid too much raw salad, cold drinks, ice, beans, fermented foods and yeast in autumn as they cause gas and may destabilise digestion.
- Autumn is a common time to perform a seasonal cleanse to prepare for the winter ahead. These recommendations are similar to the *śaṭ*

karma recommendations in the *Haṭhayoga pradīpikā* to clear the phlegm, bile and wind from the system. A very simple home cleanse programme would be to follow the above recommendations and to take organic triphala at night to ensure a complete cleansing every morning. Triphala is the most famous ayurvedic remedy and is a combination of three fruits that very gently detoxify the body and rejuvenate the digestive system. Follow this programme strictly for two weeks.

- At the end of a busy day make yourself a delicious cup of milk simmered with a pinch of nutmeg and cardamom and settle in for a blissful night's sleep.

An ayurvedic winter (*hemantaśīra*)

The qualities of winter

During winter the earth's energy is withdrawn back into herself. It is a time of rest, storing and preparation. Rest from the bounty of the autumnal harvest and preparation for the vitality of the coming spring. This is a time of being grounded, internalised and still. The weather is often cold, wet, cloudy and heavy and is dominated by the water element (*āp*). These are all qualities that aggravate *kapha*; remember that *kapha* means 'that which flourishes in water'. Because of the ayurvedic rule that 'like attracts like' the cold, wet and heavy qualities of *kapha* are exacerbated by the similar nature of the climate. In climates where there is a long winter (*śīśīra*) this extended period of cold can cause *vāta* to become aggravated and people with imbalances in *vāta* can also suffer challenges to their health in winter. Here are some ayurvedic and yogic perspectives on staying healthy and warm throughout the winter.

- Winter qualities: wet, cold, fluid, cohesive, slimy, unctuous, heavy.
- Water anatomy: *kapha* can affect the health of the kidneys, lungs, pancreas, mucus membranes, bladder, blood, synovial fluid, bodily secretions, lipids, ova and testes. This can lead to swellings and accumulations of mucus.
- Water physiology: this is responsible for managing reproduction, lactation, saliva, mucus, urination, pus, menses, lumps.
- Water season: most active in winter and spring.
- Water flavour: increased by salt, sour and sweet foods such as salt, citrus fruits and refined sugars.

- Water *āsana*: to decrease *kapha* practise more vigorous postures, emphasising metabolic invigorating sequences and including back bends and forward bends to warm the kidneys and increasing chest opening postures to help clear phlegm.

One of the main causes of disease in Ayurveda is ‘unwholesome attachment of your senses to their sense objects’ (*asātmyendriyārthasaṃyoga*). This includes under-, over- or inappropriate use of the senses such as desiring something too much, too little, or when inappropriate for the constitution. It boils down to inappropriate activities of the body and mind. For example, it is well known that excessive sweet consumption can cause pancreatic enzyme imbalances, blood sugar problems and eventually diabetes. This is a *kapha* problem resulting from an excess of *kapha* foods and emotions (greed or attachment). If a person regularly lives with these habits they will get ill.

Winter routine (*hemanta ṛtucaryā*)

Those having a *kapha* constitution must follow the majority of these recommendations; those who are *vāta* will also benefit; if *pitta* then keep clearing heat from the inside of your body while keeping the exterior warm.

- Sleeping late is fine in winter. Rise at 7am and wash your teeth with some stimulating cinnamon, clove and haritaki powder. This will protect your teeth from becoming overly sensitive to the cold.
- Hold some warm sesame oil in the mouth for three minutes. This has a wonderfully nourishing effect on the mouth, strengthens the teeth and stops bleeding and receding gums. Give the gums a good massage with your finger as well.
- Massage yourself with warm organic sesame oil. Sesame is warming and can be beneficial to every constitution at this time of year. This can offset the seasonal tendency to coldness, aching joints and ‘frozen shoulder’. Wash off in a warm shower.
- Have a hot shower, rub the oil off your skin with a towel.
- Drink a cup of warm water. This relaxes the digestive system, kindles the appetite and encourages a healthy bowel motion.
- Begin yoga practice with some brain-cleansing *prāṇāyāma* (*kapālabhāti*) or bellows breath (*bhastrikā*); ‘*Bhastrikā* quickly arouses kundalini. It is pleasant and beneficial, and removes obstruction due to excess mucus (*kapha*) accumulated at the entrance to *brahma nāḍī*, this enables the three psychic knots to be broken. Thus it is the duty of the yogi to practice *bhastrikā*.’ (*Haṭhayogapradīpikā* 2.66/7). These practices invigorate the body with *prāṇa* and clear excess mucus, lethargy and sluggishness.
- Practice *āsana* that balance *kapha* and clear any excess water. Do vigorous sun salutation (*sūryanamaskāra*) up to 12 rounds until you are warm and your breathing becomes deep. Also include strong backwards and forward bends that open the chest such as the fish (*matsyāsana*), the wheel (*cakrāsana*), the camel (*uṣṭrāsana*) and the tiger (*vyagrāsana*) to stimulate the kidneys and lungs.
- Put some *nāsya* nasal oil in the nose after finishing your *prāṇāyāma*. The herbs in it can dissolve the excessive amount of water that can accumulate in the head in winter. This can help to alleviate depression and Seasonal Affective Disorder by bringing lightness and clarity.
- Winter diet should consist of warm foods that are mildly spicy, slightly salty and nourishing. Diet should clear *kapha* but not aggravate *vāta*. The digestive fire is usually stronger in winter as the cooler weather constricts the surface of the body and pushes the heat back in to the centre of the digestive system.
- Breakfast with a small bowl of porridge of oats, cornmeal (polenta), barley or rice. Add some cinnamon, cloves and honey. Although honey is sweet it is considered to be beneficial for *kapha* as it can encourage clearing of mucus.
- Take a teaspoon of organic cyavanaprasha in the morning to keep your energy and immunity intact at this time of change. Cyvanaprasha is a great remedy for reducing *kapha*, reducing colds and promoting inner strength.
- Lunch and supper should be wholesome meals avoiding too many cold, wet and damp foods that are excessively sweet, or from the fridge or freezer. Barley is one of the best grains for *kapha* as its drying (*rūkṣa*) quality gently clears fluids from the body and can help clear sluggish digestion. Drink spicy teas throughout the day.
- If you are easily disturbed by the cold, wet and heavy qualities of winter then you may benefit

from taking *trikaṭu*. This is a mixture of ginger, black pepper and long pepper and it will blow away any colds, coughs, poor circulation and nasal drips.

- After a day of hard work settle in for a relaxing evening. Ayurveda suggests that an occasional glass of dry and warming wine may be beneficial in the winter to encourage circulation and stimulate digestion. Then it is off to bed with a delicious glass of hot spicy milk. Nutmeg is a very calming herb that promotes sound sleep and can be added to your milk.

DISEASE AETIOLOGY: ROGA KARANA

The cause of disease involves many different aspects from the imbalance of the *doṣa*, to an imbalanced digestive fire (*agni*), to the accumulation of *āma*, to the obstruction of the channels (*srotas*) and the deficiency of the *dhātu*. Internally, the movement of disease is from the mind to the body where the attitudes of greed, fear, anger, grief, arrogance, jealousy and hatred become somatised in the tissues. Ayurveda clearly states that ‘desire’ (*rāga*) is a feeling that generates pathological ‘heat’ in the mind which generates these other emotions. Desire creates an obsessive attachment to various objects and this locks us into a cycle of grasping and unfulfillment. When stimulated, strong emotions create an agitating ‘friction’ that irritates digestion, the nervous system and then the tissues, which can then cause a range of diseases. For example, in the pathology of fever (*jvara*), accumulated heat leaves its residence in the stomach and invades the *rasa* tissues and disease-causing heat spreads throughout the system.

Imbalance of the *doṣa* is internally caused by *mithyāhāravihāra* or inappropriate food and activities:

1. **Crimes against wisdom** (*prajñāparādha*) means violating your inner sense of intuition as well as ignoring your past experience. Denying this wisdom results in acting inappropriately for who you are. For example, a *pitta prakṛti* person eating lots of chillies while knowing that this will lead to inflammation and irritation. Also classified under this heading is **the restraint of natural urges** (*vegāvarodha*); there should be no withholding the need of thirst, hunger, sneezing, yawning, crying, urinating, defecating, flatulence, burping, ejaculating, sleep, waking and breathing due to overexertion (*Caraka Saṃhitā Sūtrasthāna* 7.1).

2. **Unwholesome attachment of the senses to their objects** (*asātmyendriyasamyoga*) including under-, over- or inappropriate use of the senses such as desiring something too much, too little, or when inappropriate for the constitution (*Caraka Sūtrasthāna* 1.54). It boils down to unwholesome activities of the body and mind. For example, it is well known that excessive sweet consumption can cause pancreatic enzyme imbalances, blood sugar problems and eventually diabetes. This is a *kapha* problem resulting from an excess of *kapha* foods and emotions (greed or attachment). If a person regularly lives with these habits they will get ill. Another famous ayurvedic adage is ‘*sarve ‘pi rogā mandāgnihetavaḥ,*’ which means that all disease is caused by an imbalance of the digestive fire; it is upset by extreme emotions or an inappropriate diet.
3. **Seasonal influences** (*pariṇāma*) such as climate change, geographic peculiarities or merely the annual cycle of seasonal variation can disturb the *doṣa* and cause disease.

These may involve:

- *Atiyoga*: excessive indulgence
- *Hinayoga*: inadequate indulgence
- *Mithyāyoga*: inappropriate indulgence.

Other causes are

4. **Inherited**: these are the tendencies that we are born with. It is as though we have a constitutional threshold which, depending on various factors, may or may not manifest; e.g. psoriasis, diabetes or heart disease.
5. **Trauma**: accidents affecting the body and mind.
6. **Divine**: intervention on a subtle level from the divine realm, e.g. magical spells.
7. **Environmental**: availability of food, water and shelter have an obvious impact on health.
8. **Karmic**: disease has resulted from actions in another life.

PATHOLOGY AND THE SIX STAGES OF DISEASE: SAMPRĀPTI

The progressive stages of each disease are laid out in great detail. The health of the system is optimised when the *doṣa* are flowing out of the body and the *dhātu* are nourished. The stages enumerated below describe how this healthy process becomes imbalanced:

1. Accumulation (*caya*)

Any of the causes of disease listed above can cause the *doṣa* to accumulate at their site:

Kapha gathers in the stomach with signs of sluggish digestion, lethargy, paleness, heavy limbs and heavy head.

Pitta accumulates in the small intestine with signs of acidity in the stomach, yellowing of the eyes, urine and stool, sensations of heat, irritability, bitter taste in the mouth and loose and smelly stools.

Vāta collects in the large intestine with signs of bloating, gas, constipation, pebble-like stool, dryness, cramps, coldness, anxiety and insomnia.

At this stage the disease is relatively easy to remove.

2. Aggravation (*prakopa*)

Prakopa is further aggravation of the symptoms mentioned above. The increased severity of doshic irritation starts to aggravate the viscera (*āmāśaya*) that are containing the *doṣa*. The aggravated *doṣa* is still relatively easy to remove via the digestive pathway.

3. Spreading (*prasara*)

Having reached maximum capacity in their respective sites the accumulated and aggravated *doṣa* now cross their threshold and spill over into other parts of the body. They rebel in any direction that they can force themselves. Via the *rasa* and *rakta* tissues they spread to other associated locations.

Kapha spreads to the lungs causing a wet cough, breathing difficulties and vomiting, to the joints causing swelling and the bowel causing mucus in the stool.

Pitta spreads to the skin causing inflammatory skin problems, eyes causing redness, stomach causing nausea and bowels causing burning diarrhoea.

Vāta spreads to the skin causing dryness, joints causing cracking and pain, air passages causing a dry cough and the intestines causing further pain and obstructed motions.

The *doṣas* are still relatively easy to clear from the system even at this stage.

4. Relocation (*sthāna saṁśraya*)

The irritated *doṣa* now fixes in a set location, usually associated with an area of weakness or one of the areas of the body that the particular *doṣa* is associated with, e.g. *kapha* in the lungs, stomach, joints, mucous membranes and fluid parts of the body; *pitta* in the liver, eyes, skin, intestinal lining or glands; *vāta* in the ears, joints, bones, skin or colon. This is when the premonitory signs of disease start; the weak cough and slight wheeze that can develop to full-blown asthma.

The *doṣas* are now difficult to clear and require deep cleansing techniques and *pañcakarma* to be removed.

5. Manifestation (*vyakti*)

The disease now manifests as an identifiable disease such as diabetes, asthma or diverticulosis.

The disease is set and cure is often difficult.

6. Expression of unique characteristics of the disease (*bheda*)

Once a disease is fixed at a site it takes on a life of its own and its dominant features are reflected by the primary causative *doṣa*. For example eczema caused by *vāta* is dry, fissured and itchy; by *pitta* is red, inflamed, bleeding and hot; and that caused by *kapha* is wet, suppurating, itchy and oedematous.

The disease is now chronic and may have become incurable.

By understanding where a disease is in its evolution it allows you to direct the treatment at the right level as well as to give insight as to the progress of the disease. One of Ayurveda's strengths is its prognostic ability. It classifies diseases as:

- Easy to cure (*sādhyā*)
- Difficult to cure (*kṛcchra sādhyā*)
- Incurable but can be alleviated (*yāpyā*)
- Incurable (*asādhyā*).

Caraka goes to great lengths to describe various prognostic signs that indicate imminent death, how to promote the birth of a boy or a girl, when

fetal death may have occurred and how to enhance general health (*Caraka Saṃhitā Indriyasthāna*). This ability to predict the progression and pathology of a disease is mirrored by Ayurveda's inspirational ability to remove ill health and promote wellbeing.

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AYURVEDIC HERBAL PHARMACOLOGY AND PHARMACY: *DRAVYAGUṆA* AND *BHAIṢAJYA VYĀKHYĀNA*

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There is nothing in the world which does not have therapeutic utility when applied in appropriate conditions and situations.

Drugs act by virtue of their own nature and qualities at the proper time, in a given place, in appropriate conditions and situations; the effect produced is considered to be their action (*karma*); the factor responsible for the effect is their energy (*vīrya*); where they act is the place (*adhiṣṭhāna*); when they act is the time (*kāla*); how they act is the mode of action (*upāya*); what they accomplish is the achievement (*phala*).

Caraka Saṃhitā Sūtrasthāna 26.12,13

This chapter is all about the study of the ayurvedic *materia medica*. It is a detailed look at the energetics of ayurvedic herbs and gives the theory behind the practice of using ayurvedic herbal medicine. 'Herb' is used to describe any ayurvedic medicinal, be it plant-, animal- or mineral-based.

In Ayurveda the action of a herb is first considered organoleptically. The senses experience the qualities of the shape, colour, aroma, flavour and fracture of the plant. These qualities relate to certain pharmacological actions that the herbs may have on the ayurvedic body. The qualities pro-

vide the basis for the theory behind the energetics of the herbs. These qualities are parameters for potential activity; they are not absolute. The qualities are indicators of activity, not definitive markers of physiological action. Previous experience is an important guide when determining the precise therapeutic effect of herbs. The best way to learn about a herb is to become intimately acquainted with it: a herbalist must know a plant's natural habitat, growing tendencies, climatic preferences and dislikes, shape, colour, taste, smell, harvest times, and most importantly, the herb must be experienced personally. It is also crucial to understand its

traditional use, dosage range, appropriate method of administration, modern pharmacology, contraindications as well as its potential and known drug–herb interactions.

Ayurveda uses natural metaphors to describe how natural remedies work in the body. It has created a *materia medica* based on a pharmacognosy (the study of medicinal plants in their crude form) that describes the energetic qualities of plants. This energetic approach tells you what the plant does; the taste of a plant, its temperature, its direction, where it goes in the body, what effect it has on the whole system and how it treats disease. These qualities have been determined through direct experience of the natural world. This differs from modern chemical pharmacology which is based on atomic structure and the quantity of active ingredients present in a given compound.

Box 3.1 lists the different energetic qualities that are used in Ayurveda to differentiate the potency of each remedy. Here is a brief summary of these fundamental concepts and they will be expanded throughout the chapter:

These energetic descriptions of the herbs are all based on the different qualities of nature. To use an artistic metaphor, the theory of energetic pharmacology is the canvas; this is the basis. The herbs are the paints that the artist uses to paint a picture full of texture, depth, colour and clarity. How the colours of the paints are blended depends on the artist's interpretation of the scene in front of them, just as the energetic qualities of the herbs are merely guides along the path to finding the perfect formula for the patient. They are not absolutes. This is the stroke of the brush that gives the picture its unique quality. The interpretations of herbal energetics are flexible and depend on who is taking how much, of what and when. As beauty is in the eye of the beholder, so herbal energetics are in the senses of the experimenter. The skill of the herbalist lies in uniting the theoretical framework of energetic pharmacology (*dravya guna*) with the reality of the physiological state of the patient (*doṣa prakṛti* and *doṣa vikṛti*).

We will also look at the following topics in this chapter

Box 3.1

Energetic qualities used in Ayurveda

Taste (*rasa*): sweet, sour, salty, pungent, bitter, astringent.

Effect on the metabolic thermal body (*vīrya*): hot, cold and neutral; this category clarifies whether herbs warm you up or cool you down, if they stimulate or reduce the digestive fire, whether they are expansive or contractile by nature, whether they increase circulation or reduce it.

Post-digestive effect (*vipāka*): how the taste of a natural substance changes after digestion and cooking, hence how it influences the *doṣas* and physiology in the long-term.

Effect on the digestion, fluid system and tissues in the body (*guṇa*): the herbs have qualities of light, heavy, unctuous, drying, penetrating and soft.

The unique properties of the plant (*prabhāva*): the plant's unique activities above and beyond its particular energetics.

Tropism (*sātmya*): the affinity a plant has for a certain organ, tissue or channel (*āśaya/dhātu/srotas*).

Constitutional (*doṣa*): the effect of the herb on the constitution, i.e. whether it increases, decreases or balances the *doṣas*.

- Herb nomenclature
- Ayurvedic preparations (*bhaiṣajyakalpanā*)
- Herbal carriers (*anupāna*)
- Quality control in herbal medicine
- Dosage (*mātra vicāra*)
- Ayurvedic plant actions (*dravya karma*)
- Herb sourcing
- Safety and conservation of the ayurvedic *materia medica*
- Integrity management planning
- Safety: using herbs and pharmaceutical medications together.

RASA: THE TASTES OF NATURE

Rasa is a potent word; it can mean essence, juice, sap, plasma, chyle, mercury flavour and delicious as well as meaning taste. Our experience of the 'taste' of life affects our body and mind. If it is 'sweet' we are usually happy, while too many 'bitter' tastes and experiences have less desirable

effects. The flavours of life that we put into ourselves become our *rasa*, our essence.

Our bloodstream is filled with the cooked juices that we eat and drink. Whether a flavour is experienced as a sensation on the tongue or as an emotion in the brain it still produces the same physiological repercussions throughout the whole system. For example, blood pressure can increase after a very spicy meal or after an angry moment. Hot spices such as garlic warm the mouth, stimulate metabolism and raise the temperature of the whole system. This heat also affects the consciousness and it can transfer to the emotions and may cause extra passionate moments or rajasic 'hot-headed' behaviour. How this heat is experienced, physically or emotionally, depends on the constitutional tendency.

The taste (*rasa*) of each herb is determined by the combination of elements (*pañcamahābhūta*) within it (Fig 3.1); the pungent flavour, for example, is energetically dominated by fire and air and is spicy, drying and light. Every substance (*dravya*) has all the elements within it and usually one or two are dominant. The secondary tastes (*anurasa*) are difficult to determine but add to the total activity of the herb or food. A substance's *rasa* is not static and can change over time depending on when it is harvested, where it is grown, how it is stored, how it is processed or cooked. For example, immature fruits are more sour, mature fruits more sweet, garlic is very pungent when raw but becomes sweeter on cooking, tinctures add a warm energy to the herb and medicinal ghees add a sweet quality to the preparation.

Tastes have certain functions and effects:

- **Temperature:** each specific taste affects the thermoregulatory qualities within the body; hot (*uṣṇa*) and cold (*śīta*). They heat it up or cool it

down. For example, cinnamon is pungent and hot, which raises temperature while grapes are sweet and cooling, which can help to cool a fever.

- **Quality:** the taste also defines whether a herb is light (*laghu*) or heavy (*guru*) to digest and wet (*snigdha*) or dry (*rūkṣa*) on the mucous membranes. It also defines whether the herb is penetrating (*tikṣṇa*) or soft (*mṛdu*). An example is black pepper, which is pungent and also hot, light, dry and penetrating; it is easy to digest, dries the mucous membranes and penetrates deeply into the tissues.
- **Tropism:** the taste also implies an affinity for certain tissues and organs. A herb will influence the function of an organ, tissue or channel by tonifying or reducing, stimulating or pacifying, drying or moistening. For example, hot and dry herbs commonly clear wet mucus from the lungs, can irritate the plasma, blood and muscle but also reduce fat, nerve and reproductive tissue, while cool and bitter herbs often drain heat from the plasma, blood and liver while also reducing fat, nerve and reproductive tissue.
- **Doshic:** the taste of each medicinal also influences the quantity and quality of each *doṣa*. For example, sweet builds *kapha*, reduces *vāta* and *pitta* and increases all the tissues.
- **Direction:** the taste has an effect on the movement of *vāta doṣa* by influencing the direction in which the five *vāyu* move; e.g. the pungent taste ascends and spreads *vyāna vāyu* outward causing sweating while bitter descends causing *apāna vāyu* to move downwards with a laxative effect.

Flavour is the essence of life; it affects everything (Table 3.1).

Sweet (*madhura*)

The sweet flavour is made from the elements of earth and water. This means that it has the

Figure 3.1 The elements and tastes

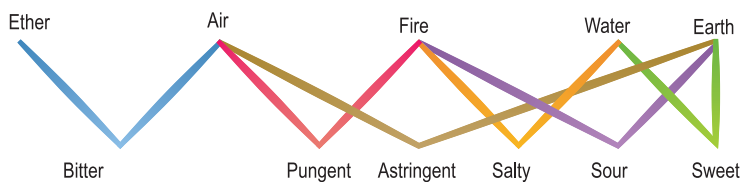


TABLE 3.1 The six tastes of Ayurveda: *Rasa*, *Vīrya*, *Vipāka*

<i>Rasa</i> Sanskrit	Sweet <i>Madhura</i>	Salty <i>Lavaṇa</i>	Sour <i>Amla</i>	Pungent <i>Kaṭu</i>	Bitter <i>Tikta</i>	Astringent <i>Kasāya</i>
Doṣa action	VP– K+ Wet, heavy, cool	VP– (+ in excess) PK+ Wet, heavy, warm	V– PK+ Wet, light, warm	KV– P+ Dry, light, warm	KP– V+ Dry, light, cold	KP– V+ Dry, light, cool
Guṇa	SWEET	SWEET	SOUR	PUNGENT	PUNGENT	PUNGENT
Vipāka	All 7	<i>Rasa Rakta</i>	All but <i>Śukra</i>	<i>Rakta</i>	<i>Rakta Asthi</i>	<i>Rasa Rakta Śukra</i>
Dhātu action	STRENGTHENS SĀTTVIC Increases <i>ojas</i> ; moistens; difficult to digest; increases <i>dōṣa/dhātu/</i> <i>mala</i> ; benefits the mind	MOISTENING Softening lumps and tumours; clears <i>sratāṃsi</i> ; grounding; soothes nerves; nutritive to <i>rasa</i> <i>dhātu</i> ; increases fluid and mucus	MOISTENS DIGESTIVE Expels <i>vāyu</i> ; moves liver stagnation; awakens mind; holds fluids in the tissues	EXPANSIVE MOVES UP Dries <i>āma</i> and mucus; stimulates <i>agni</i> , benefits digestion; aromatic, sharp, penetrating; opens <i>sratāṃsi</i> and blockages; encourages sweating; increases circulation; central and peripheral	CLEARs HEAT Dries <i>āma</i> Descends and drains; stimulates nervous system; benefits skin; clears parasites from gastrointestinal tract; benefits liver and <i>rañjaka pitta</i> ; clears congestion from the <i>sratāṃsi</i>	DRIES MUCUS STOPS LEAKAGE; tightens <i>dhātus</i> ; cleans mucous membranes; stops bleeding; stops diarrhoea and coughs; heals wounds
Dose	3–30g	1–5g	1–12g	1–15g	1–15g	1–10g
Contraindications	Excess <i>medas</i> ; when <i>āma</i> is present; high <i>kapha</i>	Hypertension; when blood is aggravated; high <i>pitta</i> ; ulcers	Itching; heat conditions; when blood is aggravated	<i>Śukra</i> deficiency; heat conditions; acidity	All deficiencies; High <i>vāta</i> , cold conditions; pregnancy	<i>Srotorodha</i> , <i>Vāta</i> aggravation; constipation; obstructions
Biomedical action	Nutritive and tonic; laxative and diuretic; demulcent and emollient; antispasmodic; expectorant	Nervine; demulcent; nutritive; anti-tumour	Digestive; demulcent; laxative; cholagogue	Stimulant; carminative; diaphoretic; vasodilator	Antipyretic; anti- inflammatory; cholagogue; laxative; anthelmintic; alterative; diuretic	Haemostatic; astringent; vasoconstrictor
Constituents	Polysaccharides; saponins; fatty acids	Mineral salts	Tannins; bioflavonoids	Volatile oils; mustard glycosides	Antraquinones; alkaloids	Tannins

qualities of these two building blocks; i.e. earth is heavy and descending and, like water, is wet and cold (when water is subjected to heat it becomes hot, but in its 'primordial' state it is cold). Sweet is the flavour of love, of sharing and of compassion. We give sweets to friends as an act of sharing and companionship. It is considered the most *sattvic* of flavours and is used to heighten experience of clarity and awareness of the spiritual aspect of life.

We all know the sweet flavour. Its main receptors are at the front of the tongue. Sweet comes from sugars; glucose, sucrose, fructose, maltose, lactose. They are made up of short (mono-) and long (poly-) chains of saccharides. It is the flavour of energy. Many carbohydrates, fats and proteins are sweet and their potential energy is measured in kilojoules. Foods and herbs with the sweet flavour are considered to be tonics; they build and nourish all seven tissues; licorice (*Glycyrrhiza glabra*), balā (*Sida cordifolia*) and shatavari (*Asparagus racemosus*) are sweet and nourish the deeper reproductive tissues. The sweet flavour increases *ojas* and the integrity of the immune system. Many renowned immune tonics have a sweet flavour and are full of immune-modulating saponins and polysaccharides.

Sweet substances and experiences increase *kapha* and reduce *pitta* and *vāta*. As a demulcent, soft, soothing and wet flavour it reduces some of the dryness and weakness associated with *vāta*. It is often combined with some mild pungent herbs to help balance its cooling nature when treating *vāta*. It is a tissue healer and sweet herbs are often used for hastening wound repair (e.g. aloe or licorice). Sweet benefits the mucous membranes lining the mouth, lungs, digestive, urinary, and reproductive systems. The sweet taste can help to clear a dry throat and lungs by enhancing expectoration. Its cooling anti-inflammatory tendencies help to remove the intense heat of *pitta* or '-itis' conditions (e.g. bronchitis). This is also helped by its softening mild laxative effect. It benefits the complexion, improves hair and nail quality and is the best flavour for making a smooth voice. Sweet substances that are digested properly will build all the tissues and create inherent strength. Following the principle of 'like increases like' you want to increase your sweet experiences and flavours in life

to be truly nourished, loved and cherished. This will create a cycle of ever-increasing benevolence.

Used in excess the heavy, unctuous and cold qualities can reduce the digestive fire of *jāṭharāgni*, increase mucus and promote congestion. It can cause toxins, *āma*, fever, mucus, chest and breathing problems, dampness, swollen lymph glands, flaccidity, heaviness, worms, fungal infections, *Candida albicans*, obesity, and diabetes. Exceptions to this rule of sweet substances increasing *kapha* are honey, mung beans and barley; they are actually considered to balance excess moisture. As sweet tends to encourage accumulation it can create cravings and greed. Too much sweet flavour can create a congested and soggy quagmire! (*Bhāvaprakāśa* 6.1.175–178).

Sour (*amla*)

The sour flavour is made from the elements of earth and fire. Its qualities are hot, oily and light. It creates both dampness and heat in the body and mind. It stimulates digestion via its hot and light quality and clears dryness via its unctuous fluid-promoting properties. Sour foods make the mouth moist and increase the flow of saliva. When taken in excess it draws the tissues inwards and 'puckers' the lips, making the body horripilate all over. This contraction creates an emotional reluctance to share things. Eating too much sour-flavoured food encourages envy and can make your experience of life feel like 'sour grapes'.

The sour flavour is found in acids; citric, lactic, malic, oxalic and ascorbic. The receptors for the sour flavour are found on tastebuds on the sides of the tongue. The acids have a direct effect on digestion by promoting liver function through various mechanisms; as sour flavours can reduce stomach acid it also means that the liver needs to produce less acid-neutralising alkaline fluids. Sour flavours also increase the flow of bile that helps to encourage digestion of fats. Unripe fruits are sour and are commonly used as digestive chutneys in India. Sour fruits such as amalaki (*Emblica officinalis*) are high in vitamin C and are considered to be anti-oxidant, rejuvenating and tonic herbs.

As the sour flavour aggravates *pitta* and liquifies *kapha* it is not usually beneficial in hot and damp conditions. It is also considered to vitiate the

blood and it is recommended that the sour flavour be avoided in skin diseases. Most fermented foods are sour; fermented yoghurt, sour dough breads, vinegar, pickles and alcohol are sour foods that increase heat and mucus in the body. Sour nourishes all the tissues but the deepest reproductive tissue (*śukra*). It is actually considered to destroy semen. It alleviates *vāta* and aggravations of the nervous system; it draws scattered energy back in. It is a specific carminative useful to promote digestion while also removing gas and indigestion. Amalaki, lemons, limes and pomegranate seeds (*Punica granatum*) are the exception to the rule that the sour flavour aggravates *pitta*, as they actually reduce heat and inflammation.

In excess sour can cause dizziness, thirst, burning sensations, hyperacidity, ulcers, fever, itching, anaemia and skin diseases (*Bhāvaprakāśa* 6.1.179–181). It can also aggravate diarrhoea, oedema and wet coughs and is not recommended when there are excessive congestive conditions.

Salty (*lavaṇa*)

Salt is predominantly made from the water and fire elements. It creates moisture and heat and is heavy and sinking. A grain dropped onto the tongue is instantly moistening. A sprinkle on food enkindles digestion. Its association with the water element makes it a mild laxative and with the fire element a digestive stimulating antispasmodic. It is an easily recognisable flavour and its receptors are at the front of the tongue. Its sinking and heavy effect is very grounding for the nervous system and this encourages stability. People who are solid and reliable become known as ‘the salt of the earth’.

The use of salt is a good lesson in the importance of dosage. In correct quantities it is vital to our very existence and is as essential to our health as water and food. It can save life when there is dehydration. In contrast to this a sprinkle too much will cause an ulcer and aggravate stomach acidity. Excess salt consumption also causes water retention with the concomitant results of oedema and high blood pressure. This physical holding is reflected in its emotional effects as it causes greed and encourages the desire for more flavour. To paraphrase a famous ayurvedic adage, it is all about who is taking how much, of what and when.

Salt is found in minerals and there are different types of salt classified in Ayurveda; rock, sea, black, pink and *soñcala*. Rock salt (*saindhava*) is considered the best as it is very high in minerals and, unlike the other salts, does not cause such water retention and it is not detrimental to the eyes. It is also the exception to the rule that salt is heating as it has a cooling action (*vīrya*) and hence is used to rebalance high *pitta*. Salty is the rarest flavour in the ayurvedic *materia medica*, not found in many herbs. It is found in shilajit, a natural mineral rock exudate, full of numerous nourishing minerals. Seaweeds and celery are other examples of the salty flavour.

Salt aggravates *pitta* and *kapha*. It also disrupts the blood and is contraindicated in skin diseases as well as bleeding problems. Its use in marinades reflects its softening quality and it is used to soften masses and as a demulcent to liquefy *kapha*. It alleviates any excess of *vāta* by stimulating the appetite, moistening dryness and nourishing the nervous system. It is a mild laxative at a medium dose (3g) and an emetic at higher dose (5–10g). It has a specific property of *sūkṣmagāmi*; its subtle properties help it enter the minutest channels of the body. Interestingly, when used externally as a ‘salt pack’ it has warm and light qualities that reduce *kapha* and work osmotically to draw moisture out of the body and to heal wounds.

In excess it causes ulcers, skin diseases, water retention, ascites, intestinal inflammation, hypertension, bleeding, grey hair, baldness and thirst (*Bhāvaprakāśa* 6.1.182–183).

Pungent (*kaṭu*)

The pungent flavour is a combination of the fire and air elements. Its qualities are hot, dry and light as well as penetrating and ascending. The acrid heat of hot foods and spices spreads throughout the whole system. Too much heat, whether climatic or dietary, is known to cause ‘hot’ emotions ranging from passion and excitement to anger and irritation. It is the most rajasic and volatile of the tastes.

It is primarily found in the aromatic volatile oils, resins, oleo-resins and mustard glycosides. All these compounds are used to stimulate, invigorate, penetrate, dry and clear the accumulation of wet, stagnant and congestive conditions. The essential oils of ginger (*Zingiber officinale*) and black pepper

(*Piper nigrum*) are often used for clearing mucus congestion or warming a cold condition. Pungent resins such as guggul (*Commiphora mukul*) and frankincense (*Boswellia serrata*) also invigorate the flow of blood, scrape out toxins and reduce cholesterol. The aromatic cardamom (*Elettaria cardamomum*) is an excellent digestive for encouraging sluggish digestion and removing *mandāgni*. Unlike the other tastes it does not have a specific taste bud receptor site but works through irritation of local tissue and nerve endings.

Pungent herbs and foods are a panacea for *kapha* as they dry the excess moisture and mucus so prevalent in this humour. They are often used in lung problems such as asthma or coughs where there is aggravation from mucus and *kapha* congestion. Pungent herbs are vital for any weight-loss programme as they stimulate the metabolism and reduce fat. They directly cook and burn *āma* as well as also clearing it via diaphoresis. The heat encourages vasodilation of the pores of the skin and encourages the body to sweat, therefore throwing off unmetabolised toxins through the skin. The pungent flavour usually increases *vāta* but, in moderation, it can also help to remove the cold stiffness of *vāta* while also encouraging the elimination of wind and digestive cramps. The heat of pungent herbs irritates *pitta* and should not usually be used where there is inflammation, especially with aggravation of the plasma (*rasa*) and blood (*rakta*) tissues. Its drying effect on bodily fluids can reduce semen and cause constipation.

In excess it creates burning, intestinal inflammation, bleeding, dizziness, thirst, urinary retention, lack of semen, reproductive disorders and excessive dryness. Ginger (*Zingiber officinale*) and cooked garlic (*Allium sativum*) are the exceptions to the rule that pungent flavours aggravate *vāta*; in fact they benefit it as they increase digestion and reduce intestinal gases (*Bhāvaprakāśa* 6.1. 184-188). Cloves (*Syzygium aromaticum*), coriander (*Coriandrum sativum*), cumin (*Cuminum cyminum*) and fennel (*Foeniculum vulgare*) are all examples of herbs containing a pungent quality that do not aggravate *pitta* if not used excessively.

Bitter (tikta)

This therapeutically priceless taste is created from a combination of space and air elements. Its domi-

nant qualities are cooling, drying and light. It creates space in the body by draining and drying excess fluids. Too many bitter herbs can literally 'space you out' and leave you feeling disorientated. Many psychotropics are bitter; e.g. *Psilocybe* spp. It has a particular affinity for the blood (*rakta*). Bitters are usually classified as 'alteratives' as they alter the chemical balance of the blood by clearing toxins. As they encourage the flow of bile and the activity of the liver this may account for some of bitter's detoxifying activity. Too much bitter flavour can weaken the kidneys, reduce reproductive tissue, and cause excess urination, and emotionally encourages fear and anxiety. The bitter flavour has a negative effect on the strength of *avalambaka kapha* and *ojas* which reside in the heart. Again, it is all about an accurate diagnosis and using an appropriate dose for each individual person.

Whereas in Western herbalism bitters are commonly associated with a tonic effect, in Ayurveda they are considered depleting. The tonic association comes from the low dose, digestive-stimulating and liver-promoting perspective. The depleting and cleansing view comes from the experience that relatively larger doses of bitter herbs are cooling, reducing, detoxifying, laxative and diuretic. Studying and applying the insights of herbalism is a constant reminder to be specific. Everything is unique; how you apply the medicine, when you apply it, to whom it is applied and where it is administered. Ayurveda clearly teaches that any substance can be a food, a medicine or a poison depending on how much is given, who is eating it, when it is eaten and where it is taken.

The reason that the bitter flavour is found in plants is often attributed to its ability to defend itself; a nasty-tasting plant is less likely to be eaten! The bitter taste receptors are at the back of the tongue; they are the body's way of giving us a last line of defence. The bitter flavour is found in sesquiterpenes, anthraquinones, alkaloids and some glycosides. Plants with these properties are renowned for their anti-inflammatory, antibacterial, antipyretic and digestive secretion enhancing activities. These compounds are usually found intermixed with pungent and aromatic or astringent-tasting plants; all drying flavours. Neem (*Azadirachta indica*), kutki (*Picrorrhiza kurroa*) and

kalamegha (*Andrographis paniculata*) are well-known ayurvedic bitters famed for their ability to clear infection, heal skin problems and purify the blood.

Bitter herbs clear *kapha* and *pitta* while aggravating *vata*. Excess dampness, *ama* and heat are reduced as the bitter flavour dries and drains them out of the system. When treating *kapha* problems bitter herbs are often combined with some pungent herbs to offset their cooling nature. When treating high *pitta* in the stomach bitters may aggravate acidity and should be tempered with some sweet and unctuous herbs to balance the light quality in the bitter flavour. Bitters also promote peristalsis and urination. They are often indicated in lung conditions, especially with infections manifesting with green and sticky mucus. They excel at clearing itching, swelling and oozing on the skin. A little is used as a stimulant to the appetite as the light quality can enhance the appetite, regulate *samāna vāyu*, reduce *mandāgni* and clear the palate as well as stimulate the release of digestive enzymes. Higher doses are used to kill worms and parasites in the intestines and blood. They are commonly indicated in high *pitta* conditions of the plasma, blood and liver such as hepatitis and jaundice. Their antimicrobial and anti-inflammatory effects are salutary for treating heat in the intestines with dysentery, bleeding and mucus. Bitter herbs also benefit overweight conditions as they can dry and scrape away the adhesions and fatty accumulations. Here they benefit obstructions to the channels and help to clear *srotorodha*.

When misused or incorrectly prescribed they can cause too much dryness and wasting in the body

and mind; this can upset the nervous system causing constipation, dizziness, weakness, coldness, reduction in semen and dryness of the whole body. Guduchi (*Tinospora cordifolia*) is a bitter herb that is an exception to the above contraindications as, along with the bitter benefits, it is also an aphrodisiac and tonic due to its sweet post-digestive effects (*Bhāvaprakāśa* 6.1.189–191).

Astringent (*kaṣāya*)

Astringent is the driest flavour. Made from a predominance of the earth and air elements it is heavy, cold and dry. As it draws inwards it dries and reduces them. On eating something astringent your whole mouth contracts and draws the mucous membranes closer together. Having too many 'dry' and unfulfilling experiences can leave you with a lack of taste for life and even resentful at its lack of zest.

The astringent flavour is found in tannins. These polyphenols are particularly concentrated in the bark, leaves and outer rind of fruits of plants and trees. They appear to offer some form of outer protection by repairing wounds and neutralising bacteria. They are especially soluble in water; hence the drying nature of a strong cup of tea left to steep for too long. Astringency is often found in combination with plants that also taste sweet or sour. Bibhitaki (*Terminalia bellerica*), haritaki (*Terminalia chebula*), arjuna (*Terminalia arjuna*) and guggulu (*Commiphora mukul*) are especially astringent.

Therapeutically the astringent flavour clears *kapha* and *pitta* while aggravating *vata*. It is very useful where there is any leakage of body fluids; bleeding (externally and internally), excessive sweating,

TABLE 3.2 The six tastes

TASTE (<i>rasa</i>)	ELEMENT (<i>tattva</i>)	QUALITY (<i>guṇa</i>)	Effect on <i>doṣa</i>
Sweet (<i>madhura</i>)	Earth, water	Heavy, wet, cold	K+, P-, V-
Sour (<i>amla</i>)	Earth, fire	Light, wet, warm	K+, P+, V-
Salty (<i>lavaṇa</i>)	Water, fire	Heavy, wet, warm	K+, P+, V- (K- externally)
Pungent (<i>kaṭuka</i>)	Fire, air	Light, dry, warm	K-, P+, V+
Bitter (<i>tikta</i>)	Space, air	Light, dry, cold	K-, P-, V+
Astringent (<i>kaṣāya</i>)	Air, earth	Heavy, dry, cold	K-, P-, V+

enuresis, diarrhoea, excess catarrh, leucorrhoea and premature ejaculation. It holds tissues together and astringent herbs are often used as a wash to help heal wounds. This holding effect also prevents loose and flaccid tissue from accumulating. Using astringent herbs is appropriate to treat sinking problems such as prolapses. Its drying effect on the digestive system benefits diarrhoea by astringing the bowel and stopping excessive downward flow. This also helps absorption by drawing fluids and nutrients inwards. But its cold and heavy quality can impair *agni* and reduce the strength of the digestive fire. Astringents are used for *pitta* inflammations to draw the swelling inwards, cool the heat and also drying any damp suppuration.

These dry, rough and light qualities are similar to *vāta*. Because astringent tastes contract the tissues and obstruct the flow of *prāṇa* and nervous energy in the system it is usually detrimental to *vāta*. Astringent haritaki (*Terminalia chebula*) is a notable exception as, due to its warming energy and sweet post-digestive effect, it is one of the primary *vāta* tonics. In excess astringent flavours can cause *vāta* diseases like rigidity, pain in the heart, convulsions and retention of gas, urine and faeces (*Bhāvaprakāśa* 6.1.192–194).

VĪRYA: THE THERMAL ACTION OF HERBS AND FOODS

This is basic science. Hot substances warm and cold substances cool. Herbal formulas are a combination of hot and cold remedies that are balanced to fit the energetic makeup of the individual and their condition. The categories of 'hot' and 'cold' are not absolutes but guides on the path to balance. Though they are commonly classified alone they should be considered along with the other *guṇa* qualities of dry, unctuous, light, heavy, penetrating and soft. In fact, *Caraka* lists the six secondary actions (*upakarma*) as energetic *vīrya*. The quality of *vīrya* is always more therapeutically important than *rasa* and *vipāka*. For example, a hot remedy such as fresh ginger (*Zingiber officinale*) can be used to heat the body to cause a sweat that has the effect of cooling the body temperature. Conversely a cooling remedy such as kutki (*Picrorrhiza kurroa*) can be dispensed at a low dose to stimulate the digestion via its other light and dry properties and hence increase metabolism and heat. Other external influences such as the time of year that the herb is used,

the constitution and condition of the patient as well as their subjective experience will all affect the physiological heating or cooling effect of the plant.

Hot (*uṣṇa*)

Heat warms, dries, invigorates and stimulates the tissues. Just as the sun on a hot day causes the blood to come to the surface of the body, so energetically hot herbs cause our metabolism to expand upwards and outwards causing the pores of the skin to open. Hot substances are high in the fire (*tejas*) element. Heat increases the metabolism, encourages circulation, causes sweating, light-headedness and thirst. Hot substances are usually used to treat cold, contracted and hypo or sluggish conditions. Beneficial to *kapha* and *vāta*, it dries damp, phlegm and warms cold. As 'like increases like' pungent herbs encourage *agni* and digestion to function at optimum level. Herbs that are heating usually contain volatile oils or mustard glycosides that stimulate gastric secretions as well as assimilation of nutrients. *Uṣṇa* substances have a particular affinity for the heart, head, liver and lungs and are commonly used when they are imbalanced but may damage them if used unjudiciously. Pungent, sour and salty herbs tend to be heating.

Cold (*śīta*)

Cold natured herbs cool, moisten and sedate the tissues and metabolism. Rather like the cold of a winter's day causes you to shiver, energetically cold herbs contract the muscles and narrow the channels of circulation. They are high in the water (*āp*) element. Cold substances are usually used to

TABLE 3.3 The three degrees of heat

Degree of heat	Heating flavours
Hot in the third degree (hottest)	Pungent (<i>kaṭu</i>)
Hot in the second degree	Sour (<i>amla</i>)
Hot in the first degree	Salty (<i>lavaṇa</i>)

TABLE 3.4 The three degrees of cold

Degree of cold	Cooling flavours
Cold in the third degree (coldest)	Bitter (<i>tikta</i>)
Cold in the second degree	Sweet (<i>madhura</i>)
Cold in the first degree	Astringent (<i>kaṣāya</i>)

treat 'hot', inflamed and hyper conditions. Cold benefits *pitta* while aggravating *kapha* and *vāta*; cold-natured herbs soothe the painful and inflammatory heat conditions. Digestion is easily damaged by cold-natured herbs and should be used cautiously when there is diarrhoea and sluggish digestion from cold. Cold herbs have an affinity for the stomach, the kidneys and the bladder and can weaken them if used excessively. Bitter, astringent and sweet herbs tend to be cooling.

The classification of hot and cold can be further separated into a hierarchy of degrees that will increase or decrease *agni* in the body. This emulates the Vedic classification of *agni* representing the heating qualities of solar fire and *soma* representing the cooling qualities of lunar water. This is conveyed into *tridoṣa* theory with *agni* representing *tejas* and *pitta*, *soma* representing *ojas* and *kapha* with *vāta* balanced in the middle as the regulatory *prāṇa*.

VIPĀKA: POST-DIGESTIVE EFFECT

This is a unique energetic category peculiar to Ayurveda. *Vipāka* refers to the post-digestive effect of tastes; it is the effect a certain flavour has on the tissues and metabolism having been digested or after cooking. While the *rasa* has an immediate and localised physiological effect on the digestive system the *vipāka* is the long-term effect of a food or herb throughout the whole body. *Vipāka* results from the mixing of the digestive fire with the particular flavour and is an extension to the effect of each particular taste. *Caraka* lists three categories of the post-digestive effect of tastes based on their effect on the *doṣa* (Box 3.2), while *Suśruta* lists two categories of post-digestive effect of tastes based on their effect on the *guṇa* (Box 3.3).

To give an example of how the *vipāka* varies according to the specific energetics of each herb we will look at the peppers. Both black pepper (*Piper nigrum*) and long pepper (*Piper longum*) are pungent and heating. While black pepper is pungent after digestion and therefore constipating, drying and damaging to the production of reproductive fluids, long pepper is sweet post-digestively and therefore helps elimination, is moistening and is a beneficial rejuvenative tonic to *kapha* and as an aphrodisiac to the reproductive system. Onions and ginger are other examples of herbs that are hot

Box 3.2

Caraka's classification of the post-digestive effect of tastes on the doṣa

Sweet, salty

Digest into sweet: sweet is nourishing and moistening to the tissues and also has a mildly laxative effect. The cooling and anti-inflammatory nature of sweet make it beneficial to *pitta*, and its wet and building properties will increase *kapha*

Sour

Digests into sour: this will encourage digestion, benefit the liver, increase heat and moisture in the body while also calming the nervous system. Its long-term effect is to aggravate *pitta* and calm *vāta*.

Pungent, bitter, astringent

Digest into pungent: its nature is to increase dryness, constipation and gas as well as reducing fertility. It can help to reduce *kapha* and aggravate *vāta*

Box 3.3

Suśruta's classification of the post-digestive effect of tastes on the doṣas

Sweet, salty

Digest into a heavy quality, slowing tissue metabolism but building the quantity of the *dhātus* and acting as anabolic substances

Sour, pungent, bitter, astringent

Digest into light qualities hastening metabolism, reducing the quantity of the *dhātu* and acting as catabolic substances

and irritating in the raw state but become less hot and sweeter and nourishing after cooking; both also have respected anti-inflammatory effects and promote the reproductive system.

There are many exceptions to these rules. For example both haritaki (*Terminalia chebula*) and bibhitaki (*Terminalia belerica*) are primarily astringent in taste but due to their sweet post-digestive quality have a nourishing effect on the tissues and act as laxatives.

GUṆA: THE QUALITIES OF THE HERBS

We discussed the *guṇa* theory in Chapter 2. Here is a more specific look at how these qualities are used in herbal medicine.

The specific 'quality' of a herb indicates its potential therapeutic activity.

There are 20 qualities listed in *Suśruta* that could all be used to determine the energetic effect of a substance but, as well as the heating (*uṣṇa*) and cooling (*śīta*) actions, the five listed below are the main ones used in ayurvedic herbal energetics. They are listed separately as they need the *agni*-regulating effects of *uṣṇa* and *śīta* to become manifest, reflecting the primary importance of the thermal quality of a substance. Though they usually take a secondary position to the primary place of *vīrya* (hot-cold), the *guṇa* of light-heavy, wet-dry, penetrating may occasionally have a dominant effect. For example, the unctuous properties of coconut and sesame oils are more therapeutically important than their respective cooling or heating properties:

Light (*laghu*)

Plants, foods and minerals that are light have a quality that moves upwards, assist *agni*, are easily digested and also remove sluggishness and *kapha*. Primarily comprising of the elements of air (*vāyu*) and fire (*tejas*) they have a reducing (*laṅghana*) effect on the tissues. Aromatic and warming herbs often have a light quality. The bitter and astringent herbs are usually light in nature. Leaves, seeds and fruits are mainly light. The aromatic cardamom (*Elettaria cardamomum*) seeds are light.

Heavy (*guru*)

Substances that are heavy sink downwards, are difficult to digest, increase *kapha* and nourish the whole system. They benefit *vāta* by opposing its light, dry qualities. They are comprised of earth (*prthvī*) and water (*āp*) and have a building (*bṛṃhana*) effect on the tissues. Heavy natured herbs are often sweet, salty or sour. Roots, resins, nuts and barks are often heavy. Ashwagandha (*Withania somnifera*) is heavy.

Unctuous (*snigdha*)

These medicinals are soft, demulcent and oily. They are moistening, strengthening, increase virility, fertility and *kapha*. They are comprised mainly of the water (*āp*) element and have a demulcent and moistening (*snehana*) effect on the tissues. They are usually sweet, heavy and contain a high content of

mucilage or essential fatty acids. Sesame (*Sesamum indicum*) seeds and oil are unctuous.

Dry (*rūkṣa*)

Any plant with a dry quality is naturally astringent, absorbs moisture and therefore reduces *kapha* and greatly increases *vāta*. They are high in the elements of air (*vāyu*) and earth (*prthvī*) having a drying (*rūkṣaṇa*) effect on the tissues. They are usually high in essential oils and tannins and may also be heating as well (as heat dries fluids). Most plants have tannins in but certain barks and fruits are especially astringent. Arjuna (*Terminalia arjuna*) is dry.

Penetrating or sharp (*tīkṣṇa*)

Herbs with a penetrating or sharp quality are usually pungent, acrid and aromatic. They are usually high in air (*vāyu*) and fire (*tejas*) elements. They spread deeply and quickly into the tissues, open the channels and by their intense nature increase *pitta* and calm *kapha* and *vāta*. Vacha (*Acorus calamus*) has penetrating properties.

PRABHĀVA: THE UNIQUE ACTION OF A PLANT

Ayurveda includes the descriptive category of *prabhāva* or specific action. This term implies the individual action of a substance regardless of its taste, energy or post-digestive effect. It includes these concepts but is not dependent upon them. It is the specific action of a plant above and beyond its energetic classification and is described as being inexplicable (*acintya*). Its action cannot be described by its *guṇas* alone but through direct experience. It most commonly refers to the affinity a herb has for a particular region of the body or for a particular disease.

For example, tulsi (*Ocimum sanctum*) is classified as heating but it therapeutically helps to clear heat and reduce fever through diaphoresis. This means that whatever the causes of the fever tulsi is indicated and this is its *prabhāva*.

Even when herbs have the same energetic pattern they can have different actions and this defines *prabhāva*; sesame seeds (*Sesamum indicum*) and madanphala (*Randia dumentorium*) are both sweet, astringent and bitter in flavour but sesame is a tonic while madanphala is an emetic and reduces

any excess of the *doṣas*. While they have similar flavours their actions are different. Each has its own unique and individual *prabhāva*.

HERB NOMENCLATURE: SYNONYMS AND PSEUDONYMS

Prior to the advent of classical botanical classifications herbs were known by many different names according to variable yet identifiable factors; taste, smell, shape, the specific part of a plant, habitat, history or animal parts. They are also classed in certain groups according to their morphology, actions, properties and uses. Again the senses are paramount in forming the shape of ayurvedic medicine.

Box 3.4 lists some literal translations of the meaning of the herbs:

AYURVEDIC PHARMACY AND MEDICINAL PREPARATIONS (RASASĀLĀ AND BHAIṢAJYA KALPANĀ)

The ayurvedic pharmacy has developed many wonderful herbal preparations. As herbs are not readily assimilable in their 'raw' state they are usually processed to enhance absorption. The form in which a herb is taken can greatly affect its potency and effect. There are also specific preparations that are indicated for certain diseases or specific plants. A large part of ayurvedic pharmacy developed out of a need to extend the shelf-life of these delicate medicines in the hot and humid Indian climate. Along with their therapeutic effects the medicated ghees, medicated wines, gugguls

Box 3.4

Translations of the meaning of the herbs

Taste: yashtimadhu—sweet stick, amalaki—sour, mahatikta—very bitter

Smell: ashwagandha—horse-smelling, sarpagandha—snake-smelling

Shape/morphology: gokshura—cow's hoof, jatamansi—dread-locked mind herb

Colour: krishna—black, safed musali—white musali, Kali musali—black musali

Effect: kumari—princess bestowing youthfulness, brahmi—giving the nature of the universal consciousness, gumar—sugar killer

Root groups: dashmoola—ten roots

Fruit groups: triphala—three fruits

and pills retain their potency longer than fresh herbs or powders.

The main forms in which herbs are administered are listed below:

Fresh juice (*svarasa*)

The fresh juice of a plant is a favourite method of administering juicy and aromatic plants such as aloe vera, tulsi (*Ocimum sanctum*), ginger, or brahmi (*Bacopa monniera*). The dried plant can also be reconstituted by soaking one part of the plant in two parts water and leaving for 12 hours before expressing. The usual dose is 1–2 *karṣa* or 12–24ml twice a day.

Herbal paste (*kalka*)

When a fresh and whole plant is crushed it makes a paste. This is usually used for external poultices and plasters. Dry material is mixed with water. Specific vulnerary herbs are neem (*Azadirachta indica*) and bhringarja (*Eclipta alba*). When used internally 1 *karṣa* is given equal to 12g twice a day.

Herbal powder (*cūrṇa*)

When a dried plant is crushed it becomes a powder. Ayurveda has many famous *cūrṇas*; *triphala* and *trikaṭu* are both renowned *cūrṇas*. Powders are commonly used to treat internal imbalances and are prescribed at 1 *karṣa* of 12g twice a day. They are often mixed with carriers of ghee, honey, sugar, water or milk.

Decoction (*kvātha/kaṣāya*)

Ayurveda makes very strong decoctions that are the mainstay of self-administration in the home in India. They are a very effective way to take herbal medicines as so many of the active compounds in plants are water-soluble. The main disadvantage is that their shelf-life is short.

One part of coarsely ground dry herb (*kvātha cūrṇa*) by weight is added to 16 parts water by volume. This is then reduced to 4 parts of the original volume of water. You can also prepare a decoction using a quicker method at a ratio of 1:8:4 if using dry plant material. Roots, barks, stems and fruits are usually decocted. Decoctions are dosed at 2 *pālas*, equal to 96ml a day. To prepare medication for a couple of days requiring approximately 100ml a day, start with 50g of the dry herb, add to 400ml water, simmer until 200ml remains. Store in

an airtight container in the refrigerator for a maximum of two days and take cool or warm as appropriate.

This theory is expanded so that there are **milk decoctions** (*kṣīrapāka kalpanā*) where 1 part herbs is mixed with 8 parts milk and 32 parts water and simmered until the water evaporates; this is very effective for *rasāyana* treatments (e.g. *pippalī vardhamāna* where increasing numbers of long pepper fruits are taken to treat asthma) as well as for maximising extraction of lipid soluble components such as saponins (cf. *arjuna*). **Herbal stocks** (*paṇaka*) are made by simmering 1 part herb in 64 parts water reduced to half. Rice or vegetable soups are then made in this stock as a part of nourishing therapy (*br̥mhaṇa*).

Distilled waters (*arka*)

The collected vapours resulting from condensed steam; aromatic seeds and delicate flowers are often used to make these delicious herbal waters that are commonly used for the skin and emotions.

Hot infusion (*phāṇṭa*)

Delicate leaves, seeds and flowers are usually infused at a ratio of 1 part herb to 8 parts freshly boiled water. This brew is left to steep for up to 12 hours. These hot teas are used for *vāta* and *kapha* problems and are commonly prescribed at 2 *pālas*, equal to 96ml twice a day.

Cold infusion (*hima*)

A cold infusion is used for steeping very delicate aromatic leaves and flowers and in treating *pitta* disorders. One part herb is steeped in six parts water. This is usually done overnight when the cooling lunar energy is at its peak. Well-known preparations are made from guduchi (*Tinospora cordifolia*), coriander seed, jasmine flowers and sariva (*Hemidismus indica*). They are commonly prescribed at 2 *pālas*, equal to 96ml twice a day.

Herbal jams and jellies (*pāka, leha, avaleha*)

These delicious preparations are often used as tonics when there is debility. A primary ingredient is mixed with herbs, ghee and honey or jaggery. *Cyavanaprāśā* is the most famous of these preparations but there are numerous others made for specific organs; brahmi *rasāyana* for the intellect, *agastya haritaki leha* for the lungs and *bilva avelaha*

for the intestines. They are often complex formulations with elaborate preparation procedures. They are dosed from 5g up to 1 *pāla* of 48g twice a day.

Medicated wines (*ariṣṭa, āsava*) and tinctures

Decocted extracts (*ariṣṭa*) or cold infusion extracts (*āsava*) of different herbs are fermented with the flowers of dhataki (*Woodfordia fruticosa*) at a ratio of 1 part herb to 5 parts honey to 10 parts jaggery to 25 parts water. They are sealed in a wooden barrel and left to transform into nourishing medicines. They are used as tonics and to stimulate the digestive fire. They are often prescribed at doses of 1–2 *karṣa* of 12–24ml twice a day.

Although not traditionally used in Ayurveda tinctures are commonly used these days in Western countries to administer herbs. Herbs are macerated or percolated in water and alcohol with varying weights and volumes. For example 1 part herb is macerated in 5 parts menstruum at a 25% alcohol ratio for 2–4 weeks and then pressed out. The resulting extract is then stored and has a long shelf life from 1 to 5 years, depending on the herb. This ratio is written as '1:5@25%' and means that 5ml tincture is equal to 1g herb and thus the dose can be accurately measured. A tincture does have a special effect on the effect of the medication; the *uṣṇa* quality of alcohol is added to the preparation, tinctures are easily assimilated and they spread quickly round the body. They are usually taken at 1–5ml three times a day with warm water, depending on the ratio of the extract, the type of herb used and the effect desired.

Gugguls

These compounds are made with a base of purified guggulu (*Commiphora mukul*). The guggulu is boiled in a decoction of *triphalā* to remove impurities and then fried in ghee and ground to a powder. To make medicinal gugguls it is then triturated along with other herbs, fresh juices or decoctions of other complementary herbs. For example, *kaiṣor guggulu* is an anti-inflammatory preparation where the herbs and guggulu are triturated in a decoction of *triphalā* and guduchi (*Tinospora cordifolia*). Trituration grinds herbs by rubbing and pounding them into very fine particles that are easy to digest. Friction also adds its other function of removing natural and chemical impurities. This ground paste

is then baked in an oven, ground to a powder and made into pills. Gugguls are specifically detoxifying as guggulu has a scraping action that clears toxins. They are prescribed in doses of up to 3 *māṣa* of 4g twice a day.

Pills (*guṭikā, vatī*)

Pills are made by mixing powdered herbs with sugar, honey, guggul or water and then rolled into small pills. They are prescribed from 1–2 *guñja* of 125–250mg twice a day, up to 4 *māṣa* of 4g twice a day.

Alkaline extracts (*kṣara*) and *guḍūchī sattva*

The dry herbs are incinerated to an ash and then mixed with 4 parts water. This maceration is stored overnight and then strained through a cloth until there is a clear liquid. The liquid is then evaporated until a pure white solid remains. They are prescribed at a dosage of 1–2 *guñja* of 125–250mg twice a day. They are used as scraping, laxative, diuretic and digestive treatments. A similar preparation, known as a *sattva*, is made from the fresh stem of guduchi (*Tinospora cordifolia*) pulped and soaked and the resultant sediment separated and dried. It is prescribed at a dosage of 1–2 *māṣa* of 1–2g twice a day for treating fever.

Medicated ghee (*siddha ghr̥ta*)

Ghee holds a special place in Indian culture. It is the most pure essence of selflessly-given milk from the sacred cow. Unsalted butter is slowly simmered for about 20 minutes until the water portion is evaporated and the milk solids have settled to the bottom leaving the pure golden butter oil. It is sweet, cold, heavy and unctuous with a special *prabhāva* of entering all seven tissues. Benefits: sweet in taste with sweet post-digestive effect, enkindles *agni*, nourishes all seven *dhātus*, increases *ojas*, calms *pitta*, oleates the tissues, lubricates connective tissue, reduces *vāta*, carries herbs deep into the tissues, rejuvenating, benefits the eyes, clears poisons, bestows lustre, prolongs life, increases intelligence, strengthens the brain and nervous system and descends *apāna vāyu*. Do not use in *kapha* diseases with clear, white discharges and obstruction to the channels.

Medicated ghees are used to nourish the nerves and mind. As ghee is so easily absorbed into the deeper tissues it is a very beneficial vehicle that carries the herbs deep into the body. As it is so

nourishing and cooling it is often used for *vāta* and *pitta* diseases. One part herb is decocted in 16 parts water until 4 parts of the water remain. This is then mixed with equal parts of ghee and simmered until all of the water has evaporated. The whole process can also be carried out in one boiling. *Brāhmī ghr̥ta* and *Pañcatikta ghr̥ta* are renowned ghee compounds. *Ghr̥ta* are prescribed at ½–1 *karṣa* (also known as a *tola*) of 6–12g twice a day.

Medicated oil (*siddha taila*)

Made the same way as ghee (1 part herb:4 oil:16 water) these decocted oils are used for massage and healing wounds, strengthening bones, as hair tonics, skin treatments, medicated enemas, vaginal douches. They are used at doses of 1–4 *prasthas* equal to approximately 750–3000ml per treatment. They are also used for nasal administration to clear sinus conditions where they are prescribed at drop doses between 2–10 *bindu*. They can also be taken internally, such as when maharayan oil is used to clear asthma.

Minerals (*rasasāstra*)

A large percentage of the ayurvedic pharmacopoeia is of mineral and metallic origin and many formulas contain some minerals. Their appearance in ayurvedic medicine (c.800CE) marks a coming together with the tantric tradition. The ayurvedic goal of long life becomes intermingled with the tantric yogic goal of immortality. Alongside this esoteric union is the clear fact that minerals are stronger than herbs, have a longer shelf-life and are very effective. Mineral preparations are usually ‘killed’ (*marāṇa*) by being calcified in very hot fires, dipped in purificatory (*śodhana*) fluids (cow’s urine, herb decoctions or sesame oil) and then ground to the finest powdered ash (*bhasma*). The number of heatings or *pūta* treatments indicates the quality of the *bhasma* and this can range from 10 to 1000 cycles! They become oxides or sulphides that are chemically unreactive. This means that they are not soluble and they are either totally or relatively chemically unreactive on the tissues. They are catalysts that spark a healing process. From mercury, gold and diamonds to iron and eggshell innate materials are transformed from their ‘raw’ state to potent medicines. They are prescribed at low doses from ½–4 *guñja* of 62.5–500mg twice a day. Refer to Bhagwan Dash’s ‘Alchemy and metallic medicines in Ayurveda’ for further details of this vast subject.

HERBAL CARRIERS (ANUPĀNA)

This is the idea that certain substances either act as catalysts or messengers to the main active herb and help carry them to certain parts of the body. The carriers are either mixed with or taken alongside the medicine. Known as an *anupāna* they are the medium that carries the herbs to their intended destination and enhances or moderates their effect. Milk, water, ghee, oil, herb juices, sugar, salt and honey are all used as vehicles.

- Milk counteracts *pitta* and also encourages the nourishing effect of ashwagandha (*Withania somnifera*) or shatavari (*Asparagus racemosus*)
- Water when hot encourages *agni*, clears *āma* and reduces *vāta* and *kapha*
- Water when cold reduces *pitta*
- Ghee carries the herbs deep into the tissues, nourishes the nervous and reproductive systems and it also has a catalytic (*yogavāhi*) effect on the herbs that helps to potentise them
- Aloe vera (*Aloe barbadensis*) carries herbs to all the tissues with a special affinity for the plasma, blood and reproductive tissues
- Honey clears *kapha* due to its warming astringency and is often used with herbs that treat the lungs and congested mucus conditions. It stimulates the appetite and prevents excessive excretions. It acts as a *yogavāhi* substance that enhances the activity of the herbs taken with it. It can aggravate *pitta* and this is alleviated by using double quantities of ghee.

The herbs ride on these carriers like the scent on the wind. Using an *anupāna* can enhance the potency of a preparation as well as facilitating its journey to the intended destination.

QUALITY CONTROL

It is relevant to point out the importance of quality control in all aspects of herbal medicine harvesting, processing and manufacture. The primary points of consideration are sustainability, efficacy and safety. This was abundantly clear to early Ayurvedins and the ayurvedic texts make reference to the nature of ideal medicinal collection:

The herbs should be gathered on a good day by someone in a good state of mind who is clean, facing the sun, silent and who has paid homage

in his heart to the god Shiva. When collecting from normal land, one should choose one's ingredients from the higher ground. Medicinal herbs which grow on termite hills, in dirty places, in bogs, in cemeteries, salty ground, or on the streets, are not effective. Nor are those which have been affected by parasites, fire or frost.

Śārṅghadhara Saṃhitā

Herbal medicine is now being legislated by central governments all over the world in an attempt to raise the quality of production standards. The World Health Organisation has set standards on quality control methods for medicinal plants and individual nations have also set legal standards that herbal products must meet; good manufacturing practice (GMP) with standards akin to the pharmaceutical industry. GMP is a system that includes assurances, checks and procedures to ensure appropriately safe and effective medicinals are released for therapeutic purposes. These are checks on quality and purity (Box 3.5).

DOSAGE (MĀTRA VICĀRA)

The medicinal dose depends as much on the specific nature of the herb you are using as on the person's age, sex, constitution, digestive capacity, strength, stage of the disease and the season in which the treatment takes place (see Table 3.5 and Boxes 3.6 and 3.7).

AYURVEDIC PLANT ACTIONS (DRAVYA KARMA)

Medicinal substances are classified according to groups that have different physiological actions. The *Caraka Saṃhitā* lists 50 groups of 10 herbs and the *Bhāvaprakāśa Saṃhitā* 24 such categories. These ayurvedic pharmacological concepts offer deep insight into how herbs work to balance the *doṣas*, *dhātus*, and *malas*. They tie together the concepts of taste (*rasa*), energetics (*vīrya*) and post-digestive effect (*vipāka*) as well as incorporating *prabhāva* so that we can have a clear understanding of the primary action of the herb. The list below contains some of the most popular categories listed throughout the ayurvedic literature.

- *Abhiṣyandi*: These substances block the channels and cause heaviness. The flow of *rasa*

Box 3.5

Good manufacturing practice

- Appropriate botanical identification in the field to ensure correct species
- Sustainability of harvesting practices (see below)
- Correct harvesting times to maximise active ingredients
- Correct drying to optimise vitality and maximise marker compound ingredients
- Validation of storage facilities, equipment and processes
- An effective quality-control management system
- Standard operating procedures (SOP) in place for every process of storage, quarantine, manufacture, batch identification, batch traceability, stability testing, releasing products, recording complaints and recall procedures
- Correct species identification and quality determination using pharmacopoeial recommendations including macroscopic analysis, microscopic analysis, foreign matter, ash tests, moisture content, thin layer chromatography (TLC), high performance liquid chromatography (HPLC) and gas chromatography (GC)
- Organoleptic tests to ensure the 'feel' is correct; visual identity, colour, smell, friability
- Microbiological analysis
- Heavy metal and pesticide analysis
- Marker compound testing
- Appropriate analysis of the above information to ensure that the intended product is released in a consistent and repeatable form

is hindered and stagnation occurs when too much of these substances is used. They are mainly unctuous and heavy in nature; e.g. yoghurt obstructs the flow in the channels.

- **Anuloma:** These herbs help *vāyu* to move in its appropriate direction. They are often mild aperients and help with flatulence and constipation. They are usually aromatic and carminative herbs, commonly from the *Umbelliferae* family, such as fennel seed (*Foeniculum vulgare*) or ajmoda (*Apium graveolens*).
- **Arśoghna:** These are antihæmorrhoidal remedies such as chitrak (*Plumbago zeylanicum*) or ginger (*Zingiber officinale*).
- **Artava janana:** Herbs promoting the menstrual flow such as myrrh (*Commiphora myrrha*).

TABLE 3.5 The effect of dosage on the tastes

Sweet	
Low dose	Restores homeostasis
Medium dose	Nourishes <i>vāta</i> , has a mild laxative action and cools <i>pitta</i> via its anti-inflammatory effect
High dose	Calms the CNS, alleviates <i>vāta</i> and relieves pain while also aggravating <i>kapha</i> and <i>āma</i>
Sour	
Low dose	Stimulates the appetite but may aggravate <i>pitta</i>
Medium dose	Moistens dryness and benefits <i>vāta</i> but aggravates <i>pitta</i>
High dose	Contracts the organs
Salt	
Low dose	Stimulates digestion and can aggravate <i>pitta</i>
Medium dose	Moistens dryness but can aggravate <i>kapha</i> and is a mild laxative thus benefiting <i>vāta</i>
High dose	Breaks accumulations, can cause vomiting and aggravates all three <i>doṣas</i>
Pungent	
Low dose	Stimulates digestion and increases <i>agni</i>
Medium dose	Stimulates circulation, penetrates the tissues and can aggravate <i>pitta</i>
High dose	Causes sweating, dries <i>āma</i> and dries fluids, therefore aggravating <i>vāta</i> and <i>pitta</i>
Bitter	
Low dose	Stimulates digestion, clears <i>kapha</i> and awakens the nervous system
Medium dose	Detoxifies the liver and blood and reduces <i>āma</i>
High dose	Drains downwards through the bowel and bladder, cools the system, clears <i>pitta</i> , slows digestion and aggravates <i>vāta</i>
Astringent	
Low dose	Cleans the mucus membranes and clears <i>kapha</i> and <i>pitta</i>
Medium dose	Holds tissues and organs in place
High dose	Binds and constricts the movement of blood, liquids and <i>prāṇa</i> in the channels, thus aggravating <i>vāta</i>

Box 3.6**General principles of dosage**

Low dose (0.5–3g of herb powder) balances the natural function of the *doṣas* and influences the emotional system

Medium dose (3–9g) stimulates a specific therapeutic effect that treats a systemic imbalance

High dose (9–30g) either drains toxic accumulations or tonifies the whole system

Box 3.7**General dosage levels****Adults (12–60 years old)**

Tea: hot infusion (*phāṇṭa*) 30–96ml of a 1:8 infusion twice daily

Tea: cold infusion (*hima*) 30–96ml of a 1:6 infusion twice daily

Tea: hot decoction (*kvātha*) 30–96ml of a 1:16 reduced to 4 parts two to three times daily

Pills/tablets/gugguls: 250–500mg two to three times daily

Tincture: average dose of 1–10ml of a 1:5 ratio three times daily or 1–9ml of a 1:3 ratio three times daily.

Children (5–12 years old)

$\frac{1}{4}$ – $\frac{1}{2}$ adult dose or divide age at next birthday by 24 to give fraction of dose (this is known as Cowling's dose)

Babies and young children (0–5 years old)

$\frac{1}{5}$ –2 tsp of tea three times daily or give the herbs to the breastfeeding mother 20 minutes prior to breastfeeding.

black pepper (*Piper nigrum*) all help to detoxify the deeper tissues.

- *Balya*: This means strengthening and these herbs are tonics. They are usually heavy and filled with the earth element, like bala (*Sida cordifolia*).
- *Bhedanīya*: These are purgative herbs that forcibly expel the solid and liquid parts of faeces. Kutki (*Picrorrhiza kurroa*) has this effect at a high dose.
- *Bṛṃhaṇīya*: These are nourishing herbs that are full of the water element; e.g. shatavari (*Asparagus racemosus*).
- *Caṣṣūya*: These herbs improve eyesight; e.g. amalaki (*Emblica officinalis*).
- *Chhardi nigrahaṇa*: These are antiemetic herbs such as fresh ginger (*Zingiber officinale recens*), pomegranate juice (*Punica granatum*) or cardamom (*Elettaria cardamomum*).
- *Chedana*: These herbs actively draw out toxins by scratching them from the tissues; guggulu (*Commiphora mukul*), shilajit (*Asphaltum*) and black pepper (*Piper nigrum*) all help to detoxify the deeper tissues.
- *Dāha praśamana*: These herbs alleviate burning sensations in the body, such as sandalwood (*Santalum album*) or coriander (*Coriandrum sativum*).
- *Dīpanīya*: These herbs enkindle the digestive fire. They indirectly digest *āma*. They are usually pungent, hot and dry; e.g. long pepper (*Piper longum*), black pepper (*Piper nigrum*) and chitraka (*Plumbago zeylanicum*).
- *Garbhāśaya*: These herbs have an affinity for the uterus, such as ashoka (*Saraca indica*) and roses (*Rosa centifolia*).
- *Grāhi*: These herbs dry the moisture of the body and of the wastes; ginger (*Zingiber officinale*), cumin (*Cuminum cyminum*).
- *Hikka nigrahaṇa*: These herbs are antihiccup such as clove (*Syzygium aromaticum*).
- *Hṛdaya*: These herbs have a tonic effect on the heart; arjuna (*Terminalia arjuna*) and ashwagandha (*Withania somnifera*).
- *Jīvanīya*: These herbs are life-giving and rejuvenative herbs such as amalaki (*Emblica officinalis*).
- *Jvarahara*: These are antipyretic herbs for stopping fevers including musta (*Cyperus rotundus*) and kalmegh (*Andrographis paniculata*).
- *Kaṇḍūghna*: These are antipruritic herbs such as peppermint (*Mentha piperita*), turmeric (*Curcuma longa*) and musta (*Cyperus rotundus*).
- *Kāṇṭhya*: These herbs are renowned for their affinity for the throat; e.g. licorice (*Glycyrrhiza glabra*), long pepper (*Piper longum*).
- *Kāśahara*: These are antitussive herbs such as vasaka (*Adhatoda vasica*) or long pepper (*Piper longum*).
- *Kṛmighna*: These herbs are specifically for removing parasites and worms; e.g. neem (*Azadirachta indica*) or kalmegh (*Andrographis paniculata*).
- *Kuṣṭhaghna*: These are herbs that treat skin diseases such as neem (*Azadirachta indica*) or manjishtha (*Rubia cordifolia*).
- *Lekhanīya*: These herbs 'scrape' the waste residues out of the body by a drying action. They are usually bitter and pungent in flavour; for example guggul (*Commiphora mukul*), myrrh (*Commiphora myrrha*), vacha (*Acorus calamus*), turmeric (*Curcuma longa*), triphala, barley and honey.
- *Madakāri*: These are substances that cause intoxication, such as alcohol.
- *Madhya*: Anything that nourishes the mind and intellect, e.g. brahmi (*Bacopa monniera*).

- *Mūtra saṁgrahaṇīya*: These herbs reduce the flow of urine such as bhallataka (*Semecarpus anarcadium*).
- *Mūtravirecana*: These herbs are diuretics that increase the flow of urine, such as gokshura (*Tribulus terrestris*) and coriander (*Coriandrum sativum*).
- *Nidrājanana*: These herbs promote sound sleep; e.g. tagarah (*Valeriana wallichii*), ashwagandha (*Withania somnifera*).
- *Pācana*: These herbs directly 'digest' āma. They do not necessarily stimulate digestion as well; e.g. triphala.
- *Prajāsthāpana*: These herbs prevent miscarriage such as ashoka (*Saraca indica*).
- *Pramāthī*: These herbs remove the accumulated doṣas from the dhātus and cells; e.g. vacha (*Acorus calamus*) and black pepper (*Piper nigrum*).
- *Puriṣasaṁgrahaṇīya*: These are intestinal astringents that stop diarrhoea such as bilva (*Aegle marmelos*).
- *Rakta śodhana (rakta prasādana)*: These herbs specifically clean the blood and 'alter' its chemistry so that it does not cause inflammatory problems; e.g. manjishta (*Rubia cordifolia*).
- *Recana*: These herbs are cathartics. They forcibly expel faeces as semi-solid diarrhoea; e.g. castor oil (*Ricinus communis*) or rhubarb root (*Rheum palmatum*).
- *Rasāyanī*: These herbs rejuvenate the cells and extend life. They are antioxidants and also remove diseases; e.g. guduchi (*Tinospora cordifolia*), amalaki (*Emblia officinalis*) and haritaki (*Terminalia chebula*).
- *Samjñāsthāpana*: These herbs are used to restore consciousness; e.g. vacha (*Acorus calamus*).
- *Sandhānīya*: These herbs heal broken bones and hasten the repair of broken bone tissue. Guggulu (*Commiphora mukul*) is famous for this. Resins have a significant role here because resins in general are considered to relate to the blood part of plants just as the bark of trees is said to relate to bone tissue. The analogy is that just as resin heals the bark so it heals the bone. They also encourage circulation to flow to the wounded part of the body and hasten healing.
- *Śamana*: These are herbs that reduce the pathogenic level of a doṣa to a more healthy level. The doṣa is not expelled from the body, it is calmed. These are 'palliative' herbs, e.g. guduchi (*Tinospora cordifolia*).
- *Śirovirecana*: These are herbs that clear the orifices of the head, also known as errhines. Such herbs are vacha (*Acorus calamus*) or cloves (*Syzygium aromaticum*).
- *Śodhana*: These herbs actually clear the excess doṣas out of the body, e.g. triphala, castor oil (*Ricinus communis*) or manjishta (*Rubia cordifolia*).
- *Sonita sthāpana*: These are haemostatic herbs such as manjishta (*Rubia cordifolia*).
- *Sraṁsana*: Herbs that are laxatives and clear faeces before complete digestion is complete, e.g. trivrut (*Operculina turpethum*).
- *Śūla prasāmāna*: These are anticolitic herbs that prevent intestinal spasms; e.g. hingu (*Ferula asafoetida*) or cumin (*Cuminum cyminum*).
- *Śukrāla*: Herbs that increase semen and/or give force to its ejaculation, e.g. amalaki (*Emblia officinalis*), ashwagandha (*Withania somnifera*) and shatavari (*Asparagus racemosus*).
- *Śukra janana*: These are sperm-increasing herbs; ashwagandha (*Withania somnifera*) and safed musali (*Asparagus adscendens*).
- *Śukra śodhana*: These herbs purify the sperm such as gokshura (*Tribulus terrestris*).
- *Snehopaga*: These are moistening herbs such as castor oil (*Ricinus communis*) or tila/sesame (*Sesamum indicum*).
- *Stambhana*: These are astringent herbs that are constipating, stop bleeding and are drying. They have the properties of vāta and so increase it. Manjishta (*Rubia cordifolia*) is a renowned astringent that stops bleeding diseases.
- *Stanya janana*: These herbs can increase lactation; e.g. fennel (*Foeniculum vulgare*) and shatavari (*Asparagus racemosus*).
- *Stanya śodhana*: These herbs purify the breast milk, e.g. fennel (*Foeniculum vulgare*) and musta (*Cyperus rotundus*).
- *Sūksma*: These herbs are penetrating herbs that can travel through the minutest channels, such as salt, neem oil (*Azadirachta indica*) and gotu kola (*Hydrocotyle asiatica*).
- *Śvāsahara*: These herbs prevent breathing difficulties such as somalata (*Ephedra vulgaris*) and vasaka (*Adhatoda vasica*).
- *Svedopaga*: Herbs that induce sweating, e.g. vasaka (*Adhatoda vasica*).
- *Trptighna*: These herbs are thirst-quenching, e.g. amalaki (*Emblia officinalis*).
- *Udara prasāmāna*: These are antiallergenic herbs, e.g. pit shirisha (*Albizzia lebbek*).

- *Vājīkaraṇa*: These are aphrodisiacs that increase sexual desire, strengthen the reproductive system and nourish *śukra dhātu*; e.g. kapikacchu (*Mucuna pruriens*), ashwagandha (*Withania somnifera*).
- *Vamana*: These are emetic herbs. They work specifically on *pitta* and *kapha* that have accumulated in the stomach. They move upwards and outwards. High doses of licorice (*Glycyrrhiza glabra*) are emetic as is madanphala (*Randia dumentorium*).
- *Varṇya*: These herbs benefit the complexion and skin lustre, e.g. aloe vera (*Aloe barbadensis*), sandalwood (*Santalum album*) or rose water (*Rosa centifolia*).
- *Vedanā-sthāpana*: These are analgesic herbs, e.g. cloves (*Syzygium aromaticum*) or ashoka (*Saraca indica*).
- *Vikāsi*: These herbs destroy the tone of the joints by loosening the ligaments, e.g. betel nut (*Areca catechu*).
- *Virecana*: These herbs are purgatives that move downwards. They dissolve undigested foods and expel them, e.g. haritaki (*Terminalia chebula*).
- *Viṣaghna*: These are antitoxin herbs that destroy 'poison' in the system, e.g. neem (*Azadirachta indica*), kutki (*Picrorrhiza kurroa*) and sariva (*Hemidismus indica*).
- *Vyavāyī*: These herbs spread everywhere in the body and are then digested, e.g. ganja (*Cannabis indica*) and opium (*Papaver somniferum*).
- *Yogavāhī*: These are catalyst herbs. When they are mixed with another herb they enhance its action, e.g. ginger (*Zingiber officinale*), honey and ghee.

HERB SOURCING

A brief comment regarding the sourcing of herbs: as the popularity of Ayurveda and natural medicine grows, along with the massive increase in global population, the burden on nature increases. One of the primary reasons for this is that many herbs are still harvested from the wild and there is such a financial pressure on many wild collectors to over-harvest that this is disrupting traditional practices on sustainable harvesting.

In order to be responsible when using herbs, firstly ensure that your supplier or herbal practitioner has a policy on only purchasing material from sustainable sources and is aware of the national and international laws regulating the trade of certain species. Secondly, become aware of the species that are

endangered, under pressure and that should not be used. Organically-certified herbs that are wild-crafted have to be collected under strict guidelines that ensure the sustainability of indigenous populations, (e.g. The Soil Association's Standards on Wild Collection). The Convention on International Trade in Endangered Species (CITES) lists the flora and fauna that are regulated for trade. It divides the species into three categories (only examples of medicinal used in Ayurveda are given here):

Appendix 1 includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances (i.e. sustainably grown).

- Kasturi (*Secreto moschus*)
- Kushtha (*Saussurea lappa*)

Appendix 2 includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilisation incompatible with their survival.

- Papra (*Podophyllum hexandrum*)
- Red sandalwood or rakta chandana (*Peterocarpus santalinus*)
- Sarpagandha (*Rauwolfia serpentina*)
- Chingali (*Dioscorea deltoidea*)
- Agar (*Aquilaria malaccensis*)
- *Aloe ferox*

Appendix 3 contains species that are protected in at least one country, which has asked other CITES parties for assistance in controlling the trade

- Jatamamsi (*Nardostachys jatamansi*)
- Kutki (*Picrorrhiza kurroa*)

Please follow these guidelines. There are many reputable suppliers and I have listed some of them in the resources guide at the back of the book. It is up to us as herbalists and herbal medicine users to help protect the sustainability of herbal medicines. Without this awareness and discipline there will not be the tools with which to apply the incredible pharmacology and energetics of Ayurveda.

SAFETY AND CONSERVATION OF THE AYURVEDIC PHARMACOPOEIA

The sustainability of herbal medicines is a very important issue and is affecting all users of herbal remedies. In January 2004, Alan Hamilton, a plant specialist at the World Wildlife Fund, released a

paper on the threat to the herbal community faced by the indiscriminate over-harvesting of medicinal herbs (Hamilton 2004). In this paper he notes that approximately 75% of all herbs that are used in herbal medicine come from the wild. He also stated that there are 50 000 species used as medicines around the world and that 10 000 are threatened; this means that a staggering 20% of all herbal species used throughout the world are under threat. So is there a future for herbal medicine or will the *dravyaguṇa śāstra* become obsolete?

Why are herbal medicines so important to us?

In medical terms the use of herbal medicines is unsurpassed; they have the function of safely strengthening the tissues, immunity and integrity of the body while also offering the potential to safely cleanse, detoxify and clear wastes from the body. Their broader value is also very significant (Box 3.8).

In a fascinating paper entitled 'Ethical revolution' written by eminent herbalist David Crowe and presented to the Dalai Lama in New York in 2003 he suggests that one way of healing human suffering as well as preventing ecological destruction is to protect herbal medicines. This will reconnect us with

Box 3.8

Importance of herbal medicines

- Herbal medicines are an integral part of nature. They help to protect and increase the biodiversity of an ecosystem.
- They are a valuable part of the human relationship with nature and enhance our connection with the planet. Up to 80% of the world's population depend on herbal medicine as the primary form of medical healthcare.
- They offer health benefits in the form of traditional medical systems, folk medical systems and shamanic healing systems (Hamilton 2004).
- They form a major resource for the healing of known and unknown diseases.
- They offer great financial benefits, with the global market being estimated at £11 billion per annum.
- They offer spiritual benefits as guides and symbols of power.
- They protect indigenous cultural values and promote cultural integrity. Having knowledge of local herbal medicines promotes cultural uniqueness, respect and value.

the natural healing patterns of nature as well as heal the endemic destruction of the natural world.

Some examples:

- *Yaṣṭimadhu* (*Glycyrrhiza glabra*) or licorice grows all over the world. A large portion of that global supply has come from China and Turkey. Licorice has been in demand for years as a soothing *pitta*-reducing anti-inflammatory. Its over-popularity and lack of controls on harvesting mean that Turkey is now suffering a shortage of wild licorice (Plantlife International 2004).
- *Jatamamsi* (*Nardostachys jatamansi*) or Indian spikenard only grows in the Himalayas at altitudes of 3500–5000m and is highly valued for its aromatic *vāta*-calming properties. Apart from its limited growing habitat it takes three years to grow to full maturity and it has been thoroughly plundered to the extent that it has been listed on the CITES list as a species to be protected from international trade unless it has been cultivated.

Box 3.9 lists some reasons for the threat to herbal species.

Box 3.9

Why is there a threat to herbal medicines?

- It is estimated that the ayurvedic pharmacopoeia includes upwards of 1250 species with approximately 300 of these in regular demand. In India and Sri Lanka most herbs come from the wild. That is, in excess of 90% of herbal material used in Ayurveda comes from the forests, mountains and plains of the Indian sub-continent. This figure is based on comparative harvesting figures available from China and Europe where greater levels of herbal medicinal production occur (see Schippmann et al. 2002). That is a heavy burden for nature to bear.
- In other parts of the world there is similar pressure with 80% of species coming from the wild in China and up to 99% in Africa (Williams 1996, Schippmann et al 2002).
- There is increasing pressure on natural habitats as global population increases.
- There is increased financial pressure on low-income communities and herbal medicines offer a viable source of income.
- It is very difficult to monitor herbal collection.
- Global demand has sky-rocketed in the last decade with demand increasing by 10–20% per annum.
- There is relatively little cultivation of herbal medicines.

Why do herbs come from the wild?

- That is their natural habitat.
- They often require very specific habitats and may be difficult to cultivate.
- Herb prices are actually very low and so there is a lack of incentive for farmers to grow herbs as they can receive a greater income from conventional food crops.
- They are a relatively accessible source of income to people without land or a regular job. In the higher altitude region of Nepal 100% of the families harvest herbs and it can account for 15–30% of their income.
- Some authorities consider herbs grown in the wild to be more potent and this is reflected in the higher price of up to 30% more being paid for wild collected American ginseng (*Panax quinquefolium*) in China as opposed to cultivated.

What can be done?

The World Health Organization has recently released its recommendations for Good Agricultural Collection Practices (GACP) and these could be implemented in law on a national level. Governments could include sustainability clauses in legal documents to ensure that the supply of herbal medicines is sustainable. Cultivation could be encouraged to ensure that extra burdens on the wild are reduced. Sustainable wild harvesting projects could be established. This would involve working with the plant collectors, liaising with government officials, and establishing a relationship with the forest department.

A crucial part of sustainable wild harvesting is the use of Wild Collection Plant Monographs. This idea has been drawn up by Klaus Duerbeck, a consultant of SIPPO (a Swiss environmental consultancy) and implemented successfully in Europe. A resource study is carried out to determine which species thrive in a given area, what is the population density, what needs to be harvested and when and how regularly crops can be harvested without damaging resources.

I strongly believe that certification is needed to protect the future of herbal medicines. This certification would inform the consumer whether herbs have been sustainably grown and harvested. At present organic certification offers one solution to the lack of an international standard and this is the

route I support by using products certified by the Soil Association or other similar certification agencies. Uncertified products are more likely to have come from an unsustainable source.

An example of a sustainable management system

The working document should acknowledge that the key for successful sustainable harvest/collection over time is adaptive management, i.e. management systems that are well-informed of the situation on the ground and can react quickly and appropriately in the light of possible threats to sustainability.

1. All herbs considered for collection to be checked against local, national and international legislation and action plans including CITES.
2. Herbs 'Critically endangered' on the International Union for the Conservation of Nature (IUCN) Red List cannot be collected. Cultivation is the only option.
3. An integrity management plan to be established, maintained and documented. The plan should be reviewed annually. Adaptive management is required in line with the findings of the integrity management plan to ensure sustainability of herbal medicines into the future.

Integrity Management Plan to cover:

1. Named responsible person taking responsibility for the operation and maintenance of the system.
2. Collecting and harvesting areas: maps and approximate hectareage. Areas used for collection must be:
 - a. geographically identified and detailed on appropriate maps
 - b. a minimum of 10m from conventional farming areas
 - c. 25m from major roads, 10m from minor roads
 - d. an appropriate distance from other sources for contamination/pollution.
 - e. collection areas should be away from paths/trails to maintain the ambience of an area.
3. Written procedures to check IUCN status of herbs considered for collection, plus a justification for the harvesting of 'endangered' or 'vulnerable' species.
4. Ecological resource assessment survey for each species being harvested, to include:
 - a. details of ability to sustain the level of harvesting proposed
 - b. re-growth patterns for each species

- c. impact of collection on other species in the collection area
 - d. sustainability of annual yield and maximum collection levels to be set
 - e. definition by the operator of the sustainable annual yield
 - f. general ecological impact of the collection operation and potential threats to biodiversity.
5. A register of all collectors/harvesters (including farmers collecting from their own land) involved. List of groups or organisations of collectors (if relevant) including responsible person and management structure.
 6. A harvesting plan for each harvesting operation, which should detail:
 - a. person responsible for the operation
 - b. the collectors/harvesters involved
 - c. identification of other users or harvesting operations in the same area plus measures to ensure operations are coordinated (i.e. not all harvesting the same patches)
 - d. controls on collecting/harvesting: appropriate time of year for harvest, geographical area, species identification by the harvesters, possible plants that may be confused with the correct species, harvesting protocols, quantities, species and qualities
 - e. the environmental management of the operation to ensure:
 - the maintenance of the species being collected
 - that the natural plant community including other species in the area is minimally affected/disturbed
 - that the sustainable yield of the area is not exceeded
 - that the surrounding areas are not damaged through careless access or other activities associated with the operation
 - f. statement of action plan when it is felt that the sustainable yield may be exceeded.
 7. A training programme for all collectors/harvesters including:
 - a. plant and species identification
 - b. quality standard required for each species collected (i.e. time of year to be harvested, part of plant to be harvested, volume to be harvested, replanting schedule)
 - c. life cycle of plants
 - d. hygiene
 - e. food safety where appropriate.
 8. Procedures for appropriate and ongoing monitoring of collection/harvesting operations to ensure sustainability of the area and species concerned. Procedures for identifying, acting on and recording any foodborne diseases contracted by collectors/harvesters (e.g. 24-hour stomach bugs) so they don't collect during illness.
 9. Hygiene procedures to ensure all equipment is clean and free from remnants of previously-harvested plants.
 10. Procedures for taking samples of harvested materials and recording and storing them. Batch size for keeping samples depends on scale, length of harvesting operation—due diligence must be shown. The definition of the specification of a batch of herbs should be detailed—how large a sample for how large a batch. Samples of each batch harvested should be taken in line with sample size requirement, recorded and stored to ensure traceability.
 11. Record-keeping systems adequate to maintain traceability from harvest to point of sale.

Details of managerial responsibility for each harvesting operation:

The manager for each harvesting operation must:

- Be clearly identified and be familiar with the collecting area in question
- Have written authorisation from relevant local/national regulatory bodies or whatever is appropriate
- Ensure cooperation and coordination with any other collecting/harvesting activities in the area concerned
- Ensure plants are correctly identified to avoid mistaken collection of rare or non-target species
- Have an agreement with collectors/harvesters including what is being harvested and how this is carried out.

Details of general standards for collection/harvesting:

- Collection/harvesting must be carried out at appropriate times of year to maximise the effective use of the plant resources and to minimise environmental impact
- Collection/harvesting must be restricted to the plant parts required wherever possible. Collectors should be encouraged to take from the site only those parts of the plant required, to minimise fertility depletion

- Collection/harvesting must be done in a manner that is appropriate for each species, in a way that is regenerative not degenerative
- If plants reproduce by seed or spore, sufficient plants must be left to mature (to reach the reproductive age and/or to produce seed/spore)
- If plants reproduce by corms or bulbs, sufficient must be left in an area to sustain the species
- If plants reproduce by root or rhizome and it is these parts that are being collected, then sufficient numbers must be left in the ground for future sustainable re-growth, or rootlets and rhizomatous material must be replanted
- Never replant an area with rootlets/rhizomatous material beyond the natural density that existed prior to collection/harvesting
- If bark is collected, some form of management is required. It must be collected in a manner appropriate to the species. Harvesting from recently fallen trees is permitted. Harvesting bark from trunks of living trees is restricted/prohibited. If bark is being harvested from living trees, it should be removed from the limbs, not the trunk. Harvest by hand not by machine
- Care must be taken to allow sufficient numbers of mature plants to remain after harvesting/ collection to maintain the ecological integrity of the collection area
- Damage to neighbouring species, especially rare or threatened species should be avoided. Special care must be taken with species that grow together in a symbiotic relationship or otherwise depend on each other, or where similar species are growing in close proximity
- Collection/harvesting operations that may lead to erosion must be avoided.

General standards on the approach to collection versus cultivation

- Where collection from gardens/farms/wild cannot meet the high market demand without affecting sustainable yield, cultivation should be promoted
- Where it is found difficult to maintain consistent quality from collection from farms/gardens/wild, cultivation should be promoted
- Where collection from widely dispersed plants is not viable for commercial collecting, cultivation should be promoted

- Where plants are critically endangered, endangered, or rare, cultivation should be undertaken to reduce the threat to wild populations and to increase the genetic diversity of the species locally. Care should be taken that cultivation of such plants does not reduce the genetic diversity of the cultivated population.

Standard on communities in herb growing areas

Care must be taken to ensure that the commercialisation of medicinal plant collection and production is a vehicle for positive community improvement, and that it does not create social inequalities within communities (see Acknowledgement). The future for the ayurvedic community and our use of herbal medicines depends upon these communities.

As a community I suggest that we add a code of practice to our regulatory standards on a country-by-country basis. This will include a firm commitment of ayurvedic practitioners to strive to use herbs that are sustainably grown or sustainably collected and to not use herbs on the CITES or 'Red' list.

As herbalists we are in a position of responsibility with regard to what we can and cannot use in our clinics. We are bound by professional codes of conduct with regard to following the law as it stands in the UK. This means that we are restricted from using certain herbs in our practice. In the UK the great vidanga (*Embelia ribes*), sarpagandha (*Rauwolfia serpentina*) and somalata (*Ephedra vulgaris*) are either banned, off limits to herbalists or dosage is regulated. This we have to accept.

I believe that by greater representation through professional bodies and through attaining statutory self-regulation we may be able to influence the availability of these herbs in the future. The same recommendation stands for ayurvedic practitioners the world over.

With regard to the products that we can buy we have a choice and we can influence suppliers to raise their standards. Buying sustainably-harvested and organic material fulfils the ayurvedic objectives of helping patients' health while benefiting the health of the planet.

To conclude, the majority of species are not on the verge of extinction but they are threatened. We, as

representatives of the herbal and ayurvedic community and carriers of the ayurvedic heritage, must make sure that we act in a truly ayurvedic fashion and help to prevent disease before there is a problem and to conserve without damaging our future. We could follow the example of the *Vṛkṣāyurveda* (the Science of Plantlife), a c. 16th century text by Surapala: 'Knowing this truth one should undertake planting of trees since trees yield the means of attaining *dharma* (life duty), *artha* (wealth), *kāma* (pleasure) and *mokṣa* (enlightenment)'.

Protecting nature protects us!

SAFETY: USING HERBS AND PHARMACEUTICAL MEDICATIONS TOGETHER

Because of the primary use of the allopathic medical model and the 'last resort' desperation of patients seeking herbal medicine treatment it is rare to see someone who is not taking pharmaceutical medication. This places herbal medicine at a historical junction where practitioners have to consider the effect of different types of medicines potentially or actually interacting with each other. These interactions may be positive, neutralising or negative, causing exaggerated, toxic or diminishing effectiveness and we as practitioners must be aware of them.

'Interactions' refers to the scenario when two or more medicines may alter each other's action or bioavailability. The concern is when an 'adverse' interaction takes place. This may be a drug–drug, drug–herb or herb–herb interaction. It may be 'positive', 'negative', 'high risk' or 'low risk'. In Ayurveda, examples of positive interactions may be where ginger, black pepper and long pepper are combined to enhance their heating and mucus-reducing effects. At other times extremely bitter and cold herbs are combined with warmer herbs to positively offset any extreme effects; the use of neem with ginger is a common example of this. This is positive synergy and the result of skilled and appropriate herbal prescription formulation.

This idea of the compatible nature of different herbs is prevalent in Ayurveda. There are many foods and herbs that are considered to be incompatible (*viruddha*). This is based on either a quanti-

tative incompatibility, an energetic incompatibility, or functional incompatibility. For example, ghee and honey should not be used in equal proportions by weight, lemons (sour) and milk (sweet) should not be used due to conflicting tastes and temperatures, and laxatives and astringents should not be used together as one will negate the activity of the other. This concept is further pursued in Ayurveda so that lifestyle is not incompatible with age, environment, climate, season, diet, customs or state of health. This further evolves into using appropriate medication that is compatible with the diagnosis, the plant's dosage range, the patient's inherent strength and the plant's unique properties. Following these rules reduces the chance of any unwanted side-effects.

Within the clinical setting there is increasing concern regarding drug–herb interactions as more and more patients are concurrently taking herbal and pharmaceutical treatments. As health practitioners it is our duty and privilege to care for our clients, hence we must monitor all aspects of their treatment and this includes all potential drug–herb interactions. In an attempt to highlight any potential risks the examples mentioned below are both theoretical and actual. In a clinical setting, every interaction will depend on the individual constitution of the person taking the substance including their age, sex, body weight and basal metabolic rate. Appropriate diagnosis and herbal prescribing will minimise any potential risks. It is always advisable to communicate with the patient's medical doctor regarding the use of herbs, and if any adjustment to the dosage or prescription of pharmaceutical drugs needs to be made it should be carried out only on the advice of a medical doctor.

These interactions can be divided into two categories; pharmacokinetic and pharmacodynamic.

Pharmacokinetic interactions

Pharmacokinetic interactions are based on the availability of herb or drug active ingredients in relation to their absorption, distribution, metabolism and elimination. Pharmacokinetic interactions affect what the body does to the drugs or herbs.

Absorption

Absorption refers to the assimilation of herbs or drugs into the body. This occurs via the skin,

lungs, rectum, uterus, and, primarily, via the digestive tract.

Stomach acidity

Drugs that reduce the production of stomach acid (antacids that neutralise, decrease or inhibit acid production) may also reduce the digestibility of herbs. The solution is to take the medications at least two hours apart. Certain herbs that improve digestion may increase the uptake of certain medications (both herbs and pharmaceuticals included) with ginger (*Zingiber officinale*) being a well-documented example.

Motility

Drugs that slow or hasten gastrointestinal motility may either increase or decrease the absorption of herbs. Conversely, herbal bulk laxatives may reduce the absorption of drugs. The remedy is to take the medications apart and it may be necessary to consider adjustment of dosage.

Distribution

Distribution refers to the specific area a medicinal needs to work on. The tropic affinity of herbs for certain organs is one of the arts of herbal medicine; the skill of herbal formulation is to 'aim' a prescription at a certain system. With regard to drugs it is very difficult to assess the potential of drug-herb interactions apart from if there is a very narrow range of safety index and the drug is highly protein-binding; warfarin and phenytoin are two such examples.

Metabolism

Many drugs and herbs are metabolised in the liver, after which they become inactive. If liver metabolism increases then the active ingredients are 'digested' more quickly and therefore have a less enduring effect. This effect is not instantaneous as drugs that enhance liver metabolism do not have an immediate effect; an increase in liver metabolism can take some weeks to occur. So, if using medication that speeds up liver metabolism it may be necessary to use a higher dose of herbs to gain a therapeutic effect even for some weeks after the medication has been stopped. Some drugs that increase liver metabolism are phenytoin, carbamazepine, phenobarbitals and rifampicin.

If liver metabolism decreases then the active ingredients remain functional for longer and

hence have a longer-lasting effect. In contrast to substances that increase liver metabolism, drugs that slow liver metabolism have an immediate effect and can reduce liver function in a matter of days. This means that phytochemical herb compounds may accumulate in the body and there may be an increased risk of side-effects. Hence, the dose may need to be lowered and the frequency of ingestion may need to be adjusted accordingly. Some drugs that slow liver metabolism are cimetidine, erythromycin, alcohol, fluconazole, itraconazole and ketoconazole.

Elimination

Active substances from drugs and herbs are eliminated via the kidneys. If kidney function is impaired then these compounds may accumulate. This increases the chance of accumulating higher-than-intended dosages of the herb. In such a situation it may be wise to lower the dose of the herbs. Some drugs that impair kidney function are amphotericin B, methotrexate, tobramycin and gentamicin.

Pharmacodynamic interactions

Pharmacodynamic interactions occur between drugs and herbs in the body, influencing how the drugs and herbs affect the body. An interaction between a drug and a herb may be synergistic or antagonistic, resulting in an exaggerated or a lessened effect. Theoretically, drugs and herbs that have similar therapeutic activity have an increased potential of interacting. The highest risk of interaction occurs when simultaneously using drugs and herbs that are anticoagulant, antiplatelet, antidiabetic, diuretic or sympathomimetic. Hence it is essential to monitor patients taking such drugs and herbs together.

Anticoagulants/antiplatelet

Drugs: warfarin, enoxaparin, heparin, aspirin, dipyridamol, clopidogrel.

Herbs: guggulu, myrrh, turmeric, safflower, ginger, saffron, arjuna, garlic.

Risk when used together: may cause bleeding as the cumulative effect of the medicinals may move the intended therapeutic effect beyond its predicted boundary. The reality of this effect depends on the relative metabolic pathways of the drug and herb,

the condition of the patient and the dose of the medicinals. Caution is advised.

Anti-diabetics

Drugs: metformin, insulin, chlorpropamide, repaglinide, gliclazide.

Herbs: gurmar, karavela, black pepper, neem.

Risk when used together: may increase the effect of reducing blood glucose levels, causing hypoglycaemia. When indicated, a reduction in drug medication may be necessary.

Diuretics

Drugs: loop diuretics (burnetanide), potassium sparing-diuretics (amiloride, spironolactone, triamterene), thiazides (bendroflumethiazide, cyclopenthiiazide, hydrochlorothiazide).

Herbs: punarnava, gokshura, coriander.

Risk when used together: if used for controlling hypertension then the synergistic effect may cause hypotension. When indicated, a reduction in drug medication may be necessary.

Sympathomimetic

Drugs: antihypertensives (beta-blockers, monoamine oxidase [MAO] inhibitors), anticonvulsants (phenytoin), bronchodilators (ephedrine, epinephrine, salbutamol), decongestants (ephedrine).

Herbs: ephedra, bala.

Risk when used together: interaction may cause exacerbate or reduce effect of medication, causing hypertension, arrhythmia, anxiety, and insomnia (see Rang et al 1999, Low Dog 2002, Gascoigne 2003, Chen & Chen 2004 for a further discussion of these concepts and for reference material).

Toxicology

There is no doubt that herbal medicines are potent therapeutic agents. Some do contain ingredients that have valuable healing effects but if used incorrectly or inappropriately may impair liver function or cause renal damage. Ayurveda often counters this potential effect by processing herbs in milk, ginger juice, aloe vera juice or triphala. Bearing in

mind the sensitivity of the liver in individuals who have suffered from hepatitis, alcoholism or liver damage it is prudent to monitor liver function tests in these individuals. This also seems to be the case for certain skin diseases such as psoriasis (Blakwell 1996). In patients with renal damage or with a history of kidney infections extra care should be taken. I recommend that you ask patients on their intake form if they have ever suffered with liver or kidney diseases and when necessary have the relevant liver or kidney function tests prior to treatment and adjust your prescription accordingly.

Conclusion on safety and toxicology

Having drawn attention to some of the potential risk areas in herbal medicine it could appear that herbal medicine may be unsafe. This is not the case. These points are to highlight potential risk areas with the intention of maximising safety in herbal medicine. Herbal medicine and Ayurveda have a long history of safe and effective use both from the point of view of folk medicine, self-medication and in the clinical setting. When used with an awareness of the patient's appropriate diagnosis, pattern discrimination, constitution, digestive strength, sex, age, medication, medical history and an appropriate knowledge of the herbs used it maximises both safety and efficacy.

Acknowledgement

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AYURVEDIC THERAPY AND TREATMENT: *CIKITSĀ*



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The goal of Ayurveda is the equilibrium of the tissues (*dhātu*)

One who knows how to reduce excess, nourish deficiency, dry, oleate, sweat and astringe is a real ayurvedic physician (*vaidya*)

Caraka Saṃhitā Sūtrasthāna 1.53 and 22.4

The aims of ayurvedic treatment (*cikitsā*) are to balance the *doṣas*, *dhātus* and *malas*, clear any obstructions in the *srotas*, reduce *āma* and to establish a healthy *agni*, *prāṇa*, *tejas* and *ojas*. These treatments are consolidated by rejuvenation therapy (*rasāyana*) with the result of increasing the quality of life.

Treatment is based on:

- Diagnosis: the eightfold examinations and the ten assessments
- Treatment principles
- The balance of excess and deficiency
- Understanding the disease process
- Treatment strategies
- Building an ayurvedic formula
- Recognising the signs of successful treatment and good health.

DIAGNOSIS

The starting place of a successful treatment is a clear diagnosis. ayurvedic diagnostic methods are founded on the three methods of knowing (*pramāṇa*). These are: direct perception (*pratyakṣa*), textual authority (*āptopadeśa*, *śabda*), and inference (*anumāna*). The most clinically useful is direct

perception and it includes *Suśruta's* threefold methods of diagnosis (*trivaidhā parikṣā*): palpation (*sparśana*), looking (*darśana*), and questioning (*praśana*). *Caraka* has mentioned that direct perception (*pratyakṣa*) includes using the five senses meaning that listening, feeling, looking, smelling and tasting should also be included. The natural aversion to tasting and smelling the patient and their excretions means that this information is obtained by questioning. Later on diagnosis became systemised according to the eight locations (*aṣṭasthānaparikṣā*; first mentioned between 1474 and 1538 in the *Jvaratimirabhāskara* of *Cāmuṇḍa*) that should be examined (Wujastyk 2001).

The eightfold examinations: (aṣṭasthānaparikṣā)

Please refer to Chapter 2 and the section covering 'The main characteristics of each *doṣa*: *doṣa lakṣaṇa* for further details.

The following diagnostic examinations should be taken as part of the whole pattern that emerges from the multiple diagnostic clues, and not in isolation.

Pulse (nāḍī parīkṣā)

Investigations include the rate, depth, strength, length, quality of the pulse and also revealing the *prakṛti* and *vikṛti* of the patient. It is essential to study the pulse under the guidance of an adept practitioner. It is a vast subject and is expertly covered in Dr Lad's 'The Secrets of the Pulse'.

Tongue (jihvā parīkṣā)

It is relatively easy to get accurate information from observing the tongue, hence it is covered in some detail here. Tongue diagnosis includes the shape, colour, coating and geographic peculiarities of the tongue (indentations, swellings, lines, cracks, raised papillae) and revealing the nature of the *doṣa*, reflecting the regulatory function of *vyāna*, *prāṇa* and *udāna vāyu*, the functioning of *agni*, quality of plasma (*rasa*) and blood tissue (*rakta dhātu*) and the state of *āma*.

It is important that the patient extends the tongue in a relaxed manner and fully extend it without being tense. The tongue should not be held out for too long. If it is necessary to observe for long then ask the patient to put the tongue back into the mouth and then extend it again. Observe the tongue under a natural light. Certain substances like coffee, tobacco and cough sweets can discolour the tongue coating. Drinking hot drinks and eating spicy meals can make the body redder. Certain flavoured drinks may leave an orange coating. Taking antibiotics can give the tongue a thick coating or a shiny-peeled appearance.

A normal tongue is medium sized in relation to overall body size, is a fresh pink colour, with a thin and moist coating without any markings.

Shape and form

Vāta: small, thin, cracked, dry, deviated, quivering, short, indentations, sunken concave spots, scalloped and dry edges indicating malabsorption and low *agni* due to the erratic digestive power of *viṣamāgni*, cracked edges, depressed at the back of the tongue indicating low *ojas*, cracked just at the front indicating lung dryness. *Vāta* types are often anxious about extending their tongue and find it difficult to extend very far. An extremely short tongue is a sign of low *ojas*. These all reflect the dry (*rūkṣa*), rough (*khara*), mobile (*cala*), light (*laghu*) and deficient (*kaṣāya*) qualities of *vāta*.

Pitta: long, narrow, pointed, inflamed, ulcerated, raised red papillae, swollen and red edges, red tip. A tongue extended with force, like an arrow, reflects high *pitta* with its sharp and penetrating (*tīkṣṇa*), liquid (*drava*), and hot (*uṣṇa*) properties.

Kapha: large, swollen, thick, soft, wet, covered in saliva, swollen and wet edges with scallops indicating *mandāgni*, swollen tip indicating heart congestion, swollen in the centre indicating lung congestion. The *kapha* tongue just flops out of the mouth as though it is too large for their mouth. These reflect the unctuous (*snigdha*), fluid (*drava*), soft (*mṛdu*), slimy (*picchila*), smooth (*ślakṣaṇa*) and cold (*śīta*) qualities of *kapha*.

Colour

Vāta: pale, reflecting cold or poor nutrient metabolism due to a deficiency of *rasa* or *rakta dhātu*, purple-blue reflecting stagnation of circulating *vyāna vāyu* from cold. There may be dark or black discolorations.

Pitta: red, reflecting high *pitta* in *rasa* or *rakta dhātu*, orange (especially orange sides) from high *pitta* consuming *rakta dhātu*, purple-red due to high *pitta* condensing *rasa* and *rakta dhātu* resulting in viscous and sluggish circulation that in extreme conditions turns a black-red.

Kapha: pale due to the cold restricting circulation. There can also be a pale-blue colour from congestive heart disorders due to aggravated *avalambaka kapha*.

Location

Vāta: normally observed at the back of the tongue associated with the state of the colon.

Pitta: observed in the middle portion of the tongue associated with the stomach and small intestines. The sides of the tongue relate to the liver and many *pitta* imbalances are seen here.

Kapha: reflected in the condition of the tongue in the front portion associated with the lungs, chest and heart.

Coating

Tongue coatings are measured by their colour (white, yellow, dirty yellow, pale yellow, black), depth (thick, thin) and texture (dry, wet, greasy). The tongue coating is an easily observable marker of the efficacy of treatment and the movement of disease. If a coating moves from thick to thin it is a positive sign, and from yellow to white it is a

beneficial sign, and vice versa. If the tongue becomes dry it is a negative sign.

Vāta: dry, non-existent, thin, white

Pitta: yellow, dirty yellow. If it is greasy as well this indicates that *pitta* and *āma* have mixed together. If yellow and dry the *pitta* and *vāta* have mixed together. *Pitta* can cause a total absence of coating, resulting in a red, glossy, shiny tongue due to intense heat 'burning' the coating away as a sign of excess *pitta*, causing a weak and deficient condition from metabolising available nutrients too quickly.

Kapha: white, thick white, wet, clear. If the coating is thick white and greasy *kapha* and *āma* have mixed together. If the coating is a pale yellow then *kapha* has mixed with *pitta*.

Central crack

The central crack indicates the flow of *prāṇa* through the heart or spine. If the crack extends to the tip of the tongue then it indicates a congenital heart weakness. A deviated crack can indicate spinal curvature. A crack can also appear from high *kapha*, causing the two sides of the tongue to swell.

Urine (*mūtra parīkṣā*)

Observations include the colour, odour, volume, frequency, temperature and times of day and night that urine is passed, revealing the nature of the *doṣa*.

Normal urine is yellow, straw coloured, passed with ease, no retention or dribbling.

Colour

Urine colour can be affected by the diet, supplements or herbs. It also reflects the functionality of *medas-dhātu*, *ambuvahasrotas* and *mūtravahasrotas* as well as the state of *vāta*, *pitta* and *kapha*. B vitamins can make urine yellow; beetroots and other red foods can colour the urine a darker hue, anthraquinone laxatives can give an orange tint to the urine.

Vāta: clear or concentrated, reflecting the predominance of cold or dryness in the system.

Pitta: dark yellow, red.

Kapha: pale, turbid, revealing the presence of mucus.

Odour

Foods that are eaten can be detected in the urine, as with the infamous asparagus aroma.

Vāta: bitter, astringent.

Pitta: pungent, rotten, acrid.

Kapha: sweet.

Volume and frequency

It is worth noting the drinking habits with regard to urination, as coffee, tea, some herbs and pharmaceutical diuretics can all increase the frequency and volume of urine.

Vāta: low volume and increased frequency due to the high amount of dryness (*rūkṣa*), cold (*śīta*) and anxiety in the system. Tendency to urinate at night.

Pitta: high volume, less frequent due to its fluid (*dravya*) and hot (*uṣṇa*) qualities.

Kapha: high volume, normal frequency. Tendency to urinate at night.

Temperature

Vāta: cold.

Pitta: hot.

Kapha: cool.

Diagnostic signs

These symptoms paint a picture of the internal fluid metabolism.

Vāta: excessive frequency, excessive nocturnal urination (more than once), very pale or dark colour, frothy, cold, moving pain in urethra and bladder, lack of complete voiding, dribbles, incontinence, urinary tenesmus, deficiency of the tissues.

Pitta: dark red colour, burning sensation, sharp pain on elimination, acute infections, foul smelling, reduced frequency.

Kapha: lack of complete voiding with oedema, cloudy urine, sweet smelling urine, slow to finish urination, lack of force and urination at night.

Ayurveda also includes a method of diagnosis using oil as an interpretation of the state of the *doṣas*. Refer to Lad's *Introduction to Ayurveda* for more details on this.

Faeces (*mala parīkṣā*)

Observations should include regularity, odour, colour, form, consistency, and sinking or floating qualities of the stool, revealing the state of the digestive system and the *doṣa* quality. This is not

the most elegant part of the diagnosis but is an absolutely essential part of the questioning to establish a correct diagnosis.

Normal stools are light brown, soft, easy to pass, regular shape, not sticky and without undigested food.

Regularity

The motility of the intestines and the transit time of undigested matter is gauged by how long it takes for insoluble fibre and undigested food particles to pass through the system.

Vāta: has a tendency to constipation due to a dry (*rūkṣa*), rough (*khara*) and cold (*śīta*) contractile nature. May only pass stools once a day or every other day. *Vāta* types have a *krūra koṣṭha* that is 'hard' relating to poor peristalsis, painful and irregular evacuations.

Pitta: fast metabolism, *mṛdu koṣṭha* and highly greasy (*snigdha*) nature of the intestines encourage regular bowel motions of rapidly-excreted stools twice a day.

Kapha: regular and slow to pass due to their slow (*manda*) quality. They have a *madhyama koṣṭha*, giving regular bowel movements.

Odour

The smell of the stools reveals the level of putrefaction and gases released.

Vāta: much gas, stool not smelly due to dry (*rūkṣa*) quality.

Pitta: like the smell of rubbish on a hot summer day, *pitta* causes foul-smelling stools due to the hot (*uṣṇa*) quality.

Kapha: not smelly, although can be associated with a sweet smell when there is intestinal fungal infections with large dairy and carbohydrate consumption.

Colour

The colour of the stools reflects dietary articles such as high amounts of red foods causing a reddening, yellow foods causing a yellowing or anthraquinone laxatives causing an orangey colour.

Vāta: dark, due to concentration of liquids.

Pitta: yellow, green due to excessive stomach acid and bile.

Kapha: pale stools due to low *agni* and a sluggish liver not secreting enough bile.

Pathogenic symptoms may be black stools, indicating upper gastrointestinal tract bleeding, coffee granules, denoting a peptic ulcer, white stools, indicating obstructive jaundice, or dark brown stools, indicating *āma*.

Form and consistency

This reveals the fibre content of the diet and the ability of the large intestine to absorb fluids back into the body.

Vāta: small, dry, knotty, 'rabbit droppings' passed with lots of gas due to the dry (*rūkṣa*) and rough (*khara*) property of *vāta*. Stool can also be pencil thin due to intestinal spasms. Dryness can also be caused by lack of fibre in the diet.

Pitta: loose, unformed, cow-pat-like due to the hot (*uṣṇa*), liquid (*drava*) and oily (*snigdha*) quality of *pitta*.

Kapha: large, moist, elephant-logs, containing mucus due to the gross (*sthūla*), slimy (*picchila*) and unctuous (*snigdha*) nature of *kapha*.

Diagnostic signs

These indicate the health of the digestive fire, the state of the internal intestinal flora and the health of the lining of the intestines reflecting the balance of *agni*, the level of *vāta* and the quality of *kapha* in the digestive tract.

Vāta: high volumes of gas with concomitant bloating, discomfort, constipation, hard, dark and dry stools that are hard to pass. There may be rectal bleeding due to the dryness of the stools. May experience itching.

Pitta: frequently passed, yellow, foul-smelling stools. There may be blood and burning. Can have explosive and urgent movements when mixed with *vāta*.

Kapha: sluggish bowels, with large volume of faeces, feeling of incomplete voiding, itching, mucus may be passed.

Sinking stools can indicate *āma* in the system, while floating stools are generally considered to be healthy, except when there may be poor fat digestion, which can also cause floating stool.

Body symmetry (*ākṛti parīkṣā*)

Observation should include the balanced proportion of the body structure, prominence of bones, veins and fat in the body revealing the structural aspects of the predominant *doṣa*.

Vāta: has an irregular bone structure, unusually tall or short, thin and out of proportion, with slender fingers, arms and legs. They have predominant joints with knobbly knees and elbows. They have thin lips, small eyes, dark marks on the face, thin facial hair and a pointy, crooked nose. You can often clearly see the bones on *vāta* types.

Pitta: has a medium, balanced build with defined muscles. They have medium-sized red lips, rosy cheeks, sharp eyes, fair or orange facial hair, and a medium-sized nose. The energy-efficient *pitta* has a proportionally balanced frame.

Kapha: often has big bones with a stocky body that is well built, with wide shoulders and hips. The joints are not easy to see. They often have excess fat, especially around the omentum, buttocks and cheeks. They have broad lips, large eyes, luscious eyelashes, thick eyebrows, pale face, thick facial hair and a big and broad nose. They have short and stubby fingers.

Eyes (*dṛk parīkṣā*)

Observation includes the colour, shape and clarity of the eyes and reveals the quality of the nervous tissue (*majjā dhātu*).

Vāta: grey, dark blue or dark brown. Different-coloured eyes. *Vāta* eyes are small in relation to the head size and are at irregular levels or close together. They are often dry eyes that itch. The sclera is often dull. The eyebrows will be thin and irregular.

Pitta: any light colour indicates *pitta*. A yellow or blood-shot sclera is a common sign when there is excess *pitta* in the system. *Pitta* eyes are light-sensitive and they often require sunglasses. They have sharp and piercing eyes. The eyebrows and eyelashes are balanced.

Kapha: smooth brown colour. Large, oval-shaped eyes with a white sclera. Their eyebrows are lush and bushy, often joining in the middle. The eyelashes are thick, oily and long.

Voice (*śabda parīkṣā*)

This includes the sound, pitch and volume of the voice. The meaning of *śabda* can be extended to include the other sounds of the body; breath, intestines and joints, which reveals the predominance and quality of any *doṣa*.

Vāta: a dry, hoarse and high-pitched or quiet voice. A fast talker, jumps from topic to topic with erratic rhythm and focus. The *vāta* predilection to expending energy is reflected in their love of speech. *Vāta* is very sensitive to excess noise.

Pitta: a loud and sharp voice. Focused, persuasive, dominates conversation, argumentative, challenging and due to their impatience they tend to finish other people's sentences.

Kapha: a moist, soft, deep and calm voice. A sweet melodious voice that is pleasant to listen to.

Skin (*sparśa parīkṣā*)

This includes the temperature, dryness, moisture, firmness and smoothness of the skin, revealing the quality of the plasma tissue (*rasa dhātu*).

Vāta: *vāta* types have a tendency to have dry (*rūkṣa*) skin due to excessive movement burning off all lubrication as well as the constitutional deficiency of nourishing fluids. The skin looks rough and chapped. Cracks on the hands and feet are common. Their variable nature may lead to some oily areas and other dry ones. The veins are clearly visible through the thin skin. Dry skin problems are a common *vāta* imbalance. The skin colour is dull, dark and lacking in lustre. They tan easily and their cold nature draws them towards the sun. The poor circulation may lead to pale lips, nail beds and skin.

Pitta: *pitta* is the delicate or *mṛdu doṣa*. Their skin is easily aggravated and they cannot tolerate the sun. They are prone to inflammations, rashes and acne. The skin flushes easily and may appear red. The skin is commonly freckled or with many moles. As *pitta* is a by-product of the blood tissue (*raktadhātu*) they have deep red lips. A *pitta* type is easy to spot in an embarrassing situation as they blush very easily.

Kapha: healthy skin that appears thick and oily. They have smooth skin. It has a slight 'pasty' look. Their cool nature draws them to the sun. They burn easily but will soon tan.

The physician also relies on the tenfold assessments (*daśavidhā parikṣā*) that help them to arrive at a complete diagnosis (Box 4.1).

The most empowering way to embody and apply the diagnostic principles of Ayurveda is to observe and study nature. This helps your ability to use herbs. Ask yourself questions and act with an enquiring mind; ‘What does heat do?’, ‘What does cold do?’, ‘What does dampness do?’, ‘What does dryness do?’, ‘How can the aggravating factors be alleviated?’, ‘What treatment strategy and combination of herbs will help to heal the patient?’. In nature lies the best teacher; by understanding nature the physician applies a metaphorical understanding to disease and health. As a simple example, by observing the nature of wind it is clear to see that it moves erratically and it causes dryness. These are similar qualities to the *vāta* humour that can assail the nervous system and cause it to function irregularly. Likewise, by observing the hot nature of the sun and how it heats and concentrates fluids you can make an analogy of what the effects of *pitta* may be. The heavy nature of water and how it causes dampness and moulds can easily be compared to the nature of *kapha*.

Box 4.1

The ten assessments (*daśavidhā parikṣā*)

- Constitutional assessment (*prakṛti*): *vāta*, *pitta* or *kapha* and combinations thereof
- State of imbalance (*vikṛti*): imbalances of the *doṣas*
- Quality of the tissues (*sāra*): deficient, excess and vitiated states of the *dhātu*
- Quality of the body (*śarīra samghanana*): strong, weak or average
- Body type (*śarīra pramāṇa*): tall, short, large or thin
- Daily habits (*sātmya*): daily and seasonal routines, hobbies, likes and dislikes
- Mental constitutional quality (*manas prakṛti*): including the mental nature and an assessment of the functions of intellectual analysing (*dhi*), memory retention (*dhṛti*), memory recalling (*smṛti*) as well as emotional tendencies
- Digestive power (*āhāra śakti*): strong, erratic, sluggish, or balanced
- Energy levels (*vyāyāma śakti*): ability to exercise, endurance and capacity
- Age (*vayas*): young, middle-aged or elderly.

TREATMENT PRINCIPLES

The importance of reducing–tonifying, drying–oleating and fomenting–astringing

Having arrived at an accurate ayurvedic diagnosis it is necessary to formulate the most effective treatment. This is known as the ‘treatment principle’. As health is in a continual state of flux, treatment focuses on clearing out excess *doṣas*, *āma* and *malas* and strengthening deficient *dhātus*, *agni*, *prāṇa*, *tejas* and *ojas*. Ayurveda uses six main techniques to treat disease (Box 4.2).

THE BALANCE OF EXCESS VS DEFICIENCY: THE ALLOPATHIC AND HOMEOPATHIC APPROACHES

Diagnostic balance

Determining the qualitative nature of an imbalance is crucial to a successful treatment.

As the *doṣas*, *dhātus*, *malas* and *agnis* may be diseased it is essential that their relative states of balance are diagnosed correctly. Ayurveda classifies these parameters as:

Excess (*vr̥ddhi*) or too much heat, cold, dryness, dampness, mucus, *āma*, *mala*, pain and includes excesses of the *doṣa* and *dhātu*; e.g. *vāta* is

Box 4.2

Techniques used in Ayurveda to treat disease

1. Reducing (*lañghana*) where there is an excess. Purification (*śodhana*) or palliation (*śamana*) are prescribed for reducing any excess pathologies.
2. Tonifying (*bṛmhaṇa*) where there is deficiency. Sweet and nourishing tonics (*rasāyana*) are given for building strength.
3. Drying (*rūkṣaṇa*) therapy is used to alleviate any excess fluids in the system. Herbs that are diuretic or remove mucus dry the system.
4. Oleating (*snehana*) treatments moisturise dryness and give unctuousness to the tissues by using oily and demulcent substances.
5. Fomentation or sweating (*svedana*) therapy reduces coldness, heaviness, stiffness, *āma* and trapped heat in the body by using steam and diaphoretic herbs.
6. Astringent (*stambhana*) therapy is used to slow the excessive flow of bodily fluids with tannin-rich herbs (*Charaka Saṃhitā Sūtrasthāna* 22).

increased in autumnal 'windy' weather causing dry skin. These signs are usually confined to the typical site of the affected *doṣa* and remain within the normal signs and symptoms for that *doṣa*. For example, an excess of *vāta* usually confines itself to the colon, thighs, hips and ears with the concurrent *vāta* signs of gas, bloating, constipation, pain, aversion to cold, stiffness, rigidity and ringing in the ears.

Deficient (*kṣaya*) or too little heat, moisture, physical strength, digestive strength, mental strength and also includes deficient states of the *doṣa* and *dhātu*; e.g. deficient blood tissue (*rakta dhātu*) means that there may be anaemic signs of paleness, shortness of breath and palpitations.

Vitiated (*prakopa*) meaning that the *doṣas*, *dhātus* and *agni* are aggravated and deranged. They will often mix with other *doṣas* in this vitiated state, causing complex patterns that are difficult to treat; for example, anaemia caused by *pitta*, causing complications of insomnia due to high *vāta* arising from the lack of plasma and blood tissue. See Appendix 1 (Table A1.2) for a chart of the *dhātu* in a state of deficiency or excess.

Excess pathologies are treated using the principle of *sāmānya-vaiśeṣika* (equal-opposite) (*Caraka Saṃhitā Sūtrasthāna* 1.45, 30.29: 'Substances having properties of heaviness, lightness, cold, heat, unctuousness get increased when other substances having similar properties are added. On the other hand substances having dissimilar qualities decrease their quantity'). This means using substances with qualities that are opposite to the disease. In principle, this is an allopathic approach: for example, cold-inducing herbs are used for treating heat, dry-natured herbs for damp, hot-quality substances for cold, and moisture-enhancing herbs for dryness; neem (*Azadirachta indica*) is a superb heat-clearing herb, while cinnamon (*Cinnamomum zeylanicum*) is renowned for clearing cold.

Conversely, according to the principle that like increases like, deficient pathologies are treated by using herbs with similar properties to the deficiency. In principle, this is a homeopathic approach of using similar substances to treat the imbalance: for example, reproductive essence (*śukra*) is increased with seeds such as gokshura

(*Tribulus terrestris*) as seeds increase seeds (sperm and ova), while plasma (*rasa*) is nourished with sweet fruit and vegetable juices like grapes (*Vitis vinifera*), as juice nourishes juice.

See Appendix 1 (Table A1.5) for a table of which herbs and foods build or reduce the tissues.

UNDERSTANDING THE DISEASE PROCESS: DOṢA DŪṢYA SAMMŪRCANA

See Chapter 2 for a more detailed discussion on pathogenesis and *saṃprāpti*.

The disease process follows a clear path. A disturbed *doṣa* can upset the digestive fire (or vice versa). This creates *āma*. The *doṣa* can then mix with this *āma* and may spread from its 'home' site and locate at a foreign site and manifest as disease. For example, *vāta* can accumulate at its main site in the colon with symptoms of bloating, flatulence and constipation. If the blockage continues and the accumulated *vāta* does not move out then it becomes aggravated. It is in the nature of *vāta* to move and it commonly rebels upwards. This immediately upsets the digestive fire, which leads to food not being properly digested. Toxins accumulate and combine with *vāta* and they both 'overflow' and locate at a vulnerable site. Vulnerable *vāta* sites may be the nervous system, ears, bones, hips or joints. The disturbed *agni* will also mean that the *dhātus* are not properly nourished and weakness will start. An unstable nervous system with excess anxiety are the early signs of *vāta* disease, while later on arthritis may develop with degeneration of the joint, causing deformity and pain.

This pattern of disease follows a set diagnostic pattern according to disease causation and pattern differentiation known as *nidāna*, which is divided into five subcategories;

- *Nidāna*: aetiology and disease causation
- *Pūrvarūpa*: prodromal disease symptoms
- *Rūpa*: disease symptomology
- *Upaśaya*: diagnosis based on trial and error
- *Samprāpti*: disease pathogenesis.

These categories are defined in detail in such diagnostic texts as *Mādhuva Nidāna*, a text written between 650 and 950CE.

Nidāna: aetiology and disease causation

Nidāna is based on the cause of the disease such as low digestive fire or inclement environmental factors. These are usually general causes and are not especially *doṣa* specific. For example, in irritable bowel syndrome (*grahaṇī*) the causes are:

- *Atisāra*: diarrhoea/food poisoning/antibiotics/food intolerances
- Taking too rich a diet for long periods, especially after diarrhoea: *br̥ṃhaṇa* diet with weak digestive system
- Poor absorption of nutrients
- Eating inappropriate foods for digestive capacity: *prajñāparādha*
- Long-term digestive weakness: *mandāgni*
- Parasites (parasites, amoeba, colitis, giardia, *Candida albicans*): *kṛmi*.

Pūrvarūpa: prodromal disease symptoms

Pūrvarūpa are the early warning signs before a named disease sets in. They may be general or *doṣa*-specific and their correct identification can help direct appropriate preventative treatment. To continue the example of *grahaṇī*:

- Thirst, lethargy and heartburn, delayed digestion
- Taking a long time to digest foods, weakness, acidity increased, bad taste in mouth, loss of appetite, abdominal distension, borborygmus.

Rūpa: disease symptomology

Literally meaning 'form', *rūpa* classifies the specific signs and symptoms of each particular *doṣa* imbalance according to each disease name. This is pure disease pattern differentiation at its best, and reveals how Ayurveda can be so specific and why it treats the same disease name with different and often seemingly contradictory treatment strategies. It guides the practitioner to a set of symptoms that may fit a particular pattern and this in turn guides the *vaidya* to specific herbs and treatment plans.

In *grahaṇī*:

- Diarrhoea 4–6 times a day, mainly in the morning, can be alternating with constipation and with painful urgency causing tenesmus
- Unformed stools with undigested food, smelly stools, pain in stomach, fatty stools, large number of stools

- Gripping or cramping pain
- Irritated colon causing the need to eliminate the bowel but an inability to do so.

In *vātaja*:

- Pain, cramp, watery stool, painful diarrhoea, flatulence during and after digestion, stool is liquid mixed with solid, passed with difficulty, exhaustion after passing stools, bloating, excessive hunger and thirst, dark circles under the eyes, dry skin, stress and anxiety.

In *pittaja*:

- Burning, loose, yellow stools with undigested food, feels hot to pass stool, burning anus after defecation, sour eructation with bad smell, acidity, thirst, skin eruptions, spots, aggressive, angry.

In *kaphaja*:

- Large volume of stool with mucus that is a pale colour, nausea, vomiting, loss of appetite, sticky sweet taste in the mouth, cough, salivation, heaviness in the chest, eructation with foul smell and sweet taste, suppression of libido, lethargy and tiredness.

Tridoshic:

- All symptoms.

Upasāya: diagnosis based on trial and error

Despite the best intentions and highest levels of knowledge the practitioner cannot always discern the correct pattern. When this happens then it is incumbent on them to attempt a diagnosis based on a specific treatment. This may be either similar to or opposite to the disease. For example, it may be difficult to determine the exact nature and location of heat–cold, wet–dry or *vāta–pitta–kapha* in the body and the practitioner may have to try a diagnostic formula that is weighted in a certain direction. The either beneficial or negative response results in the provisional diagnosis being confirmed or denied.

It is important to note that lack of response or excessive response are not always the result of accurate or inaccurate diagnosis, but may also be the result of idiosyncratic patient reactions, too high or too low a dose of medication, drug–herb interactions, or simply an inappropriate form of medication being prescribed.

Samprāpti: disease pathogenesis

Samprāpti is divided into six different parts and reflects the particular qualities of a disease manifest according to each *doṣa*.

1. *Sāṃkhya*: this is disease enumeration into the different states of a disease. For *grahaṇī* this is divided into four types; *vātaja*, *pittaja*, *kaphaja* and *tridoṣaja*.
2. *Vikalpa*: this categorises the specific quality of a symptom to a particular *doṣa*. For example, *vātaja grahaṇī* can be caused by dry, pungent, bitter, astringent and overly unctuous cold foods, varied eating habits, overactive mind. *Vāta* gets aggravated and covers the suppressed *agni* manifesting as intestinal pain and cramps, bloating, anxiety, dry skin, erratic hunger and thirst, darkness of eyes, watery diarrhoea with undigested food that is passed with difficulty and discomfort, and flatulence during and after digestion. Hence the symptoms are *vāta* type symptoms and the disease is 'of *vāta*' (*vātaja*).
3. *Prādhānya*: this refers to when a disease is due to two or more *doṣa* and defines which is the predominant imbalance; this dictates treatment. When there are different diseases manifesting it is important to prioritise the primary disease in order to prioritise the treatment strategy.
4. *Bala*: this determines the strength of the disease. If all the symptoms (*rūpa* and *pūrvarūpa*) of a disease are manifest then it is stronger than if there are just a few symptoms present.
5. *Vidhi*: this describes the prognosis of a disease according to whether it is easy to cure (*sādhya*), difficult to cure (*kṛcchra sādhyā*), incurable (*asādhyā*), or incurable but can be managed through continuous treatment (*yāpyā*). The early stage of a disease involving only one *doṣa* is usually easy to cure, increasing chronicity and multiple *doṣa* involvement makes an absolute cure more difficult.
6. *Kāla*: this relates to the specific seasonal and daily manifestations of a disease. For example, if a symptom is always worse after a meal then it relates to a *vāta* disease. Hence the importance of effective treatment strategies involving reducing excess, nourishing deficiency, drying secretions, oleating dryness, sweating out stagnation and astringing leakages.

TREATMENT STRATEGIES

A successful treatment relies on a treatment strategy that is directly related to the diagnosis. A diagnosis of high *vāta* with obstructed *apāna vāyu* in the lower abdomen due to low *agni* means that the treatment strategy must focus on balancing *vāta*, removing the obstructed *apāna vāyu*, increasing *agni* and nothing else.

The main treatment strategies to be considered are listed in Box 4.3.

Treat the *doṣa*

Treating the *doṣas* is a primary focus in ayurvedic treatment because any imbalance of the humours causes disruption to health. Ayurveda makes continual efforts to reduce any excess of the *doṣas*. It aims to balance all the *doṣas* within the boundaries of each individual's potential for health. It is a relative situation as some people have a natural tendency to be healthy while others inherit a weaker constitution. Everyone has a fixed balance of the *doṣas* that is determined from conception (Box 4.4). This is the measure of that person's optimum health. Under certain circumstances different proportions of the *doṣas* may increase and even become deranged (*prakopa*). For example, in a *vāta* constitution *vāta* will increase when there is stress, irregularity and cold weather. Every *vāta* type will be taxed under such conditions but even if a *vāta*-reducing lifestyle is followed some will still be unable to reduce the increasing *vāta*. Others will ignore the warning signs, or be unable to avoid them, and the *doṣas* will become deranged and the onset of insomnia and digestive imbalance will ensue. The ability to remain healthy depends on the constitutional level of each *doṣa*, the aggravated level of the *doṣa* and the strength of the aggravating forces.

Box 4.3

- Treat the *doṣa*
- Treat the *agni*
- Treat the *dhātu*
- Treat the disease (*vyādhi*)
- Detoxify the whole system and clear *āma* with *pañcakarma*
- Pacify the disease and clear *āma* with *śamana*
- Treat the *guṇas* by increasing *sattva* and reducing *rajas* and *tamas*
- Rejuvenate with tonics and aphrodisiacs

Box 4.4**Signs of doṣa excess (doṣa vṛddhi):**

Vāta: dryness, pain, thinness, wasting, cracking, deformity, irregularity, nervous imbalance, cold, lightness.

Pitta: heat, inflammation, bleeding, redness, purpleness, burning, thirst.

Kapha: wetness, dampness, oedema, puffy skin, mucus, over-weight, heaviness.

Signs of a derangement of the doṣa (doṣa prakopa):

Vāta: erratic, irregular, hyperactive, anxious, weak digestion, constipation, insomnia, joint pain, dry skin, dark discoloration around the eyes, back of tongue and skin.

Pitta: intense, angry, irritable, acidity, loose stool, nausea, fever, inflamed joints, skin inflammations, yellow- or green-coloured secretions, yellow discoloration of the eyes, skin and stool.

Kapha: dull, lazy, sluggish, thick and white catarrh, breathing problems, swollen joints, pitting oedema, suppurating skin problems, paleness of the skin and tongue.

Signs of a deficiency of the essences:

Prāṇa: weak lungs, low energy, early ageing, lack of vitality.

Tejas: dull eyes, low digestion, lack of zest for life, poor intelligence.

Ojas: low immunity, wasting, fevers, infertility, lack of compassion.

If a *doṣa* is in excess, it may be brought under control by adjusting lifestyle and diet alone, whereas if the *doṣa* is aggravated then specific measures to remove the *doṣa* from the body are needed. This may involve herbal treatment and eliminative therapy.

An important thing to remember is that when the *doṣas* are mixed it is necessary to treat the most serious imbalance first and to work backwards towards balance (Fig 4.1). In order to differentiate the hierarchy this is often determined numerically:

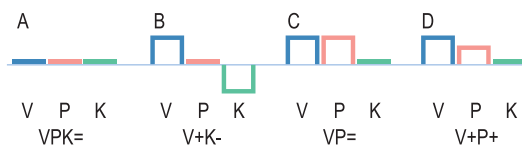


Figure 4.1 Examples of *doṣa* balance

- 4: the highest value, indicating a strong predilection to either constitutional factors (*prakṛti*) or an imbalance (*vikṛti*).
- 3: here the diagnostic factors have a high influence on any health imbalances.
- 2: the middle value, where the diagnostic factors are causative in imbalance, but less so.
- 1: a low value where the factors influence the disease process but do not guide it.
- 0: the lowest value, signifying no constitutional or aggravating factors.

For example, a person's *prakṛti* may be *vāta* 4, *pitta* 2, *kapha* 1 while their *vikṛti* may be *vāta* 3, *pitta* 4, *kapha* 0. In this case you would first clear the aggravated *pitta* and then the disturbed *vāta* before moving to a *vāta-pitta* constitutional treatment.

Vāta treatment**How vāta is aggravated**

Vāta is aggravated by astringent, bitter and pungent flavours (as they all increase dryness), at the end of a meal, early morning and evening, by fear and insecurity, in early autumn and spring, at the latter stage of life, by excessive movement, by dry and cold climate, by going to bed after 11pm. If out of balance there is a natural tendency for *vāta* types to be attracted to these destabilising influences.

How to balance vāta

As *vāta* is 'light', 'cold', and 'dry' it is increased by these tendencies. It is best balanced by using the opposite qualities: more warmth, moisture, groundedness.

- Decrease bitter, astringent, pungent foods (cold salads, tea, very hot spices)
- Decrease rushing, travelling, hurrying
- Decrease cold and dryness
- Decrease fear
- Increase oily, warm oil massage: sesame oil, naryan oil
- Increase regularity: a daily routine is essential to balance *vāta*.
- Increase warmth: hot water, soft and warm teas
- Increase stillness: learn relaxation techniques and calm yoga practices
- Increase confidence and security: enhance self-esteem, reduce fear.

Vāta treatment concentrates on regulating the lower abdomen and clearing *apāna vāyu* by ensuring that it moves freely out of the body. Use

Box 4.5**General treatments for relieving *vāta***

- Emphasise foods that are warm, soupy and easy to digest.
- Eat at regular times, and eat to less than full.
- Practise relaxation.
- Avoid yeast, coffee, tea, tobacco, drugs, and extremely spicy foods.
- Favour foods that are warm, heavy, and oily.
- Reduce foods that are cold, dry, and light.
- Favour foods that are sweet (e.g. wheat, milk, rice), sour (e.g. vinegar, yoghurt, umeboshi plums, citrus fruit), and salty.
- Reduce foods that are spicy, bitter (e.g. coffee, chillies, green leafy vegetables), and astringent (e.g. apples, beans).
- Dairy: all dairy products nourish the nervous system. Always boil milk before you drink it, mix with cardamom seeds and drink it warm. Don't take milk with a full meal or eat with fruit. Use organic milk. If allergic, substitute with almond or rice milk. Ghee is beneficial. Avoid ice cream and powdered milks.
- Sweeteners: all sweet flavours are good for nourishing the nervous system. Reduce refined white sugar.
- Oils: all oils nourish the nervous system. Emphasise flax, hemp, sesame, ghee, olive, sunflower, evening primrose, borage and fish oils. Use these internally and externally.

- Grains: rice (basmati, brown, wild), wheat, oats (cooked) and quinoa are very good. Amaranth is acceptable. Reduce intake of barley, corn, millet, buckwheat and rye. Avoid all others.
- Fruits: favour sweet, sour, or heavy fruits, such as berries, bananas, avocados, grapes, cherries, lemons, limes, fresh figs, peaches, melons, plums, pineapples, mangoes, and papayas. Cooked apples and pears are acceptable, as are soaked prunes and raisins. Avoid dried fruits, uncooked apples, pears, pomegranates, cranberries.
- Vegetables: asparagus, beets, cucumbers, carrots, and sweet potatoes are the best. Peas, green leafy vegetables, celery, summer squash, winter squash, and potatoes are best well cooked in oil or ghee with mild spices. Seaweeds are very beneficial. It is best to avoid the *Brassica* family; brussels sprouts, broccoli, cauliflower and cabbage. Also avoid *Solanaceae* family; peppers, aubergines, potatoes and tomatoes. Raw vegetables, especially onions, are banned.
- Spices: most of them reduce *vāta*, especially asafoetida, cardamom, cumin, coriander, ginger, fennel, dill, cinnamon, salt, cloves, mustard seed, black pepper.
- Nuts: all nuts and seeds are good in moderation, especially soaked.
- Beans: avoid all beans, except for tofu and mung dhal and occasionally red lentils.
- Meat and fish: chicken, turkey, eggs and seafood reduce *vāta*; beef should be avoided.

carminatives, demulcent laxatives and enemas; licorice, triphala, linseed and ginger. Then tonify the nervous system using nourishing tonics such as ashwagandha, bala, safed musali and shatavari.

Vāta-relieving diet (nervous-system-nourishing diet)

Use this diet to help relieve nervous tension, cramps, pain, anxiety, insomnia, bloating, constipation, dryness (Box 4.5).

See Chapter 2 for more ideas on *vāta* lifestyle.

Pitta treatment***How pitta is aggravated***

Pitta is aggravated by pungent, salty and sour flavours (as they increase heat), in the middle of a meal, at midday, by anger and irritation, repressed

emotions, in summer, from adolescence to middle age, from excessive ambition, a hot and damp climate. If out of balance there is a natural tendency for *pitta* types to be attracted to these destabilising influences.

How to balance pitta

As *pitta* is 'hot', 'oily' and 'intense' it is aggravated by these tendencies. It is best balanced by their opposites: cooling, calmness, loving, compassion and moderation.

- Decrease pungent, salty, sour foods (chillies, spices, salt, pickles, fermented foods, i.e. alcohol)
- Decrease aggression, competition
- Decrease hot environments
- Increase sweet, bitter and astringent foods: grains, fruits, asparagus, lettuce

Box 4.6**General treatments for relieving pitta**

- Include aloe vera juice and rose water daily.
- Avoid yeast, alcohol, coffee, tea, chocolate, cheese, yogurt, table salt and animal products. Low quality oils are a major cause of inflammation.
- Avoid sour, salty, and pungent foods.
- Favour foods that are cool, refreshing, liquid, sweet, bitter, or astringent.
- Eat fresh organic fruits and vegetables.
- Reduce foods that are spicy, salty or sour.
- Dairy: milk, butter, and ghee are good for pacifying *pitta*. Avoid yoghurt, cheese, sour cream, and cultured buttermilk; these sour tastes aggravate *pitta*.
- Sweeteners: all sweeteners are good, except for honey and molasses.
- Oils: ghee, flax, hemp, borage, evening primrose, olive, sunflower, and coconut oils are best. Reduce sesame, almond, and corn oil, all of which increase heat.
- Grains: wheat, basmati rice, jasmine rice, barley, quinoa and oats. Reduce corn, rye, millet, and brown rice.
- Fruits: favour sweet fruits such as grapes, limes, cherries, melons, avocados, coconut, pomegranates, mangoes, apples, berries, sweet and fully ripened oranges, pineapples, and plums. Reduce sour fruits such as grapefruits, lemons, olives, papayas and sour, not-yet-ripened oranges, pineapples, and plums.
- Vegetables: favour asparagus, cucumber, cooked beetroots, sweet potatoes, green leafy vegetables, pumpkins, summer squash, broccoli, cauliflower, celery, okra, lettuce, sprouted beans, peas, green beans. Avoid *Solanaceae* nightshade family; hot peppers, bell peppers, tomatoes, aubergines, potato (a little is acceptable). Also avoid *Allium* family; especially raw onions, garlic, radishes. Also avoid raw beetroots, raw spinach and mustard greens.
- Beans: avoid all beans except for tofu and mung dahl.
- Nuts: almonds, coconut. Avoid peanuts especially.
- Spices: cinnamon, coriander, dill, rock salt, aniseed, cardamom, fennel, turmeric, fresh ginger and small amounts of black pepper are good, but the following spices strongly increase *pitta* and should be taken in moderation: asafoetida, dry ginger, cumin, fenugreek, celery seed, salt, and mustard seed. Chilli peppers and cayenne should be avoided.
- Meat and fish: chicken, pheasant, and turkey are preferable; but beef, seafood, and egg yolk increase *pitta*.
- Superfoods: chlorella, spirulina, wheat grass, barley grass, Kalamath lake algae, seaweeds.

- Increase cooling drinks: aloe vera juice, rose water, peppermint, coriander
- Increase calming massage with light oils: almond, coconut, grapeseed
- Increase compassionate meditation and uncompetitive yoga.

Pitta is generally alleviated by clearing *pācaka pitta* from the digestive system. Use purgatives, cholagogues and alteratives; amalaki, neem, triphala, rhubarb. Then use nourishing but cooling tonics such as aloe vera, shatavari, licorice and guduchi.

Heat-reducing diet (pitta) (inflammation-reducing diet)

Use for skin inflammations, itching, joint pain, hot flushes, acidity, ulcers, anger, irritation, infections, fever (Box 4.6)

See Chapter 2 for more ideas on *pitta* lifestyle.

Kapha treatment**How kapha is aggravated**

Kapha is aggravated by sweet, sour and salty flavours (as they increase moisture), at the beginning of a meal, morning (6–10am) and evening (6–10pm), by greed and possessiveness, in winter, by a cold, heavy and damp natured diet, in childhood, from a damp and cold climate, sleeping in the day, lack of movement and laziness. Because like attracts like, there is a natural tendency for *kapha* types to be attracted to these qualities that tip them out of balance.

How to balance kapha

As *kapha* is 'slow', 'damp', and 'heavy' by nature, and has a tendency to be attracted to and therefore

Box 4.7**General treatments for relieving *kapha***

- Avoid yeast, salt, cheese, yoghurt, chocolate, and refined sugars and flours.
- Avoid overeating, especially at night.
- Do not eat when you are not hungry. Do not eat between meals.
- Do not eat cold foods.
- A primarily vegetarian diet is highly recommended.
- Include ginger in your daily diet; take a pinch of fresh ginger root with a few drops of lemon juice before each meal.
- Favour foods that are light, dry, and warm.
- Reduce foods that are heavy, oily, and cold.
- Favour foods that are spicy, bitter, and astringent (e.g. ginger, asparagus, tea).
- Reduce foods that are sweet, salty, and sour (e.g. cakes, crisps, lemons).
- Dairy: low-fat milk is best. Always boil milk before you drink it (making it easier to digest) and take it warm. Do not take milk with a full meal, or with sour or salty food. Add some cardamom or ginger to whole milk before boiling it to help reduce any mucus-generating properties. Use goat's milk or water milk down 50/50. A little ghee is fine. Avoid cheese, yoghurt and buffalo milk.

- Fruits: lighter fruits, such as apples and pears, are best. Reduce sweet, heavy or sour fruits such as oranges, bananas, pineapples, figs, dates, avocados, coconuts, and melons, as these fruits increase mucus.
- Sweeteners: use honey to reduce mucus. Reduce sugar products.
- Beans: all beans are fine, except tofu.
- Nuts: reduce all nuts.
- Oils: reduce all oils; flax, corn and sunflower are acceptable.
- Grains: increase barley, corn, buckwheat, quinoa and millet. Do not take too much wheat, rice, or oats, as they increase heaviness and mucus.
- Spices: include all spices except for salt. Salt increases water retention and mucus.
- Vegetables: increase asparagus, aubergine, beetroots, broccoli, cabbage, carrot, cauliflower, celery, garlic, ginger, green leaves, kale, onion, potato, pumpkin, radish, sprouts. Reduce okra, olives, tomatoes, cucumbers, sweet potatoes, and summer squash.
- Meat and fish: white meat from chicken or turkey is fine, as is seafood. Avoid or reduce red meat and pork.

increase these qualities it is best balanced with opposites: increase movement, activity, light diet, warm environment, less oils and fats, more dry foods and environments.

- Decrease sweet, sour, salty foods (sugar, yoghurt, salt)
- Decrease cold, refrigerated, damp, wet food (ice, dairy, out-of-season fruits)
- Decrease sluggishness
- Increase bitter, astringent and pungent foods (asparagus, tea, spices)
- Increase exercise, dynamic behaviour: *aṣṭāṅga* yoga, metabolic exercise
- Increase giving, sharing, letting go
- Increase heat, saunas, deep massage with drying powders, mustard oil
- Increase drinks of hot water and spicy teas.

Kapha is best treated by focusing on clearing mucus from the stomach and lungs: use expectorants; long pepper, ginger, pepper or trikatu. Then use warming tonics such as ashwagandha, cinnamon and chywanaprash.

Fluid- and mucus-reducing-diet (kapha) (diet to clear phlegm, mucus and sticky accumulations)

Use this diet to clear mucus, heaviness, sinus congestion, thick tongue coating, tiredness, sluggishness, high cholesterol, oedema (Box 4.7).

See Chapter 2 for more ideas on *kapha* lifestyle.

Treat the *agni*

Another primary aim of *cikitsā* is the health of the digestive system. Its proper functioning is vital to health as '*sarve 'pi rogā mandāgnihetavaḥ*': 'All diseases are caused by a hypofunctioning digestive system'; '*Jaṭharāgni* is the root of all the digestive fires in the body. As it causes the increase or decrease of *bhūtāgni* and *dhātvaṅni* it should be treated with great care.' *Aṣṭāṅgarḍaya Saṃhitā Śarīrasthāna* 3.71–72.

Ayurveda classifies four different states of *agni* that point to certain constitutional tendencies (Box 4.8).

Box 4.8**The four types of agni****Viṣamāgni**

This is an irregular appetite and digestive system with signs of variable hunger, bloating, indigestion, intestinal cramps, constipation, dry stool, borborygmus and gas. It is common in *vāta* types. Use sweet and pungent flavours. Include hingashtaka, trikatu and chitrak (*Plumbago zeylanica*) before you eat.

Tikṣṇāgni

Intense hunger but poor digestion is a *pitta* sign. Also, thirst, parched mouth, dry throat, loose stool and a burning sensation in intestines. Use mild sour flavours to dilute excess acid. Include shatavari (*Asparagus racemosus*), guduchi (*Tinospora cordifolia*) and amchur (*Mangifera indica*) to balance *pitta*.

Mandāgni

Weak hunger is a *kapha* sign. Also slow digestion, heaviness after a meal, sluggish bowels, bulky stool, feeling cold, sweet craving, stimulant craving. Use pungent and bitter flavours. Include trikatu, vacha (*Acorus calamus*) and cinnamon (*Cinnamomum zeylanicum*).

Samāgni

Balanced hunger and digestion; food is digested within 4 hours with no excess craving or lack of interest. Use all 6 flavours and a balanced diet to maintain *samagni*.

Tissue fires: dhātvaṅni

Another common factor in disease is the imbalance of the tissue fires. If they are excessively active then they consume any available nutrients and cause tissue wasting; if they are underactive then they cause an excess of the *dhātu* and an obstruction of the channels.

See Appendix 1 for herbs that treat the *dhātvaṅni* of each tissue.

Therapeutic treatment for balancing agni

The best advice is to follow the body. Try to eat when hungry, gently stoking the digestive fire with small meals and trying not to smother it with foods that are excessively cold, heavy or wet. Do not aggravate it with excess spicy, oily or fried foods.

A few ayurvedic dietary rules:

- Leave 4–6 hours between meals with no snacking.
- Fresh breath is a sign that the previous meal has been digested.
- Eating in between meals weakens the *agni*.
- Eating foods with cold, wet and heavy qualities weakens the *agni*.
- Drink hot water or ginger water to stimulate *agni*.
- Do not overeat or undereat as both disrupt digestive power.
- Treat *agni* with occasional fasts; use a monodiet (e.g. *khicaḍī*), hot lemon water and a seasonal cleanse to keep digestion healthy.
- *Agni* is increased by pungent, sour and salty flavours, so start a meal with these flavours
- A low dosage of bitter taste taken before a meal increases the secretion of hydrochloric acid in the stomach, increasing digestion.
- *Agni*-stimulating and increasing herbs are ginger, black pepper, cayenne pepper, chitrak (*Plumbago zeylanica*), cinnamon, long pepper (*Piper longum*), guduchi (*Tinospora cordifolia*), kalmegh (*Andrographis paniculata*). Use a small dose (0.5–1g) before meals to enkindle the digestive fire.
- *Agni* tonic herbs that build enduring digestive strength are pushkaramoola (*Inula racemosa*), kushta (*Saussurea lappa*), cardamom (*Elettaria cardamomum*), musta (*Cyperus rotundus*).
- Yoga exercises to balance *agni*: stimulating the fire practice (*Agnisārakriyā*), abdominal massage (*naulī*), lighting the skull breath (*kapālabhāti*), bellows breath (*bhastrikā*), peacock (*mayurāsana*), forward bend back stretching pose (*paścimottānāsana*), fish pose (*matsyendrāsana*), the sun salutation (*sūryanamaskāra*).

Treat the dhātu

It is vital to the success of the treatment to aim the medicinal formula at a specific tissue where the disease is manifesting. This makes the treatment precise and accurate.

See Appendix 1 for tables describing the following:

- The signs of *dhātu* excess and deficiencies
- Tissue disturbance (*dhātu duṣṭi*) caused by the *doṣas* invading the tissues
- Herbs that treat the *dhātus*.

The quality of a *dhātu* can be determined by the quality and volume of its waste excretions along with the presenting signs and symptoms. For example, if there is excess mucus in a *vāta* person then you may want to look at the quality of the tissue fire in *rasa dhātu* as it may be unable to transform the nutritious food resulting in excess mucus. If there is too much mucus in a *kapha* type you may just need to address the diet and the overflowing symptoms will reduce. If there is premature hair loss then you may need to address the metabolism of the tissue fire, the diet, or both, but the treatment should be directed at regulating *asthidhātvaṅni* and eating bone-building foods.

When a *doṣa* enters a *dhātu* it can create associated symptoms that exacerbate certain tendencies of the *dhātu*. Taking *rasa dhātu* as an example; remember that *rasa dhātu* is rooted in the heart, is related to the skin, lymph and plasma, that its secondary product is menstrual fluid and breast milk and that its waste product is *kapha*. If *vāta* enters *rasa dhātu* there will be more deficient *rasa* signs with dryness, cracked skin and poor circulation; if *pitta* enters *rasa dhātu* there will be more heat signs affecting the organs associated with *rasa*, such as skin inflammations, sore throat and fevers and if *kapha* enters *rasa* then there will be excess *rasa* signs such as damp skin and lung problems with mucus, cysts and swollen lymph glands.

Knowing these diagnostic signs and what they relate to, and most importantly how to differentiate them, are the skills of the physician. Interpreting them correctly, devising an appropriate treatment plan and then selecting suitable herbs, diet and lifestyle regimen is the best path to effective treatment.

Treat the disease (*vyādhi*)

It is of course vital that you know the name of the disease. Knowing the ayurvedic name of a disease allows you to refer to the traditional wisdom, as recorded in the texts, on how to treat it. This allows you to make a differential diagnosis based on the variable patterns of the disease making your prescription specific to the patient's presenting symptoms and not just a disease name. This is the real gem of practising Ayurveda. The same disease is treated in many ways, giving specific treat-

ments for each pattern. This is patient-centred medicine at its best. Refer to the main texts, especially the *Mādhava Nidāna*, for a listing of disease names and categorisation of the different pathologies of each disease. Along with the holistic energetic approach, specific herbs known for their curative effects on certain illnesses are also prescribed. For example, the therapeutic action of *prabhāva* tells us what specific diseases individual herbs treat; tulsi (*Ocimum sanctum*) treats fevers and bilva (*Aegle marmelos*) treats diarrhoea, almost regardless of the pathology.

See the Plant Profiles for the unique idiosyncrasies of each herb.

Śodhana: detoxify the whole system and remove āma with pañcakarma

Reducing therapy (*laṅghana*) uses different cleansing techniques (*śodhana* and *śamana*) to remove *āma* (see also the next section) and the aggravated *doṣas*. *Śodhana* is primarily done through the practice of *pañcakarma*. *Pañcakarma* represents the five detoxifying therapies that remove the *āma* that has mixed with the *doṣas*. It is usually used for long-term chronic conditions that are stubborn and difficult to resolve. It is prescribed on a constitutional basis when the patient has sufficient strength and in the appropriate season. The weak and elderly should not undertake the therapies, nor should they be performed in the summer or winter. *Pañcakarma* is a specialised subject and its study and practice takes much time and skill. Refer to technical literature for further details. Below is a summary of the techniques.

These cleansing techniques give a clear insight into the ayurvedic view on the movement of disease. The process of *pañcakarma* reverses the sequential progress of illness through the six stages of disease by guiding the diseased *doṣas* and *āma* back through the three major pathways:

The inner path (*antar mārga*)

This is the central passage that runs from the mouth to the anus. It is the entire length of the digestive tract. Even though it is inside the body it actually comes directly into contact with the outside world. It is the pathway first affected by the *doṣas* as it is the site of the first and second stages of disease; accumulation (*caṇya*) and aggravation

(*prakopa*). The *doṣas* are relatively easy to clear from here. *Pañcakarma* draws the *doṣas* and *āma* back into this inner path before they are expelled.

Outer path (*bāhya mārga*)

This is the periphery of the body including the *rasa* and *rakta* tissues. When disease appears here it has already entered the third stage of the disease process (*prasara*). It has started to spread through the lymphatic system and tends to manifest on the skin.

Middle path (*madhyama mārga*)

In between the inner and outer path, the middle path houses the vital organs of the brain, heart, lungs, liver, bladder and reproductive system. The remaining tissues of muscle, fat, bone, nervous and reproductive tissue are also held in this central reservoir. When an aggravated *doṣa* arrives here disease has already started to locate and manifest (the fourth and fifth stages of disease; relocation (*sthānasamśraya*) and manifestation (*vyakti*)). The deepest tissues of the whole system are now 'infected' with imbalanced *doṣas* and *āma*. This is the main site of chronic disease and the final and sixth stage of disease is expressed here; the unique characteristics of the disease (*bheda*).

As *vāta* is the energy behind the actual movement of disease it must be pacified to return the disease along the path that it came. This is the purpose of *pañcakarma*; to oleate and sweat the subtle channels, to enkindle the digestive fire, to calm *vāta* and loosen the aggravated *doṣas*. This has the effect of purifying the opening of the channels so that the disease can flow back from the middle and outer paths to the inner path from where it can be expelled. This is the theory behind the clinical excellence of ayurvedic medicine.

Each level is carried out stage by stage. Firstly, the accumulated *doṣas* and *āma* must be loosened. Medicated oil massage (*snehana*), steam treatments (*svedana*), digestive herbs and a simple diet are used to help to dislodge the toxins that have become fixed in certain parts of the body and to guide them back to the digestive tract. When this is finished the system is prepared for the treatment that helps to evict the *doṣas*. The second stage is the acts of cleansing. These are carried out sequentially with a five-day rest in between:

1. Therapeutic emesis (*vamana*): emetic herbs such as madanphal (*Randia dumentorium*), vacha (*Acorus calamus*) and rock salt are given together with strong decoctions of licorice (*Glycyrrhiza glabra*) to clear *kapha* and *pitta* from the stomach and lungs.
2. Purgation (*virecana*): strong cathartic and laxative herbs such as jaiphal (*Croton tiglium*), aragwad (*Cassia fistula*), haritaki (*Terminalia chebula*) or castor oil (*Ricinus communis*) are given to clear *pitta* and *kapha* from the intestines.
3. Enemas (*anuvāsana* and *nirāha*): in *anuvāsana basti* enemas, unctuous medicated oils and ghees are used for pure *vāta* diseases where there is good digestion. For *nirāha basti* enemas, herbal decoctions using *vāta* reducing herbs and formulas, such as dashmoola and rock salt are used in *vāta* diseases where digestion is weak.
4. Nasal cleansing therapy (*nāsya*): the head is steamed and medicated oil, such as anu tail, is applied to clear diseases from the head.
5. Blood-letting (*raktamocana*): *pitta* and blood toxemia is reduced by either giving blood or, more traditionally, by leeches. Suśruta introduced the use of blood-letting instead of one of the *basti* treatments.

After *pañcakarma* should always come a period of tonification (*bṛmhana*) and rejuvenation (*rasāyana*). This means using tonic herbs and a nourishing diet. Ayurveda does not just leave a clean system, it nurtures it back to full strength. See the section below on treating the *guṇas*.

Pacify the disease and remove *āma* with *śamana*

Where *pañcakarma* is inappropriate due to the strength of the patient, the season or lack of availability, simple restorative treatments can be carried out. This is known as *śamana* and results in the pacification of the disrupted *doṣas*. Anyone can incorporate these practices into their daily life as it is a medical treatment as well as an excellent preventative. It is a perfect regime for anyone whose health is compromised or who has a sensitive constitution. This treatment strategy is most amenable to use in the western clinical setting and most lifestyles. It is practical, applicable and effective.

Śamana

1. *Dīpana*: enkindling the digestive fire by using pungent, hot, drying herbs to stimulate the *agni*.
2. *Pācana*: digesting *āma* toxins and undigested residues.
3. *Vrata* or *kṣun-nigraha*: fasting.
4. *Trṣṇā* or *erṇ-nigraha*: fasting from water.
5. *Vyāyāma*: exercise and yoga.
6. *Ātapa*: lightening, drying and reducing the *doṣas* by sitting in the sun and raising the metabolism.
7. *Māruta*: lightening and drying the body by sitting in the wind and by breathing practices.

1. Dīpana: enkindling the digestive fire

The digestive fire is enkindled like a fire is built. Just as laying little bits of dry wood onto a fire feeds the flames, light and easy-to-digest food will help the digestive system to grow stronger. On the other hand a big damp log will cause a fire to smoulder, just as a heavy rich meal is hard to digest and can clog the whole system. One of Ayurveda's central tenets is that 'like increases like'. Fire is increased by fire and, in order to build the strength of the digestion, fire-like and pungent spices such as dry ginger and long pepper are taken before meals. These *agni*-activating herbs can be used constitutionally; fresh ginger for *vāta*, long pepper for *kapha* and the warming but not excessively hot coriander seed for *pitta*. Use about 1–2g of each before a meal, then follow a sensible diet to optimise healthy flames:

- Avoid: cold things, ice, too much refrigerated water, salads in winter, eating without hunger, eating too much for your digestive capacity.
- Increase: light eating, warm meals, hot water, eating a small piece of fresh ginger mixed with lime juice and salt before a meal, having a short walk before you eat.

2. Āmapācana: removing toxins

Whenever there is low digestive fire *āma* accumulates. It is a sticky, thick, wet substance that blocks the channels of circulation (nutritional, nervous and mental); this is the germ of all disease (*srotorodha*). It lowers immunity, stagnates energy and dulls the mind. We all have some in varying degrees. Some examples of diseases mixed with *āma* are high cholesterol, *Candida albicans*, hepatitis, asthma, chronic fatigue syndrome, allergies, gallstones, arthritis, and tumours. Other signs of *āma*

are a tongue coating, bad breath, tiredness after eating, lethargy, feeling muzzy headed.

Āmapācana uses many of the same herbs as *dīpana* but instead of taking them before a meal they are taken afterwards and usually at double the dose. These hot herbs literally burn the *āma*. The indication for using *pācana* is when there is hunger but not enough 'fuel' to fan the digestive flames. These spices are the fuel. Of course, when there are already inflammatory conditions, such as ulcers, caution must be taken.

- *Vāta* mixed with *āma* (*sāma vāta*) affects the colon causing stagnation in the lower abdomen; constipation and bloating are followed by pain, diverticulitis and may progress to arthritis and sciatica.
- *Pitta* mixed with *āma* (*sāma pitta*) upsets the centre of the abdomen and stagnates the liver, gallbladder and small intestine as well as the blood as a whole. As *pitta* is hot and oily it creates hot and damp inflammatory conditions in these areas and can cause a bilious liver, ulcerated mucous membranes and infected blood.
- *Kapha* mixed with *āma* (*sāma kapha*) stagnates in the stomach, chest, lungs and nasal area. Because the nature of *kapha* is to be wet, cold and heavy it has these effects in these areas causing copious mucus, sinus congestion and lymphatic congestion.

Specific methods of reducing *āma* are listed below:

Herbal therapy

The bitter flavour reduces, dries and drains *āma*. The pungent flavour destroys and digests it. The optimum method for the treatment of *āma* is the combination of these flavours. Here are some examples of herbal combinations to clear *āma* mixed with each *doṣa*:

- *Sāma vāta*: 1 part ginger (*Zingiber officinale*) and 1 part guggul (*Tinospora cordifolia*)
- *Sāma pitta*: 1 part turmeric (*Curcuma longa*) and 1 part daruharidra (*Berberis aristata*).
- *Sāma kapha*: 1 part long pepper (*Piper longum*) and 1 part guduchi (*Commiphora mukul*)

NB: be careful of excess use of bitters in a *sāma vāta* condition or of excess pungent for *pitta* types.
Herbs for reducing *āma*:

- *Anti-vāta*: fresh ginger, linseed, nutmeg, garlic, asafoetida, cumin, black pepper, fennel, castor oil
- *Anti-pitta*: kalmegh, aloe vera, daruharidra, fennel, coriander, guduchi, neem
- *Anti-kapha*: dry ginger, cumin, black pepper, pushkaramoola, punarnava, tulsi, vacha, guggulu, kutki

Other therapies to reduce āma

Sweating, fasting, hot water, wind and sun therapy, vigorous exercise.

Anti-āma diet

- Emphasise pungent, bitter, astringent flavours.
- Fruit: no sweet fruit, only sour: cranberry, lemon, lime, grapefruit.
- Vegetables: steamed sprouts, steamed vegetables, some raw is good for *pitta*. Lots of greens. Some microalgae and especially chlorella.
- No mushrooms, roots or excessively sweet vegetables.
- Grains: no bread or pastries. Less wheat and oats. Kicharee, barley, quinoa, millet, rye, basmati rice.
- Beans: mung; none for *sāma vāta*.
- Nuts: none, some pumpkin seeds.
- Dairy: none; goat's milk is slightly astringent and is less *kapha*-forming.
- Meat: no shellfish, fish, fats, red meat, pork, eggs.
- Oils: none; ghee is acceptable in small quantities as are mustard or linseed oil, which are drying.

Sweeteners: none; sugar is *āma*-forming. Honey is acceptable (max. 2 tsp per day).

- Drinks: ginger, cinnamon, cardamom, fennel, dandelion root coffee.

3. *Vrata* or *kṣun-nigraha*: fasting

Fasting is carried out to inspire a healthy hunger; a true need for food taken in the balanced quantity. *Kṣun-nigraha* means to 'hold onto your hunger'. Follow the guidance of a practitioner to guide you through a fast that is appropriate for you:

- *Vāta* people can do a short fast on hot liquid soups.
- *Pitta* constitution can do a liquid fast on fruit juices such as grape or pomegranate.
- *Kapha* types can do a literal fast; although this is a great struggle for them as it challenges their

Box 4.9

Khicaḍī recipe

1/3 cup split mung dal, 2/3 basmati rice (or other grain) simmered in 3–4 cups of water (a ratio of 1:3 or 1:4) for about 45 minutes without stirring.

Add 1/4 tsp organic turmeric, ginger, roasted cumin and coriander.

Add a teaspoon of ghee at the end.

Add seasonal vegetables: spinach, peas, or seaweeds, shitake mushrooms for an all-round healing, healthy and *agni*-enkindling meal.

tendency to hold onto things, it can quickly return balance to a system that can easily become stagnant.

Another soothing way to fast is to do a mono-fast. This is very useful if you have to work hard or are depleted in any way. The supreme food, *khicaḍī*, the original kedgeree, is specifically pacifying to all three *doṣa* (Box. 4.9). While fasting it can be useful to sip hot drinks; try spicy teas of black pepper, cinnamon and cardamom to burn *āma*, clear toxins and relax your contracting stomach.

Dietary therapy (*āhāra cikitsā*): a one-week cure

This is an amazing way to heal many disorders. It is specifically used during convalescence, digestive problems, fevers, excess mucus and toxæmia to clear *āma* and enkindle the digestive fire:

1. Start with *peya* (liquid) diet: combine in a ratio of 1 part rice:16 parts of water. Cook for 1 hour. Eat for 1–2 days
2. Follow this with *leha* (lickable) diet: semi-solid diet. Rice:water at 1:8 for 1–2 days
3. Then, *bojya* (chewable) diet: soft diet. Rice and water at 1:4 for 1–2 days. This is the same recipe as '*khicaḍī*'.
4. Finally, *bhakṣya* (firm) diet: this is the normal ratio for cooking rice: rice and water at 1:2 for 1 day and then eat a wider-ranging diet as normal (*Caraka Saṃhitā Sūtrasthāna* 27.250–256).

Add a small amount of cumin and turmeric powder along with some fresh ginger and ghee (1/2 tsp) and a pinch of salt if appropriate.

The strength of the digestive fire dictates the quantity that should be eaten.

4. *Tr̥ṣṇā* or *tr̥ṣṇa*: fasting from liquids

This means to fast from liquid intake. Extreme as this may sound, it can be very beneficial in water diseases and *kapha* imbalances such as oedema, diabetes or kidney problems. It reduces the stress on the water channels in the body (*ambuvahasrotas*). It also has the emotional affect of confronting your inner thirst which, when out of balance, can overflow into desire. Grasping and holding onto sensual experience may manifest as a 'thirst' for food, drugs, or extreme experiences. Fasting from liquid can help to redress this imbalance. Always follow the guidance of a trained health professional when fasting from liquids.

5. *Vyāyāma*: exercise

Exercise is good for you. But what sort of exercise is best? The modern phenomenon of sports massage therapists and physiotherapists as well as the steep increase in obesity and diseases related to a sedentary lifestyle suggest that many of us are not taking the correct type of exercise in the appropriate amount. Ayurveda supports all exercise as long as it is the one for you. Pounding the heavy concrete streets is not appropriate exercise for a *vāta* type with a constitution with such a delicate bone structure. *Vāta* types should do more relaxing and gentle exercise. *Kapha* people can do more vigorous exercise and it should be done regularly. *Pitta* should exercise regularly but moderate their tendency to compete and push themselves.

Although the classical texts do not mention yoga the two disciplines have blended over the last few hundred years. There are yoga practices that can be used to reduce the *doṣas*, strengthen the *dhātus*, increase *agni* and calm the mind for each humoral type:

- For *vāta* there are pelvis-opening, balancing, inverse and lower abdominal manipulating poses. The forward bend (*paścimottānāsana*), squatting poses, crow, tree pose (*vr̥kṣāsana*), eagle pose (*garuḍāsana*), plough (*halāsana*), cat (*mārjarāsana*), equal breath (*sama prāṇāyāma*), perennial lock (*mahābandha*) and humming bee breath (*brāhmarī prāṇāyāma*) all help. To balance *vāta* yoga practice should be calming, grounding and relaxing.
- For *pitta* there is an abdominal focus with long limb stretching and inverse postures. The cobra

(*bhujāṅgāsana*), bow (*dhanurāsana*), fish (*matsyāsana*), shoulder stand (*sarvāṅgāsana*), triangle pose (*trikoṅāsana*), matsyendra's pose (*matsyendrāsana*), twists, forward bends, abdominal lock (*uḍḍīyāna bandha*), abdominal churning (*naulī*), alternate nostril breathing (*nāḍī sodhana*) and the cooling breath (*śītalī prāṇāyāma*) all help to balance excess heat in the system. To balance *pitta* yoga should be practised slowly to regulate and moderate the system.

- For *kapha* there are lung-expanding, thyroid- and kidney-strengthening and metabolism-raising exercises. The dynamic sun salutation (*sūrya namaskāra*), camel (*uṣṭrāsana*), bow (*dhanurāsana*), wheel (*cakrāsana*), locust (*śalabhāsana*), fish (*matsyāsana*), two angled pose (*dvikoṅāsana*), lying spinal twist, neck lock (*jālandharabandha*) and bellows breath are all beneficial. To balance *kapha* yoga practice should be vigorous and invigorating.

6. *Ātapa seva*: sunbathing

This treatment is very useful for lightening the body, increasing the *agni* and treating *bhrājaka pitta*. Many conditions are improved by sitting in the sun; certain types of eczema, psoriasis, arthritis, depression and water retention to name a few. Again it all comes back to who is doing what, how and when. With the present holes in the ozone layer everyone must take care, especially fair-skinned *pitta* types, and should take extra precautions and apply aloe vera gel when they go out in the sun.

7. *Māruta seva*: wind-bathing

This practice of receiving air is wonderful. How often do we just go outside and breathe? It specifically relates to the yogic practice of *prāṇāyāma* and of becoming inherently tuned into deep slow breathing using a deep inhalation and long exhalation. It is about imbibing *prāṇa*; the life force surfs on the breath and flows deep into our tissues. Specific problems such as asthma, bronchitis and emphysema greatly benefit from this practice. Also people with a tendency to experience excessive anxiety and fear in their lives benefit from watching the breath flow in and out of themselves. It balances *prāṇavahasrotas*, the channel carrying the life-force around the system. This has a direct effect on the nervous system and *manovahasrotas* of the mind. In fact the breath is the connecting

principle between the body and the mind. A calm breath leads to a calm mind and relaxed body. Sitting in the wind and doing breathing practices also helps to dry *kapha* and reduce excess *āma* (*Haṭhayogapradīpikā* 2.35,65).

After integrating these practices into your life you are ready for rejuvenation. In fact, these practices alone will rejuvenate you; they will improve your quality of life, your experience of life and they may well extend it.

Treat the *guṇas* by increasing the qualities of *sattva* and reducing *rajas* and *tamas*

As the emotions of passion and negativity are ingredients of disease it is vital that they are treated. The interconnected nature of mind and body mean that when one is upset the other is destabilised. Many of the above treatments increase *sattva*, especially the practices of strengthening *agni* and rejuvenation.

- *Rajas* is removed by clearing *pitta* and balanced by practising compassion and patience.
- *Tamas* is removed by clearing *āma* and *kapha*. If *tamas* is prevalent then selflessness and giving are practices that can help to remove excess slothfulness.
- *Sattva* is increased with unconditional love, selflessness, peace and spiritual practice.

Rejuvenate with tonics and aphrodisiacs: *rasāyana* and *vājīkaraṇa*

Rejuvenation involves *br̥mhaṇa* (building therapy) using tonic herbs such as ashwagandha (*Withania somnifera*), shatavari (*Asparagus racemosus*) and bala (*Sida cordifolia*) to nourish all the tissues, build the strength, enhance *ojas* and strengthen immunity. It also involves eating building foods like nuts, ghee and dairy products.

Tonics (*rasāyana*)

In Ayurveda tonics are sweet, heavy and oily in quality. The sweet flavour increases the quantity and quality of the tissues as it is anabolic. So many of the modern wonder herbs that boost immunity are full of immune-enhancing saponins and polysaccharides. The sweet flavour is tonifying and rejuvenating, but it must be of a high quality and fully digested to benefit the whole system. Popular

ayurvedic tonics are chayawanaprash, ghee and walnuts (*Juglans regia*).

Aphrodisiacs (*vājīkaraṇa*)

This refers to herbs that nourish the reproductive organs, increase fertility, promote libido as well as prevent ageing. Herbs such as kapikacchu (*Mucuna pruriens*), ashwagandha (*Withania somnifera*) and amalaki (*Emblīca officinalis*) are renowned reproductive tonics as well as being antioxidants.

BUILDING AN AYURVEDIC FORMULA

There is a specific logic to creating an ayurvedic formula (see Lad [2002a,b] for a superb transcription of the disease process and treatment selection). It is based on a diagnosis that leads to a treatment strategy that guides the creation of a prescription.

Remember the sequence:

1. Diagnosis
2. Treatment principle
3. Prescription.

In a successfully blended prescription, one or two herbs are combined for each level of the disease:

- Disease-specific (*vyādhī pratyānikā*)
- *Doṣa*-specific (*doṣa pratyānikā*)
- *Dhātu*-specific (*dhātu pratyānikā*)
- *Agni*-specific (*agni pratyānikā*).

This may also involve treating *āma* and the *guṇas* within such treatments. The diagnosis guides you to the treatment principle and this guides you to the correct part of the *materia medica*, enabling you to select the correct herbs for the pattern that is presented.

See the plant profiles in Chapter 6, and Appendix 1 for herbs that treat each *doṣa*, *dhātu* and *agni*.

Dosage varies according to each treatment but it is useful to lead with a high dose of the primary herb to treat the most imbalanced factor. This can then be supported with other herbs at lower doses for the remaining disease influences.

For example, the treatment of asthma with aggravated *kapha* in the *rasa dhātu* with a sluggish digestive fire causing phlegm, means that the treatment principle is to reduce asthma, reduce *kapha*, clear

excess *kapha* from *rasa dhātu*, and to tonify the sluggish digestive fire. The following herbs could be selected:

- Disease-specific: *vasa* (*Adhatoda vasica*) is a specific herb for treating asthma and also reduces *kapha*
- *Doṣa*-specific: *pippali* (*Piper longum*) treats *kapha doṣa* and treats phlegm
- *Dhātu*-specific: dry ginger (*Zingiber officinale*) treats *kapha* in the *rasa dhātu*
- *Agni*-specific: *tulsi* (*Ocimum sanctum*) increases *agni* and clears phlegm and asthma.

Thus combined, the synergistic effect of the formula balances the forces that our health hangs on: *doṣa*, *dhātu*, *mala* and *agni*.

RECOGNISING THE SIGNS OF SUCCESSFUL TREATMENT AND GOOD HEALTH

- A healthy appetite and a balanced desire for food without cravings
- Appreciation of the flavour of food and feeling satisfied after eating

- Good digestion without any signs of discomfort, belching, flatulence or borborygmus
- Clear voice
- Relief from any pain or discomfort
- Proper functioning of the senses; hearing, feeling, seeing, tasting and smelling
- Clear complexion
- Appropriate length and quality of sleep; 6–8 hours/night
- Regular elimination of stool, urine and sweat
- Constant energy with good stamina and ability to exercise
- Enthusiasm for life
- Balanced emotions; neither too happy with success nor too sad in times of difficulty
- Regularly compassionate, generous and calm.

Ayurveda is about understanding who you are and then living in harmony with your own unique constitutional balance. It sounds simple. However, the constant adjusting is difficult and requires subtle awareness.

Śubh Lābh
Good luck!



CASE STUDIES

The purpose of these case studies is to give some simple examples of how to arrive at an accurate diagnosis based on the presenting signs and symptoms of the patient, form effective treatment principles and then create a unique formula based on this pattern differentiation.

CASE STUDY 1: INSOMNIA

A 32-year-old woman presented with insomnia as her primary complaint. On further enquiry she revealed that she was always bloated by the end of the day, only had a bowel movement every other day and had recently been aware of her heart racing when under pressure. She also has dry skin, low body weight and a light menstrual flow. She worked for a legal company, working to tight deadlines. Her appetite was good, in fact if she did not eat regularly then she felt weak. Despite her hunger she did not always digest her food well.

Tongue: small, thin, pale, small cracks in the centre, dry and dirty coating at the back.

Pulse: thin, weak, no depth, a little rapid and strongest at the distal point.

Diagnosis

The diagnosis is high *vāta*, with *āma* in the lower abdomen and deficiency of plasma tissue (*rasa dhātu*). The disease category is insomnia (*anidrā*) with poor digestion (*ajīrṇa*).

The high *vāta* is fanning her digestive flames but also disturbing her digestive ability to absorb the food, hence the bloating. The constipation comes from anxiety and tension in the tissues. The primary complaint, insomnia, is caused by stress and *vāta* rebelling upwards instead of moving down and out. The high *vāta* is bringing an excess of dryness (*rūkṣa*) and lightness (*laghu*), which weakens the plasma tissue's ability to nourish the heart and keep her grounded.

Treatment principle

- Normalise bowel movements and descend *vāta*
- Calm the nervous system

- Nourish the plasma tissue
- Strengthen the digestive fire

The treatment principle is to first normalise her bowel movements and digestion. She took triphala (a mix of amalaki, haritaki and bibhitaki) 4 pills at night with 1 teaspoon of psyllium and hot water. She started to sip hot ginger water throughout the day and then to take ½ tspn hing-hashtaka with her food. She was asked to only eat warm food and if she was under stress to avoid too much solid food (eating preferably soups). She took the main formula as prescribed

Her bowels soon normalised. The awareness of her heartbeat and the feeling of having a tight chest stopped altogether. This helped enormously. She has now learnt a simple meditation technique and feels much more in control of her life.

Box 4.10

Formula: insomnia

Disease-specific (*vyādhi pratyānīka*): jatamansi and tagarah 20g

Doṣa-specific (*doṣa pratyānīka*): ashwagandha 15g

Dhātu-specific (*dhātu pratyānīka*): amalaki and licorice 10g

Agni-specific (*agni pratyānīka*): cardamom 5g

1 tsp twice a day with warm almond milk

CASE STUDY 2: ACIDITY

A 45-year-old man came complaining of heartburn after eating. He had hypogastric distension, burning feelings in his stomach and chest and a sour taste in his mouth. He had loose bowel motions and a strong appetite but did not feel that he digested everything properly. He had a red face, felt warm and was very active but occasionally felt dizzy if he was stressed. The heartburn was aggravated by wine, vinegar, spicy food and eating late at night.

Tongue: red body with a thin yellow coating at the back.

Pulse: rapid and jumpy. Very wiry in the middle position in both arms.

Diagnosis

The diagnosis is high *pitta* in the stomach with an intense (*tikṣṇa*) digestive fire that is disturbing the digestive system and causing *āma*. The disease category is acidity (*amlapitta*) and diarrhoea (*atisāra*).

Treatment principle

- Balance the digestive fire with lightening therapy
- Reduce acidity and *āma* with *āma pacana*
- Clear *pitta* with *pitta śodhana*
- Stop diarrhoea
- *Pitta*-reducing diet

This formula quickly stopped the diarrhoea and burning sensations, especially when he followed a diet with low salt, sour and spicy flavours. He still had some burning at night when he lay down. This gradually reduced and he stayed on a maintenance treatment of *triphalā* and aloe vera juice

Box 4.11

Formula: acidity

Disease-specific (*vyādhi pratyānīka*): manjishta and bilva 15g

Doṣa-specific (*doṣa pratyānīka*): amalaki and licorice 20g

Āma-specific (*āma pratyānīka*): guduchi and cardamom 10g

Agni-specific (*agni pratyānīka*): coriander leaf 5g

The herbs were mixed as a powder and 1 tsp taken with aloe vera juice before every meal.

CASE STUDY 3: DYSMENORRHOEA

A 30-year-old woman complained of painful periods. She had an irregular 25–30-day cycle with a short and scanty flow that was always dark red. The menstrual cramps were a dull ache that started on the first day and continued into day two. She passed small and dark clots. She often had abdominal distension and constipation before the period and then diarrhoea during the period. She had acute headache in her temples and behind the eyes on the first day of the period. She also got a few acne spots just before the period. Emotionally, she was more anxious and irritable before the period.

She runs her own company, has one young child and is happily married. She loves exercising, often running, as she says it helps her alleviate stress. She is pale and thin.

Tongue: small, dry, cracked in the middle with some red spots on the sides. Quivering and pale body.

Pulse: weak, thin and faint all over but wiry in the middle positions.

Diagnosis

This is a case of aggravated *vāta* obstructing the flow of *apāna vāyu* with a weakness in the *rasa* and *rakta dhātus*. This means that wastes cannot move downwards. This causes *vāta* to backup and irritate the blood. The aggravated blood tissue (*rakta dhātu*) then aggravates *pitta*. So *vāta-pitta* are aggravated which is irritating the menstrual channel. Dysmenorrhoea is known as *kṛcchra ārtava* and, in this case, the causes are weakness from poor assimilation, recent childbirth and running outside in the cold with cold invading the uterus.

Treatment principle

- Reduce pain
- Descend *vāta*
- Nourish *rasa* and *rakta dhātus*
- To regulate *pitta* and soothe the blood
- *Vāta*-reducing diet

After two cycles the pain had significantly reduced, bowel symptoms calmed down and headaches stopped. She still felt run down if she overdid it. She still had spots around the period, which showed that some heat signs were present from the aggravated blood and so Sariva was added to the formula.

She continues to progress.

Box 4.12

Formula: dysmenorrhoea

Disease-specific (*vyādhi pratyānīka*): shatavari and jatamansi or tagara 15g

Doṣa-specific (*doṣa pratyānīka*): ashwagandha and cinnamon 15g

Dhātu-specific (*dhātu pratyānīka*): amalaki 10g

Agni-specific (*agni pratyānīka*): ajwan and fresh ginger 10g

Taken with 2 tbsps of aloe vera juice as a carrier to the plasma and blood tissues

If the pain is very severe add turmeric, myrrh and dhatura

Douche: dashmoola decoction or enema

Regulate the bowel with triphala + hemp seeds

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THE SCIENTIFIC BASIS OF AYURVEDA

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By knowing one science alone one cannot arrive at a proper conclusion. Therefore a physician should study other sciences in order to arrive at a correct diagnosis

Suśruta Saṃhitā Sūtrasthāna 4.6

This chapter is an attempt to find some connections between ayurvedic theory and modern scientific understanding. Ayurveda and energetic medicine as a whole are sometimes criticised for being too general; their holistic concepts appear alien to the scientific mind. Whereas Ayurveda perceives the body as a matrix of interconnected systems, allopathic medicine focuses on the detail of the individual parts. Ayurveda excels at understanding the whole picture, allopathy at determining the minutiae. I am interested in how each perspective can enhance the horizon of the other. Here we can explore how allopathy can be understood more fully through ayurvedic concepts and vice versa. Although the comparisons are not always exact, they reveal that the fundamental theories of Ayurveda are universal.

ELEMENTAL AYURVEDA

Chemistry is the science of matter. Simply put, the scientific understanding of matter is based on the atom that is made from a nucleus, protons and electrons. Atoms combine to make molecules that form the various states of matter. They literally give form to our world. These states of matter can be solid, liquid or gas depending on various factors such as temperature, pressure and volume. Water is a clear example; at room temperature it is liquid, below 0°C it is solid and above 100°C it is a vapour (see Bloomfield & Stephens 1996).

We can look at how these scientific concepts relate to the ayurvedic understanding of matter.

As discussed in Chapter 2, Ayurveda reduces all of matter to the five elements (*pañcamahābhūta*, Box 5.1). These are understood to be the framework of nature. They too are influenced by the natural forces of temperature, pressure and volume. We can say that the ayurvedic theory of matter shares some characteristics with the scientific view.

When we go on to look at the different groups of elements we can find correlations between them and the humours. Gases such as hydrogen, helium and oxygen seem to have similar natures and qualities as *vāta*; they are light and ethereal. *Pitta* is found in the reactive metals of phosphorus and magnesium which share reactive, metabolic and combustible qualities. *Kapha* is found in the heavy and denser elements of carbon, iron and the metals that are the solid building blocks of matter. This shows that at room temperature some of the elements are *vāta* gases, some *pitta* interactive liquid–solids and some are *kapha* non-reactive solids.

AYURVEDA, ATOMIC STRUCTURE AND PHYSIOLOGY

Here I want to explore some similarities between the *doṣas* and modern physiology.

Vāta

Vāta can be seen as the master control system. Its co-ordinating nature is mirrored by the regulatory function of DNA existing in the nucleus of every cell. *Vāta* is the regulator that facilitates and

guides the functioning of the cells just as the DNA holds the genes that regulate the organism's evolution. We also know that at the centre of every atom is space and that *vāta's* expansive nature is dominated by the elements of space and air. Space contains and limits the movement of air. This air quality relates to *vāta's* messenger nature and it is this transferring activity that moves information and nutrition across the cell membranes.

The nature of *vāta* is also intimately related to the functioning of the nervous system. The nervous system is the communication network linking the mind and body just as *vāta* is considered to be the principle that regulates the movement of information and feedback mechanisms around the whole system. The chemical transfer of messages in the brain is even known to involve a gas, nitric oxide (NO). *Vāta* disorders often involve disorders releasing gas, creating space and erratic movements; from digestive gases causing bloating, to osteoporosis causing holes in the bones, to nervous system disorders causing spasms and shaking. Parkinson's disease is an example of this; an excess of the enzyme monoamine oxidase (MAO) reduces the production of the neurotransmitter messenger dopamine, which results in the instability of the nervous system.

Pitta

Pitta has the quality of being the manager and metaboliser. At a cellular level, *pitta* manifests in the mitochondria that transform raw matter into energy. As discussed in Box 5.1, adenosine triphosphate (ATP) is released from the mitochondria and is the universal currency of energy. The mitochondria are often referred to as the 'powerhouse' of the cells and *pitta* is the powerhouse of metabolic functions. *Pitta* both releases and manages energy. Some of *pitta's* physiological activities can be correlated to some of the functions of amino acids that help to build enzymes and hormones.

These enzymes and hormones are the metabolic controls of the body that reflect *pitta's* digestive, combusive and developmental functions. Like *pitta* these functions are dominated by the elements of fire and water. They are liquid and metabolic. The water controls the fire from raging out

of control. *Pitta's* character also relates to the function of bile and hydrochloric acid that are also both liquid and combusive. The digestive functions of *pitta* are found everywhere from cellular metabolism to the digestive system itself. Just as enzymes are catalysts, so *pitta* is a metabolic catalyst for the whole system.

Pitta is implicated in the endocrine system where an imbalance often manifests as an excess or lack of heat in the body. For example, menopausal hot flushes, from an imbalance in the oestrogen–progesterone levels, are a display of excess heat, while low thyroid function, due to low levels of thyroxine, causes feelings of coldness that reveal a deficiency. Both conditions are often treated with *pitta*-balancing herbs. Another example connecting *pitta* and hormonal balance is that just as *pitta* manages the appropriate growth from childhood

Box 5.1

The five elements of Ayurveda

- Earth (*pṛthvī*), the element that has qualities of being dense and heavy, is made from the nucleus, proton and electron as the proton and electron give mass and substance to an atom.
- Water (*āp*), that is the connecting and structural element, is the cohesive tendency that holds the atom together and helps it join with other atoms to make molecules. As atoms seek stability through linking with other atoms by balancing the positive and negative electromagnetic forces they are innately cohesive.
- Fire (*tejas*), the element that relates to combustion and metabolism, is seen in the molecular energy and release of adenosine triphosphate (ATP) that occurs in cellular metabolism. On the atomic level electrons hold huge potential and when electrons are freed from their orbits huge amounts of energy are unleashed. In molecules such as ATP the energy is held in high-energy phosphate bonds and is released when these bonds are broken.
- Wind (*vāyu*), the force of motion, is reflected in the movement of electrons circulating around the electron rings.
- Ether (*ākāśa*), the subtle element that fills space, is the space that exists within the atomic structure and is at the centre of the nucleus (M Athique, unpublished work, 1997, 1998).

to puberty and from middle age to old age so it is the release in hormones that influence the different stages of maturity.

Kapha

At a cellular level *kapha* gives structure to the cell and is found in the fatty acid phospholipid bilayer that makes up the cell wall. *Kapha* collects in all other lipid tissue in the body as it coats and protects the inner organs. Its predominance of the earth and water elements appears as the moisture in the body; interstitial fluids, intercellular fluid, cytoplasm, synovial fluid, cerebral fluid and the myelin sheath. It also plays an important role as connective tissue that is an interwoven matrix of tissue that links the tissues of the body together. *Kapha* is the container just as the earth contains water: cytoplasm within cell wall, blood and lymph in the vessels, tissues within skin, chyme within the gastrointestinal tract, and the neurons within the myelin sheath.

These structural and cohesive roles reflect the anabolic and creative *kapha* tendencies that exist internally. Interestingly, substances that are considered to build *kapha* also increase semen, ova and reproductive essence; seeds, nuts, fruits and tonic roots. *Kapha* is about creating, building and holding onto energy. *Kapha* diseases often involve too much of this 'holding' tendency with congestive heart disease, high cholesterol levels and obesity being examples of diseases with patterns involving accumulation and congestion.

AYURVEDA AND BIOLOGICAL FUNCTION

As we have seen the ayurvedic *doṣa* system is a tripartite model of natural processes. The processes of regulation–coordination, combustion–transformation and generation–cohesion are represented by the functions of the *vāta*, *pitta* and *kapha* humours respectively. Here we can trace these functions and systems through the body's existence.

Conception

Biologically, this tripartite nature is mirrored in the movement together (*vāta*) of sperm and ova that results in their union and fertilization (*pitta*) that leads to the growth (*kapha*) of the embryo.

The embryo

The development of the embryo is also divided into three distinct layers. The unified egg cells divide into the ectoderm, mesoderm and endoderm. The ectoderm relates to the outer covering and develops into the nervous system and skin that are both influenced by *vāta*. The mesoderm, the middle germ layer, develops into the vascular system that includes the blood, lymph, heart, muscle, bone and urinary systems that are primarily *pitta* in nature. (Although bone is frequently associated with *vāta*, some of its functions, such as managing red blood cell production from the bone marrow, can be related to *pitta*.) From the endoderm, the inner germ layer, comes the inner layer of the mucus membrane lined digestive tract, respiratory system and urinary system that are regulated by *kapha*.

This three-tier pattern is then replicated in every structure in the body from blood vessels, to bones to organs and to the mucous membranes; they each have an inner epithelium layer through which substances pass (*vāta*), a middle layer containing muscles, blood and lymph (*pitta*) and an outer serous layer that holds structures together and binds to the organism as a whole (*kapha*).

Digestion

Another connection between ayurvedic theory and modern physiology is the process of digestion. The functional processes of *vāta*, *pitta* and *kapha* are mirrored by the activities of ingestion, digestion and assimilation. For example, if digestion moves too fast (*vāta*) food cannot be digested; too slow and it putrefies (*vāta*); too much digestive secretion (*pitta*) burns the stomach and intestinal lining; too little digestive secretion (*kapha*) means that the food is not broken down. This link is further represented by the metabolic processes of catabolism, metabolism and anabolism, which help to release (*vāta*), activate (*pitta*) and store (*kapha*) energy. If any of these processes become either excessive or deficient then they lead to disease. (See Tillotson et al [2001] for further insights into the physiological links between Ayurveda and modern science.)

Homeostasis

The universality of Ayurveda is reflected in its search for balance; its goal is the equilibrium of

the *doṣas*, *dhātus*, *agni* and *malas*, just as the nature of all biological systems is homeostasis. Both Ayurveda and modern physiology recognise that health is achieved through balance and regulation of the internal systems. Ayurveda describes this regulation via the humoral concepts of *vāta*, *pitta* and *kapha* while modern medicine determines it through chemical pathways and feedback mechanisms. Each has its place, however, knowing how to utilise each particular paradigm is the important question.

'Like the heat of fire or the liquidity of water, Ayurveda is innate and its inherent nature is eternal.'

Caraka Saṃhitā Sutrāsthāna 30.27.

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PLANT PROFILE TEMPLATE

TITLE

The title name of the plants described is based primarily on their Sanskrit name apart from where I have felt that it is more appropriate to use their common English name. For example ginger (*Zingiber officinale*) is under ginger but calamus (*Acorus calamus*) is under its Sanskrit name of vacha. If you are searching for a herb please refer to the Index of Plant Names in Appendix 6, which lists herbs under their Latin, Sanskrit and Common names.

COMMON NAME

The popular name of a herb in English (E), Hindi (H), Singhalese (S), Marathi (M), e.g. ginger (E), adrakh (H), sont (H).

SANSKRIT

The classical Sanskrit name, e.g. fresh = *ārdraka*, dry = *śuṅṭhī*. Each herb has many Sanskrit names. I have just given the most common ones with appropriate translations where the herb's name is an epithet as well as a proper name. If there is not a translation then it usually means that the term is just a proper name.

LATIN

The botanical reference and plant part, e.g. *Zingiber officinale*—*Rhizoma*, followed by the botanical family (*Zingiberaceae*).

ENERGETICS

For more details on these 'Energetics' headings, please refer to Chapters 2 and 3.

Rasa (taste): particular flavour of a herb, e.g. pungent and sweet.

Vīrya (energy): thermal quality of the herb, e.g. hot or cold. Heating and cooling are secondary qualities, not quite as strong as hot or cold.

Vipāka (post-digestive effect): This is the action after digestion and is a category unique to Ayurveda, e.g. salty becomes sweet.

Guṇa (quality): the nature of the herb—heavy or light refer to digestibility; wet or dry refers to the

fluid effect on the mucous membranes; penetrating refers to its ability to travel deeply into the tissues.

Doṣa effect: effect on the three functional principles: *kapha* (K), *pitta* (P), *vāta* (V), e.g. KV−, P+ means reduces *kapha* and *vāta* and increases *pitta*.

Dhātu (tissue): affinity for each of the seven tissues.

Srotas (channel): affinity for any of the 16 channels.

CONSTITUENTS

The phytochemical ingredients, e.g. tannins, alkaloids, essential oils. This book offers an overview of the phytochemical content of the herbs.

AYURVEDIC ACTION

Ayurvedic categories of therapeutic activity, e.g. *Rasāyana*—rejuvenative, *Āmanāśaka*—toxin destroyer. This category also includes the *prabhāva* or specific effect of the herb above and beyond its energetics. This is the physiological activity of the herb based on the empirical experience of ayurvedic doctors. I have used the *Caraka Saṃhitā*, *Suśruta Saṃhitā*, *Aṣṭāṅghṛdaya Saṃhitā*, *Bhāvaprakāśa Nighaṅṭu*, *Yogarātnākara Saṃhitā Nighaṅṭu* and the *Śārṅgadhara Saṃhitā* as the main textual reference sources for this information.

BIOMEDICAL ACTION

Western categorisation, e.g. alterative, diuretic, diaphoretic, nervine.

INDICATIONS

Specific conditions in which the herb is indicated, e.g. lung conditions, skin problems.

COMBINATIONS

Special combinations of herbs that are commonly combined to enhance their synergistic effect, e.g. ginger and cinnamon to warm and stimulate digestion, clear *kapha* and regulate *vāta*.

CONTRAINDICATIONS

Areas where the herb may be considered inappropriate, e.g. rhubarb root in pregnancy

SAFETY

Drug–herb interactions.

DOSAGE

Daily dosage limits for dried, concentrated and tinctured herbs.

Dosage is a slightly controversial issue because it is not absolute for every herb or person. There are no standardised dosages for these herbs, but there are reference ranges. I have given the dosages that I use in my practice and, where they are given, that are recommended in the ayurvedic texts. One clear incompatibility in the profiles is the comparison between the dry herb dose and the tincture dose. This inconsistency exists as tinctures extract more active ingredients, are more easily assimilated and are stronger than just the dry herb; therefore, where relevant, I have recommended a proportionally lower dose. The tincture doses are not traditionally ayurvedic but are extrapolated from Western herbal medicine use and my own clinical experience.

NOTES

Comments that are of particular interest, growing conditions, example of the doctrine of signatures

(a traditional theory that the Creator has stamped a divine imprint on nature and that these characteristics [growing conditions, leaf shape, colour or smell] indicate a practical use; for example the stalk of garlic has a hollow tube and it is indicated for breathing problems, while vacha [*Acorus calamus*] thrives in damp conditions and is used to clear mucus and catarrh). Also notes on the idiosyncratic (*prabhāva*) nature of the herb, folklore, legal issues, special 'carrier' mediums (e.g. honey), environmental concerns.

A NOTE ON REFERENCES

I have used many varied sources for reference material including primary and secondary resources. The reader is referred to the bibliography to find references to clinical and textual data. I have used data based on human clinical trials and *in vitro* experiments and have purposefully avoided any clinical trials carried out on animals for ethical reasons.



AJMODA

Common name **Celery seed (E)** Sanskrit **Āja-modā** Latin **Apium graveolens–Semen (Umbelliferae)**

As with all members of the *Umbelliferae* family with their ascendant flower and seed heads, this is a digestive 'lightener'. Its pungency and aromatic nature activate the digestive process and make light work of heavy food. Literally meaning 'goat's delight', ajmoda is a delicious shrub.



ENERGETICS

Rasa (taste) Pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, marrow, nerve

Srotas (channel) Digestive, respiratory, nervous, urinary

CONSTITUENTS

Volatile oils D-limonene, alpha-selinene, santalol, limonene-type monoterpenes, phthalides

Flavonoids Apiin, apigenin

Coumarins Bergapten, celeroside, isopimpinellin (Bone, 2003)

AYURVEDIC ACTION

Dīpanīya Awakens digestion

Pācaka Digestive

Śūlaprasāmana Alleviates intestinal spasms

Śvāsa Benefits breathing

Anuloma Mild laxative, corrects the flow of *vāta*

Āmanāśaka Toxin digester

BIOMEDICAL ACTION

Antispasmodic, carminative, nervine, galactagogue, diuretic, bronchodilator, expectorant

INDICATIONS

Lungs Asthma, bronchitis, cough, sinus congestion. It actively helps to dilate the bronchioles by preventing spasm in the airways. It positively affects the flow of *prāṇa* and *udāna vāyu*. Excess mucus accumulation, a sign of aggravated *avalambaka kapha* is 'digested' (Frawley & Lad 1994).

Digestion Flatulence, borborygmus and intestinal cramps. Low *agni* is stimulated by the pungent volatile oils. *Samāna vāyu* is regulated and *apāna vāyu* encouraged to flow freely downwards. It encourages the natural downward movement of digestion (Tierra 1988).

Nerves Spasms, cramps and muscular tension. Obstructed *vāta* is released by reducing tension throughout the whole nervous system; this directly regulates the tension versus relaxation balance in the smooth muscles. Ajmoda benefits heart pain caused by nervous constriction (*Bhāvaprakāśa*). As an anti-spasmodic with an affinity for the lower abdomen it can also help ease the pain of dysmenorrhoea and menstrual cramps.

Urine Ajmoda seed is a specific herb for treating kidney and bladder discomfort from cold; frequent, pale urine with lower backache and nocturia (*Bhāvaprakāśa*). Caution should be observed in kidney inflammation as the volatile oils may cause irritation (BHMA 1992). Conversely, the vegetable 'stalk' heals the urinary system afflicted with problems from heat, such as urinary irritation, cystitis, pain and frequent, dark urination with burning.

Joints Ajmoda is a specific herb for rheumatism, arthritis and gout (Bone 2003). It directly reduces pain by assisting excretion of inflammatory *āma* toxins via the *mūtravāhasrotas*.

COMBINATIONS

- * Ginger, fennel, cardamom, cumin, coriander for obstructed *vāta* and digestive discomfort.
- * Pippali, anthrapachaka, haritaki for *vāta-kapha*-induced cough.
- * Jatamansi, brahmi, tagara for debilitated nervous system and high *vāta*.

CONTRAINDICATIONS

High *pitta*; hyperacidity. It is safe in pregnancy despite mistaken concerns regarding the contra-indicated apiol being contained in celery seed (Bone 2003).

SAFETY

No drug–herb interactions are known.

DOSAGE

250 mg–5 g per day or 3–15ml per day of a 1:3 @ 60% tincture.

Notes

- Ajmoda grows in dry soil; according to the ‘doctrine of signatures’ this indicates its ability to oppose moisture and absorb damp mucousy conditions.
- It clears *āma* and general stagnation; it has an aromatic nature that warms and disperses cold, wet and damp symptoms.
- Its pungent aroma is expansive and opening and, like the petals of its flower head, is dispersing and spreading outwards.
- It regulates *prāṇa*, *udāna*, *samāna* and *apāna vāyu*, which helps to balance the entire nervous system.
- While there is some concern regarding the phototoxicity of its furanocoumarin content, celery seed is a very safe remedy. Caution should be observed if using ultraviolet treatment (Bone 2003).



AJWAIN

Common name **Bishop's weed (E), Ajwain (H)** Sanskrit **Yavānī, Yavānikā, Agnivaradhana**
Latin **Trachyspermum ammi syn. Trachyapermum copticum, Carum copticum/roxburghianum/ajowan, Ptychotis ajowan–Semen (Umbelliferae)**

Deliciously aromatic, ajwain is a wonderful remedy for sluggish digestion and coughs. A truly warming seed.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, marrow, nerve

Srotas (channel) Digestive, respiratory, nervous, urinary

CONSTITUENTS

Essential oils Thymol, dipentene, camphene, myrcene, limonene

Glycosides

Fatty acids

(Williamson 2003)

AYURVEDIC ACTION

Dīpanīya Awakens digestion

Pācaka Digestive

Śūlaprasāmana Alleviates intestinal spasms

Stanyajanana Promotes breast milk

Śvāsa Benefits breathing

Anuloma Mild laxative, corrects the flow of *vāta*

Āmanāśaka Toxin digester

Śūlaprasāmana Alleviates pain

Ḳṛmighna Kills parasites

Vātakaphahara Alleviates *vāta* and *kapha*

BIOMEDICAL ACTION

Antispasmodic, carminative, nervine, analgesic, diuretic, bronchodilator, expectorant, anthelmintic



INDICATIONS

Digestion Specifically indicated for low digestive fire (*mandāgni*). It combines warming digestive pungency with antispasmodic and bitter activity; antifatulent, digestive cramps and sluggish digestion.

Also benefits worms and fungal infections of the intestines (Swami Prakashananda Ayurveda Research Centre 1992). It is specific for digesting *āma* and stagnant toxins within the digestive tract. It works on *samāna vāyu*, the *prāṇa* that controls digestion in the centre of the abdomen, and stimulates *pācaka pitta*, the *pitta* subtype overseeing digestion in the small intestine. It is specifically indicated for hiccups, belching and rebellious *apāna vāta* moving upwards instead of downwards.

Lungs As an antispasmodic it effectively eases wheezing and constricted lungs due to *vāta* and cold. Used where there is white and copious phlegm with high *avalambaka kapha*. Also beneficial in sinus and nasal congestion; it stimulates and opens the channels of the head (*manovāhasrotas*).

Nerves Ajwain relaxes tension in the nervous system; especially in

the lower abdomen, reproductive system and lungs. Use in menstrual cramping, colic, wheezing and general anxiety. As it benefits the whole nervous system it can help to lift the sluggish lethargy of mild depression. It normalises the flow of *vāta* and all the *prāṇas* around the body. By aiding *udāna vāyu*, the *prāṇa* regulating speech and enthusiasm, and by clearing the lungs and throat, it opens the way for clear communication (Frawley & Lad 1994).

Urine As a warming diuretic it can clear urinary frequency from cold. It also benefits painful urination caused by calculi.

COMBINATIONS

- * Haritaki, amalaki, fennel, cumin for digestive sluggishness and bloating.
- * Pippali, bibhitaki, vasaka for wet cough with white phlegm and asthma.
- * Brahmi, gotu kola, ashwagandha for mental tension.
- * Shatavari, ginger, turmeric, rose for menstrual pain.
- * Gokshura, bhumiamalaki, manjishtha and shilajit for urinary stones from *kapha*.

CONTRAINDICATIONS

Acidity; high *pitta*; during pregnancy.

SAFETY

No drug–herb interactions are known

DOSAGE

250 mg–5g per day or 3–15ml per day of a 1:3 @ 60% tincture.

Notes

- This aromatic member of the *Umbelliferae* family thrives in the dry, sandy soil of central and western India, Gujarat, Maharashtra and Madhya Pradesh.
- It can be used alongside or instead of ajmoda as they have very similar properties.
- It reduces *vāta* and *kapha* due to its hot and penetrating nature.
- One of its Sanskrit names, *agnivardhana*, means ‘strengthening the digestive fire’.



ALOE

Common name **Aloe vera (E)** Sanskrit **Kumārī** Latin **Aloe indica/vera/barbadensis–Herba/Succinum (Liliaceae)**

The Indian name for aloe vera is *kumārī* meaning ‘young maiden’, which reveals its affinity for the female menstrual cycle and its rejuvenative powers for maintaining youthfulness.

ENERGETICS

Rasa (taste) Bitter, sweet

Vīrya (energy) Cold

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Heavy, unctuous, slimy

Doṣa effect VPK= as the gel and juice; dried gum powder (*bola*) aggravates V

Dhātu (tissue) All tissues

Srotas (channel) Digestive, excretory, circulatory, female reproductive

CONSTITUENTS

Saccharides Polysaccharides; acetylated galactomannan known as acemannan or aloe-everose, glucose

Phytosterols β-sitosterol

Fatty acids Gamma-linolenic acid

Enzymes, amino acids

Vitamins B, C, E, choline

Glycosides Anthraquinones; aloe emodin, aloin, barbaloin (in outer leaves)

(Murray 1992, Williamson 2002)

AYURVEDIC ACTION

Vraṇaropāṇa Wound healing activity

Bhedanīya Purgative (powder)

Rasāyana Rejuvenative for the skin, intestines and female reproductive system

Kumārīrogaḥna Alleviates menstrual diseases

Ārtavajanana Promotes menses

Raktapitta Alleviates bleeding

Dīpana Enkindles the digestive fire for *pitta*

Āmapācana Encourages the clearing of *āma*

Viśahara Destroys poisons

Plīhayakṛdvyrdhīhāra Reduces inflammations of the spleen and liver

Granthi Clears tumours

Visphoṭa Removes pustules

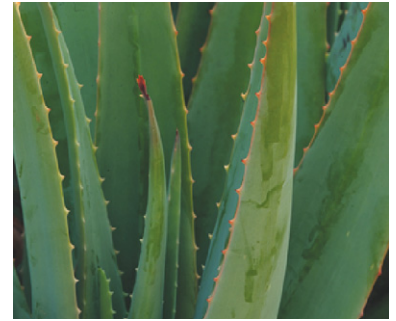
BIOMEDICAL ACTION

Emmenagogue, cholagogue, vulnerary, alterative, anti-inflammatory, demulcent, laxative, immune enhancing, antiviral, antitumour.

INDICATIONS

Gynaecology The gel and juice are salutary when there is excess bleeding or clots. As *kumārī* clears the liver it directly affects *raktavāhasrotas* and the flow of *pitta* in the blood. This affects the *artavasrotas*, the menstrual channel, as it is responsible for regulating the uterus. It is a wonderful tonic for the female reproductive system. Its cooling and unctuous properties make it very effective for treating the hot and dry symptoms of menopause (*Bhāvaprakāśa*).

Skin The gel contains polysaccharides that are specifically healing for the skin and mucous membranes (Murray 1992). It has an affinity for *bhrājaka pitta* and enhances the quality of the skin; used topically to treat psoriasis, ulcers, eczema, seborrhoeic dermatitis and mouth ulcers. One of the best ayurvedic herbs for healing burns, scars, wounds and



stretch marks. Very beneficial taken internally for hot, inflamed *pitta* conditions; eczema, urticaria, ulcers, acne. Specific for use in jaundice and viral hepatitis.

Digestion The gel of the inner portion of the leaf is a mild laxative as its bitter principle works via the liver to encourage the release of bile. This effect can help to regulate blood sugar in diabetics and lipid levels in hypertriglyceridaemia (Plaskett 1996). As it is a cooling and demulcent herb that directly clears *pitta* and heals mucous membranes it is a specific for hyperacidity, peptic ulcers, ulcerative colitis and any bleeding from the intestines (Murray 1992). Its ability to regulate bacteria levels in the intestines indicates use in *Candida albicans* and as a remedy for improving gastric and intestinal function (Bland 1985, Murray 1992, Bone 2003). The dry and powdered extract of the leaf (also known as cape aloes) is strongly purgative and benefits *pitta* types. It should only be used in the short term.

Eyes As a *netrarogahna* herb it destroys eye diseases. Applied

externally it is very soothing for eye inflammation and eyelid swelling.

COMBINATIONS

- * (juice) Rose, shatavari, manjishtha for excessive menstrual bleeding and menopause.
- * (juice) Shatavari, licorice, musta for GIT inflammation.
- * (juice and gel) Turmeric, neem, kutki, manjishtha for inflam-

matory skin diseases (use externally and internally).

- * (powder) Myrrh, turmeric is used as a uterine cleanser.
- * (powder) Fennel, cardamom to prevent griping.

CONTRAINDICATIONS

During pregnancy (powder).
Powder in *vāta* constipation.

SAFETY

No drug–herb interactions are known

DOSAGE

(Powder/*bola*) 100–500mg per day (short-term only), (juice) 10–200ml per day, (gel) externally, as needed.

NOTES

- Aloe grows wild in the dry parts of India and is excellent at opposing dryness.
- It is a marvellous vehicle for carrying medicines to all the tissues, especially the plasma, blood and reproductive tissues.
- It is considered to be a ‘hero’ herb in that it has an affinity for all the seven tissues and it regulates all three *doṣa*. This makes it the perfect vehicle to carry the prescription to the correct part of the body.
- It is a common ‘trituration’ ingredient in many formulas; e.g. *ārogyavardhini* and kaishore guggul.

The herbs are ground together with aloe pulp until the mixture is dry. This adds *pitta*-reducing qualities to the preparation.

- Its most famous preparation is *kumārī āsava*, a naturally fermented medicated wine for treating the above conditions.
- Mix with ginger for *vāta* and turmeric for *kapha* to enhance its regulating effects on those *doṣa*.
- *Kala bol* is the solid gum obtained after boiling the whole leaf juice. It is a strong purgative.



AMALAKI

Common name **Indian gooseberry (E), Amla (H)** Sanskrit **Āmalakī, Dhātrī** Latin **Embolica officinalis–Fructus (Euphorbiaceae)**

'Amla' literally means 'sour'; another name for amalaki is *dhātrī*; *dhātrī* means 'mother' or 'nurse', indicating that amalaki is the ultimate carer and healer. It is the major ingredient in *Cyavanaprāsā*, the elixir tonic paste that is a superb rejuvenative for the lungs, all three *doṣas* and the reproductive system. Use amalaki for reducing inflammation in the digestive tract, assisting the bowels and strengthening the heart.

ENERGETICS

Rasa (taste) All but salty; primarily sour, bitter, astringent.

Pungent and sweet are secondary

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Light, dry

Doṣa effect All *doṣas* are reduced (*tridoṣaghna*) but primarily PV–, K+; increases *ojas*

Dhātu (tissue) All tissues are affected, especially blood and muscles

Srotas (channel) Circulation, digestion and elimination

CONSTITUENTS

Organic acids Ascorbic acid (Vitamin C) (750mg per 10g fresh fruit or 23mg per g dry), tannin

Bioflavonoids Quercetin, kaempferol

Polyphenols Gallic acid

Cytokinins Zeatin (Shishoo 1997, Williamson 2002)

AYURVEDIC ACTION

Rasāyana Rejuvenative

Vājīkaraṇa Aphrodisiac



Jīvanīya Promotes energy
Śukrala Increases reproductive fluids
Vīṣya Increases sexual potency
Hṛdaya Heart tonic
Dīpanīya Awakens digestion
Raktaśodhana Purifies the blood
Raktavardhaka Nourishes *rakta dhātu*
Raktapittahara Cures bleeding diseases
Tridoṣaghna Alleviates all three *doṣa*
Keśya Hair tonic
Pramehaghna Destroys urinary diseases and diabetes
Medhya Tonic to the mind
Anuloma Corrects the flow of *vāta*
Virecana Laxative
Stambhana Astringes and binds
Cakṣuṣya Benefits the eyes

BIOMEDICAL ACTION

Antacid, anti-inflammatory, antipyretic, alterative, adaptogen, digestive, laxative, hepatoprotective, astringent, haemostatic, antioxidant, cardiogenic, nutritive, ophthalmic, tonic, aphrodisiac

INDICATIONS

Digestion Specifically indicated for digestive sensitivity; consti-

pation, ulcers, acidity, gastritis, colitis, hepatitis, haemorrhoids. Especially useful in inflammatory and bleeding conditions of the intestines. A small dose constipates while a larger dose is a laxative. It is a very effective liver cleanser; its sour flavour 'squeezes' the liver, and its antioxidant properties protect it (Tillotson 2001).

Heart Its affinity for the blood helps to nourish and protect the heart. It protects by reducing elevated cholesterol and healing arterial damage. It is a super antioxidant and a tonic for general debility and weakness; use for palpitations and for recovery post-illness (Tillotson 2001). It helps to nourish *rakta dhātu* and enkindles *raktadhātvaṅni* to function efficiently, hence alleviating deficiency conditions such as anaemia that can affect heart function. It specifically pacifies an aggravated *sādhaka pitta* and this influences the clarity and calmness of the mind (*medhya rasāyana*).

Metabolic disorders Diabetes (*pittaja prameha* type) is treated by its microcirculatory-stimulating and *ojas*-enhancing proper-

ties, anaemia due to excess bile vitiating the blood, and hair loss from excess *pitta* burning the roots of the hair (*Bhāvaprakāśa*, Paranjpe 2001). The oil is especially good at alleviating hair loss and early greyness. It is a renowned rejuvenative and adaptogen famed for slowing age (*vayahsthāpana*), increasing virility, promoting immunity and inducing balanced health (*sātmīkarana*). Consider using amalaki as an immune restorative and hepatoprotective during

radiotherapy and chemotherapy treatments.

COMBINATIONS

- * Haritaki, psyllium for constipation.
- * Shatavari, licorice for acidity, ulcers and gastrointestinal tract (GIT) inflammation.
- * Arjuna, bala, bibhitaki for heart conditions with arrhythmia.
- * Guggulu for hyperlipidaemia.
- * Gurmar, turmeric, neem, shilajit, black pepper for diabetes.
- * Kutki, neem and guduchi for liver disorders.

CONTRAINDICATIONS

Caution in high *kapha* and *āma*. Contraindicated in cases of diarrhoea, and dysentery at high doses.

SAFETY

No drug–herb interactions are known

DOSAGE

250mg–30g per day or 1–15ml per day of a 1:3 @ 25% tincture.

NOTES

- The tree that yields these gooseberry-like fruits grows throughout India. The Varanasi variety is considered to be the best.
- The fruits of the cultivated variety are large and fleshy, while the wild fruits are small.
- Its massive Vitamin C content is one of the highest in the vegetable kingdom (20 times that of an orange), and it is heat stable due to the tannin content maintaining stability. The stability of the Vitamin C content in *Cyavanaprāsā* has been questioned (Bhattacharya et al 1999, Khopde et al 2001).
- Although amalaki has a predominantly sour flavour it can increase the *agni* and digestive function without aggravating *pitta*. It is energetically cooling and has a sweet post-digestive effect. Amalaki is a rare exception to the rule that sour aggravates *pitta* (*Aṣṭāṅghādaya Saṃhitā*).
- Amalaki's *prabhāva* is having a *sattvic* effect that raises the quality of consciousness and the overall wellbeing of the body.
- Amalaki relieves *vāta* via its sour taste, *pitta* by its sweet taste and cold energy, and *kapha* by its astringent taste and dry nature; it thus calms all three *doṣas*.
- Clinical trials report a cardioprotective effect as well as a reduction in serum cholesterol levels indicating an antiatherogenic effect (Tillotson 2001).



ANTHRAPACHAKA

Common name **Indian ipecac (E)** Sanskrit **Antra-pācaka** Latin **Tylophora indica/asthmatica-Folium (Asclepiadaceae)**

This climber grows all over the Indian plains. Its 'viney' nature reflects its ability to spread, diffuse and ascend upwards through the lungs. Anthrapachaka literally means 'digestion in the entrails' relating to its ability to remove parasites from the intestines.

ENERGETICS

Rasa (taste) Bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Dry, light

Doṣa effect VPK=, primarily PV–

Dhātu (tissue) Plasma, blood, nerve

Srotas (channel) Respiratory, excretory

CONSTITUENTS

Alkaloids Tylophorine, tylophorinine (Bone 1996)

AYURVEDIC ACTION

Śvāsa Benefits breathing

Anuloma Redirects the flow of *vāta* downwards

Recaka Aids expiration

Raktaśodhana Blood cleanser

BIOMEDICAL ACTION

Expectorant, emetic, antispasmodic, antipyretic, alterative,



antiallergenic, protozoal, anti-tumour, immunosuppressant.

INDICATIONS

Lungs Asthma, bronchitis, rhinitis, hayfever; allergic conditions of the respiratory tract. Human clinical trials report the efficacy of its antiallergenic effect, proving beneficial in reducing asthma (Bone 1996).

Digestion Amoebic dysentery, diarrhoea; it has an antiprotozoal action and is antispasmodic.

Seen as an effective replacement for ipecacuanha (Nadkarni 1954).

Immunity Allergies, autoimmune disorders; arthritis (Nadkarni 1954).

COMBINATIONS

* Licorice, pippali in asthma, rhinitis and cough from high *vāta*.

* Ashwagandha, bala in compromised immunity.



CONTRAINDICATIONS

Nausea, as it encourages a movement upwards and outwards. Contraindicated in pregnancy.

SAFETY

No drug–herb interactions are known

DOSAGE

250–500mg dried or 1 × 1–2ml per day of a 1:5 @ 45% tincture for up to 10 days continuously (maximum).

NOTES

- As it is a powerful herb with cumulative toxicity use only under the guidance of a qualified practitioner.
- Use for a maximum of 10 days continuously in any one month and stagger treatment to avoid side-effects of possible nausea and vomiting (Tillotson 2001).

ARAGVADHA

Common name **Purging cassia (E), Amaltas (H)** Sanskrit **Ārag-vadha** Latin **Cassia fistula–Fructus, Folium (Caesalpiaceae)**

A gentle laxative used to clear *pitta* from the intestines.

ENERGETICS

Rasa (taste) Sweet

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Heavy, unctuous

Doṣa effect VPK–

Dhātu (tissue) Plasma, blood

Srotas (channel) Digestive, circulatory

CONSTITUENTS

Glycosides

Anthraquinones Fistulic acid, sennosides

Sugars Saccharose

Sterols

(Swami Prakashananda

Ayurveda Research Centre 1992, Williamson 2002)

AYURVEDIC ACTION

Kuṣṭhaghna Alleviates skin diseases

Kañḍūghna Stops itching

Recana Laxative

Sraṃsanottama The best bowel cleanser

Jvaraghna Reduces fevers

Anulomana Directs *vāta* downwards

Raktapitta Stops bleeding

BIOMEDICAL ACTION

Laxative, alterative, febrifuge

INDICATIONS

Digestion Beneficial where there is constipation from heat drying the fluids in the colon. Specific for high *pitta* in the intestines where *pācaka* and *rañjaka pitta* are



aggravated. As a gentle laxative it is used in children, the elderly and in pregnancy where constitutionally appropriate. It descends *apāna vāyu* and clears flatulence. It is a specific remedy to help ease the discomfort of piles (*Bhāvaprakāśa*).

Skin By helping to eliminate *pitta* toxins from the *rasa* and *rakta dhātu* it benefits skin aggravations by cleansing the blood. Most useful for hot and damp skin conditions with itching, suppuration and inflammation (*Caraka Saṃhitā*, Williamson).

Bleeding Helps in bleeding from any of the mucous membranes (Paranjpe 2001).

Fever The ayurvedic adage is to purge a fever after it breaks, '*natu reco jvarāṇi*', and aragvadha is specifically indicated for cleansing the bowel after a fever (*Bhāvaprakāśa*).

COMBINATIONS

- * Haritaki as a laxative.
- * Manjishtha, neem, kutki for inflammatory skin conditions.

- * Amalaki for bleeding conditions.
- * Nagkeshar, gotu kola for piles.

CONTRAINDICATIONS

Even though it is traditionally used in pregnancy, as it causes a downwards movement it must be used with caution.

SAFETY

No drug–herb interactions are known

DOSAGE

2–15g per day.

NOTES

- This medium-sized tree grows all over India.
- Aragvadha literally means 'remover of diseases'.
- It pacifies *vāta* and purges *pitta* and *kapha*.
- It loses its properties on boiling, so should be taken as an infusion or a powder.

ARJUNA

Common name **Arjuna myrobalan (E), Arjun (H)** Sanskrit **Arjuna, Kakubha** Latin **Terminalia arjuna–Cortex (Combretaceae)**

Arjuna means 'white' or 'shining', named after its bark which literally reflects light wherever this huge tree grows. Its name is also associated with 'Arjuna', one of the heroes of the great Indian epic, the Mahabharata. The pale white bark of the arjuna tree 'moults' naturally once a year; its new skin bringing new life. It is harvested when the tree is mature, thus attesting to its ability to prolong life, protect the elderly and strengthen the heart.

ENERGETICS

Rasa (taste) Astringent, bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, dry

Doṣa effect Tridoshic, KP-

Dhātu (tissue) Plasma, blood, bone, reproductive

Srotas (channel) Circulatory, reproductive

CONSTITUENTS

Tannins

Triterpenoid saponins

Arjungenin, arjunglycocides

Flavonoids Arjunone, arjunolone

Phytosterols

(Bone 1996)

AYURVEDIC ACTION

Hṛdaya Heart tonic

Varṇya Ulcer healing, diabetic ulcers

Pramehaghna Urinary disorders, diabetic problems

Medas-hara Reduces fat tissue

Mūtravirecana Diuretic

Vājīkaraṇa Aphrodisiac

Raktaśodhana Purifies excess *pitta* from the blood



Raktastambhaka Vulnerary, stops bleeding

Sandhānīya Mends bones

Purīśasamgrahaṇīya Constipative

Kāśaśvāsahara Alleviates cough and breathing disorders

Kaphapittajit Conquers *kapha* and *pitta*

Udardaprasāraṇa Alleviates urticaria

BIOMEDICAL ACTION

Cardioprotective, cardiogenic, hypolipidaemic, hepatoprotective, alterative, diuretic, vulnerary

INDICATIONS

Heart Angina, congestive heart failure, cardiac arrhythmia, hypertension have all showed signs of improvement in human clinical trials. Arjuna has also been shown to reduce total cholesterol and triglyceride levels (Dwivedi et al 1987, Dwivedi & Jauhari 1997). It reduces inflammation (P) and congestion (K) that can damage the heart. Used to treat emotional disturbance and 'broken heart'. It strengthens the muscles of the heart as well as toning the capillaries and improving flexibility, which helps to prevent high blood pressure. It helps to balance the

movement of *vyāna vāyu* in the heart and regulate circulation.

Lungs Its affinity for the chest directs arjuna to the lungs and can help alleviate productive coughs with copious mucus in bronchitis and asthma due to excess *kapha*. It can also treat haemoptysis from high *pitta*.

Liver Cirrhosis; it improves liver function and inflammation (Dwivedi 1987).

Skin Useful as an alterative for clearing the skin of *pitta* inflammations; acne, acne rosacea, pruritus and urticaria (Paranjpe 2001).

Tissue Its wound healing ability is demonstrated in post-trauma healing of scars, post-operative recovery and repairing fractures. A paste or tincture applied externally can rapidly hasten healing (Paranjpe 2001). It is used internally and externally for healing diabetic ulcers.

Reproductive tissues Its astringency prevents premature ejaculation and uterine bleeding.

COMBINATIONS

- * Ashwagandha, amalaki, bala for cardiac disorders associated with hypofunction.
- * Turmeric, kutki for hepatic dysfunction.

- * Sariva, sandalwood, neem, manjishtha for skin problems with inflammation.
- * Guggulu, frankincense, myrrh for high cholesterol and congestive disorders.

CONTRAINDICATIONS

Pregnancy, constipation

SAFETY

No drug–herb interactions are known

DOSAGE

1–6g per day (dried bark) or 3–15ml per day of a 1:3 @ 45% tincture.

NOTES

- Arjuna is a huge tree growing up to 25m. It loves riverbanks and lots of water, growing all over India and Sri Lanka.
- Arjuna is also the name of the legendary hero figure of the Mahabharata. He brings strength, fortitude and protection to his family just as arjuna brings these qualities to the body.
- Decocting the bark activates the triterpenoid saponins. It has traditionally been boiled with milk or used as a medicated ghee, *Arjuna ghṛta*, to add to its tonic properties (*Cakrapāṇidatta*, Tillotson 2001).
- Although originally classified in *Caraka* as a *raktastambhana* herb, used for stopping bleeding, it was only later writers (*Vāgbhaṭa*, *Cakrapāṇidatta*) who classified it as beneficial for the heart (*hṛdaya*).



ASHOKA

Common name **Ashok (H)** Sanskrit **Aśoka** Latin **Saraca indica–Cortex (Caesalpiaceae)**

Ashoka is a famous uterine tonic specifically used for excess bleeding and pain. Lord Buddha was born under the ashoka tree and Lord Ram's wife Śita was held captive in an ashoka grove in Sri Lanka. It literally means 'remover of sorrow', attesting to its ability to cure pain and discomfort.

ENERGETICS

Rasa (taste) Bitter, astringent

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect KP–

Dhātu (tissue) Blood, muscle, fat, reproductive

Srotas (channel) Female reproductive, circulatory

CONSTITUENTS

Phytosterols β-sitosterol

Tannins

Flavonoids Quercetin, kaempferol

(Paranjpe 2001, Williamson 2004)

AYURVEDIC ACTION

Raktapitta Alleviates bleeding diseases, particularly menorrhagia and metrorrhagia

Stambhana Alleviates fluid leakage and diarrhoea

Strīrogajit Treats gynaecological conditions

Prajāsthāpana Prevents miscarriage

Garbhāsaya rasāyana Uterine tonic

Śvetapradara Treats leucorrhoea

Mūtrakṛcchra Alleviates painful urination

Hṛdaya Nourishes the heart

Vedanāsthāpana Analgesic



BIOMEDICAL ACTION

Astringent, constipative, uterine tonic, alterative, analgesic, diuretic, cardiac tonic

INDICATIONS

Gynaecology A very useful herb to treat menstrual disorders associated with excess bleeding (*rakta pradara*), pain and congestion. Use when there are uterine spasms, abdominal pain and dysmenorrhoea. Its affinity for the uterine muscles and endometrium indicates its use as a uterine tonic to help with prolapse, miscarriage and irregular menstrual cycles.

Also of benefit for clearing congestion from the *māṃsa* and *medas dhātus* when there are fibroids, cysts, endometriosis and leucorrhoea from excess *āma* and *kapha* in the *ārtava srotas* (Swami Shiva Tirtha).

Digestion Its astringency can help to alleviate bleeding piles and dysentery. Also used to treat colitis and ulcers.

Urine It encourages the flow of urine and can help to alleviate painful urination.

Pain ashoka has specific analgesic properties and can be used to soothe the nerves where

they are aggravated by *vāta* (Gogte 2000).

Heart Its nourishing effect on the circulatory system makes it a useful remedy in cardiac weakness and arrhythmia.

COMBINATIONS

- * Ashwagandha, cinnamon to strengthen the uterine muscles.
- * Shatavari, rose, turmeric to regulate the menstrual cycle.
- * Myrrh, manjishtha, turmeric for endometriosis and fibroids.
- * Punarnava, coriander, pippali for vaginal discharge.
- * Shatavari, amalaki, licorice for dysentery and piles.

CONTRAINDICATIONS

Constipation.

SAFETY

No drug–herb interactions are known

DOSAGE

1–9g per day or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- Ashoka is a medium-sized evergreen tree growing all over India. It looks like a mango tree and has blood-red bark.

ASHWAGANDHA

Common name **Winter cherry (E), Indian ginseng (E), Asgandh (H)** Sanskrit **Aśva-gandha** Latin **Withania somnifera–Radix (Solanaceae)**

The irony of ashwagandha is that it is a tonic and sedative all in one. It strengthens an exhausted nervous system that can manifest with ‘hyper’ signs such as emotional instability, agitation or feeling stressed out. It has the dual action of energising while calming. Its name ashwagandha meaning ‘the smell of a horse’, comes from the smell of the fresh root (like horse’s urine), and also perhaps because it is renowned for imparting the sexual stamina of a horse.

ENERGETICS

Rasa (taste) Bitter, astringent, sweet

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Light, unctuous

Doṣa effect VK–

Dhātu (tissue) Blood, muscle, fat, bone, nerve, reproductive

Srotas (channel) Reproductive, nervous, respiratory

CONSTITUENTS

Alkaloids Ashwagandhine, withanine, isopelletierine, anaferine

Steroidal lactones Withanolides, withaferins

Phytosterols Sitoindosides, β-sitosterol

Saponins

Iron

(Bone 1996, Williamson 2002)

AYURVEDIC ACTION

Viśaya Increases sexual potency

Balya Increases strength

Medhya Promotes the intellect

Ojas vardhana Increases *ojas*

Nidrājanana Promotes sleep



Śukrala Increases sperm production

Śothahara Prevents consumption and wasting diseases

Rasāyana Rejuvenative

Vātakaphahara Reduces *kapha* and *vāta*

Vedanāsthāpana Reduces pain

Śvāsa Benefits breathing

BIOMEDICAL ACTION

Adaptogen, tonic, anti-inflammatory, immunomodulator, anti-tumour, nervine, mild sedative, analgesic, reproductive tonic, aphrodisiac, antianaemic

INDICATIONS

Tissues Debility, low body weight, emaciation, deficient haemoglobin, anaemia, post-convalescent weakness, athletic exertion and with caution in pregnancy. It is useful for any imbalance in the muscles as it both reduces inflammation and strengthens muscle tone. It is a specific *rasāyana* for *māṃsa dhātu* and it is an anabolic muscle builder (*Caraka, Bhāvaprakāśa, Venkataraghavan et al 1980*). As it benefits all muscle tissue it is used as a heart tonic, uterine tonic, and a lung tonic, as well as for increasing muscle weight and tone in convalescents,

slow-developing children, and the elderly.

Immunity Autoimmune conditions, neutropenia, rheumatoid and osteoarthritis, cancer, and chronic connective tissue disorders. As a painkiller and anti-inflammatory it is commonly used in swollen or painful arthritic conditions. It can strengthen a weakened immune system and protect it from becoming depleted due to immunosuppressive drugs or lifestyle. Improves white blood cell counts. It appears to have both immunosuppressive and immunotonic abilities and is therefore a ‘true’ adaptogen (Tillotson 2001).

Lungs Asthma, cough and allergic conditions from low immunity with high *kapha* and *vāta*. Useful in hayfever, allergic rhinitis from aggravated *vāta* and *kapha*.

Nerves Neurosis, insomnia, anxiety, excessive thinking, ‘hyper’ symptoms and attention deficit and hyperactivity disorder (ADHD). Very useful in all conditions caused by ‘stress’ as it has a specific affinity for the *majjā dhātu* and helps to regulate the movement of *vyāna vāyu* in

the heart. Its tropism for the nervous system benefits multiple sclerosis (Tillotson 2001). It both relaxes frayed nerves and tonifies the central nervous system to enhance tolerance to stress. It is a nourishing *nevine* as opposed to a heavy sedative.

Reproductive Its rejuvenating effect on *śukra dhātu* helps to alleviate asthenospermia (increasing sperm motility), oligospermia (increasing sperm count), and poor sexual performance, and helps to reduce impotence (*Bhāvaprakāśa*, Paranjpe 2001). Its unique action or *prabhāva* is to promote sexual potency and sperm production. External application of ashwagandha oil is used for impotence.

Gynaecology Excellent tonic to the uterine muscles. Used in menstrual imbalance caused by a deficient condition with an aggravation of *vāta* and uterine spasms; dysmenorrhoea, amenorrhoea, weakness.

Thyroid Very useful in hypothyroid disorders to regulate thyroid activity.

COMBINATIONS

* Pippali for enhancing tonic effect; useful in asthma and coughs.

- * Bala, licorice, satavari in reproductive disorders.
- * Brahmi, mandukparni, vacha in nerve disorders.
- * Guggulu, frankincense, turmeric in arthritic and congestive disorders.

CONTRAINDICATIONS

Caution in excess *pitta* and *āma* with congestion. Caution in pregnancy; although traditionally used in India during pregnancy to strengthen the uterus and health of the mother and child. Its spasmolytic activity on the uterus has led certain quarters of western phytotherapy to restrict its use in pregnancy (see McGuffin et al 1997).

SAFETY

No drug–herb interactions are known. There are some theoretical interactions between ashwagandha and immunosuppressant, thyroid, and some sedative medications, but these are not evidence-based (Braun & Cohen 2003, 2004, Harkness & Bratman 2003). As ashwagandha appears to have some hypoglycaemic activity in humans it is advisable to monitor blood glucose in susceptible individuals (Low Dog 2002).

DOSAGE

3–9g per day dried root or 6–15ml per day of a 1:3 @ 45% tincture.

NOTES

- Ashwagandha thrives in the sandy, loamy soils of the drier more temperate parts of India; Madhya Pradesh, Uttar Pradesh and Gujarat and Sri Lanka.
- Commercially the roots are graded into four qualities; A is 7cm long and clear white inside, B is 5cm long and clear white inside, C is 3–4cm in length and D is small rootlets with a slightly yellow colour.
- It is the best herb for nourishing *vāta* and is used in all *vāta* disorders affecting the bones, back, knees, hips, ears, and colon. Use internally and externally.
- The botanical species suffix *somnifera* refers to its relaxing, sleep-promoting properties.
- For maximum tonic effect it is taken with reproductive tissue building carriers; milk, ghee, almond milk and honey.

BAKUCHI

Common name **Psoralea fruit (E), Babchi (H), Bakuchi (H)** Sanskrit **Bakuci** Latin **Psoralea corylifolia–Fructus (Leguminosae)**

These little black seeds are famous for their use in chronic skin diseases. The outer cover of the seed is sticky and contains the therapeutically important coumarins.

ENERGETICS

Rasa (taste) Sweet, pungent, bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect VPK=, P+ in excess

Dhātu (tissue) Plasma, blood, muscles

Srotas (channel) Circulatory, respiratory, muscular

CONSTITUENTS

Furanocoumarins Psoralen

Flavonoids Bavachin, bakuchiol, diadzin

Essential oils Limonene, terpineol (Chen & Chen 2004)

AYURVEDIC ACTION

Kaphahara Destroys *kapha*

Rasāyana Rejuvenative

Hṛdaya Cordial heart tonic

Kuṣṭha Heals skin disorders

Jvaraghna Anti-fever

Kṛmināśaka Anthelmintic

Raktapitta Alleviates bleeding disorders

Vraṇya Treatment of ulcers

(*Suśruta Saṃhitā, Bhāvaprakāśa*)

BIOMEDICAL ACTION

Cardiac tonic, vasodilator, alternative, pigmentor

INDICATIONS

Dermatology Benefits alopecia (as a tincture), psoriasis, eczema,



vitiligo (as an oil or tincture); externally and internally (see notes below). The oil acts as an irritant, which stimulates the melanoblastic cells to create normal pigmentation. This can take about 3 months (Paranjpe 2001, Gogte 2002).

Reproductive bakuchi is an aphrodisiac that can help to treat impotence and premature ejaculation (Paranjpe 2001). It benefits urinary dysfunction with dribbling, incomplete voiding, and enuresis in children. It can also benefit uterine bleeding with any doshic imbalance.

Lungs Asthma caused by high *vāta* is reduced by bakuchi's sweet and hot properties.

Digestion Diarrhoea, borborygmus and abdominal pain caused by high *vāta* and cold.

Muscles Tonifies lower back, warms lower back (Chen & Chen 2004); good for high *vāta* with spasmodic and chronic pain.

Urine Frequent urination, incontinence; it strengthens the urinary sphincter (Benesky & Gamble 1993).

COMBINATIONS

- * Manjishtha sariva, neem, kutki for skin conditions.
- * Nutmeg, haritaki for chronic diarrhoea with cold symptoms and loose, watery stool.
- * Haritaki, gokshura for urinary frequency.
- * Ashwagandha and bala for reproductive imbalances.
- * Pippali and ashwagandha for coughs.

CONTRAINDICATIONS

Excessive UV therapy, high *pitta*. Use with caution in pregnancy.

SAFETY

No drug–herb interactions are known but caution should be observed with external applications. Bakuchi should not be used with patients undergoing PUVA therapy due to the increased risk of photosensitive reactions.

DOSAGE

Use up to 10% of a formula. 3–9g per day (powder) or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- Grows throughout the sandy loamy plains of central and east India. The black variety is commonly used today (as opposed to the white variety also mentioned in *Suśruta*). It is a small shrub growing up to 150cm in height.
- It has a controversial history due to occasionally causing inflammatory skin eruptions when used externally in conjunction with UV therapy for psoriasis and vitiligo. The furanocoumarins, containing psoralens, promote pigmentation but are also considered to carry a high risk when used with great exposure to UV light. While its therapeutic efficacy is indisputable caution is advised.
- Its traditional use is considered safe used at a low dose for internal consumption with moderate exposure to sunlight. The seeds can be 'purified' by soaking in ginger juice for 7 days.

BALA

Common name **Indian country mallow (E)** Sanskrit **Balā** Latin **Sida cordifolia–Radix (Malvaceae)**

Bala means ‘strength’. Its stem and roots are tough and this is literally what they impart—inner strength. It is a nourishing tonic, especially for nervous conditions.

ENERGETICS

Rasa (taste) Sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Heavy, unctuous

Doṣa effect VPK=, mainly clears high *pitta* and *vāta*, can increase *kapha* and *āma* if used excessively

Dhātu (tissue) All tissues, primarily nerve and reproductive

Srotas (channel) Nervous, reproductive, urinary, circulatory, respiratory

CONSTITUENTS

Alkaloid Asparagin, ephedrine (mainly in seeds and aerial parts)

Phytosterols

Mucins

(Paranjpe 2001)

AYURVEDIC ACTION

Balya Strengthening

Br̥mhanīya An anabolic, weight-increasing, and nourishing herb

Ojovardhana Increases *ojas*

Śvāsakāśahara Alleviates breathing difficulty

Rasāyana Rejuvenative

Jīvanīya Promotes energy

Medhya Promotes intellect

Hṛdaya Heart tonic

Vṛşya Increases sexual potency

Vājīkaraṇa Aphrodisiac

Vātaśamana Pacifies *vāta* and neurological disorders

BIOMEDICAL ACTION

Demulcent, diuretic, tonic, adaptogen, antispasmodic,



antipyretic, antifungal/antiprotozoal, expectorant, antiasthmatic, nervine, analgesic, aphrodisiac

INDICATIONS

Urinary Cystitis, stones, infection, haematuria, polyuria, urgency; high *pitta* and *vāta* in *mūtravāhasrotas* (*Bhāvaprakāśa*).

Nerves Pain, neuralgia, sciatica, paralysis and neurosis; all structural and nervous disorders with high *vāta*. It is an excellent energy tonic when there is exhaustion due to an aggravated nervous system. An external oil massage using warm bala siddha taila is commonly used for these conditions along with internal treatment (Frawley & Lad 1994).

Reproductive Infertility, leucorrhoea and *apānakṣetra* congestion along with reproductive weakness (*śukrakṣaya*). Bala is a renowned energy tonic that enhances sexual potency and *ojas*. Used to aid the growth of the fetus and keep the mother strong (Paranjpe 2001).

Lungs Dry cough, asthma, tuberculosis and haemoptysis; *vāta–pitta* disorders of the lungs. The low levels of ephedrine help to bronchodilate constriction and prevent wheezing and restricted breathing (Paranjpe 2001).

Fever High temperature from an underlying deficiency and weakness.

Heart Bala is a great heart tonic used for treating arrhythmia, tachycardia, irregular pulse and palpitations. As it benefits both *māṃsa dhātu* and *māṃsavāhasrotas* it can be used to strengthen the heart muscle.

COMBINATIONS

- * Gokshura, licorice, coriander in urinary infection caused by high *pitta–vāta*.
- * Fresh ginger, lemon grass, black pepper in fever.
- * Pippali, anthrapachaka in *vāta–pitta* respiratory problems. Also with ephedra and vasa in congestive lung disorders.
- * Ashwagandha, shatavari, lotus seed in reproductive disorders.
- * Ashwagandha and kapikacchu in paralysis.
- * Arjuna, guggul for cardiac disorders.

CONTRAINDICATIONS

High *āma* and *kapha*. Hypertension.

SAFETY

Due to its ephedrine content it may interact with caffeine and MAO inhibitors, exacerbating effects and elevating blood

pressure; beta-blockers by reducing drug efficacy due to opposing activity, ephedrine (e.g. Sudafed) by additive sympathomimetic effects inducing fur-

ther toxicity and arrhythmia, and steroids (dexamethasone) by enhancing clearance levels and thus reducing effectiveness of the drug (Treasure 2000).

DOSAGE

500mg–5g per day or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- This small shrubby perennial is renowned for its tough stem and root and grows all over India and Sri Lanka.
- Soft, sweet and demulcent bala is a rejuvenative for *vāta* disorders; it is a superb tonic for the nervous system. These nourishing properties of bala offset the potentially *vāta*-aggravating, nervous-system-stimulating properties of ephedrine.
- Bala is used as a primary ingredient in massage oils (*bala siddha taila* and *nārāyāṇa taila*) for treating arthritis, nervous system disorders and paralysis.
- Often taken with milk and almonds to enhance tonic effects.
- The ephedrine content of the root is $\frac{1}{15}$ of that found in ephedra; the seeds contain a quarter of the amount per gram usually found in ephedra (Tillotson 2001).
- Recently banned in USA for internal use due to ephedrine content.

BHALLATAKA

Common name **Marking nut (E), Bhilawa (H)** Sanskrit **Bhallātaka** Latin **Semecarpus anacardium–Semen (Umbelliferae)**

Bhallataka means 'like a spear', attesting to its ability to penetrate deeply into the tissues and rejuvenate the body. It benefits digestion, lung weakness and arthritis. It is a specific rejuvenating tonic for the reproductive system.

ENERGETICS

Rasa (taste) Sweet, astringent

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Light, unctuous, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) All tissues

Srotas (channel) Digestive, urinary, mental, reproductive

CONSTITUENTS

Phenols Anacardic acids, anacardoside, bhilawanol

Flavonoids Semecarpetin

Fixed oil Palmitic, stearic, oleic (Williamson 2002)

AYURVEDIC ACTION

Dipana Enkindles the digestive fire

Pācana Digestive

Āmapacana Clears toxins

Bhedanīya Breaks accumulations

Kuṣṭhaghna Alleviates skin conditions

Vājīkaraṇa Aphrodisiac

Śukrala Increases semen

Arśoghna Cures piles

Kapharasāyana Rejuvenates *kapha*

Kṛmighna Destroys worms

Mūtrasaṅgrahaṇīya Reduces the flow of urine

BIOMEDICAL ACTION

Digestive, aphrodisiac, vermifuge, tonic, expectorant, anti-haemorrhoidal



INDICATIONS

Digestion It strongly increases the appetite and treats conditions caused by low digestive fire; piles, diarrhoea, worms and colitis. Its ability to clear *āma* helps to clear the *srotas* (Paranjpe 2002).

Piles Alleviates *vāta* and *kapha* types of haemorrhoids. It goes directly to the root cause of the disease as it rectifies the digestive fire.

Lungs Helps to clear coughing and wheezing from high *vāta* and *kapha*.

Arthritis As a specific medicine for *vāta* it helps to treat nervous disorders and degeneration of the joints.

Reproduction It is a specific tonic to male fertility as it increases semen production. As it helps to treat premature ejaculation and seminal leakage it also treats incontinence and unrestrained urinary dribbles (*Bhāvaprakāśa*).

Skin It is very beneficial for vitiligo and other skin diseases affecting pigmentation (Gogte 2001).

COMBINATIONS

- * Dry ginger, kutaja, chitraka, haritaki in piles
- * Turmeric, frankincense, amalaki for arthritis
- * Bakuchi, manjishtha and turmeric in skin diseases
- * Amalaki, haritaki, guduchi, *Piper longum* for rejuvenation

CONTRAINDICATIONS

Its extreme heat contraindicates its use in young children, the elderly, during pregnancy and in *pitta* aggravation.

SAFETY

No drug–herb interactions are known but it should only be used under the guidance of a qualified practitioner due to the allergenic nature of the anacardic acids.

DOSAGE

Dosage must be strictly regulated, starting with a small dose, and gradually increasing as per the capacity of each individual's digestive power; 250mg–6g per day taken with milk.

NOTES

- The tree grows throughout India.
- Bhallataka refers to its penetrating sharpness and it is likened to a javelin.
- It must only be used following purification by a specific process that includes being boiled in water, milk, ghee and mixing with jaggery, resulting in *amṛtabhallātaka*.
- Prepared properly it is considered to be the king of all *rasāyana* substances.
- It can cause an allergic rash in *pitta* constitutions. Other signs of toxicity are itching, burning, excess thirst and a reduction in urine.
- While following a bhallataka regime it is advised that the patient avoid all spices, heat and *pitta*-aggravating activities.

BHRINGARAJA

Common name **Eclipta (E), Bhanga (H), Maka (M)** Sanskrit **Bhṛṅgarāja, Keśa-raja** Latin **Eclipta alba-Folium (Compositae)**

Bhringaraja oil is a famous hair tonic for maintaining dark hair and reversing baldness. It is often translated as 'king of the hair', but literally means 'bee ruler'. It is decocted in coconut oil and as this is a 'cooling' oil it is used externally for 'hot' and inflammatory head problems such as headaches, sinusitis and ear infections. The herb also benefits heat problems.



ENERGETICS

Rasa (taste) Bitter, pungent, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, light

Doṣa effect Balances all 3 *doṣas*; VPK=, mainly PV-, *Pitta rasāyana*

Dhātu (tissue) Plasma, blood, bone, nerve, reproductive

Srotas (channel) Circulatory, nervous, digestive, respiratory, urinary, reproductive

CONSTITUENTS

Triterpene glycosides and saponins Oleanane glycosides, eclalbasaponins, β-amyrin

Flavonoids Luteolin, apigenin, wedelolactone

Wedelic acid and ecliptal (Williamson 2002)

AYURVEDIC ACTION

Rasāyana Rejuvenative

Medhya Promotes the intellect

Keśya Benefits hair

Dantya Benefits the teeth

Tvacya Benefits itching

Kuṣṭhaghna Destroys skin diseases

Raktaśodhana Purifies the blood

Raktastambhana Stops bleeding

Āmanāśaka Destroys *āma*

Viśaghna Destroys poisons in the body

Caḅsuṣya Benefits the eyes

Kṛmighna Destroys worms

Yakṛdottejaka Benefits the liver

Pāṇḍughna Reduces anaemia

BIOMEDICAL ACTION

Alterative, anti-inflammatory, haemostatic, antipyretic, vulnerary, tonic, cholagogue, hepatoprotective

INDICATIONS

Head Premature greying of hair, alopecia and early baldness are often classified as a *pitta* imbalance caused by *pitta* literally 'burning' the hair follicle. Eclipta clears *pitta* and especially from the head. It also benefits loose teeth, hearing problems, dizziness, vertigo (*vāta* problems in the head). It is restorative to *asthi dhātu* (bone) tissue imbalances. It tonifies *vāta* and therefore by strengthening, it reduces excess *vāta*. Bhringaraja prepared oil also dissolves obstructions in the sinuses, nose, ears and head; use as nose and ear drops (*Bhāvaprakāśa*).

Liver Cirrhosis, hepatitis; it clears *raiṅjaka pitta* from its site and protects the liver. It increases bile flow and helps restore appetite. The blood is treated via its beneficial effect on liver function. It actually helps to build blood, strengthen *rakta dhātu* and reduce anaemia. Combined with a capillary-strengthening action this can prevent high blood pressure caused by *pitta* and *vāta* (Tillotson 2001). It also benefits the eyes and treats conjunctivitis, styes and redness.

Nerves Insomnia and mental agitation from high *pitta* and *vāta*. It calms stress and reduces tension by tonifying *majjā dhātu*.

Bhringaraja increases blood and nourishes the brain (Frawley & Lad 1994).

Skin Bhringaraja treats skin conditions via the nervous system and the liver, helping to allay itching and inflammation; urticaria, eczema and ringworm caused by aggravations of the *rasa* and *rakta dhātu* are treated. It also helps to recolour the skin after depigmentation (*Bhāvaprakāśa*).

Lungs Its pungency can help alleviate mucus and treat asthma and bronchitis.

Reproduction Its *rasāyana* properties rejuvenate deficiencies in *śukra dhātu*, helping to build sperm quality and quantity. The seeds especially are used for this.

Gynaecology It helps to prevent excessive uterine bleeding by clearing *pitta* from the *ārtavāhasrotas* and uterus.

COMBINATIONS

* Amalaki, sariva, *triphala* for hair problems from high *pitta*.

* Manjishtha, kutki, neem, pip-pali for hepatitis and liver conditions.

* Jatamamsi, brahmi and shankhapushpi for mental disorders from high *vāta* and *pitta*.

* Black pepper for stimulating *rasa* and *rakta dhātu agni* and treating anaemia

* Turmeric, neem, licorice for dermatological conditions due to high *kapha* and *vāta*.

* Manjishtha, ashoka, lotus node for bleeding conditions from high *pitta*.

CONTRAINDICATIONS

Any signs of cold in the digestive system.

SAFETY

No drug–herb interactions are known

DOSAGE

250mg–5g per day or 5–15ml per day of a 1:5 @ 25% tincture.

NOTES

- Although there are three types described in Ayurveda (white-, yellow- and blue-flowered) the white is most commonly used. Bhringaraja is an annual, liking damp or wasteland areas, and grows all over India.
- A classic rejuvenative for preventing ageing and slowing signs of old age.
- Use externally and internally for alopecia and skin inflammations.
- It has different energetic classifications. In early texts its *vīrya* appears to be pungent, but in more modern texts it appears to be cooling. Its effect on protecting the liver, healing the skin, reducing bleeding and calming the mind certainly reflect a cooling emphasis.

BHUMIAMALAKI

Common name **Phyllanthus (E), Stone breaker (E)** Sanskrit *Bhūmyāmalakī* Latin *Phyllanthus amarus/niruri (erroneously)–Folium (Euphorbiaceae)*

This is a very bitter-tasting small shrub that literally means 'the amalaki of the earth' as this very low-lying shrub's leaves resemble the pattern and shape of her somewhat grander celestial namesake. Amalaki (*Embolica officinalis*) is referred to in some books as *Phyllanthus emblica*. Bhumiamalaki is a wonderful liver remedy that is also effective for clearing gall and bladder stones.

ENERGETICS

Rasa (taste) Bitter, astringent, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Dry, light

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, fat, reproductive

Srotas (channel) Digestive, reproductive, urinary

CONSTITUENTS

Lignans Phyllanthin, hypophyllanthin

Flavonoids Astragaln, rutin, quercetin

Triterpenes Lupeol, sitosterol

Alkaloids

Tannin Geraniin

(Bone 1996, Williamson 2002)

AYURVEDIC ACTION

Yakṛduttejaka Increases the strength of the liver

Kuṣṭhaghna Destroys skin diseases

Kaṇḍūhara Alleviates itching

Kāśahara Stops coughing



BIOMEDICAL ACTION

Antiviral, hepatoprotective, cholagogue, diuretic, lithagogue, alterative, immunoregulator, antitussive, haemostatic

INDICATIONS

Liver Its affinity for balancing *rañjaka pitta* treats viral hepatitis, chronic hepatitis and it acts as a cholagogue. It is also useful for clearing and preventing gallstones. Human clinical trials attest to the improvement in liver function and alleviation of hepatitis symptoms (Thyagarajan et al 1982).

Digestion Its ability to clear aggravated *pācaka pitta* benefits digestive tract disorders with hyperacidity, inflammation and dysentery (Paranjape 2001).

Skin Used where the liver is the root of the skin inflammation (*Bhāvaprakāśa*). It is also applied externally for skin heat, swelling and itching.

Immunity May be of use in impaired immune disorders; especially viral conditions such as myalgic encephalomyelitis

(ME), HIV, flu, herpes (Mehrotra et al 1991).

Gynaecology Used in menorrhagia from high *pitta*. It clears inflammatory heat from the lower abdomen and this reduces congestion, leucorrhoea and painful urination.

Urine It effectively clears stones and gravel from the urinary system. It may have a use in managing diabetes and reducing blood sugar levels.

COMBINATIONS

- * Manjishtha bhringaraja, kutki, chiretta in liver disorders.
- * Gurmar, amalaki, cardamom as part of a diabetic regime.
- * Neem, manjishtha, bakuchi, turmeric for skin inflammations.
- * Chiretta and guduchi in conditions where the immune system is compromised.
- * Manjishtha, gokshura in pelvic inflammatory disorders.

CONTRAINDICATIONS

Pregnancy.

SAFETY

No drug–herb interactions are known

DOSAGE

1–6g per day dried or 5–15ml of a 1:5 @ 25% tincture.

NOTES

- This small shrub grows to a height of 60cm. Its leaves resemble those of amalaki.
- Numerous studies indicate that bhumiamalaki from India should be used. The species found in India is actually *Phyllanthus amarus* but it is often erroneously named as *Phyllanthus niruri*. This variety is actually native to the West Indies and is not found in India (Bagchi 1992).

BIBHITAKI

Common name **Beleric myrobalan (E), Baheda (H)** Sanskrit *Bibhītakī* Latin *Terminalia belerica–Fructus* (**Combretaceae**)

Bibhitaki is the ‘one who keeps you away from disease’ as it is literally ‘fearless’ of all diseases. This small, dry fruit has a specific drying, astringing and strengthening action on the mucous membranes throughout the body, especially in the lungs, intestines and urinary system.

ENERGETICS

Rasa (taste) Astringent, sweet

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Dry, light

Doṣa effect VPK=, balances all three *doṣas*; aggravates *vāta* in excess

Dhātu (tissue) Plasma, muscle, bone, nerve

Srotas (channel) Digestive, respiratory, nervous, excretory

CONSTITUENTS

Triterpenoids Cardiac glycoside saponins, bellericoside, bellericanin

Sterols β-sitosterol

Tannin Gallic acid, ellagic acid (Williamson 2002)

AYURVEDIC ACTION

Rasāyana Rejuvenative to lungs

Caḅṣuṣya Benefits the eyes

Keśya Good for the hair

Kāṇṭhya Improves the quality of the throat

Śvāsakāśaghna Benefits breathing problems

Virecanopaghna Aids purgation (unripe fruit)

Purīṣasamgrahaṇīya Stool binding (ripe fruit)

Mūtravirecana Diuretic

Āsmarihara Lithagogue



Śrotahara Alleviates oedema and swellings

Madakāri Intoxicating (stone)

BIOMEDICAL ACTION

Expectorant, bronchodilator, astringent, laxative, anthelmintic, lithotropic, tonic

INDICATIONS

Lungs Asthma, bronchitis, cough, laryngitis with high *avalambaka kapha*, obstructing the flow of *prāṇa* in the lungs. Where there is copious, white or clear phlegm, bibhitaki can help to clear and dry this congestion (*Bhāvaprakāśa*). Also used to soothe a sore throat when mixed with honey and also used as a gargle.

Head It has a particular affinity for the upper body and head. It clears congestion from the eyes, ears, nose and throat. Also indicated for helping to maintain hair growth.

Digestion Diarrhoea, colitis, Crohn’s disease, intestinal inflammation and parasites with *pitta–kapha* problems. It has a dual action of being both astringent and laxative that helps to increase peristalsis as well as

strengthen the mucous membranes of the colon. The unripe fruits have a stronger laxative action and the ripe fruits are more astringent (*Bhāvaprakāśa*).

Urine Bladder stones, cloudy urine due to *kapha* urinary aggravation with obstructions in the *medas-dhātu* (Frawley & Lad 1994). It has the ability to clear all *kapha* accumulations.

Nerves Insomnia; its astringent nature can hold rising *vāta* down in the lower abdomen and prevent it from irritating the sensitive nerves of the head. It also nourishes *majjā dhātu*, which helps to prevent frazzled nerves (Gogte 2000).

Heart Its cardiac glycoside content and ability to reduce stagnant *kapha* indicates its use for cardiac congestion and insufficiency (Williamson 2002).

COMBINATIONS

- * Haritaki, amalaki to make *triphalā*; a rejuvenative to the whole GIT.
- * Pippali, black pepper for lungs and high *kapha*.
- * Haritaki, ginger, vasa, anthrapachaka for asthma and coughs.

- * Gokshura, coriander, bhumiamalaki, manjishtha for urinary stones and infections.
- * Brahmi, jatamansi, tagara for insomnia.

CONTRAINDICATIONS

High *vāta*. Dry symptoms in the lungs, skin, bowels.

SAFETY

No drug–herb interactions are known

DOSAGE

250mg–3g per day or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- It is a large tree growing all over India and Sri Lanka. Its small brownish fruits feel very dry.
- It is a specific *rasāyana* for *kapha* and *kapha* sites—throat, lungs, eyes and hair.
- It has an astringent effect on the mucous membranes while stimulating movement. It clears *kapha* and *āma* from urinary, digestive and respiratory systems.
- It is heating but does not aggravate *pitta*.
- Its astringency can aggravate *vāta*.
- The alcoholic extract is also a cholagogue.
- Ripe fruit is astringent and unripe is more laxative; this is its *prabhāva* or unique action, even though it is astringent it is also a laxative.
- Use with honey to clear *kapha*. This is very good for sore throats.

BILVA

Common name **Bael fruit (E), Bengal quince (E), wood apple tree (E), Bel (H)** Sanskrit **Bilva, Śiva-droma**
Latin **Aegle marmelos–Fructus immaturus & maturus (Rutaceae)**

This fruit is a fantastic remedy for the digestive system. Sacred to Lord Shiva, it destroys weakness in the intestines. The dried immature part is used for diarrhoea while the mature, fresh fruit is more laxative.

ENERGETICS

Rasa (taste) Astringent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light (immature)

Doṣa effect VK–, P+ in excess

Dhātu (tissue) Plasma, blood

Srotas (channel) Digestive, eliminatory

CONSTITUENTS

Alkaloids Aegelenine, aegeline (leaves), skimmianine (roots and aerial parts)

Anthraquinones

Mucilage

Pectin

Coumarins Marmelosin, marmelide, psoralen

Tannins Tannic acid

(Swami Prakashananda Ayurveda Research Centre 1992, Williamson 2002)

AYURVEDIC ACTION

Dīpana Increases the digestive fire

Pācana Digests toxins

Atisāraghna Alleviator of diarrhoea



Purīṣasaṃgrahaṇīya Binds stool

Śothahara Removes swellings

Śūlaghna Alleviates colic

Vātakaphahara Alleviates *vāta* and *kapha*

BIOMEDICAL ACTION

Astringent, carminative, anthelmintic

INDICATIONS

Digestion Immature dried bilva is a specific herb for chronic irritable bowel syndrome (IBS), diarrhoea, dysentery, and malabsorption that manifests as long-term imbalances with ‘mucousy’ and watery stools. Its astringency checks the excessive downwards movement of *vāta*. It also dries the excess mucus and *āma* that comes with high *kapha* aggravations (*Bhāvopprakāśha*). It is a good choice where there may be ulceration and inflammation of the mucous membranes in the intestines; ulcers, colitis, Crohn’s disease (Yadav et al 1989). The



fresh fruit is more of a laxative used in summer to cool the system. It is very heavy to digest and should only be taken in small amounts.

COMBINATIONS

- * Bibhitaki, amalaki, haritaki to repair the large intestine and encourage regular peristalsis.
- * Manjishtha, low dose of rhubarb root if there is bleeding from the GIT.

CONTRAINDICATIONS

Dried immature fruit if constipated; fresh fruit for congestion, *āma*, weak digestion.

SAFETY

No drug–herb interactions are known

DOSAGE

1–12g per day dried fruit powder or 50–100ml of the fresh fruit juice. 5–15ml per day of a 1:3 @ 25% tincture

NOTES

- This thorny tree produces fruit all year round.
- The immature fruit pulp is best used for diarrhoea and IBS. It can be made into a jam or *avaleha* and used as a nutritive healer.
- The fruit juice from the ripe fruit is commonly available in India at fruit-juice stalls as a summer cooling drink.
- It is commonly found near Shiva temples as the leaves are used in worship (*pūjā*); the juice is said to cool the hot poison that Shiva drank after it emerged from the churning of the milky ocean. It is also a 'trifoliate' or *triśikha*, a leaf having three sections; this also relates to the sacred trident (*triśūla*) that Shiva carried on his itinerant wanderings. Hence it is also known as *śhiva-droma* or Shiva's tree.
- The root is one of the ingredients in the famous dashmoola formula. It sedates *vāta* and calms the nerves. It is also used in inflammatory conditions of the uterus.

BRAHMI

Common name **Bacopa (E), Herpestis (E), Jalabrahmi (H)** Sanskrit **Brāhmī** Latin **Bacopa monniera-Folium (Scrophulariaceae)**

Brahman is the Hindu name given to the universal consciousness and *Brahma* is the divinity responsible for all 'creative' forces in the world. Brahmi literally means the 'energy or *shakti* of *Brahman* (i.e. *Sarasvati*). With brahmi deriving its name from these roots it has a lot to live up to. And it does! Its mind enhancing and nervous system soothing effects are legendary.

ENERGETICS

Rasa (taste) Bitter, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Light, flowing (*sāra*/laxative)

Doṣa effect VPK=, V+ in excess

Dhātu (tissue) All tissues, especially plasma, blood, nerve

Srotas (channel) Circulatory, digestive, nervous, excretory

CONSTITUENTS

Saponins Steroidal bacoside A and B

Alkaloids Brahmine, herpestine

Flavonoids

(Williamson 2002)

AYURVEDIC ACTION

Vātahara Calms *vāta*

Anuloma Redirects the flow of *vāta* downwards

Unmādahara Reduces mental illness

Prajñāsaktivardhana Increases intellectual power

Hṛdaya Heart tonic

Majjādhātu rasāyana

Rejuvenative, particularly to the nervous system

Āyusya vardhana Increases longevity



Balya Gives strength (especially to the mind)

Jīvanīya Promotes energy

Medhya Nervine

Nidrājanana Promotes sleep

Kuṣṭhaghna Alleviates skin conditions

BIOMEDICAL ACTION

Sedative, nervine, cardiogenic, antispasmodic, anticonvulsant, anti-inflammatory

INDICATIONS

Brain Brahmi helps to improve memory, learning ability and concentration. It is used in mental disorders, epilepsy (*apasmara*), mania and hysteria (*unmāda*) (*Aṣṭāṅga Hṛdaya Saṁhitā*, Bone 2003). It specifically enhances the quality of *sādhaka pitta* and this directly influences the nature of consciousness.

Nerves Used to aid recovery from exhaustion, stress and debility with aggravation of *vāta*. A specific herb for all conditions with a deficient *majjā dhātu*. Consider using in Parkinson's disease, Alzheimer's disease, dementia, ADHD, Asperger's syndrome, autism, depression and drug addiction. Brahmi is very useful in skin conditions with an underlying nervous imbalance

(*Bhāvaprakāśa*). It also benefits tension throughout the system helping to ease constipation from stress, relax muscle tightness and alleviate menstrual pain. It is commonly used to treat insomnia. **Urinary** It can cool the heat of cystitis and pain of dysuria by guiding *pitta* out of the *mūtrava-hasrota*.

External As a medicated oil it is a neuralgic in joint pain. Used as a head rub for headaches and to clear the mind. It is also used as a brain tonic to strengthen the memory and encourage hair growth (Paranjpe 2001).

COMBINATIONS

- * As it suppresses the appetite it should be used with digestive stimulants such as ginger or cardamom.
- * Vacha with signs of high *kapha* to enhance its mind-opening effects.
- * Gotu kola, jatamansi and tagarah as a sedative.
- * Ashwagandha, kushta, kap-pikacchu, shankhapushpi and bala as a nerve tonic.
- * Neem, manjishtha, turmeric for skin conditions with heat signs.
- * Cumin, fennel and ajwan to relax the intestines.

* Cloves (2 parts), cardamom (1 part), pippali (1 part) as brahmi *rasāyana* with 10 parts brahmi and 40 of sugar; use this as an anti-inflammatory and nerve tonic.

SAFETY

No drug–herb interactions are known but caution is advised with antiepileptic and antidepressant medication.

DOSAGE

2–6g per day dried or 5–30ml of a 1:5 @ 25% tincture. The fresh juice is popular in India: 3 tsp per day.

CONTRAINDICATIONS

None known.

NOTES

- It is a creeping annual and spreads along the banks of rivers as creativity and awareness spread throughout us. It is a water-loving plant.
- *Bacopa monniera* is the authentic brahmi and preferred by *vaidyas* in treatment. It is also known as Jalabrahmi, 'Water brahmi'.
- It is often confused with gotu kola (*Hydrocotyle asiatica*), which is also generically known as brahmi in North India. Gotu kola's other name is *maṇḍūkapaṇī*.
- It is combined with ghee or milk to enhance its tonifying, nerve-nourishing and *pitta*-cooling effects.
- Its cold nature can hinder digestion and so it is recommended to be used with *agni dīpana* herbs to protect the digestive fire.

CARDAMOM

Common name **Cardamom (E), Elaichi (H)** Sanskrit **Elā, Sūkṣmā Elā** Latin **Elettaria cardamomum–Fructus (Zingiberaceae)**

These aromatic seed pods are filled with soothing, relaxing and antispasmodic essential oils. A premium digestive aid and mucus reducer.

ENERGETICS

Rasa (taste) Pungent, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Light, dry

Doṣa effect VPK–, P+ in excess

Dhātu (tissue) Plasma, blood, nerve

Srotas (channel) Digestive, respiratory, circulatory, nervous

CONSTITUENTS

4% volatile oil: Borneol, pinene, humulene, camphor, eucalyptone

(Mills 1991)

AYURVEDIC ACTION

Dīpana Stimulates digestion

Pācana Digestive

Śūlapraśamana Alleviates intestinal spasms and pain

Kāśahara Stops coughing

Śvāsahara Prevents asthma

Anuloma Redirects the flow of *vāta* downwards

Chardinigrahaṇa Prevents nausea

Hikkānigrahaṇa Stops hiccups

Śirovirecana Cleanses the orifices of the head

Vājīkaraṇa Increases sexual potency



BIOMEDICAL ACTION

Carminative, expectorant, diaphoretic, aromatic, antinausea, diuretic

INDICATIONS

Digestion Specifically in weak digestion, borborygmus, bloating, flatulence, colic, intestinal pain and indigestion. Cardamom stimulates *agni* without aggravating *pitta* and clears excess *kledaka kapha* from the stomach. Being *anuloma* it helps to regulate *samāna vāyu* and direct *apāna vāyu* downwards; hence beneficial for nausea, vomiting, morning sickness, burping and acidity (Frawley & Lad 1994).

Lungs Cough with mucus and asthma with wheezing; it clears *avalambaka kapha* and regulates *vāta*. Good for sore throats and freshens the breath (Paranjpe 2001).

Urine Recommended for painful, burning urination (*mūtrakṛcchra*) and aggravated *vāta* in the lower abdomen (*Bhāvaprakāśa*).

COMBINATIONS

- * Fennel, cumin, ginger for digestive upsets and intestinal spasms.
- * Cinnamon, pippali, clove, haritaki for *kapha* lung problems.
- * Honey for coughs from *kapha*.
- * Gokshura, coriander, punar-nava, shilajit for painful urination.

CONTRAINDICATIONS

Aggravated *pitta*, ulcers and general excessive heat signs.

SAFETY

No drug–herb interactions are known

DOSAGE

250mg–6g per day or 1–10ml of a 1:3 @ 45% tincture.

NOTES

- Cardamom is a perennial that thrives in the tropical jungles of south-west India and Sri Lanka.
- Ayurveda distinguishes two types: *sūkṣma* (small) and *bṛhat* (large). Large is *Amomum subulatum* and has similar properties to cardamom.
- Very high in *sattva* and *prāṇa*. It regulates the flow of *prāṇa* in the digestive tract, specifically *śamana* and *apāna vāyu*.
- It is excellent at antidoting the mucus-generating and *āma*-genic quality of dairy products.
- Good to use with children's digestive upsets and respiratory congestion.
- It is a useful herb to add to prescriptions including 'heavy' and 'wet' herbs, usually tonics (i.e. shatavari, bala, ashwagandha), to aid their assimilation.

CASTOR

Common name **Castor oil (E), Rendi (H)** Sanskrit **Eraṇḍa** Latin **Ricinus communis–Semen/Folium** (**Euphorbiaceae**)

Castor oil is considered the king of medicinals for curing *vāta* and arthritic diseases. It is warm, oily, heavy, and acts as a laxative.

ENERGETICS

Rasa (taste) Sweet, pungent, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Unctuous, heavy, penetrating and subtle (i.e. enters the minute channels of the system)

Doṣa effect VKP–, P+ in excess

Dhātu (tissue) Plasma, blood, muscle, fat

Srotas (channel) Digestive, excretory, circulatory

CONSTITUENTS

Phytosterols: Brassicasterol, campesterol, β -sitosterol, β -amyirin, lupeol (aerial parts)

Flavonoids: Kaempferol, quercetin, rutin (aerial parts)

Fixed oil: Ricinoleic, linoleic, palmitic, oleic and stearic acid (seed)

Alkaloid: Ricinine (seed) (Williamson 2002)

AYURVEDIC ACTION

Bhedaniya Purgative that destroys faeces

Āmapācana Removes toxins from the bowel

Caḡsuṣya Benefits the eyes

Aṅgamarda Relieves limb pain/body aches

Vātaśamana Pacifies *vāta*

BIOMEDICAL ACTION

Cathartic, purgative, laxative, antiarthritic, antifungal, emollient, oxytocic



INDICATIONS

Digestion In mild to moderate constipation, castor oil acts as an osmotic laxative. It holds water in the intestines and causes a total cleansing of the large intestine.

This can flush *pitta* and *kapha* from the system. Its effect is very dose-dependent and can range from cathartic to aperient. As an emollient it lubricates the dryness of *vāta* and recorrects the flow of *apāna vāyu* downwards. It can be included as part of a treatment for piles (*Bhāvoprakāśa*).

Arthritis Traditionally used for all conditions where both *āma* and *vāta* mix. This manifests as pain, swelling, deformations of the joints and bones. The oil is externally applied, and taken internally for sciatica, arthritis, gout, and paralysis (Gogte 2000).

Lumps An external application is used to clear all accumulations and palpable lumps. Apply a hot fomentation over the breast, liver, abdomen or pelvis for any cyst, inflammation, tumour or lump.

Eyes The oil is put into the eyes to treat styes, conjunctivitis and foreign objects in the eyes.

Skin It is considered beneficial as an external application for warts

and fungal infections of the skin and nails. Very useful as an emollient to treat dry skin conditions such as psoriasis and eczema.

COMBINATIONS

- * Ginger, *triphalā* tea for constipation.
- * Haritaki (1 part castor to 4 parts haritaki) to make gandarva haritaki; a potent laxative for *vāta* conditions.
- * Guggulu and dashmoola decoction in arthritis.

CONTRAINDICATIONS

Although commonly used to induce delivery (due to oxytocin release) it should not be used in pregnancy. Intestinal obstruction. Infections of the internal organs. Not to be given to children under 12 years old. Internally, not for long-term use as it leads to dependency.

SAFETY

No drug–herb interactions are known.

DOSAGE

5–30ml depending on the age, size and level of constipation of the patient. It is very powerful; use wisely!

NOTES

- A native of Africa, the castor plant grows all over India as a small perennial shrub.
- Of the two varieties, red and white, the white is used medicinally.
- The whole seed is exceedingly toxic (i.e. causes death) if eaten whole due to the toxicity of the protein ricin. Ricin is denatured after pressing and is rendered harmless.
- The leaf and the root are also highly prized medicines for arthritis.
- Important ingredient in simhanada guggul (+*triphalā*, sulphur, guggulu) for treating arthritis.
- The oil is occasionally added to chapattis in India as a home remedy to clean the intestines.
- Low dose (5ml) is a laxative, high dose (>10ml) is a purgative.
- External applications are superb for pain, growths and congestion.

CHIRETTA

Common name **White chiretta (E), Chiretta (H), Kirat (H)** Sanskrit **Kirāta-tikta, Bhū-nimba** Latin **Swertia chirata-Folium (Gentianaceae)**

This is an especially bitter herb that is renowned for cleansing the blood and liver of inflammation and high *pitta*. Chiretta is derived from 'kirāta' meaning bitter.

ENERGETICS

Rasa (taste) Bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, flowing

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood

Srotas (channel) Digestive, respiratory, blood, water

CONSTITUENTS

Iridoids Amarogenin, amarogentin, chiractin

Alkaloids Gentianine, swertinin

Xanthones

Flavones Eniflavine

Triterpenes β-amyrin, lupeol

(Paranjpe 2001, Williamson 2002)

AYURVEDIC ACTION

Śvāsahara Alleviates asthma

Raktadoṣa Cures impurities of the blood

Tṛṣṇāsodhana Relieves thirst

Kuṣṭam Used in skin diseases

Jvarahara Alleviates fever

Kṛmināśaka Anthelmintic

BIOMEDICAL ACTION

Bitter tonic, febrifuge, expectorant, anti-inflammatory, alterative, cholagogue, vermifuge

INDICATIONS

Digestion Inflammatory digestive conditions, hyperacidity,



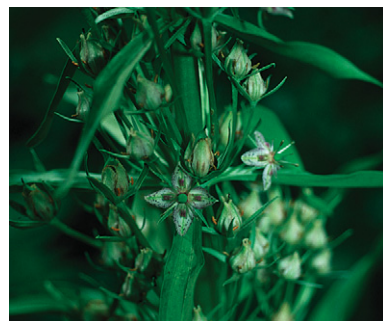
bleeding piles and worms. It clears *āmapitta* from the intestines as it acts as a mild laxative. As it stimulates the liver it can stimulate the appetite. This has a beneficial effect on *rasa dhātu* as it is formed as a by-product of food (*āhārarasa*); well-digested, good-quality food creates a healthy *rasa dhātu*.

Skin Any skin problems with signs of heat, redness, inflammation, itching, burning may indicate the use of chiretta (*Bhāvaprakāśa*). It clears waste toxins from the blood, thus purifying *rasa* and *rakta dhātu*.

Fever Used in fevers caused by all three *doṣas* and when aggravated by sweating and thirst. Chiretta clears the *āma* and toxins that cause the fever and is a specific for malaria (*Bhāvaprakāśa*).

COMBINATIONS

- * Cardamom, turmeric, kutki for GIT inflammation.
- * Neem, manjishtha, gotu kola for skin problems.
- * Ginger in fevers.



CONTRAINDICATIONS

Pregnancy; high *vāta*.

SAFETY

No drug-herb interactions are known.

DOSAGE

250mg–3g per day or 3–10ml per day of a 1:5 @ 25% tincture.

NOTES

- Chiretta grows up to 1m high and grows at 1500–3000m.
- Also known as *Nepālanimba* 'The Nepalese bitter', as it is commonly found in the temperate Himalayan forests of Nepal.
- Although similar in action, bitterness and use to kalamegha (*Andrographis paniculata*), it is a different species.

CHITRAKA

Common name **White leadwort (E), Chita (H)** Sanskrit **Citraka, Agni, Jvala** Latin **Plumbago zeylanicum–Radix (Plumbaginaceae)**

Chitraka means the ‘spotted one’, perhaps referring to its namesake, the spotted leopard, who speedily catches its prey just as chitraka rapidly cures diseases. It is also known as *agni* meaning ‘fire’ or *jvala* meaning ‘flame’. It is a very hot-natured herb and should be used sparingly. It strongly increases the digestive fire.



ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Very hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light, penetrating

Doṣa effect VK–, P and *agni*+

Dhātu (tissue) Plasma, blood, bone, reproductive

Srotas (channel) Digestive, nerve, reproductive

CONSTITUENTS

Naphthalene derivatives

Plumbagin, chitranone, zeylinon

Triterpenes Lupeol, lupenyl

Amino acids

(Williamson 2002)

AYURVEDIC ACTION

Lekhaniya A ‘scraping’ herb

Kṛmighna Worm-destroying

Pācana Digestive

Dīpana Appetite stimulant

Grāhī Absorbs excess fluids from the intestines

Āmanāśaka Destroyer of toxins

Śūlaprasāmana Alleviates

pain

Bhedaniya A stagnation remover

Śothahara Alleviates swellings

Kāsaśvāsahara Stops coughs and breathing difficulties

Rasāyana Rejuvenative

Arśoghna Alleviates piles

Vātakaphahara Reduces *vāta* and *kapha*

BIOMEDICAL ACTION

Stimulant, carminative, antiparasitical, abortifacient, analgesic, antihemorrhoidal, rubefacient

INDICATIONS

Digestion Deficient digestion (*mandāgni*) with flatulence and diarrhoea with cold signs of watery stools and aversion to cold due to excessive *kapha* and *vāta*. Its solar quality absorbs water and dries excess fluids in the intestines. It kills parasites. It is used in haemorrhoids with congestion in the *apānakṣetra* and is a specific for non-bleeding (*vāta-kapha*) piles (*Bhāvaprakāśa*). It is a superb *rasāyana* for *agni* assisting with absorption of nutrients and treating abdominal pain and bloating.

Joints Specific for *śleṣaka kapha* and *āma* in the joints; cold, wet, damp type arthritis with pain, swelling, pitting and water

retention (Swami Sada Shiva Tirtha).

Nerves A depressed nervous system is stimulated by small amounts. It activates the movement of *vāta* that is stagnated due to congestion of *kapha* or weakness.

Respiratory Used in chronic and acute rhinitis from cold (Gogte 2000).

COMBINATIONS

* Fennel, cardamom, ginger in digestive weakness with *āma*.

* Guggulu in arthritis and *āma-vāta*.

* Licorice, pippali, ginger in aggravated *kapha* in the lungs.

CONTRAINDICATIONS

Pregnancy, aggravated *pitta*.

SAFETY

No drug–herb interactions are known.

DOSAGE

250mg–3g per day or 0.5–6ml per day of a 1:3 @ 25% tincture. Overdose causes burning, vomiting and diarrhoea.

NOTES

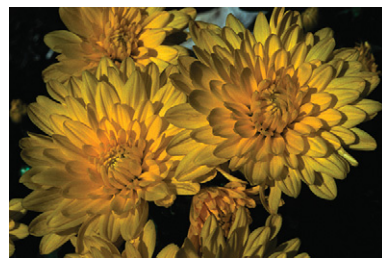
- Chitraka is a perennial with beautiful white flowers that thrives in the east and south of India and all over Sri Lanka.
- The red variety is *Plumbago indica*. It is hotter than the white variety.
- It is a superb herb for all diseases caused by *mandāgni*, low digestive fire. It should always be used in combination with other herbs to moderate some of its harsh irritant properties. Often combined with ghee into a rejuvenating compound.
- Chitraka can be purified in lime juice to alleviate some of its harsher hot and penetrating qualities.
- External application of the paste causes blistering. This is therapeutically employed in vitiligo and arthritis to stimulate peripheral circulation.



CHRYSANTHEMUM

Common name **Chrysanthemum (E), Indian chrysanthemum (E), Gundandi (H)** Sanskrit **Sevanti** Latin **Chrysanthemum indica/morifolium–Flos (Compositae)**

Sevanti derives from the word *sevā* meaning 'service' as it encourages humility and devotion. Its lightness balances the heavy intensity of *pitta*. Its sweet aroma awakens the heart and cools the agitation of an imbalanced *pitta*. It goes straight to the eyes and skin via the liver.



ENERGETICS

Rasa (taste) Bitter, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect PK–, in excess V+

Dhātu (tissue) Plasma, blood, nerve

Srotas (channel) Digestive, respiratory, nervous

CONSTITUENTS

Alkaloid Chrysanthemine

Vitamin Choline

Flavone Luteolin, apigenin, acacetin

Volatile oil Camphor, borneol, chrysanthenone (Chen & Chen 2004)

AYURVEDIC ACTION

Jvarahara Reduces fever

Rasāyana Rejuvenative, especially to the eyes and *pitta*

Pittaśamaka Calming and cooling to *pitta*

Kuṣṭhaghna Alleviates skin conditions

BIOMEDICAL ACTION

Diaphoretic, ophthalmic, alterative

INDICATIONS

Lungs Acute upper respiratory infections with heat; sore throat,

fever, thirst, headaches, general malaise. It can be useful in reducing fevers through mild diaphoresis (Bensky & Gamble 1986).

Eyes *Chrysanthemum morifolium* is a specific remedy for eye inflammation, swelling, redness and itching as it regulates *ālocaka* and *rañjaka pitta*. Specifically indicated for conjunctivitis, styes and inflamed eyelids from eczema and red eyes. It makes the eyes bright and beautiful (Frawley & Lad 1994).

Liver Its mild, bitter taste increases liver function and its gentle sweetness 'smoothes' the flow of *pitta* between the stomach (*āmāśaya*) and liver (*yakṛt*). It is indicated in bilious conditions, sour taste in the mouth and hypochondrial pain under the ribs.

Nerves Used to reduce hypertension and stress from high *pitta* or irritation. When *vāta* pushes *pitta* to the head and they mix together, headaches, dizziness and insomnia can occur. Used on the emotional level for clearing the heat of anger (Chen & Chen 2004).

Skin *Chrysanthemum indica* is very bitter and is used for hot, inflamed and suppurating skin

problems caused by aggravated *pitta* and *kapha* (Chen & Chen 2004).

COMBINATIONS

- * Lemongrass, vamsa lochana, tulsi for acute respiratory infections.
- * Rose water, jasmine water, fennel or *triphalā* infusion for eye infections, internally and externally.
- * Licorice, peppermint, musta for regulating liver flow and cooling *pitta*.
- * Brahmi, gotu kola, shankhapushpi for nerve imbalance. Use with *triphalā* to regulate *apāna vāyu* and descend rising nervous agitation.

CONTRAINDICATIONS

Pregnancy as it stimulates the uterus. As with all flowers, may increase *vāta* in excess.

SAFETY

No drug–herb interactions are known.

DOSAGE

3–9g per day dried or 5–15ml of a 1:5 @ 25% tincture.

NOTES

- Grown all over India for use in worship. The flowers have a sweet smell and fragrant aromas, and are considered to be the food of the gods.
- *Chrysanthemum indica* is intensely bitter and better for inflamed skin with dampness from *pitta-kapha*.
- *Chrysanthemum morifolium* is sweeter to taste, more specific for the eyes and clearing mild headaches from *pitta-vāta*.



CINNAMON

Common name **Cinnamon (E), Ceylon cinnamon (E), Cassia (E), Dalchini (H)** Sanskrit **Dāru-sitā, Twak**
Latin **Cinnamomum zeylanicum/cassia–Cortex (Lauraceae)**

Twak means 'skin' or 'bark'; the bark of the cinnamon tree is used in ayurvedic medicine as a major digestive herb. As a bark protects a tree, cinnamon protects and strengthens the intestines.



ENERGETICS

Rasa (taste) Pungent, sweet, astringent

Vīrya (energy) Hot

Vipāka (post-digestive effect) Sweet

Sweet

Guṇa (quality) Dry, light, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, muscles, nerves, reproductive

Srotas (channels) Digestive, circulatory, respiratory, urinary, nervous, reproductive

CONSTITUENTS

Tannins

Essential oils Cinnamic aldehyde, cinnamaldehyde, cinnamyl acetate, eugenol, phellandrene

Coumarins

(Mills 1991, Bone 2003)

AYURVEDIC ACTION

Dīpana Increases appetite

Āmanāśaka Destroys toxins

Hṛdaya Cardiac tonic

Vātahara Reduces aggravated *vāta*

Śukrala Increases semen

Balya Imparts strength

Vātakaphanāśaka Alleviates *vāta* and *kapha*

BIOMEDICAL ACTION

Carminative, antispasmodic, aromatic, stimulant, astringent, expectorant, diaphoretic

INDICATIONS

Lungs Colds, cough, sinus congestion, bronchitis with excess *avalambaka kapha*; it clears mucus and encourages the circulation of *vāta* throughout the respiratory system. Use it as a hot decoction to clear *āma* in fevers by encouraging sweating (Frawley & Lad 1994).

Digestion Cold digestion, slow digestion and *mandāgni* in *kapha* and *vāta* types. Increases *agni* and regulates *samāna vāyu* to treat flatulence and colic. Can be useful in diarrhoea with loose and watery motions with undigested food in the stool.

Cinnamon has an antifungal activity and may be used in *Candida albicans* and imbalanced intestinal flora (WHO 1999).

Circulation Cold extremities, Raynaud's syndrome, arthritis; cinnamon stimulates *vyāna vāyu* and pushes circulation to the joints. Its warm, dry and light qualities help to clear excess *śleṣmaka kapha* and *āma* from the joints. These effects can also be of use in cardiac insufficiency with cold extremities, difficulty breathing, fluid accumulation

and tiredness (Chen & Chen 2004).

Urine Frequent urination; nocturia caused by cold is treated by cinnamon's hot and dry qualities. Its ability to penetrate deep into the tissues coupled with its sweet quality give it an ability to nourish the reproductive system (*śukra dhātu*) and treat infertility and male impotence.

Gynaecology Dysmenorrhoea; excellent antispasmodic used 3–4 days prior to period in *kapha–vāta* types. It has an ironic action used to treat both amenorrhoea and menorrhagia; its blood-invigorating, warming and penetrating properties can be utilised in wet and stagnant conditions in the pelvic cavity; ovarian cysts, fibroids and endometriosis. Its drying astringency comes to the fore if there is uterine bleeding (Bone 1996, Paranjpe 2001).

COMBINATIONS

- * Ginger, cardamom in digestive sluggishness.
- * Cardamom, Indian bay leaf (or cloves), known as *trikulu* or *trijata* 'the three aromatics',

used to benefit digestive and respiratory problems.

- * Arjuna, turmeric, guggulu for circulatory or cardiac problems.
- * Pippali, vasa, vamsa lochana in lung congestion.
- * Myrrh, turmeric, ginger, ashoka in uterine congestion.

CONTRAINDICATIONS

High *pitta*. Bleeding signs, especially of the GIT. Caution during pregnancy as it is a uterine stimulant.

SAFETY

No drug–herb interactions are known. Allergic reactions can occur rarely due to

cinnamic aldehyde acting as a mucous membrane irritant (Bone 2003).

DOSAGE

1–9g per day or 3–15ml per day of a 1:3 @ 45% tincture.

NOTES

- The famous ‘quills’ come from the *zeylanicum* species. This species is called *dāru-sitā* or *svādutvak*, ‘the delicious bark’. It is native to Sri Lanka and is more commonly known as Sinhali twak. The making of the quills is a traditional art, where the bark is peeled from coppiced stems.
- *Cinnamomum cassia* mainly comes from China. It comes as broken pieces of bark and is slightly warmer and more astringent than the delicate and sweet *zeylanicum* quills.
- Twak is a very good all-round herb for regulating *vāta*; it circulates *vāta* by stimulating *vyāna vāyu*.
- There are numerous other *Cinnamomum* species that are used medicinally (*camphora*, *burmanni*, *iners*, *loureirii*, *massoia*), from all over South East Asia.
- Tamalapatra (Indian bay leaf) is *Cinnamomum tamal*. It is a digestive stimulant with a hot quality that is commonly used to reduce *vāta*. Used in *avipattikāra cūrṇa* to balance the digestive fire.

CLOVES

Common name **Cloves (E), Lavang (H)** Sanskrit *Lavaṅga* Latin *Syzygium aromaticum*—*Flos (Myrtaceae)*

Cloves are the dried flower buds of this evergreen tree. They have very effective antiseptic and fungal properties that benefit digestion.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Unctuous, light, penetrating

Doṣa effect KPV–

Dhātu (tissue) Plasma, blood, muscle, nerve, reproductive

Srotas (channel) Circulatory, respiratory, digestive, reproductive

CONSTITUENTS

Volatile oil Up to 20%: eugenol, eugenol acetate, β-caryophyllene, phenols, ketones, methyl salicylate, vanillin

Tannins

(WHO 1999, Paranjpe 2001)

AYURVEDIC ACTION

Dīpana Appetite stimulant

Pācana Digestive

Śvāsahara Antiasthmatic

Kaṇṭha Benefits the throat

Śirovirecana Clears the orifices of the head

Chardinigrahaṇa Prevents nausea

Hikkānigrahaṇa Stops hiccup

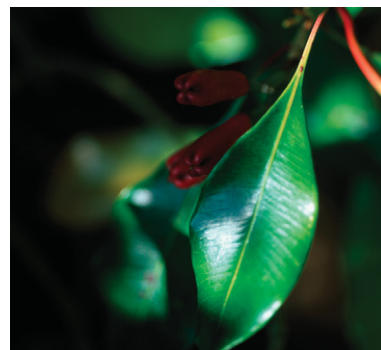
Śūlapraśamana Alleviates intestinal spasms

Vedanāsthāpana Analgesic

Agnimāndyanāśaka Destroys lack of appetite

BIOMEDICAL ACTION

Carminative, expectorant, analgesic, aphrodisiac, antifun-



gal/antiseptic, antiemetic, anti-spasmodic

INDICATIONS

Digestion Weak, sluggish digestion with pain, flatulence and lack of interest in food. Increases *agni* without aggravating *pitta* if used moderately. Specifically used for nausea; its aromatic quality settles excess *vāta* and *kapha*. Use a cold infusion to settle nausea during pregnancy. May be used to treat a wide range of bacterial and fungal conditions such as *Candida albicans* (*Bhāvaprakāśa*, WHO 1999).

Lungs Congested lungs; disperses *prāṇa vāyu*. Expels phlegm in cough, asthma, bronchitis and pleurisy. Specific in laryngitis and sore throats. Helps to prevent spasmodic coughs (*Bhāvaprakāśa*). Its ability to reduce *āma* helps in clearing fevers.

Reproduction Low sex drive, impotence, premature ejaculation and vaginal discharge.

Cloves Remove excess *kapha* in *ārtava* and *śukravāhasrotas* (Bensky & Gamble 1993, Frawley & Lad 1994).

Pain Specific for toothache; use essential oil applied to the gums or tooth. Apply the essential oil externally to relieve headaches, arthritic pain, areas of poor circulation and back pain.

COMBINATIONS

- * Cardamom, ginger for nausea and vomiting.
- * Pippali, vasa, vamsa lochana in lung disorders with high *kapha*.
- * Ashwagandha, shatavari, nutmeg in sexual dysfunction.
- * Ginger oil in narayan oil in massage for arthritis, sciatica and pain.

CONTRAINDICATIONS

High *pitta*; inflammatory conditions.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–3g per day dried powder or 2–10ml of a 1:5 @ 70% tincture.

NOTES

- Indigenous to the Moluccas it is now cultivated around tropical Asia as a medium-sized evergreen.
- The contradictory classification of its 'hot' *rasa* and 'cold' *virya* energy is interesting. It reflects that ayurvedic energetics are based on empirical evidence, subjective experience and therapeutic results.
- It reduces *kapha* and *vāta* by its hot and bitter quality and reduces *pitta* by its cool action. This cold action of cloves is displayed via its anti-inflammatory effect; it also feels cool as you draw air through your mouth when chewing a clove.



COLEUS

Common name **Coleus (E)** Sanskrit **Mākandī** Latin **Coleus forskohlii–Radix (Labiatae)**

Coleus is a small perennial plant that grows on the lower foothills of India, Sri Lanka and Nepal. It has received much scientific interest in recent years and is now renowned for its beneficial effect on the skin, heart, on blood pressure and glaucoma.

ENERGETICS

Rasa (taste) Pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect VPK–

Dhātu (tissue) Plasma, blood

Srotas (channel) Respiratory, circulatory

CONSTITUENTS

Essential oil

Diterpenes Forskolin (prev. coleonol)
(Bone 1996)

AYURVEDIC ACTION

Cakṣuṣya Benefits the eyes

Kāśaśvāsahara Alleviates coughing and benefits breathing

Kuṣṭhaghna Alleviates skin diseases

Hṛdaya Heart tonic

BIOMEDICAL ACTION

Ophthalmic, antiallergenic, bronchodilator, hypotensive, cyclic adenosine monophosphate (cAMP) enzyme activator, alterative

INDICATIONS

Eyes Specific use for glaucoma; it reduces intraocular pressure (Burstein et al 1984).

Heart Coleus improves heart function and may benefit congestive heart failure. It also



reduces blood pressure at the doses necessary to enhance the heart function (Bone 1996).

Lungs It acts as an effective bronchodilator (Bone 1996).

Thyroid May stimulate thyroid activity (Tillotson 2001).

Allergies Used for allergic conditions, asthma, hayfever, eczema (Tillotson 2001). As these conditions are marked by low cAMP and high platelet activating factor (PAF) levels *Coleus forskohlii* is specifically indicated.

Psoriasis This is also a condition marked by low cAMP levels and benefits from increased levels of the enzyme.

COMBINATIONS

- * Amalaki, *triphalā*, punarnava, sevanti for glaucoma.
- * Amalaki, punarnava, arjuna for heart conditions.
- * Anthrapachaka, vasa, pippali, ephedra for lung conditions.
- * Guggulu and bola in thyroid underactivity.

CONTRAINDICATIONS

Hypotension.

SAFETY

No drug–herb interactions are known. Caution when used with other medication as it may potentiate its effects, and in patients with peptic ulcers (Bone 2003).

DOSAGE

5–10g per day, 3–15ml of a 1:3 @ 25% tincture or 250–750mg three times per day of a 10:1 forskolin extract.

NOTES

- *Coleus forskohlii* increases the levels of intracellular cAMP, resulting in reduced mast cell histamine release, relaxation of the arteries, increased insulin production, improved thyroid function, and reduced platelet activity (Murray 1992).
- Kerry Bone cites many wonderful uses for forskolin but warns that when used as a herb the concentrations of forskolin may not be sufficient enough to merit all of the above claims.
- My experience is that combined with other herbs it is a useful adjunct to formulas that are tailored to specific patients.

CORIANDER

Common name **Coriander (E), Cilantro (E), Dhaniya (H)** Sanskrit **Dhanyāka** Latin **Coriandrum sativum–Folium/Semen (Umbelliferae)**

This popular Indian curry ingredient is also an invaluable medicine; it soothes an irritated digestive system and cools any burning sensations in the body. Its sweet aroma can subtly lift the spirits. *Dhanyāka* is a proper noun also meaning 'rich'.

ENERGETICS

Rasa (taste) Pungent, bitter, sweet

Vīrya (energy) Cooling (leaves), warming (seed)

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Light, oily

Doṣa effect VPK–, especially *pitta*

Dhātu (tissue) Plasma, blood, muscle

Srotas (channel) Digestion, urinary, respiratory, nervous

CONSTITUENTS

Volatile oil Coriandrol, anethole, camphor, limonene, geraniol, borneol

Flavonoids Rutin, quercetin, apigenin

Coumarins Psoralen, angelicin, umbelliferone

Phenolic acids

Phthalides

(Williamson 2003)

AYURVEDIC ACTION

Dīpana Appetite stimulant

Āmapacana Toxin digester

Sūlaprasamana Alleviates intestinal spasms

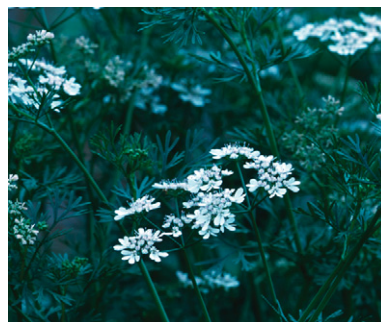
Dāhaghna Alleviates burning in the body

Agnimāndyanāśaka Alleviates sluggish appetite

Trṣṇāghna Alleviates thirst

Hṛdaya Lifts the spirits

Kṛmighna Worm killer



Mūtrala Diuretic

Kuṣṭhaghna Alleviates hot skin conditions

BIOMEDICAL ACTION

Carminative, diuretic, antiallergenic, alterative, diaphoretic, antispasmodic, expectorant, vermifuge, febrifuge

INDICATIONS

Digestion Coriander seed is an excellent remedy for promoting *pitta* digestion as it enkindles *agni* but does not aggravate acidity. It can be used safely when there is inflammation in the digestive system and when *agni* needs strengthening. It is a useful carminative herb prescribed in IBS and colic. Both the leaf and seed are used for digestion to clear flatulence, griping and bloating. The powder of the seed is used for worms in children (*Bhāvaprakāśa*).

Urinary A cold infusion of the seeds is very useful for draining heat out of the urinary system. Useful in cystitis, dysuria and cloudy urine (*Bhāvaprakāśa*). Also beneficial in the hot type of diabetes (*pittaja prameha*) and for helping to reduce hot flushes.

Allergies The juice of the leaf is used externally for allergic rashes

and internally for allergic rhinitis from *pitta* (Frawley & Lad 1994). It specifically clears toxins from the blood.

Lungs Its antispasmodic and expectorant properties help to clear mucus from the lungs (Paranjpe 2001).

Heavy metals The leaf is used to help facilitate the safe excretion of heavy metals and other environmental toxins including lead, arsenic and mercury. Only use drop-by-drop doses and it must be accompanied by an intestinal heavy metal toxin absorption agent, such as chlorella.

Fever As the seeds are a mild diaphoretic it can help to alleviate a fever by allowing the displaced *agni*, *pitta* and *āma* to be released through the skin and the urine.

COMBINATIONS

- * Fennel, cumin, cardamom in digestive upsets.
- * Gokshura, manjistha and punarnava for urinary problems, especially stones and burning.
- * Sariva, pit shirisha for skin allergies, vasa for respiratory allergies.
- * Licorice, pippali for coughs.
- * Fresh ginger for fever.

CONTRAINDICATIONS

None known. A very safe remedy.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–30g per day or 3–15ml per day of a 1:3 @ 45% tincture.

NOTES

- This annual member of the *Umbelliferae*, like fennel and cumin, is an aromatic carminative.
- The flower water is a fantastic antispasmodic.
- This is a world-famous remedy whose English name comes from the Latin ‘koros’ meaning ‘bed-bug’, alluding to the smell of the fresh leaves.
- Often used with sugar to add to its anti-*pitta* effect.

CUMIN

Common name **Cumin seed (E), Jira (H)** Sanskrit *Jiraka* Latin *Cuminum cyminum–Semen (Umbelliferae)*

This small shrubby annual thrives in dry conditions. It counteracts dampness and excessively wet conditions in the body. Its Sanskrit name literally means 'promoting digestion' and it is a superb addition to any formula when there is a compromised digestive system.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, dry

Doṣa effect VPK=, P+ in excess

Dhātu (tissue) Plasma, blood, muscle

Srotas (channel) Digestive, respiratory

CONSTITUENTS

Essential oil Cuminaldehyde, pinene, phellendrene, limonene

Flavonoids Apigenin, luteolin (Williamson 2002)

AYURVEDIC ACTION

Dīpana Enkindles the digestion

Pācana Digests toxins

Vātānulomana Redirects the flow of *vāta* downwards

Śūlapraśamana Alleviates intestinal spasms

Chardighna Alleviates vomiting

Medhya Benefits intelligence

Śirovirecana Clears the head of mucus and congestion

BIOMEDICAL ACTION

Carminative, digestive, aromatic, antispasmodic, diuretic, galactagogue



INDICATIONS

Digestion One of the best herbs for digestive sluggishness. Used as a flavouring in cooking to help the absorption of nutrients.

Specifically implicated in bloating, gurgling, slow digestion from disturbed *vāta* and *kapha*. Also of benefit if *vāta* is rebelling upwards and causing nausea or indigestion. It corrects the flow of *vāta* and directs the wind downwards. Its heating post-digestive property implies that it absorbs fluids from the large intestine; it is constipative when there is diarrhoea (*Bhāvaprakāśa*).

Lungs Because it digests *āma* it can be of use in counteracting catarrh and excess *avalambaka kapha* on the chest. It regulates the movement of *udāna* and *prāṇa vāyu* in the chest and helps to relieve tightness.

Gynaecology Its direct effect on *rasa dhātu* sends its beneficial properties straight to the uterus and female reproductive system. It reduces uterine inflammation and pain and also dries any

excess discharge. Like many Umbelliferae family seeds it benefits *stanyasrotas* and the production of breast milk.

COMBINATIONS

- * Fennel, coriander, cardamom in digestive difficulties.
- * Pippali, ginger, licorice in spasmodic coughs and excess mucus.
- * Fresh ginger, tagarah in menstrual pain.
- * Ajwain, fennel, shatavari to aid milk production.

CONTRAINDICATIONS

Not to be used in high doses where there is *pitta* or other inflammatory problems in the digestive system.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–5g per day or 3–15ml of a 1:3 @ 45% tincture.

NOTES

- Cumin is a very small annual plant thriving in the hot and dry areas of Rajasthan and Gujarat.
- Although it is a pungent herb it does not aggravate *pitta* unless used excessively.
- Use roasted after a meal as a great folk remedy 'cure-all' for digestive problems.

DAMANAKA

Common name **Mugwort (E), Davana (H)** Sanskrit **Nāga-damanī, Damanaka** Latin **Artemisia vulgaris-Folium (Compositae)**

This common roadside herb is very warming and has an affinity for the blood and the female reproductive system. Damanaka literally means 'subduing' as it tames disease.

ENERGETICS

Rasa (taste) Astringent, bitter, pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect VPK=, can P+

Dhātu (tissue) Plasma, blood, muscle, marrow, nerve

Srotas (channel) Female reproductive, circulatory, digestive, respiratory, nervous

CONSTITUENTS

Volatile oils Cineole, thujone, linalool, myrcene

Sesquiterpene lactones Vulgarin

Flavonoids Quercetin

Coumarins Umbelliferone, esculetin

Triterpenes β-amyrin, β-sitosterol (Williamson 2002)

AYURVEDIC ACTION

Stambhana Stops bleeding

Dīpana Awakens digestion

Hṛdaya Heart tonic

Tridoṣajit Balances all three *doṣas*

Kuṣhtakaṇḍūghna Prevents skin diseases and itching

Raktaśodhana Cleans the blood of toxins

BIOMEDICAL ACTION

Emmenagogue, haemostatic, alterative, analgesic, anthelmintic, antispasmodic,



diaphoretic, bitter tonic, antibacterial

INDICATIONS

Gynaecology Specific herb for menorrhagia when this excessive bleeding is caused by coldness, i.e. an excess of *kapha* and/or *vāta* in the uterus. Useful in all cold conditions of the lower abdomen where cold congeals and creates dysmenorrhoea, endometriosis or fibroids. Used to prevent miscarriage when caused by coldness (Bensky & Gamble 1986). It can also be used as a douche for vaginal discharge and *kapha* symptoms.

Digestion It acts as an antispasmodic in the intestines for *vāta*-like cramps. It regulates the flow of *śamana vāta*. Its affinity for the *apānakṣetra* and the lower abdomen benefits all *vāta* or nervous related symptoms in this area (Frawley & Lad 1994).

Heart Damanaka's action on the blood helps to nourish the heart and strengthen the contractile force of the cardiac system. This positive effect on circulation can ease muscular pain (Gogte 2000).

External Specific treatment using fresh leaf poultice to remove warts. Also beneficial in a skin cream or as a wash for itchy skin.

COMBINATIONS

- * Musta, shatavari, ginger for uterine bleeding with cold; also for abdominal pain.
- * Kushtha, fennel, cinnamon for digestive spasms.
- * Neem as a wash for fungal or inflammatory conditions.

CONTRAINDICATIONS

Caution in high *pitta* conditions. Pregnancy and breast-feeding.

SAFETY

No drug-herb interactions are known.

DOSAGE

3–9g per day dried or 5–15ml per day of a 1:5 @ 25% tincture.

NOTES

- This aromatic perennial grows all over the world.
- Used as the herb in moxibustion for warming the channels in Chinese medicine.

DARUHARIDRA

Common name **Indian berberry (E), Daruhaldi (H), Darvi (H)** Sanskrit *Dāru-haridrā* Latin *Berberis aristata/chitria–Radix (Berberidaceae)*

Daruharidra means ‘tree turmeric’ after its yellow-coloured roots and trunk visible after the bark is peeled from this thorny bush. It is a remarkable remedy for regulating the liver and clearing high *pitta* from the system.



ENERGETICS

Rasa (taste) Bitter, astringent

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect KP–, V+ in excess

Dhātu (tissue) Plasma, blood, fat

Srotas (channel) Excretory, circulatory, digestive

CONSTITUENTS

Alkaloids Berberine, berbamine, jatrorrhizine

Flavonoids Quercetin, rutin

Phytosterols β-sitosterol (Williamson 2002)

AYURVEDIC ACTION

Lekhaniya Scrapes accumulations

Kaṇḍūghna Alleviates itching

Svedala Diaphoretic

Ropaṇa Wound healer

Arśoghna Alleviates bleeding piles

BIOMEDICAL ACTION

Alterative, vermifuge, antiprotozoal, cholagogue

INDICATIONS

Liver As an effective cholagogue it helps to protect the liver from toxic damage. It can be used in liver diseases such as hepatitis, cirrhosis and also in ‘sluggish liver’, characterised by low appetite, anorexia and constipa-

tion. It effectively regulates *rañjaka pitta* and works directly on the *rakta dhātu* and blood.

It is a specific herb for treating imbalanced *rakta dhātu agni*.

Its effect on the liver also helps to treat aggravated *ālocaka pitta* in the eyes in such conditions as styes and conjunctivitis (Gogte 2000).

Skin Used for all skin problems with inflammation, redness and bleeding; eczema, psoriasis, fungal infections with aggravated *bhrājaka pitta*. As an effective diaphoretic it helps to release aggravated *kapha* via the skin. It is used as part of the treatment in sexually transmitted diseases (STDs) (Paranjpe 2001).

Piles It is a specific herb for *kapha* and *pitta* piles.

Diabetes It is used with turmeric as part of a formula for diabetes as berberine works directly on the pancreas. This combination is called *haridrā dvaya* or ‘the two turmeric’ (Paranjpe 2001).

COMBINATIONS

- * Turmeric, ajwain, kutki for liver conditions.
- * Manjishtha neem, bakuchi, bhringaraja for skin conditions.
- * Aloe vera, guduchi, neem, *triphalā* for haemorrhoids.

- * Karavella, gurmar, shilajit, black pepper for diabetes.

CONTRAINDICATIONS

Pregnancy; disorders of *vāta* and the nervous system.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–6g per day or 3–9ml of a 1:3 @ 45% tincture. It is a strong remedy and can cause nausea or diarrhoea if used at too high a dose.

NOTES

- It is a spiny shrub that grows up to 3m tall and thrives at 1000–3500m above sea level in the Himalayas and Nilgiris.
- A preparation of equal parts daruharidra and boiled milk, known as *rasāñjana*, is used as an external application for infections and is especially beneficial to the eyes.
- Considered to have very similar properties to turmeric, they are often used together.

DEVADARU

Common name **Himalayan cedar wood (E), Deodar (H)** Sanskrit *Devadāru* Latin *Cedrus deodara*–*Lignum (Pinaceae)*

This hardy tree thrives in the high altitude of the western Himalayas. It means ‘wood of the gods’. The inner wood is aromatic and is also distilled into essential oil. The outer bark is astringent and is used for diarrhoea and neuralgic pain.



ENERGETICS

Rasa (taste) Bitter, pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, unctuous

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, muscle, fat

Srotas (channel) Digestive, respiratory, circulatory

CONSTITUENTS

Essential oil Sesquiterpenes

Flavonoids Deodarin, taxifolin, quercetin

(Williamson 2002)

AYURVEDIC ACTION

Dīpana Increases digestive function

Āmapācana Removes toxins from the bowel

Vātānuloma Redirects the flow of *vāta* downwards

Vibandhahara Alleviates constipation

Kāсахara Alleviates coughing

Hṛdaya Nourishes the heart

Vedanāsthāpana Analgesic

Vātakaphahara Alleviates *vāta* and *kapha*

BIOMEDICAL ACTION

Carminative, antispasmodic, aromatic, analgesic, cholesterolaemic, diaphoretic

INDICATIONS

Digestion Used in digestive distension from weak digestion. As it alleviates *vāta* it can reduce intestinal spasms and cramping by relaxing the nervous system and easing flatulence. Very useful in digestive disturbance from nervous tension, it can clear constipation by relaxing and lubricating the bowel. Its hot resinous nature is beneficial for reducing *āma* from the intestines and excess weight and cholesterol from *medas-dhātu* (Gogte 2000).

Lungs Its bitter and pungent flavour is the perfect combination to remove *kapha*; it dries the excess mucus and therefore helps to clear the wet stagnation. Its *snigdha* and unctuous property loosens phlegm and facilitates expectoration helping to alleviate *kapha* and dry excess mucus. It is also used when there are fevers that are affecting breathing (Gogte 2000).

Pain Devadaru is an excellent anti-inflammatory that relieves cold, spasm and contraction in the muscles. Its pungent and warm properties increase circulation and relax muscular tension. Use in arthritis, sciatica,

headache and pain from high *vāta*.

COMBINATIONS

- * Fennel, ginger, ajwain in digestive disturbance from high *vāta*.
- * Pippali, haritaki for cough and mucus in the lungs.
- * Turmeric, jatamansi in muscular and neuralgic pain.

CONTRAINDICATIONS

High *pitta*.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–5g per day or 1–10ml of a 1:3 @ 45% tincture.

NOTES

- Its harvesting is controlled by the Indian Forest Department and sources must come from certified dealers. The essential oil usually comes from the uprooted stumps of felled trees.

DHATTURA

Common name **White thorn apple (E), Datura (H)** Sanskrit *Dhattūra* Latin *Datura metel/stramonium-Folium (Solanaceae)*

Dhattura is steeped in legend. The sublimely enticing flowers draw you towards them. It has psychotropic qualities that give it a mythical character. Ayurvedically the leaves are a potent remedy for diffusing the lungs and circulating *prāṇa*.

ENERGETICS

Rasa (taste) Astringent, sweet, bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry; spreads throughout the body (*vyavāyī*)

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood

Srotas (channel) Respiratory, circulatory, mental

CONSTITUENTS

Alkaloids 0.25% of hyoscyamine, hyoscyne and atropine (British Herbal Medicine Association 1983)

AYURVEDIC ACTION

Mādana Induces intoxication

Kāsaśvāsahara Relieves coughing and asthma

BIOMEDICAL ACTION

Antispasmodic, bronchodilator, narcotic

INDICATIONS

Lungs Dhattura leaves are a powerful remedy for dilating the



bronchioles of the lungs. They are antispasmodic and can swiftly relieve wheezing and tightness of the chest. It is used as a drying remedy to counteract mucus and congestion in the lungs when *avalambaka kapha* has accumulated (Paranjpe 2001). **Fevers** As this remedy moves upwards and outwards it can help to induce diaphoresis and therefore break a fever.

COMBINATIONS

- * Always use with licorice as this can help to relieve the toxicity and its excessively dispersing nature.
- * Ginger, pippali for lung disorders.

CONTRAINDICATIONS

Pregnancy.

SAFETY

Caution with anticholinergic medication (e.g. atropine, benzotropine or ipratropium bromide) due to dhattura's action on the



nervous system, which may exacerbate the effects of the medication (Low Dog 2002, Harkness & Bratman 2003).

DOSAGE

Maximum of 150mg per day (UK 1968 Medicines Act/Statutory Instrument 2130 1977), or 1.5ml per day of a 1:10 @ 45% tincture.

NOTES

- This is an enigmatic plant. Folklore abounds as to its psychotropic abilities, which are mainly associated with the seed and the root.
- *Stramonium* relates to the Latin root for madness.
- Dhattura is extremely powerful; only use within the recommended range and up to a month at a time.

EPHEDRA

Common name **Ephedra (E)** Sanskrit **Somalatā** Latin **Ephedra sinensis/gerardiana–Folium (Gentaceae)**

Ephedra is a dry, stalky plant that favours dry, barren land, and is specific for cold, wet, damp lung and circulatory conditions. It is invaluable for acute asthma and allergic respiratory attacks with *kapha* and cold symptoms. Somalata means the 'soma creeper' referring to 'soma' the divine plant that induced transcendental states. Although *Ephedra* spp. have been associated with *soma* this is not confirmed and ephedra is not a creeper.

ENERGETICS

Rasa (taste) Pungent, astringent

Vīrya (energy) Hot

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, light

Doṣa effect: K–, PV+

Dhātu (tissue) Plasma, muscle, marrow, nerve

Srotas (channel) Respiratory, nervous, circulatory, urinary

CONSTITUENTS

Alkaloids Ephedrine, pseudoephedrine, norephedrine

Volatile oil

Tannins

(Williamson 2002)

AYURVEDIC ACTION

Śvāsahara Antiasthmatic

Kāśahara Alleviates cough

BIOMEDICAL ACTION

Bronchodilator, expectorant, diaphoretic, circulatory stimulant, diuretic, antiallergenic

INDICATIONS

Lungs Colds with high *kapha*, and allergies from cold and damp; hayfever, acute rhinitis, asthma, wheezing. As an antiallergenic herb it prevents the



release of histamine from mast cells but should only be used when there is a cold component. Its superb bronchodilatory action directly relaxes the muscles around the lungs and eases shortness of breath (Mills 1991) **Circulation** Cold extremities and arthritis with high *śleṣaka kapha* and swollen joints. Its vasodilating properties relax the skin and this helps to expel cold while its diuretic properties drain any swelling and oedema.

COMBINATIONS

- * Vasa, anthrapachaka, pippali in lung congestion and allergic reactions.
- * Cinnamon, ginger to encourage sweating in *jvara*/fever of a cold nature.
- * Gokshura, coriander as diuretics in oedema and water retention.
- * Licorice to ameliorate its harsh dispersing nature.

CONTRAINDICATIONS

Heart weakness, hypertension, palpitations, hyperthyroid, glaucoma, insomnia, benign prostatic hypertrophy, during pregnancy. Traditionally never used with any *vāta* disturbance or any heat signs.

SAFETY

Due to its ephedrine content it may interact with caffeine and MAO inhibitors, exacerbating effects and elevating blood pressure; beta-blockers by reducing drug efficacy due to opposing activity; ephedrine (Sudafed, etc.) by additive sympathomimetic effects inducing further toxicity and arrhythmia; and steroids (e.g. dexamethasone) by enhancing clearance levels and thus reducing effectiveness of the drug (Treasure 2000). Averse effects appear as dizziness, anxiety, palpitations, tachycardia, headache, insomnia and seizure (Low Dog 2002).

DOSAGE

Ephedra is very strong and subject to legal restrictions in the UK; the maximum dose is 1.8g per day (UK 1968 Medicines Act/Statutory Instrument 2130 1977) or 9ml per day of a 1:5 @ 25% tincture. Traditionally, in a combined formula of herbs, it has been used at higher doses of up to 9g per day.

NOTES

- Ephedra grows in the Himalayas at an altitude of 2000–4000m.
- Its very rajasic and stimulating nature can injure the body fluids; being hot and dry it opposes *ojas*.
- Ephedra can cause night sweats, palpitations, nervousness and excess urination (especially in *vāta* and *pitta* types); discontinue if these symptoms arise.
- Recently banned in USA due to ephedrine content.

FENNEL

Common name **Fennel (E), Sounf (H)** Sanskrit **Śata-puṣpa, Madhurikā** Latin **Foeniculum vulgare–Fructus (Umbelliferae)**

Its name shatapushpa means 'one hundred flowers'. Its other name *Madhurikā* means 'the sweet one'. This is another member of the Umbelliferae family that aromatically warms digestion. Like its flower head it spreads and moves outwards, thus preventing congestion and stagnation in the centre.



ENERGETICS

Rasa (taste) Sweet, pungent, bitter

Vīrya (energy) Heating (a little)

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Light, dry

Doṣa effect Tridoshic, VPK=

Dhātu (tissue) Plasma, blood, muscles, nerve

Srotas (channel) Digestive, respiratory, nervous, urinary, reproductive, lactation

CONSTITUENTS

Essential oils Anethole, estragole, fenchone

Flavonoids

Organic acids

Sterols β-sitosterol

(Mills & Bone 2000)

AYURVEDIC ACTION

Dīpana Enkindles the digestive fire

Pācana Digestive

Śūlaprasāmana Alleviates intestinal spasms

Anuloma Redirects the flow of *vāta* downwards

Chardinigrahaṇa Antiemetic

Kāsa Benefits coughs

Śvāsa Antiasthmatic

Sattva Increases clarity of consciousness

BIOMEDICAL ACTION

Carminative, aromatic, diuretic, antispasmodic, galactagogue, expectorant, antitussive

INDICATIONS

Digestion Digestive discomfort; flatulence, borborygmus, cramps, nausea and low *agni*.

Although a heating herb, it benefits digestion without aggravating *pitta*. In fact its sweet post-digestive action leaves a residual cooling effect. A specific herb for inguinal hernias and lower abdominal pain (Bensky & Gamble 1993). It relaxes the smooth muscles and is a specific herb for lower abdominal pain from lower bowel tension.

Fennel water is used for colic in babies.

Urinary Cystitis, difficult urination, burning and dark yellow urine, cloudy urine. Its diuretic properties clear *pitta* from *mūtravahasrotas*.

Nerves Use fennel when nervous tension in *māṃsa dhātu* and contraction in the smooth muscle system restricts the flow of *vāta*. All spasms are relieved by fennel, especially in the GIT, lungs

and uterus (*Bhāvaprakāśa*). Its nourishing effect on *majjā dhātu* tonifies the brain and nervous system.

Lungs Useful in *vāta-kapha* obstruction type cough. Helps to clear phlegm by reducing aggravated *avalambaka kapha* that congests the alveoli and bronchioles.

Gynaecology Its specific effect on *rasadhātu* can increase the flow of milk in lactating mothers. Useful in menstrual difficulty caused by *vāta* and *kapha* obstruction in the lower abdomen with pain, cramps and a dragging sensation (*Bhāvaprakāśa*).

COMBINATIONS

- * Cumin, peppermint for GIT disturbance.
- * Ginger, chitraka, cinnamon for low *agni*.
- * Coriander, gokshura in urinary problems with aggravated *vāta* and *kapha*.
- * Pippali, anthrapachaka, licorice in *vāta-kapha* type coughs.
- * Brahmi, gotu kola for mental tension relief and to enhance antispasmodic activity.
- * Shatavari, ajmoda for lactation.

CONTRAINDICATIONS

None known. Fennel is a very safe herb.

SAFETY

There is some theoretical concern that ciprofloxacin is cleared from

the body at twice the normal rate when taken with fennel (Low Dog 2002, Harkness & Bratman 2003).

DOSAGE

500mg–9g per day dried or 3–15ml per day of a 1:3 @ 45% tincture.

NOTES

- Fennel is a hardy perennial that thrives in dry, hot climates and is opposed to wet, damp, cold conditions.
- The 'sweetness' of anethole is common in the Indian variety (Bown 1995).
- It specifically warms and strengthens *agni* and digestion. Its special quality is that it does this without aggravating *pitta* or other heat signs.
- Helpful for digestion to chew some roasted seeds after meals.

FENUGREEK

Common name **Fenugreek (E), Methi (H)** Sanskrit **Meṭhikā** Latin **Trigonella foenum-graecum–Semen (Fabaceae)**

Fenugreek is a very warming seed that benefits *kapha* and *vāta*. It is used to treat constipation, high cholesterol, diabetes and obesity. Its smell is very pungent, and it is a nourishing seed.



ENERGETICS

Rasa (taste) Pungent, astringent, bitter, sweet

Vīrya (energy) Hot

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, unctuous

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, fat, bone, nerve, reproductive

Srotas (channel) Digestive, excretory, water, sweat, respiratory, reproductive, lactation

CONSTITUENTS

Saponins Diosgenin

Coumarins

Flavonoids Quercetin, lilyl, kaempferol

Alkaloids Trigonelline, lecithin, mucilage
(Williamson 2002)

AYURVEDIC ACTION

Dīpana Appetite builder

Pācana Digestive

Anulomana Encourages *vāta* to move downwards

Virecana Mild laxative

Vātakaphaghna Alleviates *vāta* and *kapha*

Pramehaghna Alleviates symptoms of diabetes

BIOMEDICAL ACTION

Carminative, cholesterolaemic, bulk laxative, antidiabetic, demulcent, expectorant,

diuretic, diaphoretic, aphrodisiac

INDICATIONS

Diabetes Its beneficial effect on the water channels (*ambuvahasrotas*) and the urinary system (*mūtravahasrotas*) indicate its use in diabetes. It can help to clear some of the fatty deposits that accumulate in the channels that should be nourishing to the pancreas. It helps to balance sugar levels in both types 1 and 2 diabetes. The active components are found in the trigonelline and coumarin content. Clinically effective trials have used 50g per day of the defatted seeds (Murray 1992).

Cholesterol Its direct action on *medovahasrotas* makes it useful as part of a formula to reduce cholesterol. Use 10–20g per day to reduce low-density lipoprotein (LDL) cholesterol levels (Murray 1992).

Digestion It is an invaluable remedy to treat sluggish and gaseous digestion from impaired *kapha* and *vāta*. It can benefit diarrhoea and inflammation in the intestines. Its high mucilage content

acts as a soothing demulcent that can heal ulcers and also increase the bulk of the stool; it is a useful mild laxative. Its bitter quality helps the liver function and improves assimilation of nutrients (Frawley & Lad 1994).

Gynaecology Fenugreek seed has a particular affinity for the uterus and female reproductive system as a whole. Its saponin containing phyto-oestrogen precursor, diosgenin, plays an important role in female health. It is taken post-partum to encourage bowel movements and clean the uterus. Its nourishing effect on *rasa dhātu* also helps to encourage a healthy flow of breast milk. If there is dysmenorrhoea its warming effect and stagnation reducing properties are beneficial (Gogte 2000).

Reproduction Used in formulas to treat impotence, premature ejaculation and low libido (Bensky & Gamble 1993). Its heating energetics stimulate the reproductive system, while its unctuousness and sweet nature nourish *śukra dhātu*.

Pain As a superb remedy to settle *vāta* it is indicated in lower

back problems, sciatica and arthritis with swelling and pain. A notable diagnostic clue is the sensation of cold on the back and thighs (Bensky & Gamble 1993). Its ability to strengthen *asthi dhātu* indicates its use in osteoporosis, back pain, structural weaknesses and hair loss. **External** A poultice made from the powder is very useful for drawing infections, boils, splinters and arthritic swelling from the body.

COMBINATIONS

- * Gurmar, turmeric, neem, *trikaṭu* in diabetes.
- * Guggulu, turmeric in high cholesterol.
- * Fennel, cumin, coriander for bloating and constipation.

- * Ashoka, shatavari for menstrual problems.
- * Shatavari, fennel for milk production.
- * Nutmeg, ashwagandha, kapikacchu, bala for male reproductive problems.
- * Punarnava, guggulu, *trikaṭu* for swollen arthritic conditions.

CONTRAINDICATIONS

High *pitta*.

SAFETY

As a known hypoglycaemic there may be a positive interaction and it is advisable to monitor patients on diabetic medication. The claims that fenugreek interacts with warfarin appear to be mistaken, but it does appear to inhibit iron absorption at a high dosage (Bone 2003)

DOSAGE

2–50g per day or 3–30ml per day of a 1:3 @ 45% tincture.

NOTES

- Fenugreek grows wild as a small, leafy shrub in the north of India but is now cultivated everywhere as an annual crop.
- The leaves are a delicious vegetable.
- It enters the sweat channels and its characteristic aroma is soon noticeable on the body odour.
- It is part of a famous formula known as *caturbija*. This contains fenugreek, chandrashura (*Lepidium sativum*), krishna jiraka (*Nigella sativa*) and yavani.

FRANKINCENSE (INDIAN)

Common name **Frankincense (E), Indian oli-banum (E), Salai guggul (H)** Sanskrit **Śallakī, Kapitthapaṛṇi, Koṅkanadhūpa** Latin **Boswellia serrata-Resina (Burseraceae)**

Frankincense has dual energetics of being both heating and cooling. It is heating due to its blood circulating property and cooling due to its anti-inflammatory action. Frankincense has had a long-term connection with the spiritual realm and religious ceremony. It is also used in psychiatric and mental conditions.

ENERGETICS

Rasa (taste) Bitter, pungent, astringent, sweet

Vīrya (energy) Heating and cooling

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, light, penetrating

Doṣa effect VKP–, may aggravate either *pitta* or *vāta* in excess

Dhātu (tissue) Plasma, blood, muscle, fat, bone, nerve, reproductive

Srotas (channel) Circulatory, nervous, reproductive

CONSTITUENTS

Triterpenes Boswellic acid
A and B

Sugars Arabinose, arabic acid

Essential oils Bassorin, pinene, dipentene
(Williamson 2002)

AYURVEDIC ACTION

Āmanāśaka Destroys toxins

Kaphavātahara Reduces *kapha* and *vāta*

Rasāyana Rejuvenative

Strīroga Useful in gynaecology

Śirovirecana Cleansing to the orifices of the head

Anulomana Redirects the flow of *vāta* downwards



Lekhana Clears adhesions from the body

Vedanāsthāpana Analgesic

Vājīkaraṇa Aphrodisiac

Sandhāna Bone mender

BIOMEDICAL ACTION

Analgesic, anticholesterol, rheumatic, anti-inflammatory, emmenagogue, antispasmodic

INDICATIONS

Pain All types of pain, specifically arthritic or post-trauma where there is inflammation and congestion. Energetically applied to cold and damp types of pain and swelling. It circulates *vyāna vāyu* and clears toxic *āma*; this effectively clears blockage of the channels (*srotorodha*). Used to hasten the healing of wounds, broken bones and bruises via its blood-circulating and granulation-enhancing actions (Bensky & Gamble 1993).

Inflammation Useful in inflammatory diseases, especially of the joints, lungs, GIT and skin, and is a specific for osteo- and rheumatoid arthritis, asthma, bronchitis, colitis, Crohn's disease and psoriasis where there is

chronic *kapha* or *āma* involvement causing obstruction and stagnation in any of the channels or tissues. Consider frankincense instead of non-steroidal anti-inflammatory drugs (NSAIDs). This action is the result of the boswellic acid reducing the activity of pain and inflammation causing leukotrienes by inhibiting the production of the 5-lipoxygenase enzyme (Tillotson 2001, Bone 2003).

Gynaecology Excels in the treatment of fibroids, cysts, painful periods with clots and pain caused by congestion in *apānakṣetra* and the uterus.

Reproduction Specific herb for impotence and sexual debility; it brings blood to the penis and therefore facilitates erectile function (Paranjpe 2001).

Cholesterol Reduces LDL count in the blood. Clears *āma* from the blood.

Mental Opens the mind. Said to have a specific effect on *ājñā cakra*, the spiritual centre connected with the pituitary and hypothalamus gland. The essential oil is especially appropriate for this.

COMBINATIONS

- * Guggulu, myrrh, turmeric in inflammatory and arthritic conditions with *kapha-vāta* aggravation. This combination may also be used in high cholesterol.
- * Gokshura, ashwagandha, bala for male sexual debility.

* Shatavari, rose, safflower for menstrual pain, cysts and fibroids.

CONTRAINDICATIONS

Caution during pregnancy due to its vigorous 'moving' nature. Low dose in *pitta prakṛti* and with weakened digestion as gastric irritation may occur.

SAFETY

No drug-herb interactions are known.

DOSAGE

3–9g per day resin in decoction, 250–750mg three times per day of a 1:4 concentrated powder, or 2–10ml per day of a 1:5 @ 90% tincture.

NOTES

- Frankincense is a medium-sized tender tree growing up to 10m in height.
- The best-quality frankincense comes from the driest areas, especially Rajasthan and Gujarat, and is gathered at the hottest time of year.
- The resin is extracted as an exudate from the branches.
- Tastes disgusting when used in decoctions!
- High resin content requires tincture to be at 90% volume of alcohol.
- If using tinctures add 10% licorice first as a saponin-containing suspending agent to prevent precipitation and to reduce its harsh flavour.

GARLIC

Common name **Garlic (E), Lašuna (H)** Sanskrit **Lašuna, Rasona** Latin **Allium sativum–Bulbus (Liliaceae)**

The delicious bulbs of this annual are a veritable herbal panacea. Ayurveda focuses on its positive digestive effect when there is cold and sluggishness, but warns of its inappropriate use in times of emotional stress and environmental heat. *Rasona* means ‘lacking a taste’, derived from *rasa* meaning ‘taste’ and *una* meaning ‘lacking’, as it lacks the sour taste.

ENERGETICS

Rasa (taste) Pungent, sweet

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Heavy, unctuous, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) All tissues

Srotas (channel) Digestive, respiratory, circulatory, reproductive, mental

CONSTITUENTS

Volatile oil Alliin, which converts to allicin on crushing, diallyl disulphide

Mucilage

Germanium

Glucokinins

(Mills 1991)

AYURVEDIC ACTION

Br̥mhaṇa Nourishing

Vr̥śya Aphrodisiac

Dīpana Enkindles the digestive fire

Sāra Eases the flow of stool

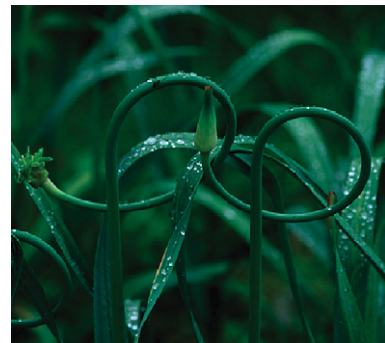
Āmanāśaka Destroys toxins

Pittaraktavardhana Aggravating to *pitta* and blood

Vātarasāyana Rejuvenator to *vāta*

Hṛdayarogahara Cures diseases of the heart

Jvaraghna Destroys fevers



Sūlaghna Alleviates abdominal pain

Krmighna Vermifuge

Kāsaghna Removes coughs

BIOMEDICAL ACTION

Carminative, vermifuge, vasodilator, expectorant, anticholesterol, antibacterial/antifungal

INDICATIONS

Digestion Garlic is a classic folk medicine used for gastric disturbances—flatulence, worms, parasites, infections, dysentery, typhoid, food poisoning, *Candida albicans*. Its ability to remove pathogenic bacteria without depleting the body’s natural flora takes it a step beyond being just a ‘herbal antibiotic’. As it cleans the intestinal flora it may increase wind for a few days. It is useful whenever there is a disturbance of *kledaka kapha* or *apāna vāyu* in the intestines as it clears both mucus and gaseous distension. It can also stimulate a sluggish liver (Mills 1991).

Lungs The little white bulbs have a potent therapeutic effect on the lungs; the volatile oils actually appear on the breath having cleaned the bronchioles and alveoli. It is strongly decongestant.

As a rejuvenative for *vāta* it encourages the free flow of breath, specifically *udāna* and *prāṇavāyu*. As an expectorant it can help to clear wet and sticky mucus. A very useful cold remedy with classic *kapha* symptoms; catarrh, heavy feeling, sluggishness, loss of appetite, shivering, aching limbs, myalgia. Garlic helps to expel the congestion and *āma* by inducing diaphoresis.

Immunity It enhances the body’s immunity as well as directly removing pathogens. It can be both a prophylactic and a cure for many infections.

Heart It directly benefits the heart by reducing *kapha* and *āma* in the *rasa*, *rakta* and *medas dhātus* and this has the effect of lowering blood cholesterol and reducing clotting; potential use in thrombosis and varicose veins. Its inclusion in a preventative regime to reduce the chances of atherosclerosis in *kapha* and *vāta* types seems wise (Mills 1991). As a circulatory stimulant it warms the whole body. This regulatory effect on the circulation and the arteries is further demonstrated by either lowering or raising blood pressure depending on the

condition; it balances, restores and regulates.

External With *kapha-vāta* skin disorders garlic is very useful as a paste or oil; ringworm, fungal infections, ear infections. An external oil rub may benefit arthritis, sciatica, oedema (Paranjpe 2001).

COMBINATIONS

- * Ginger, fennel, chitraka, hingu, black pepper for digestive weakness.
- * Pippali, licorice, ajwain for coughs.
- * Guggulu, pushkaramoola, arjuna and bibhitaki for the heart.

CONTRAINDICATIONS

Pregnancy as its hot and sharp qualities can disturb the fetus, but it is fine for lactation (Low Dog 2002). Conditions where the blood is vitiated; skin conditions or bleeding. Also in other *pitta* problems, hyperacidity, high blood pressure from heat, ulcers. As it is overly stimulating it may also be contraindicated in premature ejaculation and spermatorrhoea.

SAFETY

Caution in patients taking antiplatelet medication as it may potentiate anticoagulation effects of these medicines. There is no

direct evidence that garlic and warfarin will interact but caution is advised. Caution with hypotensive medication as garlic reduces diastolic blood pressure. Avoid garlic for 10 days prior to operative surgery. There may be a positive interaction with statins by increasing the cholesterol lowering effects and monitoring is advised (Low Dog 2002, Braun & Cohen 2003, 2004, Harkness & Bratman 2003)

DOSAGE

1–3 cloves per day, 6–15g dry or 1–6ml per day of a 1:3 @ 45% tincture.

NOTES

- The bulb is pungent, the leaves are bitter, the stem is astringent, the tips of the stem are salty and the seeds are sweet.
- As a tonic for *vāta* it is best taken fried with ghee.
- It is considered to be extremely rajasic or passion inducing. Its heat and penetrating nature aggravate the mind and create desire. It is an inappropriate food for those practising a sattvic or yogic lifestyle.
- Avoid too much heating activity (exercise, sunbathing, anger) while taking garlic to maximise its therapeutic benefits and reduce the chance of any aggravations.

GINGER

Common name **Ginger (E), Adrakh (H), Sont (H)** Sanskrit **Ārdraka (fresh), Śuṅṭhī (dry), Viśvabheṣaja**
Latin **Zingiber officinale–Rhizoma (Zingiberaceae)**

Ārdraka means ‘moist’ and *śuṅṭhī* means ‘dry’. It is also known as *vishwabhesaja*, the universal medicine benefiting everybody and all diseases (if you can say all in Ayurveda!), especially *vāta* disorders. This is the herbalist’s best friend. When using ginger think ‘digestion, lungs and circulation’.

ENERGETICS

Rasa (taste) Pungent, sweet

Vīrya (energy) Heating (fresh is warm and dry is hot)

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Fresh: unctuous and heavy; dry: dry, light and penetrating

Doṣa effect VK–, P+

Dhātu (tissue) All tissues

Srotas (channel) Digestive, respiratory, circulatory

CONSTITUENTS

1–2% volatile oil Zingerberine, zingerone, camphene, borneol, phellandrene, citral

Pungent principle Gingerol, gingerdiones, shogaols (Mills & Bone 2000, Williamson 2003)

AYURVEDIC ACTION

Āmanāśaka Destroys toxins

Pācana Digestive

Chardinigrahaṇa Prevents nausea

Hikkānigrahaṇa Stops hiccups

Agni dipana Enkindles the digestive fire

Grāhī Absorbs fluids from the intestines

Arśoghna Removes piles

Śītaprasamana Reduces feelings of cold

Rasāyana Rejuvenative



Kāsaśvāsahara Alleviates cough and breathing difficulties

Vedanāsthāpana Alleviates pain

BIOMEDICAL ACTION

Fresh Diaphoretic, expectorant, carminative, antispasmodic, antiemetic

Dry Stimulant, carminative, anti-spasmodic, emmenagogue

INDICATIONS

Cold Clears cold; fresh increases peripheral circulation and causes vasodilation and sweating. It clears *āma* from plasma and blood. Fresh ginger is more peripherally active while dry ginger is more centrally stimulating and warming (Mills & Bone 2000; the volatile and diaphoretic essential oils β-sesquiphellandrene and zingiberene decompose on drying. The warming gingerol principle transforms into shogaols on drying, making it more centrally heating). Dry ginger may be of benefit in cardiac disorders due to increasing circulation and potential blood-thinning properties when used at a high dosage (Mills & Bone 2000).

Arthritis Dry ginger is used as an *āma*-clearing, *śleṣaka kapha*-reducing, toxin-digesting, anti-inflammatory in arthritis (*āma-vāta*) in many traditional ayurvedic formulas, e.g. triphala guggul, yograj guggul.

Lungs Clears phlegm in *kapha-vāta* coughs and colds.

Digestion Warms the digestive system, increases *agni* and the secretion of digestive enzymes.

Fresh ginger especially benefits *rasadhātvaṅni* while dry ginger clears *āma* and is better for *kledaka kapha* aggravations.

Useful in nausea (morning, post-operative, and travel sickness), flatulence, griping. Specific activity against *Escherichia coli* and *Shigella bacillus* (Bensky & Gamble 1993, *Bhāvaprakāśa*, Tillotson 2001).

Gynaecology Used in menstrual cramps—hot, fresh ginger tea. Regulates *vāta* in the *apānakṣetra* (lower abdomen). Despite its ‘warm’ energy it also inhibits the activity of inflammatory prostaglandins. It is a warming anti-inflammatory (Tillotson 2001). Energetically, its sweet post-digestive effect is cooling.

It also nourishes the *śukra dhātu* and reproductive system as a whole.

COMBINATIONS

- * Cinnamon, lemongrass for a cold to induce sweating.
- * Pippali, vasa for a cough with high *kapha* and aggravated *vāta*.
- * Black pepper, pippali as a part of *trikaṭu*, The Three Pungents formula used for *kapha*, low digestion and respiratory complaints. This is often combined with honey to add to its drying effect.
- * Arjuna, guggulu in congestive heart conditions and poor circulation.
- * Turmeric, rose for menstrual pain.

CONTRAINDICATIONS

In high *pitta* with heartburn, ulcers and sweating. Not more than 2g per day of dry ginger in pregnancy. According to the Commission E monograph even fresh ginger is contraindicated in pregnancy, but this is a theoretical supposition (Blumenthal 1998, Low Dog 2002). While ginger is widely used during pregnancy to alleviate nausea, keep the dose low. Apply care and treat according to the pattern presented. Caution in high blood pressure, peptic ulcers, gastro-oesophageal reflux and skin diseases with inflammation. Not recommended in patients with gallstones due to its cholagogue effect.

SAFETY

Ginger may increase the absorption of allopathic medication. Theoretical interaction with anti-coagulant medication is not proven by human clinical trials. Used at less than 3g per day it is safe in patients susceptible to haemorrhage or taking warfarin or aspirin. It may reduce the effect of antacids, as it increases gastric secretions (Mills & Bone 2000, Low Dog 2002, Bone 2003).

DOSAGE

Fresh: 1.5–5g per day or 2–10ml per day of a 1:2 @ 90% tincture; dry: 1–2g per day or 0.5–2ml per day of 1:2 @ 90% tincture.

NOTES

- Ginger is a perennial that thrives all over India and Sri Lanka, especially in hot and damp environments.
- Fresh ginger will not aggravate *pitta* as much as dry.
- Fresh ginger is better for calming an aggravated *vāta* and for sweating. It is harder to digest and better as a laxative than dry ginger.
- Dry ginger, being hot, is better for stimulating *agni* and clearing *kapha*; it dries water in the colon (*grāhī*) but it still removes constipation as its penetrating quality 'breaks up' (*vibandhabhedinī*) impacted faeces.
- As it increases digestion of nutrients it may also increase assimilation of pharmaceutical drugs.
- The anti-inflammatory action is a very good example of the *prabhāva* or 'unique effect'. Its post-digestive quality is sweet. This means that its long-term effect is anti-inflammatory and nourishing while its initial activity is warm and stimulating to digestion. It blocks inflammatory prostaglandins and thromboxane.

GOKSHURA

Common name **Puncture vine fruit (E), Caltrops (H), Gokhru (H)** Sanskrit **Gokṣura** Latin **Tribulus terrestris–Semen, Herba (Zygophyllaceae)**

This spiky fruit looks like the cloven hoof of a cow and hence the name *go-kṣura* (cow-hoof). 'Kṣura' also means 'scratcher' and as this thorny shrub is found growing in sandy wasteland all over the sub-continent it is responsible for scarring the hide of many a sacred cow. It is a superb diuretic that clears excess fluids from the system. Its hormonal precursor compounds actively nourish the reproductive system. It is also very useful for itchy skin, especially on the hands and feet.

ENERGETICS

Rasa (taste) Sweet, bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Heavy, unctuous

Doṣa effect VPK=, with primarily V–

Dhātu (tissue) Plasma, blood, muscle, fat, nerve, reproductive
Srotas (channel) Urinary, nerve, reproductive, respiratory

CONSTITUENTS

Tribuloside

Saponins Protodioscin, stigmasterol, terrestonins

Alkaloids Harmala

Potassium nitrate

Flavonoids Kaempferol, quercetin

Aspartic and glutamic acids

(Paranjpe 2001, Williamson 2002)

AYURVEDIC ACTION

Mūtravirecana Diuretic

Mūtrakṛcchraghna Dispels dysuria

Aśmarihara Lithagogue

Bhedana Scratches accumulations from the system



Vedanāsthāpana Reduces pain

Śothahara Reduces swellings

Vṛṣya Increases sexual appetite

Vājīkaraṇa Enhances sexual potency

Śukraśodhana Sperm purifier

Raktaśodhana Blood purifier

Bṛmhaṇa Increases body mass

Balya Enhances strength

Tridoṣahara Reduces all three doṣa

BIOMEDICAL ACTION

Diuretic, lithotriptic, aphrodisiac, reproductive tonic, nervine, antispasmodic, anabolic, alterative

INDICATIONS

Urinary (Fruit) Bladder or kidney infections, renal colic, kidney stones, urinary retention, cloudy urination, haematuria. It has a direct affinity for the *mūtravāhasrotas*, *ambuvāhasrotas* as well as *māṃsa* and *medas-dhātu*. It soothes the urinary tract membranes and promotes urination. Gokshura is specific for prostate problems, urinary retention or obstructed urinary flow (*Bhāvaprakāśa*).

Reproductive (Aerial parts and fruit) As a tonic herb with a sweet post-digestive effect it nourishes the *śukra dhātu* increasing virility, fertility, sperm production, and lactation. It rejuvenates the reproductive system, especially the

uterus and the gonads. Used in infertility and impotence where there is an obstruction due to *vāta* or *kapha* in the reproductive tissue. Its saponin and flavonoid content act as hormonal precursors. Protodioscin is converted to dehydroepiandrosterone (DHEA) and thus enhances sexual function (Williamson 2002).

Nerves (Fruit) Useful in all *vāta* aggravations of the nervous system. It draws all three *doṣas* downwards and can treat headaches, hives, itchy skin and eye inflammations. Its harmala alkaloid content has MAO inhibitor activity, which can be utilised for psychological and nervous imbalances to enhance the balance of serotonin in the brain.

Skin (Fruit) Gokshura is very useful for stopping itching in the skin caused by *vāta* or *kapha* obstructing the muscle, blood or plasma. A specific herb for lesions on the palms of the hands or soles of the feet.

COMBINATIONS

* Punarnava, guggulu, coriander, manjishtha in urinary problems, retention, stones and dysuria. Also a good combination to tonify the kidneys and strengthen the lower back.

- * Ashwagandha, kapikacchu, tila/black sesame seeds, frankincense for male reproductive deficiency with impotence and for encouraging spermatogenesis.
- * Shatavari, rose, saffron, mus-taka for female reproductive and gynaecological problems. Also useful post-partum for strengthening the uterus.
- * Brahmi, gotu kola and jatamansi for nervous system imbalances.
- * Kapikacchu for Parkinson's disease.
- * Neem, manjishtha and gotu kola for inflammatory skin conditions.
- * Equal parts of guduchi and amalaki in *rasāyana cūrṇa*; a general tonic formula for enhancing immunity and reproductive strength.

CONTRAINDICATIONS

Dryness. Caution during pregnancy as it moves downwards.

SAFETY

Caution with antipsychotic drugs (especially MAO inhibitor medication) as its harmala alkaloid content may speed up the breaking down of the medication in the digestive system, thus reducing the effectiveness of the drug.

DOSAGE

1–9g per day as decoction, 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- Its diuretic effect is balanced by its valuable moistening and nourishing effect on the mucous membranes.
- It is a rejuvenative for *pitta* and a balancer for *vāta*. It specifically moves *apāna vāyu* downwards.
- A main ingredient of gokshuradi guggulu. A superb formula for clearing stagnation and *vāta* in the urinary system.
- The fruit, aerial parts and root are used in Ayurveda. The aerial parts appear to have the widest spectrum of rejuvenative activity for the reproductive system. The fruits are best known for their lithotropic activity and for their action on the skin.

GOTU KOLA

Common name **Indian pennywort (E), Gotu kola (S), Kula kudi (H)** Sanskrit **Maṇḍūka-parṇī**
Latin **Centella asiatica–Folium (Apiaceae) Syn. Hydrocotyle asiatica**

Maṇḍūka-parṇī refers to its leaf-shape resembling the webbed feet of a frog. The leaf also looks like the cerebellum and is one of the finest examples of the ‘doctrine of signatures’ as gotu kola is traditionally renowned for its intellect-promoting, nervous-system soothing and general mind-enhancing properties.



ENERGETICS

Rasa (taste) Bitter, astringent, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Dry, light

Doṣa effect VPK=, primarily KP–

Dhātu (tissue) Plasma, blood, muscle, fat, bone, nerve

Srotas (channel) Nervous, circulatory, digestive

CONSTITUENTS

Flavonoids Quercetin, astragalin

Triterpenoids Asiatic acid

Saponins Asiaticoside, brahmoside, brahminoside

Phytosterols Stigmasterol, sitosterol

Volatile oils

(Williamson 2002)

AYURVEDIC ACTION

Medhya Intellect-promoting

Raktapittahara Prevents bleeding from high *pitta*

Raktaśodhana Purifies the blood

Kuṣṭhaghna Alleviates skin diseases

Rasāyana Rejuvenates life and *pitta*

Vayaḥsthāpana Antiageing

Hṛdaya Heart tonic

Nidrājanana Promotes sleep

BIOMEDICAL ACTION

Alterative, nervine, antipyretic, mind tonic, antispasmodic, analgesic

INDICATIONS

Nerves In conditions of stress, insomnia, epilepsy, emotional turbulence; beneficial with *pitta/vāta* aggravation. It relaxes the central nervous system.

Useful in behavioural and developmental imbalances such as autism, Asperger’s syndrome or ADHD (Tillotson 2001).

Mind Improves concentration, intelligence, memory and alertness. Used in Alzheimer’s disease, senility, stroke, and to slow ageing as it benefits *sādhaka pitta* which promotes intellect. It nourishes *majjā dhātu* and this protects the brain and by reducing ‘stress’ it prolongs life.

Skin Gotu kola is a specific herb for inflammatory skin conditions: eczema, urticaria, acne, STDs. Gotu kola balances all three *doṣas* and has wondrous effects on the skin and *bhrājaka pitta*. Very useful for hastening

wound healing and reducing scars. The flavonoids act as circulatory stimulants that develop the blood vessels in the skin. It increases the rate of keratinisation of the skin, which helps to strengthen the outer protective layer of the body. This points to use in skin inflammation and cellulite. The saponin content acts as a cleansing and softening agent, the oligosaccharides are moisturising and the phyto-sterols are protective. It is useful in external applications for hair loss via its *pitta*-reducing effect (Tillotson 2001).

Joints Traditionally used for arthritis, gout and joint inflammation. This reflects its ability to clear toxins and inflammation.

COMBINATIONS

- * Brahmi, jatamansi, shankhpushpi, tagarah, nutmeg for nervous conditions and is often used as a ghee compound.
- * Neem, manjishtha, guduchi and bakuchi for inflammatory skin conditions.
- * Guduchi, guggulu and turmeric for joint inflammations.
- * Tulsi and ginger in fevers.

CONTRAINDICATIONS

Large doses can be narcotic and cause a *vāta* headache or dizziness. Caution during pregnancy.

SAFETY

As it inhibits liver enzymes responsible for barbiturate

metabolism it should not be used with benzodiazepines or barbiturates. Caution with hypoglycaemic and cholesterol-lowering medication.

DOSAGE

1–30g per day as an infusion, 3–15ml per day of a 1:3 @ 25% tincture or 25ml per day fresh juice.

NOTES

- Hydrocotyle refers to the aquatic habitat of this perennial creeper and the cup-like shape of the leaves. Another Sanskrit name, *maṇḍūkī*, means that 'like a frog' it is always near water. It thrives throughout India and Sri Lanka. There is both a small-leaved and a broad-leaved variety.
- Gotu kola is the Singhalese name.
- As gotu kola grows alongside rivers, many of which are heavily polluted in India, make sure that your supply is cultivated.
- There is a fair amount of ayurvedic debate as to whether *Bacopa monniera* or *Centella/Hydrocotyle asiatica* is the real brahmi. According to *The Ayurvedic Formulary of India*, *Bacopa* is brahmi and *Centella/Hydrocotyle* is *Maṇḍūka-pāṇī* (Namjoshi et al 1978). There seems to be some discrepancy in the texts but both *Suśruta* and *Vāgbhaṭa*, as well as the *Bhāvaprakāśa*, state that the two are different plants but have the same *medhya* or mind-enhancing activity.
- An excellent herb for rejuvenating and restoring cerebral function often taken with ghee to enhance this effect.
- One of the great meditator herbs. High in *sattva*.
- Its *prabhāva* is to optimise brain function (*medhya*).
- It is best used as a cold extraction as heat can destroy its properties.
- Fresh herb juice is considered the strongest way to use gotu kola, so if you are using dried herb the leaves must be vital and green to ensure efficacy.

GUDUCHI

Common name **Guduchi, Giloy (H)** Sanskrit **Guḍūcī, Amṛtā, Cakra-lakṣaṇa** Latin **Tinospora cordifolia–Caulis (Menispermaceae)**

Guduchi is described as ‘the one who protects the body’. ‘Amṛta’ means ‘divine nectar’ referring to the life restoring drops that Lord Indra sprinkled from heaven to bring life back to the devotees of Lord Rāma after they were slain in battle. This is a virile creeper that grows throughout the forests of India. Those growing up neem trees are said to be the best as the synergy between these two bitter plants enhances guduchi’s efficacy. Its therapeutic strength lies in its rejuvenating and strengthening properties while also detoxifying and cleansing the whole system, specifically via the liver.

ENERGETICS

Rasa (taste) Bitter, astringent, pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Light, unctuous

Doṣa effect VPK=, primarily VP–

Dhātu (tissue) Plasma, blood, muscle, fat, nerve, reproductive

Srotas (channel) Circulatory, digestive

CONSTITUENTS

Glucoside Giloin

Bitter principles

Alkaloid Tinosporin, protoberberine alkaloids
(Paranjpe 2001)

AYURVEDIC ACTION

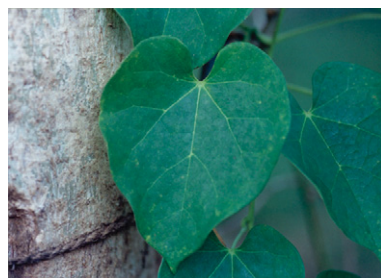
Dīpanīya Increases appetite

Tṛṣṇānigrāha Quenches thirst

Rasāyana Rejuvenative

Balya Increases strength

Āyusapṛada Promotes life



Medhya Nerve tonic

Jvarahara Reduces fevers

Dāhapaśamana Reduces burning sensations

Āmanāśaka Destroys toxins

Kuṣṭhaghna Alleviates skin disorders

Ānavātaghna Reliever of gout/arthritis

Raktaśodhana Cleans the blood

Śukraśodhana Purifier of sperm

Vayaḥjīkaraṇa Increases sexual potency

Vayaḥsthāpana Increases life span

Tridośahara Reduces all three doṣa

BIOMEDICAL ACTION

Cholagogue, detoxicant, alterative, immune tonic, anti-inflammatory, diuretic, anthelmintic, nervine

INDICATIONS

Liver Liver damage, viral hepatitis or poisoning from alcohol, chemicals or recreational and medicinal drugs. Useful in repairing fibrosis and regenerating liver tissue (Tillotson 2001). Applied in all conditions of aggravated *rañjaka pitta* and *pitta* in the blood.

Joints Gout (*vāta rakta*), arthritis (*āma vāta*) and other inflammatory joint conditions (Tillotson 2001). It acts by clearing *pitta*

toxins and uric acid via the urinary system that have accumulated in *raktavāhasrotas*. It also removes *āma* toxins from the system without destabilising any of the other *doṣa*.

Immunity All autoimmune diseases causing inflammation. Applicable in degenerative diseases such as cancer, AIDS and arthritis as it boosts the immune system. Use to offset the ulcerative and toxic effects of chemoradiotherapy (Thatte et al 1988).

Skin Suppurative and inflammatory skin conditions such as eczema, psoriasis, systemic lupus erythematosus. Useful when there is high *tejas* and *pitta* that has burnt immune-protecting *ojas* away, resulting in inflammatory skin conditions. Skin problems from excessive alcohol, recreational drug and pharmaceutical drug use may indicate the use of guduchi. Specific for burning sensations on the skin (*dāha*) (*Caraka Saṃhitā, Bhāvaprakāśa*).

Digestion Guduchi heals a bowel affected by constipation, intestinal bleeding, haemorrhoids or dysentery. Useful at redressing intestinal floral imbalance with candida-like symptoms (*kṛmi, grahaṇī*) such as bloating,

flatulence and malabsorption. Its bitter yet heating qualities are used to stimulate *raktadhātvaḅḅni* and strengthen digestion in *pitta* types.

Metabolic It regulates blood sugar levels via its direct effect on *rakta* and *medas-dhātu* thus benefiting diabetes and hypoglycaemia. Guduchi is very calming to *vāta* and the nervous system via its unctuous nature, soothing nervous irritation.

Reproductive Its ability to clear heat is applied when sexual dysfunction is caused by a hyperheat condition. It is often used in formulas for male sexual dysfunction caused by *pitta* imbalance

as its sweet post-digestive effect nourishes *śukra dhātu*.

COMBINATIONS

- * Manjishtha, bhumiāmalaki, pippali in hepatitis and liver degeneration.
- * Guggulu, myrrh, ginger, turmeric, ashwagandha in arthritic amavata conditions.
- * Kutki and chiretta in immunodeficiency.
- * Coriander, neem, sandalwood in *sannipāta* fevers involving all three *doṣa*.
- * Neem, gotu kola, manjishtha, bakuchi in inflammatory skin conditions.
- * Gurmar, tumeric, amalaki, shilajit in diabetes

* Amalaki, licorice in hyperacidity and imbalanced *agni* in *pitta* types.

* Ginger and aloe vera in gout and arthritis.

* Gokshura, shatavari, kapikāchhu, safed musali in male reproductive problems.

CONTRAINDICATIONS

Caution during pregnancy.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–15g per day in a decoction or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- It has very interesting energetics. It is bitter, astringent, pungent, yet heating and also sweet post-digestively. Its bitter and astringent quality clears *pitta* and *kapha*, its heating energy burns *āma*, while its enduring sweet effect regulates *vāta* and gives it an aphrodisiac quality that nourishes reproductive fluids.
- Its *prabhāva* is to clear toxins (*āma*).
- Specific for clearing *āma*; + ginger for *ānavāta*, + pipali for *āmakapha*, + neem for *āmapitta*.
- It is also known as *cakralakṣaṇā* meaning ‘marked with a circle’ as the transverse section of the vine stem clearly reveals a cartwheel pattern.

GUGGULU

Common name **Indian bedellium (E), Indian myrrh (E), Guggul (H)** Sanskrit **Guggulu, Deva-dhūpa** Latin **Commiphora mukul-Resin (Burseraceae)**

Guggulu resin has a remarkable cholesterol controlling action. It is used in Ayurveda to literally scrape out toxic accumulations that aggravate *vāta* and cause arthritis. It is a renowned *yogavāhī*, meaning that it carries other substances with it deep into the tissues.

ENERGETICS

Rasa (taste) Bitter, pungent, astringent, sweet

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, penetrating, dry

Doṣa effect VPK–, can aggravate P in excess

Dhātu (tissue) All tissues

Srotas (channel) Circulatory, digestive, nervous, respiratory

CONSTITUENTS

Lignans

Guggulligan 1 and 2

Sterols Guggulsterone, guggulsterol and β-sitosterol

Terpenes Cembrene, mukulol

Essential oil Myrcene, eugenol (Williamson 2002)

AYURVEDIC ACTION

Sarvadoṣahara Alleviates all *doṣas*

Medhoghna Clears fat tissue

Prameha Antidiabetic

Raktaśodhaka Blood purifier

Lekhaniya Scrapes waste residues from the channels

Dīpaniya Enkindles digestive fire

Rasāyana Rejuvenative

Balya Promotes strength

Vṛṣya Promotes sexual appetite

Sandhāniya Bone mender

Vedanāsthāpana Analgesic



Kāṅṭhya/Svarya Affinity for healing and promoting the voice

Ārtavajanana Promotes menses

Sūkṣma Subtle properties enabling it to enter deeply into the tissues

Āmanāśaka: Destroys *āma*

BIOMEDICAL ACTION

Anti-inflammatory, antiplatelet, anticholesterolaemic, astringent, antiseptic, immune stimulant, emmenagogue

INDICATIONS

Cholesterol It reduces cholesterol (LDL) and prevents accumulation (Bone 2003). It has a *lekhana* property that ‘scrapes’ deposits from the channels, joints and tissues (*Bhāvaprakāśa*). Guggulu is a specific herb for obesity and excessive weight; this works via its pungency, *lekhaniya* property and ability to enhance thyroid function. It stimulates *medas-dhātu-agni*, which regulates fat metabolism.

Arthritis Anti-inflammatory activity and detoxifying action. Very good in *kapha/vāta* types of arthritis to reduce pain and swelling.

Heart Ischaemic heart disease, angina, congestive heart failure;

it increases blood flow, reduces blood clots and clears atherosclerosis (Tillotson 2001). It regulates *vyānavāyu*, moves *avalambaka kapha* and *raktavāhasrotas* as well as scraping *āma* deposits from the channels.

Gynaecology Used to clear endometriosis, polycystic ovarian syndrome and clots. It reduces all accumulations and *āma* in the *apānakṣetra* of the lower abdomen. It regulates the cycle and is a strong emmenagogue.

Skin Guggulu can be used for skin inflammations. Clinical trials have proven efficacy in acne as opposed to antibiotic treatment (Thappa & Dogra 1994). It is used in stubborn skin lesions that are chronic, ‘stuck’, and resistant to other treatment. It also benefits general inflammations of the mucous membranes throughout the body, mouth ulcers and lung infections. It helps to regenerate tissue granulation and enhance healing; clears tumours, dead tissue and reduces lipomas.

Infections Its ability to increase the white blood cell count helps

to clear infections, reduce sore throat and promote the immune response.

Bones As a resin guggulu correlates to *rakta dhātu* (the blood tissue); this is responsible for healing deep-seated wounds and is traditionally used for healing fractures and nourishing *majjā dhātu* (*Bhāvaprakāśa*). See Frawley & Lad 1994 for a useful correlation between the tissues and plant parts. *Rasa* = leaf juice, *Rakta* = resin and sap, *Māṃsa* = softwood, *Medas* = gum and hard sap, *Asthi* = bark, *Majjā* = leaf, *Śukra* = flowers and fruits).

Cancer Used to treat all growths, accumulations and cancers (*granthi*) (*Bhāvaprakāśa*).

COMBINATIONS

- * Frankincense, turmeric, fenugreek for cholesterol and arthritis.
- * Guduchi, neem, turmeric, *triphala* in acne
- * Arjuna, punarnava, pushkaramool for heart conditions.
- * Safflower, mustaka, shatavari for menstrual difficulties.
- * Guduchi, gokshura and ginger in gout and back pain.
- * Haritaki, *trikaṭu*, *triphala*, turmeric for mending bones.

CONTRAINDICATIONS

Acute kidney infections, excessive uterine bleeding, thyrotoxicosis. Pregnancy and breast-feeding (Low Dog 2002).

SAFETY

Guggullipid is reported to reduce the effect of antihypertensives such as propranolol and diltiazem and so medication should be adjusted accordingly (Low Dog 2002). Caution with hypoglycaemic medication.

DOSAGE

3–9g per day in a decoction, 250mg–3g per day pills, 250–750mg three times per day of 1:4 concentrated powder or 3–10ml per day of a 1:5 @ 90% tincture. While using guggulu, a *pitta*-aggravating lifestyle (sour foods, alcohol, anger and excessive sunlight and sexual activity) should be avoided.

NOTES

- Growing in dry, arid areas (Gujarat, Mysore) 0.5–1kg of resin is collected annually from each plant. Guggulu is a small thorny tree that is difficult to harvest without damaging it.
- According to the *Bhāvaprakāśa* there are five varieties. The dark brown (*mahiṣākṣa*) and yellow-brown (*kanaka*) guggulu varieties are preferred.
- Therapeutically a fresh component (*nava guggulu*) and an old component (*purāṇa guggulu*, stored for over a year) are used; the new is considered to be more nourishing and rejuvenative, while the old is a specific remedy in cancers and for scraping toxins out of the body.
- The purification (*śodhana*) process is mentioned in *Bhārat Bhaiṣajya Ratnākara* where the guggulu is purified by boiling it in triphala, milk, cow's urine, vasa or *Vitex nirgundi* and turmeric and removing the 'scum' that comes to the surface. It is then fried in ghee, dried and ground to become Suddha guggulu.
- Commonly used in combination with other herbs in the 'guggul' formulas: triphala guggul, gokshuradi guggul, kanchanara guggul.
- It is one of the best herbs for *vāta* conditions; arthritis, pain, gynaecological inflammations, back pain, urinary system.
- *Vāta* is regulated by its sweet flavour and warm energy.
- *Pitta* is alleviated by its astringent taste.
- *Kapha* is reduced by its bitter, astringent and pungent tastes.
- Its traditional connection with the spiritual realm is affirmed by its other Sanskrit name *Devadhūpa*, the incense of the gods.
- Guggullipid is a registered medicine and brand name; standardised extract of the oleogum resin was recently implicated in interfering with pharmaceutical drug metabolism.

GURMAR

Common name **Periploca of the wood (E), Gurmar (H)** Sanskrit **Madhu-vināśinī, Meṣa-śṛṅgī**

Latin **Gymnema sylvestre–Folium (Asclepiadaceae)**

Eating the fresh leaves numbs the taste buds to the sense of sweet or bitter; hence the name means 'sweet destroyer' (*madhu-vinaśhi, gur-mar*). A fantastic herb for balancing blood sugar levels.

ENERGETICS

Rasa (taste) Bitter, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, fat, reproductive

Srotas (channel) Digestive, circulatory, urinary, reproductive

CONSTITUENTS

Saponins Gymnemic acids including gymnemasaponins

Polypeptide Gurmarin (Bone 1996, 2003)

AYURVEDIC ACTION

Rasāyana Rejuvenative to *pitta*

Prameha Antidiabetic

BIOMEDICAL ACTION

Hypoglycaemic, antidiabetic, diuretic, hypocholesterolaemic

INDICATIONS

Diabetes Specific herb to increase insulin production in pancreas.

By acting directly on *rakta dhātu* it helps to regulate blood glucose levels and enhance glucose tolerance (Shanmugasundaram 1990).

It also helps to address the weakness in the *medas-dhātu* and normalise metabolism in this tissue responsible for digesting



sweet, unctuous and heavy substances. Best used in combination with other herbs to address the wide spectrum of symptoms caused by diabetes. It particularly benefits *mūtravaḥasrotas* by reducing the need for urinary output. It can be used for both types 1 and 2 diabetes.

Digestion Gurmar regulates the craving for sweet food and helps to reduce an excessive appetite (Brala & Hagen 1983). It is potentially useful as part of a weight loss programme when a few drops are taken every three hours.

COMBINATIONS

* Guduchi, kutki, gokshura to balance blood sugar levels and clear *kapha*.

* Turmeric, karela (bitter gourd), fenugreek seeds, black pepper for regulating blood sugar levels.

* Shilajit for building energy in diabetics.

CONTRAINDICATIONS

Not to be used by patients with hypoglycaemia. Caution in heart

conditions as it can stimulate the heart.

SAFETY

As gurmar is hypoglycaemic, patients on diabetic medication should monitor their blood sugar and medication accordingly.

DOSAGE

5–10g per day, 10–20ml per day of a 1:5 @ 25% tincture for diabetes, 1–5ml per day for sweet cravings.

NOTES

- A woody creeper with many branches. The leaves are harvested prior to flowering.
- It can help to reduce the appetite.
- Gurmarin is the sweet taste suppressor and it must come into contact with the tongue to work effectively.
- Best used over a period of 6 months for lasting results. (See Tillotson 2001 for an excellent herbal approach to the treatment of diabetes.)

HARITAKI

Common name **Chebolic myrobalan (E), Harde (H), Hara (E)** Sanskrit *Haritakī, Abhayā* Latin *Terminalia chebula–Fructus (Combretaceae)*

Haritaki is described as the 'remover of diseases'. Hara is also the name of Lord Shiva, thus reflecting the sacred nature and exalted position of the plant but it literally means 'green' like the fruit. It is also 'abhayā' or 'fearless' of any disease. It is said to have originated when a drop of immortal nectar (*amṛta*) fell from heaven to earth. It is considered to be the best herb for the digestive system and lungs.

ENERGETICS

Rasa (taste) All but salty, mainly astringent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Light, dry

Doṣa effect VPK=

Dhātu (tissue) All tissues

Srotas (channel) Digestive, excretory, nervous, respiratory

CONSTITUENTS

Tannins Tannic acid up to 45%, gallic acid, chebolic acid

Mucilage

Anthraquinones Sennoside A

Triterpenoid glycosides

Chebulosides, arjunin (Williamson 2002, Chen & Chen 2004)

AYURVEDIC ACTION

Dīpanīya Increases appetite

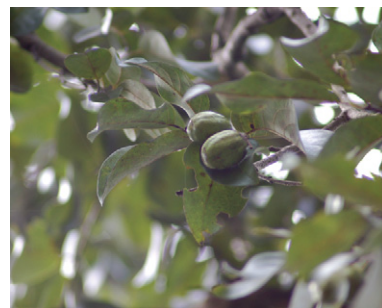
Rasāyana Rejuvenative; especially to *vāta* and the large intestine (*puriṣavāhasrotas*)

Bṛ̥ṃhaṇa Nourishing

Yogavāhi Catalyst enhancing the action of other herbs

Pācana Digestive

Grāhi Absorbs fluids from the intestines (water decoction)



Lekhaniya Scrapes accumulations

from the tissues and channels

Cakṣuṣya Improves the eyesight

Anulomana Corrects the flow of *vāta* downwards

Stanyaśodhana Purifies breast milk

Recana Purgative

Vibandhahara Alleviates constipation

Kāсахara Antitussive

Medhya Improves intellect

Āyurvardhaka Increases longevity

Arśoghna Antihaemorrhoidal

BIOMEDICAL ACTION

Laxative, astringent, anthelmintic, nervine, expectorant, tonic

INDICATIONS

Digestion Its sennosides treat constipation and the tannins treat diarrhoea; use a high dose (6g) for the former and low dose (2g) for the latter. It is salutary in digestive upset or dysentery caused by parasites or infection (*Shigella* spp. and *Entamoeba histolytica*; Williamson 2002), inflammation of mucous membranes, flatulence and borborygmus. It increases the digestive fire and clears undigested residues (*āma*). As it descends *apāna vāyu* it treats the root cause of hiccups and

piles. Haritaki's astringency and mucous membrane healing effects can benefit prolapse, ulcers, intestinal permeability and 'leaky gut syndrome'.

Cholesterol It reduces lipid deposits in the blood and liver (Tillotson 2001). Use with honey to help reduce cholesterol.

Lungs Wet, *kapha*-type coughs are cleared. Haritaki astringes all leakages from the body. It sends accumulated *vāta* downwards and helps to clear wheezing, weak voice and asthma (*Bhāvaprakāśa*).

Eyes Used in all sorts of eye disorders: inflammation, conjunctivitis (*Bhāvaprakāśa*). Use as a wash.

Mucous membranes Gargle in sore throat. Swill for stomatitis, gingivitis and periodontal disease; with cold water this encourages its astringent nature.

COMBINATIONS

- * Psyllium, hemp seed in *vāta* constipation.
- * Kutki, amalaki in *pitta* constipation.
- * Bibhitaki, pippali in *kapha* constipation.

- * Cardamom, fennel and *ajmoda* for indigestion and bloating.
- * Vasa, anthrapachaka, pippali in cough and asthma.

CONTRAINDICATIONS

Do not use during pregnancy due to its laxative and descending nature.

SAFETY

No drug–herb interactions are known.

DOSAGE

3–9g per day in a decoction, 250mg–5g as powder, or 3–12ml per day of a 1:3 @ 25% tincture.

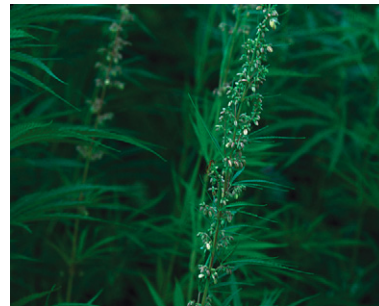
NOTES

- There are seven types of haritaki—*vijayā*, *rohiṇī*, *pūtanā*, *amṛtā*, *abhayā*, *jīvantī* and *cetakī*—which grow in different areas of India. *Vijayā*, growing in the Vindhya Mountains, is a rounder fruit and is said to be the best. *Rohiṇī* grows in Northern India (Paithan), *pūtanā* grows in Southern Pakistan (Sindhu), *amṛtā* and *abhayā* varieties grow in Bhagalpur district in Eastern India in Bihar, *jīvantī* in Saurashthra in Gujarat, and *cetakī* in the Himalayas.
- Haritaki is a very large tree growing throughout the deciduous forests of India and Sri Lanka at altitudes up to 2000m.
- Images of the Medicine Buddha show him holding *Terminalia chebula*. This represents the respect and awe in which haritaki was held for maintaining health and curing disease.
- Its ironic activity, both laxative and astringent, reveals the diverse actions of this remarkable herb. As a decoction it is more astringent as the tannins are water-soluble and as a tincture or powder it is more laxative.
- Used unripe increases its laxative effect (*balharitaki*) but lessens its rejuvenative qualities.
- It has all flavours bar salty; it is a common feature for rejuvenative plants to possess a full spectrum of tastes, e.g. amalaki.
- Its special action is to alleviate any excesses and to balance all three *doṣas*: *pitta* due to its sweet, bitter and astringent tastes, *kapha* due to its astringent, bitter and pungent tastes, and *vāta* due to its sour, sweet and pungent tastes.
- Use with rock salt for *kapha*.
- Use with sugar for *pitta*.
- Use with ghee for *vāta* (*Bhāvaprakāśa*).
- Using it with warm water promotes its *anuloma* or laxative effect.
- It is cooked with castor oil (1:4) to make gandharva haritaki, a demulcent purgative for alleviating *vāta*. Also combined with amalaki and bibhitaki to make triphala.
- Its *prabhāva* or unique action is to balance all three *doṣas*. Its other *prabhāva* is that while it is a laxative it is also nourishing. Its sweet post-digestive quality nourishes *śukra dhātu* and enhances immunity.

HEMP SEED

Common name **Hemp seed (E), Bhang ke beej (H)** Sanskrit **Vijayā, Siddhi** Latin **Cannabis indica–Semen (Urticaceae)**

The seeds of this infamous plant make a superb demulcent laxative. They also have a perfect balance of omega-3, -6 and -9 essential fatty acids, pointing to its use as an anti-inflammatory, nervous restorative, and cardiac tonic. *Vijayā* means 'victorious' as it is victorious over so many diseases.

**ENERGETICS**

Rasa (taste) Sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Heavy, unctuous

Doṣa effect VP–, K+

Dhātu (tissue) All tissues

Srotas (channel) Digestive, nervous, reproductive

CONSTITUENTS

Essential fatty acids Omega 3 (21%), Omega 6 (63%), Omega 9 (13%)

Volatile oil

Calcium

Iron

(Leson 1999)

AYURVEDIC ACTION

Snigdha Demulcent

Rasāyana Rejuvenative

Anulomana Redirects the flow of *vāta* downwards

Vibandhahara Alleviates constipation (*vāta* type)

BIOMEDICAL ACTION

Demulcent, restorative, tonic, emollient, anti-inflammatory, anticholesterolaemic

INDICATIONS

Digestion Constipation; *vāta*-type constipation with dryness, wind and hard-to-pass stool (Bensky & Gamble 1986). May also benefit ulcers and inflamed mucous membranes. The whole seeds are best for treating this dry type of constipation.

Skin As an oil, hemp seed can reduce inflammation in eczema, psoriasis, and acne (Leson 1999).

Heart Used as an oil it reduces LDL cholesterol levels and fatty

deposits and blood coagulation (Leson 1999).

Diabetes It reduces numbness and tingling (Leson 1999).

Inflammations Arthritis, Crohn's disease, PMS (Leson 1999).

COMBINATIONS

* Psyllium, *triphala* in *vāta* constipation.

* Rhubarb root in stubborn constipation due to high *pitta*.

CONTRAINDICATIONS

Do not use excessively with *āma* or phlegm.

SAFETY

No drug–herb interactions are known.

DOSAGE

5–15g of ground seed, up to 45g ground in a decoction, 15–100ml per day as an oil.

NOTES

- An annual growing all over India, mainly in Bihar, Bengal, Himachala and Uttar Pradesh.
- Most modern research points to use of the cold-pressed oil.
- The seed is not a common ayurvedic medicine but is used as food in areas where the plants grow.
- Medicinally the flowering plant has been used in India as a traditional medicine in Ayurveda. Known as bhang it is used as an appetite stimulant, for reducing interocular pressure, as an antispasmodic, as an aphrodisiac and for relieving pain. It reduces *vāta* and *kapha* but can aggravate *pitta* and *vāta* in excess causing insomnia, low libido and sluggishness. It is a *vyāvāyi*, meaning that it spreads rapidly throughout the system before being digested (*Bhāvaprakāśa*).
- It is famously used on Shivaratri, the night of Lord Shiva. It is the festival when social taboos are lifted and devotees get divinely intoxicated (*mast*) by drinking a delicious beverage called *thaṇḍāi*, a mixture of almonds, pistachios, milk, sugar and boiled bhang leaves.
- The flowering buds and resin are currently illegal for use in most countries of the world.

HINGU

Common name **Asafoetida (E), Devil's dung (E), Hingu (H)** Sanskrit **Hīṅgu, Sahasra-vedhī** Latin **Ferula asafoetida/foetida-Resin (Umbelliferae)**

Hingu is a very calming herb used to treat spasmodic pain. It first stimulates but then, like most stimulants, causes a burning out and dullness of the mind. It is a very useful, pungently aromatic, anti-spasmodic and carminative herb.



ENERGETICS

Rasa (taste) Pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Unctuous, heavy, penetrating

Doṣa effect VK-, P+

Dhātu (tissue) Plasma, blood, muscle, bone, nerve

Srotas (channel) Digestive, nervous, respiratory, excretory, female reproductive

CONSTITUENTS

Volatile oil Polysulphides, sulphated turpenes, pinene, cadinine, vanillin

Resin 40–60%, asaresinotanol, ferulic acid

Gum Glucose, galactose, rhamnase

Coumarins Asafoetidin, umbelliferone, foetidin (Williamson 2003)

AYURVEDIC ACTION

Dīpanīya Digestive

Pacaka Toxin digestive

Śūlapraśamana Alleviates intestinal spasms

Śvāsa Helps breathing

Kṛmināśaka Vermifuge

Anulomana Redirects the flow of *apānavāta* downwards

Ārtavajanana Promotes the flow of the menses

Vedanāsthāpana Analgesic

BIOMEDICAL ACTION

Digestive, carminative, anthelmintic, antispasmodic, analgesic, emmenagogue, expectorant

INDICATIONS

Digestion Its sharp, hot and unctuous property helps to clear high *vāta* in the digestive tract, treating bloating, flatulence, colic and undigested food in the stool; it moves *samāna vāyu* and draws *apāna vāyu* down. Hingu is useful for addressing flora imbalance, especially *Candida albicans* and worms (Tierra 1992, *Bhāvaprakāśa*). Its hot quality strengthens *agni* but can easily aggravate *pitta* (*Bhāvaprakāśa*).

Nerves An excellent antispasmodic in cough, asthma, cramps and intestinal spasm. It prevents *apāna vāyu* from reversing its flow upwards and sends it down (Lad & Frawley 1994). It is of benefit in high *vāta* conditions such as paralysis, sciatica and epilepsy as it nourishes *majjā dhātu*. Useful for stagnation in the nervous system due to exhaustion or blockages.

Heart Its stimulating properties can help to clear cardiac pain

and other *vāta* disorders caused by obstructed *vyāna vāyu*.

Gynaecology It immediately enters *ārtava srotas* via *rasa dhātu* and has a powerful influence on menstruation. It can specifically clear leucorrhoea with a *kapha* pathology. It has a beneficial effect on ovulation and menstruation as it warms the uterus and prevents spasms.

Reproduction As a hot and stimulating herb it can be used for cold and sluggish conditions such as low libido and impotence. It can also benefit infertility when there is a congested uterus from excess *kapha*.

COMBINATIONS

- * Ginger, cardamom, fennel for digestion and increasing *agni*.
- * Vasa, pippali for spasmodic cough and especially whooping cough.
- * Arjuna, haritaki for heart problems with pain.
- * Ashoka, turmeric for dysmenorrhoea.
- * Vacha, pippali for nervous disorders and epilepsy.
- * Nutmeg, ashwagandha for fertility.

CONTRAINDICATIONS

High *pitta*; inflammatory conditions of the liver and brain; pregnancy.

SAFETY

No drug–herb interactions are known.

DOSAGE

Use a low dose—100mg–1g per day or 1–3ml per day of a 1:3 @ 75% tincture.

NOTES

- Primarily from Iran, Pakistan and Afghanistan and some parts of Kashmir.
- Store in an airtight container away from other aromatic herbs as its smell spreads everywhere. It's not known as 'devil's dung' for nothing!
- The resin is collected as an exudate from the root.
- For digestive, nervous and gynaecological purposes it should only be used fried in oil or ghee as this reduces some of its harsher inflammatory effects. Raw is fine for chest conditions requiring stimulation.
- It is usually blended with flour or maize to be used as a powder. Pure hingu should dissolve in water leaving a milky-white colour to the water without any residue settled at the bottom of the glass.
- The main ingredient in *hiṅgvaṣṭakacūrṇa*, a major digestive formula for regulating *apāna vāyu*.

JASMINE

Common name **Jasmine (E)** Sanskrit **Jātī** Latin **Jasminium grandiflorum/officinale–Flos (Oleaceae)**

Jasmine flowers are very useful to help balance emotional disturbance and to alleviate anxiety. Considered to be a very sattvic flower, it opens the heart *cakra* and bestows a feeling of love upon the lucky imbiber.

ENERGETICS

Rasa (taste) Bitter, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect KPV–, can increase V in excess

Dhātu (tissue) Plasma, blood, bone, nerve, reproductive

Srotas (channel) Nervous, reproductive, circulatory

CONSTITUENTS

Alkaloid Jasminine

Volatile oils Linalool, benzyl acetate

Phenolic glycosides Salicylic acid
Resin

(Holmes 1989, The Ayurvedic Pharmacopoeia of India 2001)

AYURVEDIC ACTION

Vājīkaraṇa Reproductive

Stambhana Stops bleeding

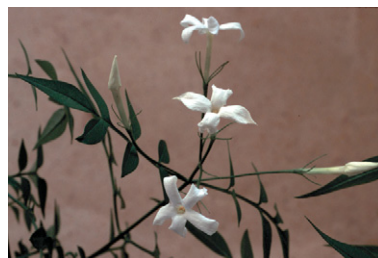
Raktaśodhana Purifies the blood

BIOMEDICAL ACTION

Nervine, haemostatic, alterative, aphrodisiac, emmenagogue, diuretic

INDICATIONS

Nerves Calms an irritated and 'hot' nervous system. Good for stress, 'burn out', insomnia and depression. It is best for *pitta* or *kapha* types of depression, tension or nervousness as its lightness can increase *vāta* if used in excess.



Gynaecology Jasmine has an affinity for *rakta dhātu* and it moves blood in the uterus; it is beneficial premenstrually for impending cramps and reducing clots. It circulates *prāṇa* and *apāna vāyu* in the lower abdomen. Its bitterness and astringency are useful at treating excessive menstrual bleeding (Holmes 1989). It has a nourishing effect on *śukra dhātu* and is an effective aphrodisiac.

Liver Its cooling, antibilious nature helps to regulate *rañjaka pitta* and heal the liver in hepatitis and cirrhosis.

Blood Jasmine helps to reduce skin and mucous membrane inflammations in high *pitta kapha* imbalances via its blood cooling effect on *rakta dhātu* and *bhrājaka pitta*.

External Washing the eyes with a cold infusion can relieve burning and irritation. The oil is good for the ears and hearing.

COMBINATIONS

- * Brahmi, gotu kola, ashwagandha and tagarah for stress, exhaustion, ME.
- * Shatavari, mustaka, rose, manjishta in menstrual pain and excessive bleeding.

- * Turmeric, myrrh and safflower for clots, endometriosis and pain.
- * Kutki, bhumiamalaki in hepatic disorders with high *pitta*. With guduchi this is also a good combination for 'cleaning' the blood of high *pitta*.

CONTRAINDICATIONS

Caution during pregnancy; coldness and high *vāta*.

SAFETY

No drug–herb interactions are known.

DOSAGE

5–30g dried flowers per day as an infused tea or 5–10ml per day of a 1:2 @ 90% tincture. Use 5 drops of essential oil in an oil burner as aromatherapy.

NOTES

- Jasmine is a creeper producing an abundance of flowers. It thrives in the tropical heat of India.
- It is an excellent herb to include alongside spiritual practice. Drink the tea or just smell the essence.
- Beware of chemical solvents in absolutes; they should not be taken internally.

JATAMAMSI

Common name **Indian spikenard (E)** Sanskrit **Jaṭā-māṃsī, Bhūta-jaṭā** Latin **Nardostachys grandiflora** syn. **jatamansi-Rhizoma (Valerianaceae)**

Jatamamsi means 'whose flesh is like a dreadlock'; it is known as jatamamsi because its roots resemble the matted hair of the Himalayan ascetics. It has a superb rejuvenating effect on the mind. It is a sought-after nervous relaxant and antispasmodic.



ENERGETICS

Rasa (taste) Bitter, astringent, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, unctuous, penetrating

Doṣa effect VPK=

Dhātu (tissue) Blood, nerve

Srotas (channel) Circulatory, digestive, nervous, respiratory, reproductive

CONSTITUENTS

Essential oils Gurjunene, patchoulene, ketone, jatamansone, valeranone

Nardosinone, nardostachone

Bitter principle

(Tisserand & Balacs 2000, Paranjpe 2001)

AYURVEDIC ACTION

Medhya Brain tonic

Rasāyana Rejuvenative to the mind

Nidrājanana Promotes sleep

Manorogaghna Alleviates mental diseases

Pācana Digestive

Kāśāvāsahara Alleviates coughs and breathing difficulties

Kuṣṭhaghna Stops skin diseases and itching

Dāhapraśamana Stops burning sensations

Varnya Benefits complexion

Romasañjanana Promotes hair growth

BIOMEDICAL ACTION

Nervine, antispasmodic, carminative, emmenagogue, aromatic

INDICATIONS

Nerves Hysteria, nervousness, epilepsy, Parkinson's disease and insomnia. It cools and nourishes a 'hot' and 'exhausted' nervous system; clears *pitta*, calms *vāta*, reduces *kapha*. By virtue of its benefiting *majjā dhātu-agni* it enhances the intellect and induces mental clarity. Its 'penetrating quality' is useful in clearing headaches and 'muzzy' head syndrome.

Heart Palpitations, angina, essential hypertension (Swami Sada Shiva Tirtha). When *vāta* pushes *pitta* it causes it to rush in the channels and this is especially aggravating to the sites *pitta* can influence, hence the connection between the heart, the blood and *pitta*, causing palpitations.

Digestion Digestive cramps, borborygmus, flatulence, bloating and *vāta* constipation with dry, hard and gaseous stool (Paranjpe 2001). It relaxes the bowel and encourages peristalsis inhibited by tension. Its aromatic nature

'dries' *āma* and *kapha* and helps to circulate *samāna vāyu*.

Gynaecology Jatamamsi's penetrating and warm quality is useful in dysmenorrhoea with dragging pain, ovarian discomfort, lower abdominal distension and pain.

Lungs Helpful in spasmodic cough, asthma, whooping cough; high *vāta-kapha* lung problems.

Hair It has a special use for promoting hair growth, preventing hair loss and greying hair (Paranjpe 2001).

Skin It is highly valued for skin disorders with a nervous component. It acts on *rakta dhātu* and via the nervous system, especially beneficial in itching and burning sensations (*Bhāvaprakāśa*).

COMBINATIONS

- * Gotu kola, brahmi, shankha-pushpi, aswagandha in nerve disorders.
- * Arjuna, punarnava, bala in cardiac palpitations and pain.
- * Cardamom, ginger, licorice in digestive discomfort.
- * Mustaka, shatavari, ajwain and turmeric in menstrual pain.
- * Vasa, ajmoda, pushkaramoola in breathing disorders.

CONTRAINDICATIONS

Use with caution during pregnancy. High doses will cause nausea, colic and urinary problems.

SAFETY

No drug–herb interactions are known but caution with sedative, antihypertensive and antidepressive medication.

DOSAGE

250–500mg three times per day as powder, 1–10g per day dried root or 3–12ml per day of a 1:3 @ 45% tincture.

NOTES

- This high Himalayan herb is CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Appendix 3 listed and must be from a cultivated source to be exported from India and Nepal. If you buy it without proof of certification you are probably depleting natural stocks.
- It grows at an altitude of 3000–5000m.
- Its lightness prevents some of the dulling effects of other nervines.
- Its special action (*prabhāva*) is as a brain rejuvenative.



KALAMEGHA

Common name **King of bitters (E), Andrographis (E)** Sanskrit **Kālamegha Kirāta, Mahātikta, Bhūnimba**
Latin **Andrographis paniculata–Folium (Acanthaceae)**

Kalamegha literally means 'black cloud' perhaps attesting to its harvest time just before winter. Also known as *bhunimba* meaning 'Neem of the earth' referring to its bitter neem-like taste and effects. Kalamegha is a very bitter tasting herb with a renowned immune-stimulating effect. It is used to treat infections, fevers and septic conditions of the blood.



ENERGETICS

Rasa (taste) Bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood

Srotas (channel) Digestive, respiratory, circulatory, urinary

CONSTITUENTS

Bitter principle

Diterpenoid lactones

Andrographoloides, diterpene glucosides

Flavonoids

(Bone 1996)

AYURVEDIC ACTION

Bhedanīya Accumulation breaker

Lekhana Scrapes accumulations from the channels

Chedana Toxin-removing via the action of scratching them from the tissues

Raktapitta Bleeding disorders

Raktaśodhana Purifies the blood

Dīpana Appetite stimulant

Pācana Digests *āma*

Tṛṣṇāghna Thirst alleviating

Jvarahara Fever reducing

Dāhapraśamana Alleviates burning sensations

Kuṣṭha Skin problems

Kṛmi Worms

Śvāsakāsa Breathing problems

Yakṛduttejaka Liver disorders

Pittahara Reduces *pitta*

BIOMEDICAL ACTION

Alterative, febrifuge, bitter tonic, cholagogue, hepatoprotective, immunostimulant, anti-inflammatory, anthelmintic

INDICATIONS

Immunity Lowered immunity in acute and chronic infections.

Kalamegha is an immune stimulant rather than solely being antibacterial and has a proven use in treating influenza, upper respiratory tract infections, sore throat, parasite infestation in the GIT and also for urinary infections (Bone 1996, WHO monograph 1999). These recommendations include treating the common cold, high fevers, malaria, coughs, sinusitis, mouth ulcers, herpes zoster, HIV, otitis media, vaginitis and cystitis. It treats *sannipāta jvara*, a type of fever involving all three *doṣa*.

Liver It increases bile flow and offers liver protection. Its bitter and cooling qualities clear liver infections and inflammation, as

kalamegha is a specific for *pitta* in the blood and an aggravated *rañjaka pitta*. As it has very effective hepatoprotective as well as antiviral activity it should be considered in hepatitis and all forms of sluggish liver where there is a reduced ability to digest fats or alcohol.

Digestion It is historically used in bacillary dysentery and enteritis (Bensky & Gamble 1986). The bitterness is useful for ulcers as well as removing parasites and intestinal infections with protozoal, fungal or bacterial infestations. Especially useful where *pacaka pitta* is aggravated causing colitis, sensations of burning in the abdomen and diarrhoea from high *pitta*. Combine with warming aromatic herbs such as cardamom (*Elettaria cardamomum*) and cinnamon (*Cinnamomum zeylanicum*) to prevent aggravation of *vāta* and stimulate the appetite and reduce mucus.

Lungs Useful in respiratory infections with high *pitta* with green mucus, thirst and fevers. Its bitter, light, dry and penetrating properties help to cut through thick phlegm from high *kapha*.

Skin Hot, inflammatory skin conditions, sores and eczema are effectively treated. It can also be used externally as a wash or in a cream (Paranjpe 2001).

Urine Useful when *pitta* aggravates the urinary channel (*mūtravāhasrotas*) causing urinary infections with dysuria, pyuria, haematuria and proteinuria (WHO monograph 1999).

COMBINATIONS

- * Kutki, guduchi and ginger for fevers.
- * Black pepper for infectious fevers from malaria or blood toxins.
- * Ashwagandha and guduchi for immunodysfunction.

* Manjishtha, neem, daruharidra and rose for *pitta* aggravation of the blood.

* Neem, brahmi and turmeric in skin problems.

* Punarnava, coriander, rose and gokshura for urinary infections.

CONTRAINDICATIONS

Pregnancy. It may aggravate digestion in some people (*vāta* constitution). High *vāta*. Must be balanced with 'hot' herbs if there are any cold signs.

SAFETY

No negative drug–herb interactions are known although caution with immunosuppressive medication is advised. It may

prove beneficial as a liver protective when taking hepatic-harmful tricyclic antidepressants (Brinker 1998).

DOSAGE

1–6g per day dried or 5–15ml per day of a 1:5 @ 25% tincture.

NOTES

- This small green annual shrub grows throughout India in the shade. It is intensely bitter. A superb herb for any derangement of *pitta*.
- Scandinavia's most popular herbal flu remedy.



KANCHANARA

Common name **Mountain ebony (E), Kañchanara (H)** Sanskrit **Kañchanāra** Latin **Bauhinia variegata–Cortex (Caesalpinaceae)**

The skin of the bark of kanchanara is specifically used for treating glandular swellings especially in the lymphatic system. It is commonly used in gynaecological conditions caused by uterine congestion.

ENERGETICS

Rasa (taste) Astringent, bitter

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect KP–, V+

Dhātu (tissue) Blood, muscle, fat, bone, reproductive

Srotas (channel) Female reproductive

CONSTITUENTS

Phytosterols Stigmasterol, β-sitosterol

Tannin

Flavonoid

Glycosides

(Paranjpe 2001)

AYURVEDIC ACTION

Gaṇḍamalaghna Alleviates cervical adenitis

Gulmaghna Alleviates swollen glands and lumps

Kuṣṭhaghna Alleviates skin disorders

Vṛṇya Treats ulcers

Pradaraghna Alleviates menstrual disorders

Kṛmināśaka Vermifuge

BIOMEDICAL ACTION

Lymphatic, alterative, astringent, haemostatic, vulnerary, uterine tonic, antispasmodic, emetic, expectorant, anti-inflammatory



INDICATIONS

Gynaecology It is especially useful for congestion and accumulations in the pelvic cavity; fibroids, endometriosis and cysts. The dry, light and astringent properties all help to reduce *kapha*. It is effectively used to treat menorrhagia and leucorrhoea (*Caraka Saṃhitā*, Paranjpe 2001).

Tumours Kanchanara's ability to remove accumulations in the lymphatic system indicates its use in all forms of swellings, lumps and growths; it specifically treats *gaṇḍamala* (cervical adenitis), *apachi* (chronic swollen glands) and *granthi* (lit. 'knot' meaning any abnormal growth). Palpable and impalpable masses are reduced (*Bhāvaprakāśa*). It directly reduces *medas dhātu* and *kapha* and so treats the root cause of swellings and growths and is commonly used to treat cancer and lymphadenitis.

Digestion Its astringent quality works directly on *purīṣavāhasrotas* and treats diarrhoea and

dysentery. It has the ability to reverse prolapses and haemorrhoids (Gogte 2000).

Blood Its haemostatic qualities help to stop bleeding throughout the body. It treats all forms of *rakta pitta* bleeding disorders from high *pitta* causing blood to move out of its correct channel.

Lungs Its mild expectorant action coupled with its dry quality reduces *avalambaka kapha* in the lungs. A gargle of the decoction is useful for treating sore throats.

Skin Kanchanara clears swollen, oozing and inflamed skin conditions as it is cooling and drying. It is an effective alterative and anti-inflammatory (*Bhāvaprakāśa*).

Bones It has a direct affinity for strengthening *ashti dathu* and is used to treat osteoporosis (*asthikaśāya*) (Paranjpe 2001).

COMBINATIONS

* Myrrh, turmeric, ashoka in gynaecological conditions with solid masses.

- * Guggulu, punarnava, *triphala*, *trikaṭu* in lymphatic swelling.
- * Bibhitaki, kutki in diarrhoea and inflammation.
- * Manjishtha for bleeding disorders.
- * Punarnava, manjishtha, neem for skin disorders.
- * Guggulu, frankincense, bakuchi, ginger and ashwagandha for osteoporosis.

CONTRAINDICATIONS

Pregnancy; constipation.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–10g per day or 3–15ml of a 1:3 @ 45% tincture.

NOTES

- Kanchanara is a medium-sized tree growing all over India at altitudes up to 1800m.
- An excess can cause vomiting.
- The main ingredient in kanchanara guggul which is used to treat lymphatic swellings.



KAPIKACCHU

Common Name **Cowhage (E), Kapikacchu (H)** Sanskrit **Kapikacchu, Ātmaguptā** Latin **Mucuna pruriens–Semen (Fabaceae)**

This broad-bean-sized seed is a superb restorative to the reproductive system. Like many seeds it has the ability to potentiate the reproductive tissue as well as the nervous system. It is also used to treat tremors and spasms. The surface of the seed-pods is ‘velvety’ like a monkey’s skin. It is also an allergenic which causes an itch, hence the name ‘one who scratches like a monkey’. *Ātmaguptā* means ‘secret self’ referring to its therapeutic seed concealed within the irritating bean pod.

ENERGETICS

Rasa (taste) Sweet, bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Heavy, unctuous

Doṣa effect VP–, K+

Dhātu (tissue) All tissues, especially nerve, reproductive

Srotas (channel) Nervous, reproductive, digestive

CONSTITUENTS

Amino acid Levodopa (L-dopa, L-3,4-dihydroxyphenylalanine)

Alkaloids Mucinine, mucunadine

Triterpenes β -sitosterol, stigmasterol

Fatty acids Oleic, linoleic, linolenic, lecithin
(Paranjpe 2001, Williamson 2002)



AYURVEDIC ACTION

Vājīkaraṇa Aphrodisiac

Medhya Enhances the intellect

Balya Promotes energy

Pācana Digestive

Vṛ̥ṣya Improves sexual vitality

Vātaśamana Pacifies aggravations of *vāta*

BIOMEDICAL ACTION

Aphrodisiac, antispasmodic, carminative

INDICATIONS

Reproduction Kapikacchu is a tonic to the whole *śukra dhātu* system treating low libido, infertility, impotence, spermatorrhoea, premature ejaculation. It is considered to be one of the ultimate Ayurvedic reproductive tonics for both men and women (*Bhāvaprakāśa*).

Nerves As it contains L-dopa, an essential precursor of dopamine, it is a specific remedy for Parkinson’s disease (noted for the severe loss of dopamine from the basal ganglia). Its overall influence on the nervous system

indicates its use in paralysis, spasms, twitching and cramps treating all *vāta* disorders in *majjā dhātu*.

Digestion Its digestive and anti-spasmodic function can help alleviate intestinal spasms, pain and gas. Its *sāra* or flowing quality can help with constipation.

COMBINATIONS

- * Ashwagandha, safed musali, shatavari, gokshura, frankincense for reproductive tissues.
- * Brahmi, gotu kola, jatamansi, tagarah and gokshura for muscular and nervous spasm.
- * Fennel, ginger, chitraka in digestive problems.

CONTRAINDICATIONS

High *āma* and congestion. Acute conditions.

SAFETY

Enhances effect of levodopa.

DOSAGE

5–15g per day as powder or in a decoction, or 6–20ml of a 1:3 @ 25% tincture.

NOTES

- This creeping twine grows all over India, especially in the tropical regions.
- There is a black and a white variety.
- As L-dopa is broken down by MAO in the mucous membranes of the intestines it is traditionally combined with *Tribulus terrestris* in Parkinson’s disease. *Tribulus* contains some harmala alkaloids that have MAO-inhibiting (MAOI) activity and hence enhance the efficacy of the L-dopa (Stuart Fitsimmons MNIMH, pers. comm.).
- It can be rajasic or overstimulating in excess.
- Often combined with milk and honey to add to its restorative effects.

KARAVELLA

Common name **Bitter gourd (E), Bitter melon (E), Karella (H)** Sanskrit **Kāravella** Latin **Momordica charantia–Fructus immaturus (Cucurbitaceae)**

Karavella is a common vegetable also used to regulate blood sugar levels and treat urinary disorders. It is a very bitter remedy that has a wonderful healing effect on the blood.

ENERGETICS

Rasa (taste) Bitter, pungent

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect VKP–

Dhātu (tissue) Plasma, blood, muscle, fat

Srotas (channel) Digestive, water, excretory

CONSTITUENTS

Terpenoids Triterpene glycosides, momordicosides

Sterols Charantin, campesterol, stigmasterol, β-sitosterol

Bitter principle

(Murray 1992, Williamson 2002)

AYURVEDIC ACTION

Dīpana Enkindles the digestive fire

Bhedanīya Purgative clearing accumulations

Āmapacana Clears āma toxins

Pāṇḍughna Cures anaemia

Pramehaghna Alleviates diabetes

Kṛmināśaka Destroys worms

BIOMEDICAL ACTION

Antidiabetic, carminative, vermifuge, bitter tonic, cholagogue, purgative, diuretic, lithotriptic, alterative, vulnerary



INDICATIONS

Diabetes Karavella has become renowned for its antidiabetic properties. Charantin is an effective hypoglycaemic and the polypeptide P lowers blood sugar levels more effectively than insulin without some of the side-effects (Murray 1992). The bitter principle clears the *kapha* that is obstructing the pancreatic function in diabetes and stimulates *medodhātvaṅni* to metabolise fats and sugars efficiently. It reduces blood and urine sugar levels by reducing insulin resistance.

Digestion It acts as an anthelmintic in the intestines. It has the added vermifugal effect of flushing bacterial and parasitic infections from the intestines as it mildly purges the bowel. It also reduces inflammation in the intestines. A special quality of karavella is that it does not aggravate *vāta*, which is rare for a bitter substance (*Bhāvaprakāśa*).

Urine Its effect on the water channels (*ambuāhasrotas*) helps to clear *kapha* from the system. It can be included in a formula for urinary stones as it has a direct effect on the urinary channel (*mūtravāhasrotas*) (Gogte 2000).

Skin Its alterative nature treats inflammatory skin conditions and benefits *bhrājaka pitta*. Having a thorough effect on the detoxifying capabilities of the whole system it regulates *rañjaka pitta*, clears bile from the liver, acid via the urine and toxemia via the bowel.

Blood It has an affinity for the blood. It is a traditional remedy for anaemia as it stimulates the tissue fires (*dhātvaṅni*) to work at optimum efficiency. It helps to build haemoglobin count by enhancing absorption (*Bhāvaprakāśa*).

COMBINATIONS

- * Gurmar, fenugreek, *trikaṭu*, turmeric in diabetes.
- * Manjishtha, bhumiamalaki, gokshura for urinary stones.

- * Neem, garlic for worms.
- * Amalaki in acidity and inflammation.
- * Neem, manjishtha, kutki in skin disorders.

CONTRAINDICATIONS

Pregnancy as it has a bitter and descending effect.

SAFETY

Caution in patients on hypoglycaemic medication.

DOSAGE

5–10g dry per day or 3–15ml of a 1:2 @ 40% fresh tincture.

NOTES

- This annual creeper is cultivated all over India for its fruiting vegetables.
- Although it is bitter it does not aggravate *vāta* (*tiktam-vāta*).
- Successful clinical trials have used the equivalent of 60ml of the fresh juice per day.

KRISHNA JIRAKA

Common name **Black cumin (E), Love-in-the-mist (E), Kalonji (H)** Sanskrit **Kṛṣṇa-Jīraka, Kālikā, Kālājī**
Latin **Nigella sativa–Semen (Ranunculaceae)**

These little black seeds are marvelous for calming and strengthening digestion. It is an effective destagnator of the lungs, uterus, channels and mind.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light, penetrating

Doṣa effect VK–, P+ in excess

Dhātu (tissue) Plasma, blood, reproductive

Srotas (channel) Digestive, urinary, female reproductive, respiratory

CONSTITUENTS

Alkaloids Asparagine, arginine, nigellidine

Flavonoid glycosides Quercetin, kaempferol

Saponins

Phytosterols β-sitosterol, stigmasterol

Volatile oil Thymol, carvone, limonene

Fats Omega 3 and 6 oils, tryptophan

(Tierra 1992, Williamson 2002)

AYURVEDIC ACTION

Kṛmināśaka Vermifuge

Dīpana Appetiser

Pācana Digester of toxins

Medhya Increases intellect

Caḥṣuṣya Benefits the eyes

BIOMEDICAL ACTION

Carminative, antispasmodic, galactagogue, aromatic, diuretic, stimulant, vermifuge, expecto-



rant, bronchodilator, antiallergenic

INDICATIONS

Digestion Black cumin has a specific affinity for *puriṣavāhasrotas* and treats loose stool, diarrhoea, dysentery, bloating and gas. It also clears intestinal parasites (*Bhāvaprakāśa*).

Lungs Asthma, cough, hayfever. Useful where there may be increased histamine release as it appears to have antiallergenic properties.

Masses Clears tumours and masses. It contains β-sitosterol, which has a specific anticarcinogenic activity acting on the breast (Tierra 1992, Duke 2004). It reduces toxic *āma* accumulations from all the *dhātu* (Gogte 2000).

Gynaecology It clears *kapha* accumulations from the uterus, effectively treats dysmenorrhoea and an irregular menstrual cycle. It has a tonic effect on *śukra* and *ārtava dhātu*. It nourishes *stanyavāhasrotas* and increases breast milk; use the seeds and oil (Gogte 2000).



Liver Useful in congested liver, jaundice and poor fat metabolism. Its cleansing effect on *rañjaka pitta* can help in inflammatory eye disorders and *pitta*-type headaches that manifest with sharp pain at the vertex, temples and forehead (Gogte 2000).

Nerves With a specific tonic effect on *majjā dhātu* it directly calms the mind and is useful in nervous disorders. As a *medhya* herb it enhances the power of the brain and enhances clear thinking and concentration.

COMBINATIONS

- * Astringents in diarrhoea; manjishtha, kutaja.
- * Anthrapachaka, pippali, vasa in respiratory disorders.
- * Guggul, myrrh, turmeric in uterine congestion.

CONTRAINDICATIONS

Pregnancy, as the seeds can cause miscarriage in large dose.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–10g per day dried or 3–12ml of a 1:3 @ 45% tincture.

NOTES

- It thrives in the dry climate of western India but originally comes from the Mediterranean region.
- In the ayurvedic texts it is classified along with the other ‘cumins’—caraway/*carum carvi* (*kalā jīra* or black cumin), common cumin/*Cuminum cyminum* (*śukla jīra* or white cumin).
- Used all over the Middle East and in Unani medicine.

KUSHTHA

Common name **Costus root (E)** Sanskrit **Kuṣṭha**, Latin **Saussurea lappa–Radix (Compositae)**

Kushtha means 'skin disease' and refers to its ability to treat many skin disorders. It is a large plant with sweet aromatic roots. It looks a bit like burdock (they are from the same family). When you smell a plant with such a warm fragrance think 'digestive promoter', 'fluid drying' and 'stagnation clearing'.

ENERGETICS

Rasa (taste) Pungent, sweet, bitter, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, light, penetrating

Doṣa effect VPK=, VP+ in excess

Dhātu (tissue) All tissues

Srotas (channel) Digestive, circulatory, respiratory, nervous

CONSTITUENTS

Alkaloid Saussurine

Essential oils

Phytosterols Stigmasterol

Inulin

Tannins

Bitter principle

(Nadkarni 1954)

AYURVEDIC ACTION

Lekhaniya Toxic residue scraper

Śukraśodhana Semen purifier

Vājīkaraṇa Enhances sexual appetite

Dīpana Appetiser

Pācana Digests āma

Śūlapraśamana Stops intestinal spasms and pain

Vedanāsthāpana Analgesic

Jvaraghna Alleviates fever

Kāśāśvāsahara Alleviates cough and breathing difficulties



Mūtravirecana Diuretic

Raktaśodhana Purifies the blood

Kuṣṭhaghna Alleviates skin diseases

Stambhana Stops leakages

Rasāyana Rejuvenative for *prāṇa* and the blood

Stanyajanana Promotes lactation

BIOMEDICAL ACTION

Carminative, digestive, alterative, diuretic, antispasmodic, bronchodilator, aromatic, astringent, aphrodisiac, analgesic

INDICATIONS

Digestion Kushtha benefits the digestive tract and regulates *vāta*, especially *śamana* and *apāna vāyu* in the centre of the abdomen and lower digestive tract. It clears nervous spasm, pain, cramps, bloating, flatulence and nausea. It is a specific in diarrhoea and dysentery. Its bitter flavour helps to regulate liver function (Nadkarni 1954).

Lungs It calms 'marut', the wind, and hence reduces spasms and bronchorestriction in the chest. Useful in asthma, hiccups, wheezing and coughs

by virtue of its expansive effect on the *prāṇavāhasrotas*. Its warming aromatic nature can help to dry excess *kapha* secretions.

Skin As an alterative and circulatory stimulant it can benefit skin conditions with itching and inflammation. Its cleansing effect on *rakta dhātu* benefits *bhrājaka pitta*. It is used externally for skin problems from bacterial infection (Paranjpe 2001).

Joints Specific usage as a blood purifier and especially for gout as it regulates the urinary output of inflammatory *pitta* and irritant *vāta* toxins. It helps to reduce pain in the body by reducing inflammation and stopping spasms (*Bhāvaprakāśa*).

Gynaecology Used in painful menses and for lack of or scanty periods due to stagnation in *ārtavavāhasrotas*. It stimulates ovulation and promotes a regular cycle.

Reproduction It benefits *śukra dhātu* and is renowned for purifying the reproductive system (Gogte 2000).

COMBINATIONS

- * Cardamom, fennel, ginger for abdominal bloating, flatulence or pain from obstructed *prāṇa* or cold due to excess *vāta*.
- * Manjishtha, kutki, chiretta in bloody/'mucusy' stool.
- * *Triphalā*, senna, rhubarb to regulate peristalsis.
- * *Trikāṭu* in asthma or allergic attacks.
- * Guduchi in gout with *pitta* and *vāta* conditions of the joints.
- * Shatavari, ajwain, turmeric, rose for uterine spasms.
- * Turmeric, ashwagandha for benefiting sperm quality.

CONTRAINDICATIONS

With excess dryness and very high *vāta* it should be combined with demulcent herbs such as sesame, shatavari, bala. Caution with high *pitta* in the digestive tract.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–9g per day dried or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- Kushtha grows at 2500–3000m in the Himalayas and thrives in damp places, indicating its ability to absorb dampness.
- It can cause constipation at high doses.
- It is CITES Appendix 1 listed and all sales of the herb must be validated proving cultivation rather than wild harvesting. In China it is commonly replaced with *Vladimiria souliei* due to this restriction on trade.

KUTAJA

Common name **Kutaj (H), Kureya (H)** Sanskrit **Kuṭāja** Latin **Holarrhena antidysenterica–Cortex, Semen (Apocynaceae)**

The skin of the bark of this small tree is a very effective remedy for diarrhoea, piles and parasitic amoebic infections.

ENERGETICS

Rasa (taste) Astringent, pungent, bitter

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect KP–, V+

Dhātu (tissue) Plasma, blood

Srotas (channel) Digestive, lactation, excretory, reproductive

CONSTITUENTS

Alkaloids Conessine, holarrhimine, regholarrhenine, antidysentericine (Williamson 2002)

AYURVEDIC ACTION

Dīpana Enkindles digestive fire

Āmapacana Digests *āma*

Vamaka Emetic

Arśoghna Alleviates haemorrhoids

Atisāraghna Alleviates diarrhoea

Raktapitta Benefits bleeding problems

Kuṣṭhaghna Benefits skin diseases

Kaṇḍūghna Alleviates itching

Kṛmighna Kills worms

BIOMEDICAL ACTION

Astringent, carminative, amoebicidal, vulnerary, alterative, antibacterial, vermifuge

INDICATIONS

Digestion Kutaja is a virtual cure all for amoebic and bacillary dysentery. It is effective against both *Entamoeba histolytica* and



Shigella spp. Its astringent properties help to cure diarrhoea and heal the mucous membranes of the intestinal walls (*purīṣavāhasrotas*) that are so often irritated by bacterial invasion. Use in colitis or Crohn's disease where mucus and blood are present in the stool. Beneficial in general intestinal dysbiosis with bloating and flatulence (*Bhāvaprakāśa*, Williamson 2002).

Piles A superb remedy for first- and second-degree haemorrhoids when there is bleeding and protrusion. Piles are often caused by a congested liver, congested veins in the rectum, and a low digestive fire, and kutaja specifically treats these symptoms (Paranjpe 2001).

Skin It is a beneficial alterative balancing excess *pitta* in the *raktavāhasrotas* and excess *kapha* in the *rasa dhātu*. It helps to dry *kapha-pitta* type skin problems where there is suppuration, crusting, inflammation and itching.



Bleeding Its astringency helps to stop bleeding from anywhere in the digestive, urinary and respiratory system.

COMBINATIONS

- * Pomegranate rind and bibhitaki for diarrhoea and dysentery.
- * Fennel, cumin, hing for bloating and flatulence.
- * Ginger, pippali, kutki for piles.
- * Sariva, bakuchi, punarnava and manjishtha for suppurating skin problems.

CONTRAINDICATIONS

As it is a strong remedy, use for only a short period at a time, up to a month maximum. Contraindicated in aggravated *vāta* or constipation.

SAFETY

No drug-herb interactions are known.

DOSAGE

1–12g per day powder or 3–12ml per day of a 1:3 @ 25% tincture.

NOTES

- The kutaja tree with white flowers that comes from Saharanpur is considered to be the best variety. It grows up to 9m in height.
- The bark should come from trees that are more than 10 years old to ensure appropriate activity.
- It is often confused with *Wrightia tinctoria*, which is not medicinally useful.
- The seeds are called *Indrayava*, which means 'Indra's seed'. Indra is the lord of divine realm.

Indrayava has a hot energy and is best for digesting *āma*.

- Kutaja is said to have originated from the monkey servants of Lord Rāma whose blood turned to *amrita*, the immortal nectar, after they were slain. Lord Indra then restored them to life.
- It is presently banned for use in the UK under the 1977 Medicines Order (www.mhra.gov.uk).

KUTKI

Common name **Picrorrhiza (E), Kutki (H)** Sanskrit **Kaṭukā** Latin **Picrorrhiza kurroa, scrofulariiflora–Rhizoma (Scrophulariaceae)**

Kutki is a very bitter root that has wonderful anti-inflammatory and antibacterial properties. It grows in the freezing climate of the Himalayas and evidently absorbs some of this 'cooling' property from its surrounding environment. *Kaṭukā* literally means 'pungent' which is strange as it is a very bitter tasting herb.

**ENERGETICS**

Rasa (taste) Bitter, pungent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect KP–, V+

Dhātu (tissue) Plasma, blood, fat, nerve, reproductive

Srotas (channel) Circulatory, eliminative, female reproductive, digestive, respiratory, nervous

CONSTITUENTS

Iridoid glycosides Picrosides, kutkoside

Curcubitacin glycosides, apocynin, androsin (Bone 1996)

AYURVEDIC ACTION

Lekhaniya Reduces accumulations

Bhedaniya Purgative

Dipaniya Enkindles the digestive fire

Yakṛduttejaka Increases the strength of the liver

Raktadāhaghna Reduces heat in the blood

Raktaśodhana Purifies the blood

Kuṣṭhaghna Alleviates skin disorders

Viṣaghna Destroys poisons

Kṛmināśaka Vermifuge

Jvaraghna Febrifuge

Āmaghna Destroys *āma* and is detoxifying

BIOMEDICAL ACTION

Hepatoprotective, cholagogue, laxative and cathartic, bitter tonic, anti-inflammatory, antiallergenic, immunostimulator, anthelmintic, expectorant

INDICATIONS

Liver Kutki protects the liver against damage from the hepatitis C virus (Bone 1996). It increases the flow of bile and reduces such bilious *pitta* symptoms as sour or bitter taste in the mouth, acidity and nausea. Use in all forms of liver damage, cirrhosis and inflammation of the liver.

Heart As it clears heat from *rañjaka pitta* and the blood it can also benefit the heart; especially palpitations caused by *pitta* irritating *rakta*.

Allergies Its anti-inflammatory effect on *rasa dhātu* is used for immune reactions and hypersensitivity to environmental allergens; asthma, rhinitis, eczema with signs of heat and high *pitta*

and *kapha*. Used in bronchial asthma for its expectorant properties.

Immunity It is useful in autoimmune conditions as an immune stimulant with inflammations of a *pitta-kapha* variety; arthritis, psoriasis, acute and chronic infections. Clinical trials for inflammatory and allergic conditions showed significant improvements (Bone 1996).

Digestion At a low dose (<1g per day), can increase digestive fire, *agni* and peristalsis. Large doses will purge the bowel (*purīṣavāhasrotas*). Useful in dysentery with bleeding, bloating, mucus and parasites (Bensky & Gamble 1986). It scrapes toxic accumulations from the intestines and blood. This scraping action is also used to clear fat from the body and to stimulate the digestive fire in *medas-dhātu* so that it can metabolise the earth and water elements effectively.

COMBINATIONS

* Bhumiamalaki, amalaki, guduchi, manjishtha in liver inflammation and infection.

- * Anthrapachaka, pippali, ephedra, licorice in allergic reactions; especially the lungs and skin.
- * Ashwagandha, chiretta, licorice in compromised immunity and low *ojas*.
- * Rhubarb root, senna, fennel, ginger, cardamom in constipation or diarrhoea.

CONTRAINDICATIONS

High *vāta*. Can cause diarrhoea and flatulence. Use with caution in a weak digestive system. Do not use in pregnancy. Some authorities mention concern about its immune-stimulating properties contraindicating it in autoimmune diseases, although

this is not reflected in its traditional use.

SAFETY

No drug–herb interactions are known.

DOSAGE

500mg–2g per day dried root or 3–12ml per day of a 1:3 @ 25% tincture.

NOTES

- This hardy perennial grows at high altitudes in the Himalayas, usually 2500–3600m. It should be slightly black inside the root.
- Use with warming aromatic herbs to prevent any intestinal griping.
- Once known as *dhanvantarigrasta* ‘the plant that was eaten by Dhanvantari’. Dhanvantari is one of the fathers of Ayurveda.
- *Picrorrhiza kurroa* is presently CITES Appendix 3 listed and suppliers must have a certificate to prove source of cultivation. In light of the increased trade in *P. scrophulariiflora* it is prudent to ensure that your supply is also from a cultivated source.

LEMON AND LIME

Common name **Lemon (E), Bara nimbu (H); Lime (E), Nimbu (H)** Sanskrit **Jambira, Nimbūka** Latin **Citrus limonum/acida or medica–Fructus (Rutaceae)**

Lemons and limes are delicious remedies for treating the digestive and urinary systems with the added bonus of having a high vitamin content.

ENERGETICS

Rasa (taste) Sour, astringent, bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sour

Gūṇa (quality) Light, dry, penetrating

Doṣa effect VPK–, P+ when aggravated

Dhātu (tissue) Plasma, blood, muscle, fat, bone, nerve

Srotas (channel) Digestive, respiratory

CONSTITUENTS

Volatile oil Limonene, bergamotene, geraniol, neral

Flavonoids Hesperidine

Acids Malic, citric

Vitamins A, B, C, K (Holmes 1989)

AYURVEDIC ACTION

Dīpana Enkindles digestive fire

Āmapācana Toxin digester

Vātaśamana Vāta pacifier

Kāśahara Alleviates coughs

Caḡṣuṣya Benefits the eyes

Vibandhaghna Alleviates constipation

Kṛmināśaka Destroys worms

Hṛdaya Heart tonic

BIOMEDICAL ACTION

Carminative, expectorant, decongestant, laxative, cholagogue, alterative, antiseptic, anti-inflammatory, vulnerary

INDICATIONS

Digestion Both lemon and lime aid digestion and *agni* by stimulating salivary and digestive secretions. The sour flavour has a sympathetic reaction on the liver, enhancing bile flow and the emulsion of fats. This aids its laxative effect and ability to clear stagnation in the bowels. It helps to enhance the appetite and is beneficial in anorexia, nausea (especially morning and travel sickness) and indigestion. The peel has a stronger effect on the digestive system. The limonene content is known to help dissolve gallstones and strong lemon juice can be drunk daily as a prophylactic (Tillotson 2001).

Lungs Lemon juice can help to calm a cough by clearing mucus and sedating *vāta*. Its ability to draw tissues inwards, experienced as a ‘puckering’ effect, holds *prāṇa*, blood and the tissues in place. It also has a strongly antibacterial action, which is used as a gargle to treat sore throats (Gogte 2000).

Blood Lemon and lime have a direct affinity for the blood via their high vitamin C content. They directly nourish *rasa* and build nutritious fluids in the system. As the source of *rasa* is in the heart, they help to nourish the heart and benefit *sādhaka pitta*. Although the sour flavour can aggravate *pitta* and the blood, limes are an exception to this rule. It is an alterative that clears toxins from the blood. It can prevent bleeding of the gums and internal mucous membranes



via its astringing action on capillaries and veins (Gogte 2000).

Kidneys The high citrate content helps to reduce urinary calcium output which can help to prevent kidney stones (Tillotson 2001). This beneficial effect on *mūtravāhasrotas* may help with other acidic conditions as it helps to reduce uric acid.

COMBINATIONS

- * Roasted with salt and ginger for stimulating digestion in a preparation known as *bhavana sunṭhī* or prepared ginger.
- * Salt water as a laxative and toxin remover (1tsp/500ml).
- * Turmeric, gokshura in gall- and kidney stones.

CONTRAINDICATIONS

Avoid milk, mangoes or tomatoes as they are incompatible. Contraindicated when *pitta* is aggravated. Some patients with ulcers are aggravated by lemon juice.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–15ml per day or 250mg–5g of the peel per day.

NOTES

- Although lemon can aggravate a *pitta* that is already out of balance it is a world famous cooling remedy.
- Although lemon and lime have slightly different energetics, with lime being slightly more sour yet less *pitta*-aggravating, they essentially have the same therapeutic uses.
- Their general use is as a nourishing as well as a detoxifying remedy; they clear excess acids, toxins and congestion, while nourishing deficiency and weakness.
- They can be used as a vehicle (*anupāna*) to send remedies to the liver.

LEMONGRASS

Common name **Lemongrass (E)** Sanskrit **Bhū-trṇa** Latin **Cymbopogon citratus-Folium (Graminaceae)**

Lemongrass is an aromatic diaphoretic that relaxes the peripheral circulatory system and is useful in fevers. It also benefits the digestion, lungs and menstruation. *Bhū-trṇa* literally means 'earth grass'.

ENERGETICS

Rasa (taste) Pungent, bitter, sour

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect VPK–, V+ in excess

Dhātu (tissue) Plasma, blood, muscle, marrow

Srotas (channel) Sweat, urinary, respiratory, digestive, urinary, female reproductive

CONSTITUENTS

Essential oil Citral, limonene (Tisserand & Balacs 2000)

AYURVEDIC ACTION

Dīpana Enkindles the digestive fire

Āmapācana Reduces *āma*

Vātānulomana Directs the flow of *vāta* downwards

Jvaraghna Alleviates fevers

Kāśāśvāsahara Alleviates coughs and breathing problems

BIOMEDICAL ACTION

Carminative, diaphoretic, febrifuge, analgesic, expectorant, anti-inflammatory, antispasmodic, diuretic, emmenagogue, galactagogue



INDICATIONS

Digestion The combination of pungent and bitter flavours in lemongrass stimulates *agni* without aggravating *pitta*. It regulates *śamana* and *apāna vāyu* in the intestines to relieve gas, cramps and colic (Frawley & Lad 1994).

Lungs Its pungency dries aggravated *avalambaka kapha* and helps to expectorate excess phlegm. The bitterness helps to clear hot lung infections with yellow mucus. Its broncho-relaxing effect helps to reduce asthma (Gogte 2000).

Fevers Its mild diaphoretic effect clears the displaced heat that has moved from the digestive tract to *rasa dhātu*. It treats the source of fevers by clearing *āma* from the digestive tract (Frawley & Lad 1994).

Gynaecology Its affinity for *rasa* and *raktaadhātu* helps with painful menses due to inflammation or spasm in the uterus from high *pitta* and *vāta*. Its nourishing effect on *rasadhātvaṅni* encourages milk production.

External The essential oil is a wonderful circulatory stimulant

that can help to remove arthritic inflammation and pain in the joints (Tisserand & Balacs 2000).

COMBINATIONS

- * Fennel, coriander, mint in digestive bloating and gas.
- * Pippali, vasa in respiratory conditions.
- * Ajwain, fresh ginger, turmeric for menstrual pain.
- * Tulsi, cinnamon in fevers.

CONTRAINDICATIONS

None known.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–9g per day or 5–15ml of a 1:5 @ 45% tincture.

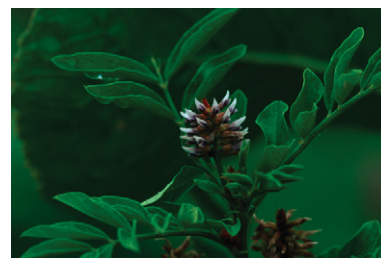
NOTES

- Lemongrass thrives in warm climates and produces copious aromatic long leaves.
- It is primarily extracted as a fragrant essential oil.
- Use a larger dose for fevers and a smaller dose for digestive complaints.

LICORICE

Common name **Licorice (E), Jethimadh (H)** Sanskrit **Yaṣṭīmadhu** Latin **Glycyrrhiza glabra–Radix (Leguminosae)**

Yaṣṭīmadhu means the 'sweet stick'. The sweetness of licorice is 50 times greater than sucrose. Its sweet flavour indicates its tonifying effects; it directly strengthens the kidneys, nourishes the nervous system, is a superb anti-inflammatory and balances all three *doṣas*.



ENERGETICS

Rasa (taste) Sweet, bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Sweet

Guṇa (quality) Heavy, moist

Doṣa effect VPK–, K+ in excess

Dhātu (tissue) Every tissue is affected

Srotas (channel) Digestive, respiratory, nervous, excretory, reproductive

CONSTITUENTS

Triterpenoid saponins

Glycyrrhizin

Flavonoids Liquiritin, isoliquiritin

Phytosterols Stigmasterol, β-sitosterol

Coumarins

Glycyrrhetic acid

Volatile oils Anethole, estragole, eugenol (Mills & Bone 2000)

AYURVEDIC ACTION

Vṛ̥ṣya Sexual potentiiser

Śukrala Increases semen

Jivaniya Vitalising

Rasāyana Benefits all seven tissues

Cakṣuṣya Benefits the eyes

Vraṇaropana Heals ulcers and wounds

Kāñṭhya Benefits the throat

Kāsaśvāsahara Benefits coughs and breathing difficulties

Medhya Benefits the nervous system

Kaṇḍūghna Eliminates itching

Śoṇitasthāpana Alleviates bleeding

Pitta/vātahara Reduces *pitta* and *vāta*

BIOMEDICAL ACTION

Expectorant, demulcent, anti-inflammatory, adrenal tonic, aperient, emetic, diuretic

INDICATIONS

Lungs Asthma, bronchitis, wheezing. Use with dry coughs with difficult-to-expectorate phlegm, sore throat, laryngitis and tonsillitis, as licorice liquefies mucus. Specific for *vāta*-type cough due to aggravated *prāṇavāyu*. It is a specific *rasāyana* for *vāta* by virtue of its sweet, heavy and unctuous properties. It is also useful in infections with yellow/green sputum indicating high *pitta* inflammations. At a high dose it is an emetic used in *vamana* therapy to clear *kapha* from the lungs and stomach (*Bhāvaprakāśa*).

Digestion Specific for ulcers—peptic, gastric, duodenal, oral. Useful in all intestinal inflamma-

tions and spasms with pain. It is very useful in hyperacidity as licorice cools *pācakaṭṭha*. It is often used for arresting bleeding in the intestines and lungs. Its demulcent nature moistens and relaxes the bowel and is helpful in *vāta-pitta* types of constipation (Bartram 1995, Mills & Bone 2000). At low dose it is antiemetic (if nausea is caused by heat) and in high doses it is an emetic.

Liver Hepatoprotective action in hepatitis and chronic liver disease. Licorice works on *rañjakapitta* and soothes the heat that travels via the liver to the blood. Used for skin conditions, such as acne, with heat and inflammation (*Bhāvaprakāśa*, Paranjpe 2001). Its affinity for the blood and *pitta* help to soothe *ālocakaṭṭha* and any eye irritations.

Kidneys and nerves As part of a formula for nervous exhaustion licorice is a strong adrenal tonic giving enduring energy. It is a *rasāyana* for the *śukra dhātu* and the whole reproductive system. Its cortisol-like action is useful in Addison's disease. As it is used to tonify *majjā dhātu*, it can nourish an exhausted and hyperactive *vāta* and *pitta* in such

conditions as ME and chronic fatigue syndrome (CFS). The *sāttvika* nature of licorice calms the mind (Frawley & Lad 1994, Mills & Bone 2000).

Urine Its cooling action and unctuous nature are beneficial in inflammations of the urinary tract and it should be used to treat cystitis and painful, burning urination (Gogte 2000).

Skin It is a useful emollient herb for preventing itching with dry skin. Its anti-inflammatory *pitta*-reducing effects are commonly employed to treat red, hot, inflamed skin disorders.

COMBINATIONS

- * Bala, pippali, tulsi, bibhitaki, haritaki, anthrapachaka for lung congestion.
- * Fresh ginger, ephedra for influenza causing lung impairment.

- * Fennel, shatavari, amalaki, kutki for ulcers and GIT inflammation.
- * Guduchi, manjishtha, pippali for liver disorders.
- * Ashwagandha, bala, shatavari for nervous exhaustion.
- * *Triphalā* for eyewashes.

CONTRAINDICATIONS

High *kapha*. Contraindicated in choleostatic liver disorders, hypertension, congestive heart failure or oedema. During pregnancy and breast-feeding up to 3g per day is safe. Be vigilant in long-term use.

SAFETY

Care in osteoporosis as it inhibits calcium and potassium absorption. It can exacerbate potassium loss when used with potassium-depleting drugs (thiazide diuretics, laxatives) and this can increase sensitivity to cardioactive glycosides. It extends the activity of cortisone

in the blood by decreasing plasma clearance and so caution is advised with corticosteroids, especially prednisolone. Hypokalaemia can occur over extended periods (4–6 weeks) and so diligence is advised when blood pressure increases in any patient taking licorice, or with elderly patients or those with hypertension, cardiac, renal or hepatic disease. It can exacerbate the effects of a high salt diet. It may counteract the contraceptive pill. It has a positive interaction with NSAIDs by reducing the gastric irritation and ulceration they can cause (Low Dog 2002, Bone 2003, Braun & Cohen 2003, 2004).

DOSAGE

0.5–10g per day dried, 3–12ml per day of a 1:3 tincture, or 2–6ml per day of a 1:1 fluid extract.

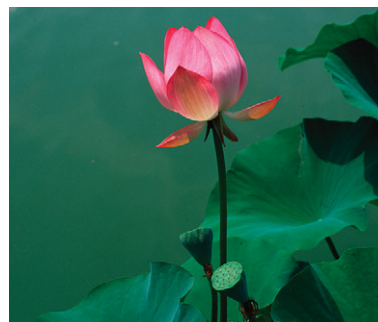
NOTES

- Licorice grows all over the world. In northern India it is a perennial shrub that has an intense network of underground creepers.
- Specifically classified as useful for the quality of the eyes and the skin, this action works via its affinity for calming and cooling *pitta* while also nourishing *vāta* and *majjā dhātu*.
- Traditionally used as a detoxicant herb to harmonise a formula and enhance the properties of the other herbs. Its sweet taste gives *balya* and strength to the whole formula while also neutralising any harsh aspects of stronger herbs (e.g. bitters/anthelmintics).
- Often mixed in ghee to enhance its healing effects on inflammatory mucous membrane conditions and to promote its *rasāyana* effect on *śukra dhātu*.
- Licorice's popularity has caused it to be overharvested from the wild. Make sure you buy licorice from a sustainably cultivated source.

LOTUS

Common name **Lotus (E)** Sanskrit **Padma, Kamala** Latin **Nelumbo nucifera–Radix, Nodus, Folium, Semen, Stamen, Flos (Nymphaeaceae)**

The lotus is the supreme symbol of the evolution of the soul. As she grows from the murky depths of the muddy lake waters to her majestic flowering on the clear surface of the water of life she is a living metaphor for our growth from ignorance to wisdom. It is very useful as a brain and reproductive tonic.



ENERGETICS

Rasa (taste) Sweet, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Sweet

Guṇa (quality) Heavy, unctuous (seeds and root); dry, light (nodes, stamen)

Doṣa effect PVK–, K+ in excess

Dhātu (tissue) All tissues

Srotas (channel) Digestive, respiratory, circulatory, reproductive, nervous

CONSTITUENTS

Saccharides Raffinose

Alkaloid Asparagine

Tannin

Minerals Calcium, iron (Bensky & Gamble 1986)

AYURVEDIC ACTION

Stambhana Stops leakage of fluids; blood, semen, mucus

Kaṣāya Astringent

Raktapittahara Prevents bleeding from high *pitta*

Śoṇitasthāpana Haemostatic

Vājīkaraṇa Aphrodisiac

Rasāyana Rejuvenative

Medhya Brain tonic

BIOMEDICAL ACTION

Haemostatic, nutritive tonic, aphrodisiac, nervine, astringent

INDICATIONS

Bleeding The node and root are specific for bleeding disorders from the lungs, GIT and uterus. It astringes and cools the oily heat of *pitta* overflowing from its site in the small intestine (*Bhāvaprakāśa*).

Reproduction The seed and stamen are aphrodisiac and are used in spermatorrhoea. The seeds are a tonic and *rasāyana* helping to increase *śukra dhātu*. They also benefit the development of language, speech and expression as they nourish *majjā dhātu* and *manovāhasrotas*. This specifically helps *vāta* imbalances due to slow development and malabsorption of nutrients (Frawley & Lad 1994). The seeds also have a direct affinity for the uterus, promoting fertility and nourishing the fetus.

Digestion All parts of the lotus benefit the intestines as they help to stop diarrhoea and nourish the mucous membranes lining the *annavāha* and *puriṣavahasrotas* (*Bhāvaprakāśa*, Bensky & Gamble 1986).

Nerves The seeds, root and stamen help to calm a nervous system and strengthen a ‘frazzled’ *vāta*. By nourishing *rakta dhātu* and cooling *pitta* this directly influences the heart function (Gogte 2000).

COMBINATIONS

- * Manjishtha, amalaki, safflower for bleeding with the node.
- * Ashwagandha, kapikacchu, shatavari for tonifying reproduction with the seed and stamen.
- * Nutmeg, haritaki, amalaki for diarrhoea and piles with the seed, stamen and node.
- * Brahmi, gotu kola and shankhapushpi for the nerves with the seed and root.

CONTRAINDICATIONS

Sluggish digestion, food stagnation with *āma* or constipation.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–10g per day dried or 3–20ml per day of a 1:3 @ 25% tincture.

NOTES

- The lotus grows all over the lakes of India, their flowers opening in the morning and closing at dusk.
- There are three main medicinal varieties—white, red and blue.
- All parts of the lotus are used. The petals, *saṃvartikā*, are best for cooling *pitta*, bleeding, thirst, painful urination. The seeds, *padmabīja*, clean the blood, are good for *pitta*, and a tonic to the heart and reproductive system. The stamen, *kiṅjalka*, is astringent, aphrodisiac, and again benefits *pitta* with burning. The flower stalk, *mṛṅāla*, increases breast milk. The root, *śāluḥka*, is astringent, stops bleeding, heals the colon. The roots benefit *mūladhāra* and base chakra tissues, the seeds *anāhata* and heart chakra tissues.
- Neelota (*Nymphaea stellata*) is also used in certain preparations such as *chywanaprasha*.



MANJISHTHA

Common name **Indian madder (E), Manjith (H)** Sanskrit **Mañjiṣṭha** Latin **Rubia cordifolia–Radix (Rubiaceae)**

Manjishtha is a perennial climber and like a vine it ‘spreads’ throughout the whole system, especially working on the arterial, circulatory system and skin. It literally means ‘bright red’ attesting to its red roots, which have an affinity for the blood; the red pigment can be seen in the urine.

ENERGETICS

Rasa (taste) Bitter, sweet, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Heavy, dry

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, muscles, bone

Srotas (channel) Circulatory, female reproductive, excretory, bone

CONSTITUENTS

Glucosides Manjishtha, purpuroxanthin, purpurin

Anthroquinone glycosides

Lucidin, alizarin, rubiadin (Swami Prakashananda Ayurveda Research Centre 1992, Williamson 2002)

AYURVEDIC ACTION

Varṇya Improves complexion

Jvarahara Destroys fever

Mūtrajanana Diuretic

Aśmarībhedana Lithagogue

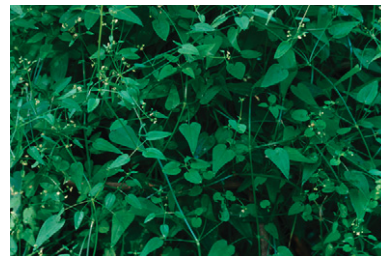
Svedajanana Diaphoretic

Viśaghna Destroys toxins

Lekhaniya Reduces accumulations

Raktaśodhaka Blood purifier

Kaṇḍūghna Eliminates itching



Raktapittahara Prevents bleeding from high *pitta*

Śonitasthāpana Haemostatic

Vedanāsthāpana Analgesic

Purīśasamgrahaṇīya Stool forming

Pittaśamana Reduces *pitta*

Śleśamana Reduces *kapha*

Sandhāniya Bone mender

Kuṣṭhaghna Alleviates skin diseases

Yoni Uterine herb

BIOMEDICAL ACTION

Alterative, haemostatic, astringent, diuretic, lithotriptic, emmenagogue, antipyretic, antitumour

INDICATIONS

Skin Its affinity for *raktadhātu* is specifically utilised to clean, cool and clear the blood of all excess *pitta*, heat, inflammation, *visha* (toxins) and *āma*. Used for itching in eczema, psoriasis, dermatitis, vitiligo, acne, acne rosacea and herpes (*kuṣṭha*, *visarpa*). It normalises *rakta dhātu agni*. A favourite herb to help relieve pruritus when the liver and *bhrājaka pitta* are aggravated. Its circulatory invigorating properties make it a superb remedy for removing stubborn and

chronic lesions. Also used in scabies and tinea pedis. It also benefits these conditions when used as a wash or in a cream. It is a wonderful rejuvenative to the complexion (Frawley & Lad 1994).

Bleeding Manjishtha stops bleeding by two methods; cooling the ‘heat’ that causes blood to burst out of its proper channel, and clearing congested blood that can cause blood to overflow out of its appropriate pathway. Very good in *raktātisāra* and diarrhoea with bleeding, Crohn’s disease, dysentery, bleeding ulcers. It can also treat haemoptysis, epistaxis, menorrhagia, metrorrhagia and haematuria in the appropriate pattern. It acts as a vulnerary and hastens the healing time of skin trauma and broken bones (*Bhāvaprakāśa*, Bensky & Gamble 1986).

Gynaecology Useful in signs of congested uterus and pain (*yonīśūla*) with dysmenorrhoea fixed pain, clots, amenorrhoea and endometriosis; use a cold infusion. All menstrual imbalances involving aggravations of *pitta* and *kapha* disturbing the *ārtavasrotas*. Also used to prevent

miscarriage and excessive uterine bleeding (*Madanaphala Nighanṭu*, Bensky & Gamble 1986).

Tumours/accumulations

Manjishtha breaks accumulations of *kapha* in the bladder, liver and kidneys.

Urine Its *pitta*-reducing quality helps to clear *pittaja prameha*, particular types of diabetes involving repeated infections, boils, inflammatory conditions, neuropathy, retinopathy and nephropathy. Also for manjishtha *prameha* where the excessive urination is also coloured red. It is also a specific for gradually dissolving kidney and bladder stones as the anthraquinones act as chelating

agents helping to draw excess calcium from the system. Also used to stop haematuria (Frawley & Lad 1994, Mills & Bone 2000, Paranjpe 2001).

Mind Its cooling effect on *sādhaka pitta* has a balancing effect on the emotions and is used in epilepsy and agitation with high *pitta* (Paranjpe 2001).

COMBINATIONS

- * Neem, turmeric, gotu kola, aloe vera in skin conditions with high *pitta*.
- * Lotus node, amalaki in bleeding with *raktapitta*.
- * Safflower, shatavari, guggulu in congestion of the uterus with pain.

* Guggulu, turmeric for tumours and accumulations all over the body.

* Arjuna, licorice, myrrh, turmeric in fractures.

* Gokshura and shilajit for bladder and kidney stones.

* Sandalwood, gokshura, coriander for urinary discomfort with burning.

CONTRAINDICATIONS

High *vāta*.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–10g per day dried or 3–12ml per day of a 1:3 @ 25% tincture.

NOTES

- This tall, creeping plant has long thin roots and grows throughout the subcontinent of India, Nepal, Iran and Afghanistan.
- The red root has a specific affinity for the blood and all imbalances affecting it.
- It is one of the primary herbs used to clear excessive *pitta*.
- In all the texts that mention manjishtha it is classified as hot (*uṣṇa*) as it has a circulatory-stimulating property. However, this goes against many of its therapeutic activities and my experience and so I have listed it here as cooling.
- Manjishtha has recently been banned in Germany due to concerns about its alizarin content acting as a potential carcinogenic. This is despite the fact that the studies were carried out on *Rubia tinctoria* not *Rubia cordifolia* (Blomeke 1992). As noted above manjishtha is used for removing tumours in Ayurveda.

MINT

Common name **Mint (E), peppermint (E), horsemint (E), Pudīna (H), Puthia (H)** Sanskrit **Pudīna**
Latin ***Mentha piperita* or *arvensis-Folium (Labiatae)***

This hardy perennial is famously fragrant. It is full of aromatic menthol, which 'wakes up' the senses and decongests the orifices of the head as well as calming and relaxing digestion.

**ENERGETICS**

Rasa (taste) Sweet, pungent
Vīrya (energy) Cooling and heating
Vipāka (post-digestive effect) Pungent
Guṇa (quality) Light, dry, penetrating
Doṣa effect PKV-, V+ in excess
Dhātu (tissue) Plasma, blood, nerve
Srotas (channel) Digestive, circulatory, respiratory, nervous

CONSTITUENTS

Flavonoids
Bitter principle
Tannin
Essential oils Menthol, menthone
Vitamin Choline
(Mills & Bone 2000, Duke 2004)

AYURVEDIC ACTION

Dīpana Enkindles appetite
Anuloma Redirects the flow of *vāta* downwards
Svedana Diaphoretic
Śirovirecana Purges the orifices of the head

BIOMEDICAL ACTION

Carminative, diaphoretic, analgesic, antipruritic, nervine, aromatic

INDICATIONS

Digestion Nervous digestion, flatulence, bloating, IBS, ulcers, nausea, and anorexia (Bartram 1995). Specific for *pitta*

inflammation and irritation causing gastritis and enteritis. The aromatic essential oils cool the heat of *pācaka pitta* and regulate *samāna vāyu*. This can help to alleviate morning sickness, vomiting and spasms in the gastrointestinal tract.

Colds Commonly used as a hot tea at a high dose to cause sweating in colds and flu. As mint moves upwards and outwards it is especially useful where *āma* blocks the pores and they need opening. It is useful where the lungs are congested with catarrh and constricted by spasm, causing wheezing or asthma (Frawley & Lad 1994).

Nerves It normalises the flow of *prāṇa vāyu* all over the body. By moving upwards and outwards it spreads any congested *vāta* blocked from whatever cause; *āma*, *kapha*, high *vāta* or high *pitta*. The high levels of the space element (*ākāśa tattva*) present within peppermint with its expansive nature moving upwards and outwards opens the mind and lifts the 'heaviness' of mental and emotional tension and constriction. It opens spaces and creates room for movement.

Skin Peppermint water as an external spray is excellent for cooling and soothing skin inflammation, hot flushes and allergic itching (Tillotson 2001).
Gynaecology Often combined in formulas that help the flow of *vāta* in the lower abdomen and ease menstrual congestion, pain and amenorrhoea (Frawley & Lad 1994).

COMBINATIONS

- * Kutki, guduchi, shatavari for high *pitta* in the intestines.
- * Cardamom, fennel, ajwain for high *vāta* and intestinal spasms, flatulence, etc.
- * Pippali, fresh ginger, cinnamon for colds to induce sweating.
- * Brahmi, gotu kola, licorice for the mind and tension.

CONTRAINDICATIONS

High *vāta*; sensitive individuals and epileptics need to regulate dosage.

SAFETY

May interact with iron medication, should be avoided by patients with oesophageal reflux, and it may negate the effect of gastric reflux medication (Bone 2003). The World Health

Organisation (WHO) recommends caution in patients with gallstones as it may cause

stones to move into the bile duct and if they are too large they may become stuck (WHO 1999).

DOSAGE

1–30g per day or 3–20ml per day of a 1:3 @ 45% tincture.

NOTES

- There are different classifications of the various mints as 'heating' or 'cooling' (see Aristotle, Galen; Tierra 1992, Bensky & Gamble 1993, Holmes 1999). It is a lengthy debate! *Mentha piperita* appears to have both qualities; its pungency acts as a stimulant diaphoretic while its sweet and bitter flavour has anti-inflammatory activity. The menthol appears to be both stimulant and anti-inflammatory.
- Ayurvedically speaking, peppermint reduces all three *doṣas*; its warming pungency dries *kapha* via diaphoresis, its sweet cooling effect reduces *pitta*; and its relaxing sweet pungency reduces *vāta*. The stimulating effect of high doses may aggravate *vāta*. The *Nighaṅṭu ratnākara* describes *Mentha arvensis* as pungent in taste, hot in energy and pungent post-digestively.
- Regarding energetics, the dose and method of taking the remedy are all important. A low dose is relaxing, benefiting a *vāta* stagnated by constriction; a medium dose (preferably taken at a cool temperature) benefits the anti-inflammatory needs of *pitta*, and a high dose of a hot drink clears *kapha*. This returns us to the human nature of herbalism and Ayurveda; it is all about the person, their individual constitution and condition as well as the dose of the medicinal herb.
- *Mentha arvensis* is also commonly used in India and has a specific antispasmodic and emmenagogue action.
- Mint is not mentioned in the early ayurvedic literature.



MUSTAKA

Common name **Nut grass (E), Motha (H)** Sanskrit **Mustaka, Musta** Latin **Cyperus rotundus–Rhizoma (Cyperaceae)**

This small aromatic tuber is commonly found next to rivers. It loves damp conditions and is very good at treating them. When considering using mustaka think of its aromatic, drying, antispasmodic qualities for gynaecology and digestion.

ENERGETICS

Rasa (taste) Pungent, bitter, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, dry

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, muscle, nerve

Srotas (channel) Digestive, circulatory, female reproductive

CONSTITUENTS

Essential oils Amphene, limonene, cyperol, rotundone, cyperene, patchoulone

Triterpenes β-sitosterol, oleanolic acid

Flavonoids

(Williamson 2002, Duke 2004)

AYURVEDIC ACTION

Dīpanīya Enkindles digestion

Pacaniya Digests undigested food

Āmapācana Digests toxins

Śūlapraśamana Alleviates intestinal spasms and pain

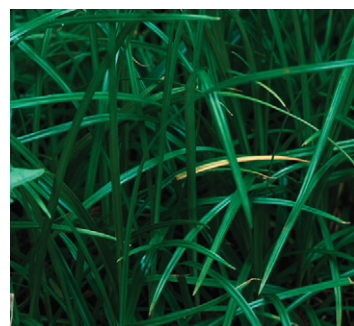
Purīśasaṃgrahaṇīya Stool-forming, stops diarrhoea

Lekhniya Reduces accumulations

Kaṇḍūghna Stops itching

Kuṣṭha Benefits skin diseases

Ārtavajanana Promotes menses



Stanyaśodhana Purifies breast milk

Jantuhara Vermifuge

Jvarahara Alleviates fevers

Svedana Diaphoretic

BIOMEDICAL ACTION

Carminative, emmenagogue, galactagogue, cholagogue, alterative, astringent, antispasmodic, anthelmintic, analgesic, aromatic, diaphoretic, febrifuge

INDICATIONS

Digestion It regulates disturbed digestion, diarrhoea, colic, flatulence, borborygmus and bloating. Its antispasmodic effects treat pain in the intestines. It also has a specific use for *Candida albicans* and parasites when used at a high dose. When used at a low dose mustaka balances *vāta*, especially *śamana* and *apāna vāyu*, and stimulates digestion without aggravating *pitta* or creating any heat problems (Frawley & Lad 1994).

Gynaecology One of the best herbs for the menstrual cycle as it regulates *pitta* and the flow of *vāta* in the *apānakṣetra* (the abode of *apāna vāyu* in the lower abdomen). This helps *apāna vāyu*

to descend. Interestingly, this gynaecological activity is scientifically confirmed as mustaka also contains a phyto-oestrogen substance (β-sitosterol) (Williamson 2002; also see Mills & Bone [2000] for a very clear discussion of phyto-oestrogen activity), and so is relevant in all signs of high oestrogen; swollen breasts, pain, family history of breast cancer, short cycle. It has an affinity for the smooth muscle in the uterus and is a specific for PMS with bloating, pain, irritability, depression and a delayed onset. Its effect on *rasa dhātu* is also considered to be beneficial for purifying and nourishing breast milk.

Liver As one of the main digestive stimulants for *pitta* it also has a special affinity for the liver and *rañjaka pitta*. Its stimulating effect on the liver may help with the release of bile, metabolism of hormones, haemoglobin and fats (Frawley & Lad 1994). Its cooling effect on *rakta dhātu* can be of use in inflammatory skin problems such as eczema and pruritus.

Fever It directly treats all the causes of fever; low *agni*, *āma*

and excess *pitta* in the *rasa dhātu*. Its diaphoretic effect can be very useful for clearing *āma* and excess heat from the plasma and blood while also rectifying the digestive fire (Gogte 2000).

COMBINATIONS

- * Sariva, coriander, cardamom in *pitta* digestive problems.
- * Bilva, kutaja, pomegranate rind for diarrhoea.
- * Hingu, turmeric, cinnamon, kutki for yeast and parasite infections.

- * Shatavari, ginger, rose in gynaecological problems with pain, intermittent bleeding and an irregular cycle.
- * Guduchi, neem, daruharidra for liver congestion.
- * Tulsi and kalmegh for fevers from high *pitta*.

CONTRAINDICATIONS

Do not use a high dose in excessive *vāta* aggravation as it can be too drying.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–12g per day or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- Mustaka grows all over India as a grassy shrub.
- Its aromatic nature moves and relaxes *vāta*. Its *prabhāva* is to prevent spasms and muscular constriction caused by nervous tension.



MUSTARD SEED

Common name **Mustard seed (E)** Sanskrit **Siddhārthaka, Sarṣapa, Rājika** Latin **Brassica nigra/juncea–Semen (Brassicaceae)**

These little black or brown seeds have a warming and stimulating effect on the digestion and lungs. A wonderful home remedy for nipping the onset of a cold in the bud.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect KV–, P+

Dhātu (tissue) Blood, muscle

Srotas (channel) Digestive, respiratory, circulatory

CONSTITUENTS

Glucosinonates Sinigrin, myrosin

Volatile oil Allylthiocyanate (Williamson 2003)

AYURVEDIC ACTION

Dīpana Appetiser

Pāka Digestive

Kṛmināśaka Vermicide

Agnivardhana Increases the appetite

Anuloma Redirects the flow of *vāta* downwards

BIOMEDICAL ACTION

Carminative, vermicide, expectorant, analgesic, rheumatic

INDICATIONS

Digestion Mustard seed clears accumulations of food caused by low *agni*, high *kapha* and *āma*. It warms the digestive system, stimulates *agni* and clears sluggish congestion due to excess intestinal mucus. It is also used to kill worms (*Bhāvaprakāśa*).



Lungs It is a great expectorant; clears white, sticky phlegm from the respiratory tract due to aggravated *avalambaka kapha*. Mustard seeds are beneficial in *kapha-vāta* breathing problems—asthma, bronchitis, pneumonia. Also useful in colds where a mustard ‘plaster’ on the upper chest and throat can clear an imminent cold within a few hours (do not apply directly to the skin, place the poultice on a gauze first to prevent blistering) (Tierra 1992).

Joints Useful in arthritis caused by a cold, wet, damp environment and lifestyle. Clears *āma* and regulates *vāta*. Can prevent pain and swelling. Commonly used as a massage oil for constitutional *kapha* conditions (Frawley & Lad 1994).

COMBINATIONS

- * Dry ginger, guduchi, pippali, black pepper for low digestive fire.
- * Pippali, pushkaramoola, anthrapachaka for lung congestion and high *kapha*.
- * Guggulu, myrrh, frankincense for arthritis with *āmavāta*.

CONTRAINDICATIONS

Signs of heat, inflammation and high *pitta*.

SAFETY

No drug–herb interactions known.

DOSAGE

1–6g per day dry or 1–6ml per day of a 1:3 @ 25% tincture.

NOTES

- Mustard is a small perennial shrub that thrives in dry climates and helps to clear dampness from the whole system.
- A useful addition to the diet in *kapha* and damp imbalances.
- A cold water infusion releases the pungency of the seeds by activating the myrosine enzyme (Bown 1995), and this is the active ingredient that gives mustard its spicy pungency.
- The leaves are part of the traditional winter warming diet of north India.

MYRRH

Common name **Myrrh (E), Bdellium gum (E), Bol (H)** Sanskrit **Bola, Daindhava, Rasagandha** Latin **Commiphora myrrha/molmol-Resina (Burseraceae)**

Myrrh is extracted as a resin from the trunk of this thorny desert shrub. Its main feature is an affinity for the blood, heart and female reproductive systems but it is also a great antibacterial.

ENERGETICS

Rasa (taste) Bitter, astringent, pungent, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Heavy, dry

Doṣa effect KVP-

Dhātu (tissue) All tissues

Srotas (channel) Circulatory, lymphatic, nervous, reproductive, respiratory

CONSTITUENTS

Volatile oil Sesquiterpenes, heerabolene, dipentene, cinnamic aldehyde

Resin Triterpenes, commiphoric acid, commiphorinic acid, commiferin

Gum Arabinose, galactose (Williamson 2003, Chen & Chen 2004)

AYURVEDIC ACTION

Lekhaniya Reduces accumulations

Hṛdaya Benefits the heart

Kaphahara Reduces *kapha*

Dīpana Appetiser

Pācana Toxin digester

Kāśaghna Clears coughs

Raktadhara Improves circulation

Raktahara Cures diseases that originate in the blood

Garbhāśayaviśuddhi Clears impurities from the uterus

Ārtavajanana Promotes menses

Tridoṣajit Alleviates all three *doṣa*



BIOMEDICAL ACTION

Alterative, cholesterolaemic, anti-inflammatory, expectorant, emmenagogue, antithrombotic, analgesic, vulnerary, antibacterial/fungal, leucocytogenic

INDICATIONS

Heart Congestive heart disorders, hypercholesterol, atherosclerosis. As with all oleo-resins, it 'scrapes' cholesterol out of the body (Bartram 1995)

Lymph Lymphatic congestion, inflammation, lymphoedema; all fluid congestion and swellings in the body. It is used as a gargle for sore throats and spongy, bleeding gums (Tillotson 2001).

Gynaecology Endometriosis, fibroids, painful periods with clots, high *pitta-kapha* in *apānakṣetra*, inflammation and congestion in the lower abdomen. Myrrh vigorously moves blood and 'breaks' stagnant pools of blood (Bensky & Gamble 1986, *Bhāvaprakāśa*). Also used in amenorrhoea to stimulate blood flow.

Pain All neuralgia around the body. Use externally to repair traumas, bruises and broken bones. Myrrh is a specific for treating arthritis and joint

inflammation when *śleṣaka kapha* is causing swelling and degeneration of the joints (Tillotson 2001).

Mucous membranes Myrrh is the No.1 herb for mouth ulcers and cold sores. Its ability to increase white blood cell count is reflected in its popular use as a herbal antibiotic and antifungal effective against *Escherichia coli*, *Candida albicans* and *Staphylococcus aureus*. It helps to heal ulcerated intestinal surfaces (Bone 2003).

COMBINATIONS

- * Safflower for chest pains from *vāta* obstructed by *kapha* and *pitta*.
- * Turmeric, manjishtha for cirrhosis and abdominal pain that is in a fixed location.
- * Turmeric, shatavari, mustaka for regulating the menstrual cycle; dysmenorrhoea, irregularity and clots due to *kapha* obstructing the flow of *vāta*.
- * Frankincense, ashwagandha, turmeric for arthritis.
- * Rose, haritaki as an antibacterial, anti-inflammatory mouthwash.

CONTRAINDICATIONS

Pregnancy, excessive uterine bleeding, kidney problems.

SAFETY

No drug–herb interactions are known. May cause nausea or

contact dermatitis in sensitive individuals (Bone 2003).

DOSAGE

3–12g per day dried resin, 250–750mg three times per day of a 1:4 concentrated powder or

5–10ml per day of a 1:5 @ 90% tincture. Only use in the short-term (up to 4 weeks continuously), as it is hard to digest.

NOTES

- This desert-loving, thorny shrub is collected as an exudate from the branches and then dried for use.
- Although similar in use to guggul, myrrh's primary action is on the female reproductive system whereas guggul's is on arthritic conditions and cholesterol levels.
- Myrrh tastes revolting in decoctions; use as a pill or concentrated powder when you can.
- The resin in the alcoholic extract precipitates in water and so it is helpful to add a suspending agent containing saponins such as licorice to prevent this. If using tinctures add 10% licorice first to prevent precipitation and to reduce its harsh flavour.
- As a resin it can tax the kidneys, so use intermittently: 6 weeks on, 2 weeks off.
- It is a very strong herb so use it as less than 10% of a formula, as traditionally prescribed.

NEEM

Common name **Neem (E), Margosa (E), Nim (H)** Sanskrit **Nimba** Latin **Azadirachta indica–Folium, Semen, Cortex, Resin (Meliaceae)**

Myths abound concerning the healing properties of neem; its curative nature is said to have begun when a drop of nectar (*amṛta*) fell on to it from the cup of immortality. Its bitter principle indicates its use in inflammations of the skin and digestive tract.



ENERGETICS

Rasa (taste) Bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, fat, reproductive

Srotas (channel) Digestive, circulatory, respiratory, urinary, reproductive

CONSTITUENTS

Triterpenes Nimbin, nimbidin

Limonoids Azadirachtin, margocin, margocilin

Fixed oil Salannin, nimbinin

Polysaccharides

(Williamson 2002)

AYURVEDIC ACTION

Kuṣṭhakaṇḍūghna Prevents skin diseases and itching

Kṛmighna Anthelmintic

Grāhī Absorbs fluids from the colon and causes constipation

Vraṇaghna Heals wounds

Jvaraghna Alleviates fevers

Dahaprasamana Alleviates burning sensations

Netrya Benefits the eyes

Amlapittaghna Relieves hyperacidity

Raktapittaghna Alleviates bleeding from high *pitta*

Raktaśodhana Purifies the blood

Viśaghna Destroys poisons

BIOMEDICAL ACTION

Alterative, antipruritic, anti-inflammatory, antipyretic, antiseptic, antibacterial, antifungal, antiprotozoal, antimalarial, anthelmintic, bitter tonic, antacid, hypoglycaemic

INDICATIONS

Skin Most effective in inflammatory skin conditions due to aggravated *rakta* and *pitta* with itching, oozing, burning and infection; eczema, psoriasis when active with Auspitz sign and bleeding, acne, urticaria, ringworm, scabies, lice. The oil is especially effective when applied externally for treating fungal and bacterial infections and as a mosquito repellent (use externally at 2–5% dilution). Its intense bitterness found in azadirachtin has renowned antibacterial and fungicidal activity. This property, plus its chlorophyll content, adds to its potential as a deodorant for putrid-smelling sweat and infected sores (*Bhāvaprakāśa*, Bone 2003).

Digestion Neem is used in intestinal inflammation and is specific for hyperacidity, ulcers, colitis and Crohn's

disease with high *pitta* and *kapha*. It clears mucus and bleeding from the GIT. Useful in fissures, fistulas and haemorrhoids due to local congestion in the lower bowel. It clears the intestines of parasites and worms. Neem leaf is very useful in chronic intestinal dysbiosis such as with *Candida albicans*, protozoal infections and bacterial infestation (Tillotson 2001).

Lungs The bitter and dry qualities are very useful for clearing *kapha* and *pitta* accumulations from the respiratory passages.

Metabolic Its affinity for *medovahasrotas* is utilised in diabetes mellitus to support the system and regulate blood sugar levels (*Bhāvaprakāśa*, Bone 2003). It clears *kapha* accumulations from the pancreas and activates *medas-dhātu-agni*; this rectifies the compromised fat and water metabolism so common in diabetes.

Mouth Neem has a traditional usage for toothache, gingivitis and general oral hygiene; use an infusion of the leaves as a mouthwash. The young twigs

are used as the Indian tooth-brush.

Fevers Useful in high fever from *pitta* and accumulations of *āma*; especially in the intermittent fevers of malaria-like diseases (Paranjpe 2001).

Reproduction As with many bitter herbs it reduces *śukra dhātu* and lowers sperm count. It has an affinity for the uterus and can reduce any inflammatory disorders.

COMBINATIONS

- * Turmeric, gotu kola, manjishtha, guduchi, rose for inflammatory skin conditions.
- * Kutki, licorice, shatavari, haritaki, amalaki for intestinal inflammation.
- * Myrrh for mouth ulcers and gingivitis.
- * Black pepper, castor oil in intermittent fevers with *āma*.

CONTRAINDICATIONS

High *vāta*, wasting and debility. Any condition with cold signs. Considered to be bad for the heart and unpleasant for the mind by the *Bhāvaprakāśa*.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–5g per day or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- Neem thrives as a large tree in well-drained soil all over India at altitudes up to 1000m. It is a tender tree, not surviving in temperate climates where there is excessive rainfall.
- Often confused with *Melia azadirachta* (this is known as *mahānimba* in Ayurveda). This is a tree with very similar properties that can survive in hardier climates.
- Used in the famous *pañcatiktaghṛta*, a medicated ghee incorporating five bitter herbs used for inflammation in the skin, muscles and deeper tissues.
- Also a very effective insecticide/fungicide in the garden; spray an infusion on the plant for excellent organic results.
- It is a very strong herb. As with all very bitter and concentrated flavours it should only be used short-term at high doses. Use for up to a month maximum. However, if used at a low dose then it can be used for longer.

NUTMEG

Common name **Nutmeg (E), Jaiphal (H)** Sanskrit **Jātī-phala, Mada-sauṇḍa** Latin **Myristica fragrans-Fructus (Myristicaceae)**

Jātī-phala means 'caste fruit' and *Mada-sauṇḍa* means 'intoxicating fruit'. Its aromatic quality gives nutmeg its wonderful sedative properties that deeply relax the whole nervous system. It also has potent aphrodisiac qualities.

ENERGETICS

Rasa (taste) Pungent, bitter, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, oily, penetrating

Doṣa effect VK-, P+

Dhātu (tissue) Plasma, muscle, bone, nerve, reproductive

Srotas (channel) Digestive, nervous, reproductive

CONSTITUENTS

Volatile oils Myristicin, camphene, eugenol, pinene, limonene

Lignans Myrisfrangin, fragransols

Diterpenes

Fixed oil Myristic, palmic acids (Williamson 2002)

AYURVEDIC ACTION

Pācana Digests toxins

Dīpana Enkindles the appetite

Kṛmighna Vermifuge

Śulaprasāma Stops intestinal spasms

Vedanāsthāpana Analgesic

Stambhana (mala, rakta, śukra)

Astringent, especially in diarrhoea, bleeding and premature ejaculation

Vājīkaraṇa Aphrodisiac

Rasāyana Rejuvenative, especially to reproductive tissues and intestines



Hṛdaya Heart tonic

Nidrājanana Promotes sleep

Madakarī Intoxicating

BIOMEDICAL ACTION

Astringent, nervine, sedative, psychotropic, carminative, aphrodisiac, stimulant, expectorant

INDICATIONS

Nerves Insomnia, agitated mind and lack of concentration. When there is excitation and high *vāta* in the mind it draws the expansive nature of *vāta* inwards. Its heavy nature can 'dull' the mind; therefore use for short periods of time at a low dose (Frawley & Lad 1994). Use ½ teaspoon in warm milk (almond or cow) before bed to aid sleep and stops restless leg syndrome. Useful for transient insomnia where the sleep is interrupted. Also helps to relax the muscles and prevent pain associated with angina, fibromyalgia and arthritis.

Digestion Nutmeg helps absorption in the small intestine and *puriṣavāhasrotas*. Its astringency draws nutrients into the bloodstream. It can help to stop diarrhoea and dysentery with excess *vāta* and *kapha*. It calms intestinal spasms, pain, gas and bloating.

It is a useful anthelmintic (*Bhāvaprakāśa*).

Reproduction Used in male infertility and premature ejaculation. Another 'clever' herb with dual action, it both stimulates erectile function and astringes ejaculation. It is one of the primary aphrodisiacs used to tonify *śukra dhātu*. It also reduces excessive urination from high *vāta* and *kapha* and is used in prostatic disease and incontinence. Also useful in female infertility when there is disruption of the menstrual cycle with pain (Paranjpe 2001).

Lungs Its hot and penetrating properties can help to clear excess *avalambaka kapha* from the lungs (Gogte 2000).

COMBINATIONS

- * With bitters for inflammations, bleeding and aromatic herbs for spasms and gas.
- * Ashwagandha, brahmi, jatamansi for nervousness and insomnia.
- * Amalaki, haritaki, kutki, fennel, cardamom for digestive upset.
- * Haritaki, kushtha and bakuchi for diarrhoea from coldness.
- * Ashwagandha, gokshura, lotus seeds for impotence and premature ejaculation.

* Shatavari, rose for female infertility and menstrual irregularity.

CONTRAINDICATIONS

Never use high doses (>6g) as it can be intoxicating, causing hallucinations, headaches, dizziness, and heart palpitations. Caution in high *pitta*.

SAFETY

No drug–herb interactions are known but caution with sedative, antihypertensive and antidepressant medication.

DOSAGE

0.5–6g per day or 1–6ml of a 1:3 @ 45% tincture.

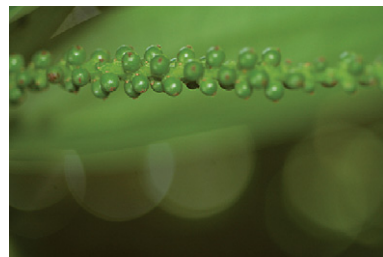
NOTES

- A large fruit tree indigenous to the Indonesian spice islands. Now cultivated in tropical climates around the world.
- Used with buttermilk in childhood diarrhoea.
- Notoriously susceptible to carcinogenic aflatoxins. Ensure that your supply has been analysed.

PEPPER

Common name **Black pepper (E), Kalimirsch (H)** Sanskrit *Marīca* Latin *Piper nigrum–Fructus (Piperaceae)*

Named after one of the names of the sun, *marīca*, it has the same qualities as this macrocosmic source of heat and light. It is warming, drying and stimulating to the circulatory, digestive and respiratory systems.



ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Light, dry, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, fat, nerve

Srotas (channel) Digestive, respiratory, circulatory, excretory

CONSTITUENTS

Essential oil Sabinene, camphene, limonene, myrcene, piperonal

Alkaloid Piperine, piperidine, piperanine

Fixed oil

Chromium

(Williamson 2002, Duke 2004)

AYURVEDIC ACTION

Dīpana Enkindles appetite

Pācana Digests toxins

Āmanāśaka Destroys toxins

Pramathī Removes accumulated *doṣas* from the *dhātus*

Śirovirecana Purges the head of toxins

Śvāsa Helps breathing

Kṛmighna Kills parasites

Śūlaghna Removes colicky pain

Rasāyana (Prāṇavāhasrotas)

Rejuvenative to respiratory system

Kaphavātajit Alleviates *kapha* and *vāta*

BIOMEDICAL ACTION

Digestive stimulant, carminative, expectorant, antibacterial, diaphoretic, analgesic, febrifuge, anthelmintic

INDICATIONS

Digestion Useful for low appetite, sluggish digestion, abdominal pain, toxins or *āma* and borborygmus. Black pepper's hot and penetrating qualities are a great stimulant to *agni* as they help to increase enzymatic secretions. This helps to enhance absorption of nutrients and literally 'burn' *āma*. Its affinity for *puriṣavāhasrotas* coupled with its anthelmintic qualities helps to remove worms. It can be used as part of the physical treatment of anorexia to stimulate hunger and interest in food. As it contains chromium, a component of glucose tolerance factor, black pepper is a useful part of many diabetes treatments; it normalises *medās dhātu* and prevents *āma* overflowing into the pancreas and urine (Tillotson 2001).

Lungs Specific for cold, wet, damp, *kapha* conditions in the *prāṇavāhasrotas* with white, sticky mucus and a productive cough; asthma, bronchitis, pneumonia and sore throats (*Bhāvaprakāśa*).

Black pepper infused oil or ghee, applied into the nose, can be a wonderful decongestant to the sinuses blocked with *kapha* or *āma*.

Fevers It can help to 'cook' the pathogens and then induce a sweat to release the misplaced *agni* that has moved from the stomach to the plasma tissue. It clears *āma* from *rasa dhātu* and normalises the digestive fire in the stomach. Used as part of treatment in intermittent fevers such as malaria when it is often combined with bitter and cooling herbs (Paranjpe 2001).

Circulation Pepper has the ability to stimulate microcirculation in the capillaries. This can be useful in cirrhosis, hepatitis and skin diseases with signs of stagnant blood; red or purple patches and chronic lesions. This can also be of benefit in cold congestion in the uterus and *apānakṣetra* with dysmenorrhoea and amenorrhoea. External application of the essential oil can help to relieve neuralgic and arthritic pain with cold swellings (Gogte 2000).

COMBINATIONS

* Ginger, long pepper as part of the famous *trikaṭu* formula for

lung problems with sticky mucus.

- * Tulsi, vamsa lochana, haritaki, bibhitaki for cough from kapha excess.
- * Tulsi, neem in fevers of the *kapha* and *pitta* variety.
- * Gotu kola, myrrh, turmeric in stagnation of the capillary beds.
- * Aloe vera juice to stimulate *rasadhātvaṅni* and this can help treat anorexia, anaemia and amenorrhoea.

CONTRAINDICATIONS

With an excess of heat and inflammation black pepper can

irritate the mucous membranes. Hyperacidity; dryness as it can aggravate *vāta* in excess.

SAFETY

The piperine content of black pepper, when used as an isolated ingredient, has been associated with enhancing blood levels of certain medication such as propranolol, theophylline, and rifampicin, as it may inhibit drug metabolism in the liver if used over long periods of time at high doses. Hence all patients taking drugs that are metabolised in the liver must be carefully monitored if black

pepper is prescribed (Harkness & Bratman 2003). Other sources report that in its whole form it is a short-term bioavailability enhancer, increasing nutrient absorption, quickening absorption and reducing blood levels of medication (Williamson 2002).

DOSAGE

1–5g per day dried or 1–2ml of a 1:5 @ 70% tincture. Due to its intense hot quality as well as safety issues, do not use at a high dose (>5g per day) for long periods of time. A low dose is safe for long-term use.

NOTES

- This parasitical creeper grows up host plants and thrives in the humid climates of south-west India and Sri Lanka.
- The fruit is first green, then red, then yellow and finally goes black on drying.
- Green pepper is less heating, does not aggravate *pitta* and is sweet after digestion.
- White pepper comes from soaking the mature fruit in water and peeling off the black skin. It is very low in essential oils.
- Often combined with honey to dry moisture and excessive secretions.
- Its stimulating quality is very powerful and its rajasic quality must be balanced with other sweet herbs.
- Chavya (*Piper cubeba*) is used in formulas to clear *kapha*. See *candraprabhā vāti* in the formula section.

PIPPALI

Common name **Long pepper (E), Pipal (H), Pimpli (H)** Sanskrit **Pippalī** Latin **Piper longum–Fructus (Piperaceae)**

This small shrub grows all over the tropical forests of India. It is a fine rejuvenative to the respiratory system; its sweet post-digestive effect is very nourishing to the deeper reproductive tissues of the body.

ENERGETICS

Rasa (taste) Pungent

Vīrya (energy) Mildly heating not hot

Vipāka (post-digestive effect) Sweet

Sweet

Guṇa (quality) Oily, light, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, fat, nerve, reproductive

Srotas (channel) Circulatory, digestive, respiratory, reproductive

CONSTITUENTS

Volatile oil β-bisabolene, β-carophyllene

Alkaloids Piperine, piperlongumine, pipartine

Lignans Sesamin, fargesin

Fixed oil Esters
(Williamson 2002)

AYURVEDIC ACTION

Dīpana Enkindles the digestive fire

Pācana Digests toxins

Āmanāśaka Destroys toxins

Bhedanīya Purgative

Chedana Scratches toxins from the tissues

Kṛmighna Vermifuge

Medohara Reduces fat tissue

Kuṣṭhaghna Alleviates skin diseases

Śvāsakāśahara Benefits breathing

Sirovirecana Clears toxins from the head

Hikkānigrahaṇa Alleviates hiccups



Jvarahara Mitigates fevers

Vṛṣya Aphrodisiac

Rasāyana Rejuvenative, specifically to plasma, blood, fat and reproductive tissues

Medhya Improves the intellect

BIOMEDICAL ACTION

Digestive stimulant, carminative, expectorant, bronchodilator, anthelmintic, analgesic, circulatory stimulant, aphrodisiac

INDICATIONS

Lungs Primarily used for cold, wet and ‘mucous’ conditions of the lungs. It is a rejuvenative for the lungs, *prāṇavāhasrotas* and *avalambaka kapha*. It encourages vasodilation and therefore increases circulation, specifically to the lungs. Used with honey in asthma, bronchitis, pneumonia and compromised immunity in the respiratory system to reduce *kapha*. It is also used to treat mild fever by removing the *āma* from *rasa dhātu* and alleviating the concurrent aches in the muscles and joints (Frawley & Lad 1994).

Digestion Used to stimulate *agni* and clear weak digestion with symptoms of nausea, slow digestion, flatulence with a cold and painful abdomen. In malabsorption it can increase assimilation of nutrients. Clinical studies show that that piperine increases the absorption of curcumin in

turmeric root (used at 1:10). Its anthelmintic qualities are used as part of a formula to kill worms, amoebas and parasites. It helps to treat diarrhoea from cold symptoms and constipation (*vibandha*) from stagnant *apāna vāyu*. Also used in diabetes as it reduces any excess of and rejuvenates the *medas dhātu* (Koul & Kapil 1993, Tillotson 2001).

Reproduction Its sweet post-digestive effect points to its ability to tonify the *śukra dhātu* and reproductive tissue, which is useful in infertility, impotence and premature ejaculation. It is one of the only heating and penetrating substances to do this as heating substances usually consume *śukra dhātu* (*Bhāvaprakāśa*).

Circulation Its pungency and sweetness invigorate blood and nourish *rakta*. By enhancing the digestive fire in the tissues it is a *rasāyana* to *rasa* and *rakta dhātu* as it helps to assimilate more nutrients for building the plasma and the blood. It can also help to penetrate the cold pain of sciatica (Gogte 2000).

Liver It has a hepatoprotective effect that may benefit fibrosis (Tillotson 2001).

Nerves Its ability to nourish *majjā dhātu*, due to its sweet *vipāka*, helps in *vāta* disorders and also to nourish the brain.

COMBINATIONS

- * Ginger, black pepper as *trikaṭu* for low *agni*, *kapha*, *āma* and weak lungs.
- * Haritaki, licorice, pushkaramoola for allergic rhinitis, hayfever and atopic asthma.
- * Gokshura, kappikacchu and ashwagandha for male reproductive function.
- * Kutki, neem, bhumiamalaki in hepatitis.

CONTRAINDICATIONS

Excess *pitta* and inflammations of the intestines.

SAFETY

The piperine content of long pepper, when used as an isolated ingredient, has been associated with enhancing blood levels of certain medication such as propranolol, theophylline, and rifampicin, as it may inhibit drug metabolism in the liver when it is used over a long period of time at a high dose. Hence all patients taking drugs that are metabolised in the liver must be carefully monitored if long pepper is prescribed (Harkness & Bratman 2003). Other sources report that in its whole form it is

a short-term bioavailability enhancer, increasing nutrient absorption, quickening absorption and reducing blood levels of medication (Williamson 2002).

DOSAGE

1–5g per day powder or 5–15ml of a 1:5 @ 60% tincture. Due to safety issues do not use at a high dose (>5g per day) for long periods of time. Low dose is safe for long-term use as attested to by the vast amount of ayurvedic formulas containing pippali.

NOTES

- Pippali thrives in more temperate conditions than black pepper.
- Its sweetness gives it rejuvenative properties and its oiliness make it less drying and not as excessively heating as black pepper.
- The fresh green pippali reduces *pitta* and increases *kapha*.
- Often boiled with milk for deficient lungs. Pippali *vardhanam* is a cumulative treatment where 1 long pepper is boiled in a glass of milk and water (1:1 reduced to 1) and drunk daily. 1 long pepper is added daily for 14 days (up to 14 pippali) and then reduced by the same ratio for 14 days. Excellent for asthma where there is no dairy intolerance.
- Pippali moola, *Piper longum-Radix*, is also used in Ayurveda. It has similar properties as the fruit, but is a more 'condensed' heat. Combining it with *trikaṭu* makes chaturushna, The Four Pungents. It has the same properties as *trikaṭu* but is slightly stronger.

PIT SHIRISHA

Common name **Shirish (H), Siris (H)** Sanskrit **Pitta-Sirṣa** Latin **Albizzia lebeck-Cortex (Leguminosae/Mimosa)**

The bark of this tree is renowned for strengthening the lungs and clearing mucus accumulations from the lymph and lungs. It is a potent antiallergenic herb.

ENERGETICS

Rasa (taste) Bitter, astringent, pungent

Vīrya (energy) Slightly warming

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, dry

Doṣa effect VPK–

Dhātu (tissue) Plasma, blood, muscle, fat, nerve

Srotas (channel) Respiratory, blood, fat

CONSTITUENTS

Saponins

Cardiac glycosides

Tannins

Flavonoids

(Bone 1996)

AYURVEDIC ACTION

Śvāsakāśahara Benefits breathing

Śirovirecana Clears toxins from the head

Kuṣṭhaghna Prevents skin problems

Udarapraśamana Antiallergenic

Śothaghna Clears oedema

Viśaghna Detoxifies poisons

BIOMEDICAL ACTION

Expectorant, antiallergenic, anti-inflammatory, alterative, diuretic



INDICATIONS

Lungs Its affinity for *prāṇavāhas-rotas* benefits asthma of the *vāta-kapha* variety—a wet, damp cough with wheezing, worse in the morning and evening. Its *śirovirecana* action helps in reducing allergic reactions in the head such as allergic rhinitis, hayfever and asthma in atopic individuals. Human clinical trials attest to its efficacy in early-onset asthma (Tripathi et al 1979).

Skin Its antiallergic, anti-inflammatory and *pitta*-reducing effect is beneficial in atopic and allergic conditions; eczema, urticaria, dermatitis. This is by virtue of its affinity for *rasa* and *rakta dhātu*. It is a specific for itching and suppurating inflammations (Bone 1996).

Lymph It helps to reduce swellings in the lymphatic system and clears *kapha* from the plasma tissue (*Bhāvaprakāśa*).

COMBINATIONS

- * Anthrapachaka, pippali, vasa in respiratory congestion and allergies.
- * Neem, turmeric, manjishtha in skin inflammation.
- * Guggulu, bola for high cholesterol and a congested lymphatic system.

CONTRAINDICATIONS

Dry conditions with excess *vāta*.

SAFETY

No negative drug–herb interactions are known but it may interact positively with antihistamines (Braun & Cohen 2003, 2004).

DOSAGE

1.5–10g per day dried or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- This large tree grows all over India.
- Its unique *prabhāva* is to destroy *āma* toxins in the plasma, skin and respiratory system.

POMEGRANATE

Common name **Pomegranate (E), Anar (fruit) (H), Anardana (seeds) (H)** Sanskrit *Dāḍīma* Latin *Punica granatum–Fructus, Semen, Pericarpium (Punicaceae)*

This beautiful red fruit is famed for its taste as well as being a fertility symbol. It specifically balances an acidic digestion, nourishes the heart and balances levels of oestrogen.

ENERGETICS

Rasa (taste) Sweet, astringent and sour

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Light and unctuous

Doṣa effect VPK–

Dhātu (tissue) Plasma, blood, reproductive

Srotas (channel) Digestive, reproductive

CONSTITUENTS

(Fruit)

Vitamin C

Pectin

Sterols Estrone

(Rind)

Alkaloids Pelletierine, punicalagin, punicalin

Tannins Gallic acid, ellagic acid

Triterpenes

(Williamson 2002)

AYURVEDIC ACTION

Dīpana Increases digestive function

Aṭīsāraghna Alleviates diarrhoea

Ḳṛmighna Vermifuge

Chardinigraha Antiemetic

Tridoṣaghna Balances all three *doṣas*

Dāhanāśana Alleviates sensations of heat and burning

Raktapitta Alleviates bleeding diseases

Tarpaṇa Increases satisfaction

Hṛdaya Heart tonic



Śukrala Increases semen

Medhyavāha Increases intelligence

BIOMEDICAL ACTION

Carminative, antacid, antidiarrhoea, oestrogenic, haemostatic

INDICATIONS

Digestion The sweet juice of the fruit is a wonderful cooling drink for soothing an inflamed stomach and intestines. It is a specific for hyperacidity and the resulting nausea. Its mild astringency helps to slow the movement of *vāta* and alleviates any excess *pitta*. The rind is a fine astringent that will bind a loose bowel very quickly. It is a common folk remedy for dysentery with bleeding and mucus. It also kills parasites; it is a specific for tapeworms, pinworms and roundworms. The dry, roasted seeds are a great benefit to those with an excessive appetite, *tikṣṇāgni*, as they help to balance the excess *pitta* (Lad 1998).

Heart As a wonderful cordial herb it strengthens the heart. Its affinity for the blood helps to nourish *rakta dhātu*. Its sweet and

astringent qualities are beneficial in bleeding anywhere in the circulatory system (Gogte 2000).

Reproduction Pomegranates are a well-known aphrodisiac. They benefit the semen (*śukrala*) via the plasma or *rasa dhātu*. The decoction of the rind can be used as a douche in leucorrhoea (Gogte 2000). There is recent interest in using pomegranates to treat prostate problems including BPH and prostatic cancer.

Menopause Pomegranates are useful for maintaining healthy levels of oestrogen as they contain small amounts of estrone. Eat the fresh fruit, juice or seeds regularly during menopause. The sweet flavour can help to cool sensations of burning and flushing (Tillotson 2001).

Nerves The beneficial effect of the fruit on *majjā dhātu* helps to nourish the brain and nervous system.

COMBINATIONS

* Coriander, cumin for *pitta* digestion with the seeds or fruit juice.

- * Haritaki, amalaki for diarrhoea and acidity with the rind and fruit juice.
- * Rhubarb root following a dose of the rind to loosen the tapeworm from the gut wall.
- * Arjuna, bala, ashwagandha for strengthening the heart.

- * Shatavari for the menopause with the fruit and seed.

CONTRAINDICATIONS

Constipation.

SAFETY

No drug–herb interactions are known.

DOSAGE

0.5–5g of the rind in diarrhoea and tapeworms. Drink the juice freely. 1–3g of the roasted seeds as an appetiser.

NOTES

- Originally from Persia, this small tree now grows all over India.
- Its traditional ayurvedic classification verifies this fruit as truly beneficial to both men and women.
- Although most herbs with a sour flavour are classified as aggravating to *pitta*, pomegranate is one of the exceptions (*Aṣṭāṅgahṛdaya*).
- The bark is banned for use in the UK under the 1977 Medicines Order (www.mhra.gov.uk).



PSYLLIUM

Common name **Psyllium husk (E), Isaphgul (H), Isabgol (H), Blond psyllium (E)** Sanskrit **Aśva-karṇa-bija**
Latin **Plantago ovata–Semen (Plantaginaceae)**

Aśva-karṇa means 'horse's ear' and relates to the shape of the small pink seed resembling the equine ear. Psyllium is a very useful demulcent bulk laxative for treating constipation from dryness.

ENERGETICS

Rasa (taste) Sweet

Vīrya (energy) Cool

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Unctuous, heavy, slimy

Doṣa effect VP–, K+

Dhātu (tissue) Plasma, muscle

Srotas (channel) Digestive, excretory, respiratory

CONSTITUENTS

Polysaccharides Mucilage

Monoterpene alkaloids Indicaïne, plantagonine

Iridoids Aucubin

Triterpenes Sterols

Sugars

(Williamson 2002)

AYURVEDIC ACTION

Snigdha Demulcent

Virecana Mild laxative

Vraṇaghna Alleviates ulcers

Kāśahara Alleviates *vāta*-type of cough

BIOMEDICAL ACTION

Bulk laxative, demulcent, anti-inflammatory, anthelmintic, expectorant

INDICATIONS

Digestion As a bulking agent it helps to relieve both constipation and diarrhoea. The husk soaked with milk is used for constipation and water or buttermilk for



diarrhoea. The roasted seeds are used for diarrhoea and dysentery and have been shown to be effective against different species of *Entamoeba*. It helps to absorb mucus and bacteria in inflammatory intestinal conditions. It drags toxins and worms out of the alimentary canal. It is salutary for treating peptic and duodenal ulcers (Svoboda 1992, Williamson 2002)

Lungs As a soothing demulcent it can ease the dryness of *vātaja* coughs and facilitates expectoration (Gogte 2000).

Urinary The sympathetic reflex of mucus production between the intestinal tract and lungs is continued into the urinary system where painful urination is eased (Gogte 2000).

Blood fats and sugars Its soluble fibre content has been used to reduce LDL cholesterol when used at 15g per day for 30 days. It has also been shown to reduce blood sugar levels in type 2 diabetes mellitus, showing potential use in controlling blood sugar levels in hyperglycaemia (Williamson 2003).

COMBINATIONS

- * *Triphalā*, rhubarb for constipation.
- * *Triphalā*, kutki for diarrhoea.
- * Licorice for dry coughs.
- * Punarnava, gokshura for urinary pain.

CONTRAINDICATIONS

Low digestive fire. Prolonged use reduces fertility.

SAFETY

It may slow the absorption of other medication. It is best taken 1 or 2 hours after prescribed allopathic or other herbal medication. It is also wise to ensure cardiac glycoside, carbamazepine and lithium salts are taken at as great an interval as possible from psyllium to ensure clinical doses are received. It may be necessary to reduce diabetic medication (WHO 1999, Harkness & Bratman 2003).

DOSAGE

5–10g per day taken with plenty of liquid to prevent intestinal obstruction.

NOTES

- This small annual thrives in dry regions and is abundantly cultivated in Gujarat. The husk is separated from the pink seed.
- As it is very wet and heavy it can dampen the digestive fire when used to excess. This can lead to an aggravation of *kapha* and an accumulation of *āma*.
- Similar usage to *Plantago psyllium* and *P. indica* (the darker brown and black varieties) but *P. ovata* is more mucilaginous.



PUNARNAVA

Common name **Indian hogweed (E), Gadhapurana (H)** Sanskrit **Punarnavā** Latin **Boerhaavia diffusa–Radix (Nyctaginaceae)**

Punarnava means 'one that renews the old body'. Its rejuvenative action works via its opening and cleansing activity allowing effective nourishment to reach the tissues. It is a superb diuretic and it benefits the heart.



ENERGETICS

Rasa (taste) Bitter

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect VPK–, V+ in excess

Dhātu (tissue) Plasma, blood, fat, nerve, reproductive

Srotas (channel) Digestive, urinary, plasma

CONSTITUENTS

Alkaloids Punarnavine

Phytosterols β -sitosterol

Lignans Liriodendrin

Rotenoids Punarnavoside

Xanthones Boerhavine

Salts Potassium nitrate

(Nadkarni 1954, Paranjpe 2001, Williamson 2002)

AYURVEDIC ACTION

Dīpana Enkindles appetite

Śothaghna Destroys oedema

Kāśahara Alleviates coughs

Vyasthāpana Promoter of youth and longevity

Rasāyaṇa Rejuvenative

Hṛdaya Nourishes the heart

Stambhana Astringes bleeding

Caḥṣuṣya Benefits the eyes

Arśoghna Reduces haemorrhoids

Grāhī Absorbs fluids from the intestines and is constipative

Śūlapraśamana Alleviates colic

Mūtrala Diuretic

Mūtravāharasāyana Rejuvenative to the urinary system

Aśmarīghna Lithotriptic

Mūtrakṣchaghna Alleviates dysuria

BIOMEDICAL ACTION

Diuretic, lithagogue, cardiotonic, digestive

INDICATIONS

Heart Fluid congestion, cardiac oedema, general oedema from heart function deficiency.

Laboured breathing from the resultant congestion in the chest is eased. By clearing the excess of *avalambaka* and *kledhaka kapha* from the chest and stomach it clears the channels of obstructions. It is especially beneficial for allowing *rasa* and *rakta*, the circulatory fluids, to flow unimpeded. Hence punarnava is a rejuvenative and increases *ojas*.

Kidneys Any symptoms of nephritis or impaired urinary function. It is used in bladder infections and systemic oedema. A superb herb for reducing excess fluids, swelling, oedema and congestion from excess *kapha*. Specifically useful in ascites, congestive heart condi-

tions and arthritic swellings with pitting and coldness (Paranjpe 2001).

Digestion It increases the digestive fire and is useful in a sluggish digestive system. It absorbs fluids from the digestive system and can be constipating. It prevents intestinal spasms and pain helping to treat flatulence, bloating and worms. Also traditionally used for treating the *kapha*-type of anaemia where *kapha* obstructs the *raktadhātvaṅni* resulting in low quality and quantity of blood (*Bhāvaprakāśa*).

Diabetes Punarnava's ability to reduce *medas dhātu* and normalise *mūtravāhasrotas* is utilised in the treatment of diabetes.

Arthritis Punarnava can effectively treat swollen joints with fluid retention with pitting from a *kapha* imbalance by moving toxic accumulations out of the joints and tissues and excreting them via the kidneys and urine. Beneficial in gout and arthritis.

Gynaecology As it helps to prevent the breakdown of the blood-clotting protein fibrin, it can be used in menorrhagia and

excessive menstrual bleeding. The punarnavoside is considered to be the antifibrinolytic agent (Paranjpe 2001, Williamson 2002).

COMBINATIONS

- * Arjuna, guggulu, turmeric in heart deficiency from high *vāta* and *kapha*.
- * Coriander seed, gokshura, guduchi in oedema and kidney infections.
- * Coriander, gokshura and kalamegha in urinary tract infections.
- * Guduchi, dry ginger in arthritis, *vātarakta* and *āma*vāta.
- * Guduchi and shilajit in diabetes.
- * Ashoka, manjishtha in uterine bleeding.

CONTRAINDICATIONS

Diarrhoea.

SAFETY

No drug–herb interactions are known but caution with sedative, antidepressive and antiepileptic medication. There is potential for a positive potentia-

tion of ACE inhibitors (Williamson 2002).

DOSAGE

1–10g per day dried or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- This water-loving, creeping, perennial flowers during the monsoon and grows all over India and Sri Lanka.
- Three varieties are discussed in the ayurvedic literature; red (*Boerhaavia diffusa*), white (*Boerhaavia verticillata*), and blue. It can be adulterated with *Trianthema* species.
- It is the main ingredient in *punarnavadi guggulu* the famous ayurvedic formula for reducing water retention, congestive heart conditions, and treating oedematous inflammatory joint diseases.



PUSHKARAMOOLA

Common name **Indian elecampane (E), Poharmool (H)** Sanskrit **Puṣkara-mūla, Kāsāri** Latin ***Inula racemosa-Radix (Asteraceae)***

This hardy perennial is in the same family as Europe's elecampane (*Inula helenium*). Pushkaramoola literally means 'lotus root' and is a big-rooted, aromatic tonic with a specific affinity for the heart, lungs and digestive tract.

ENERGETICS

Rasa (taste) Bitter, pungent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, unctuous and penetrating

Doṣa effect VK-, P+

Dhātu (tissue) Plasma, blood, muscle, nerve, reproductive

Srotas (channel) Digestive, respiratory, urinary, female reproductive, circulatory, nervous

CONSTITUENTS

Sesquiterpene lactones

Phytosterols β-sitosterol

Essential oil

(Bone 1996)

AYURVEDIC ACTION

Dīpana Awakens digestion

Hṛdaya Affinity for the heart and a heart tonic

Śvāsahara Removes breathing difficulties

Hikkānigrahaṇa Alleviates hiccups

BIOMEDICAL ACTION

Cardiac relaxant, antianginal, hypotensive, carminative, anti-spasmodic, expectorant, bronchodilator, diaphoretic, diuretic, uterine stimulant and emmenagogue

INDICATIONS

Heart Angina, heart pain, high blood pressure from high *vāta*



and *kapha*. All chest pain and heart disease from ischaemia. Human clinical trials have suggested that it acts like beta-blockers (Tripathi et al 1988, Dwivedi et al 1989).

Lungs Its hot, bitter and pungent qualities alleviate the congestion of *prāṇavāhasrotas* in bronchitis and asthma with white and frothy mucus and a productive cough. It acts as an antispasmodic and helps to relieve wheezing. Also specifically recommended for pleurisy (*prasavāsūla*) and any type of damp, *kapha* lung problems (*Aṣṭāṅga Hṛdaya Saṁhitā, Bhāvaprakāśa*). In colds with underlying *vāta* and *kapha* (feeling cold, shivers, phlegm, aches in the muscles, loss of appetite) its upward and outward nature can help to induce a sweat, digest the *āma* and restore the digestive fire to the stomach.

Digestion Its pungent, bitter flavour enkindles the appetite and can be used in low *agni* and malabsorption, which are the root causes of excessive phlegm. It is also used for general digestive discomfort, indigestion, flat-

ulence, and sluggishness. Its strong aromatic nature opposes dampness, regulates *samāna vāyu* and fragrantly dries the watery residues. It also reduces *āma* and undigested toxins. Specifically recommended for hiccups as it regulates *vāta* in the intestines and lungs (Paranjpe 2001).

Gynaecology It is used to strengthen the flow of blood to the uterus and ease menstrual problems with underlying weakness and low strength. It can benefit dysmenorrhoea and amenorrhoea (Gogte 2000).

COMBINATIONS

- * Arjuna, guggulu for angina, high blood pressure and high cholesterol.
- * Anthrapachaka, pippali, vasa for coughs and respiratory problems.
- * Ginger, chitraka, cardamom, cumin for digestive sluggishness.
- * Turmeric, rose, shatavari for menstrual irregularity and dysmenorrhoea.

CONTRAINDICATIONS

None known.

SAFETY

No drug–herb interactions are known.

DOSAGE

2–6g per day dried or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- It grows in temperate climates and thrives at 2500m in the Himalayas.
- Also known as *kaṣāri*, an enemy of coughs, and also *kaṣmara* as it thrives in Kashmir.
- Potentially threatened species that is red-listed in India; ensure that your supply comes from a cultivated source.



RHUBARB

Common name **Rhubarb root (E), Revand chini (H)** Sanskrit **Amla-vetasa, Kañkuṣṭha** Latin **Rheum palmatum/officinale/australe–Radix (Polygonaceae)**

Growing in the Himalayas, this powerful laxative is an invaluable herbal remedy for intestinal congestion, bleeding and blood toxicity.

**ENERGETICS**

Rasa (taste) Bitter, pungent, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, fat

Srotas (channel) Digestive, excretory, circulatory, female reproductive

CONSTITUENTS**Anthraquinone glycosides**

Chrysophanic acid, emodin, aloe-emodin, rhein, sennoside

Tannins**Phenols****Oxalic acid**

(Bensky & Gamble 1986, Williamson 2002)

AYURVEDIC ACTION

Pācāna Digests toxins

Āmanāśaka Destroys toxins

Anulomana Directs the flow of *vāta* downwards, a laxative

Recana A medium strength laxative

Kṛmināśaka Vermifuge

Gulmanāśaka Removes abdominal tumours and obstructions

Raktaśodhana Blood purifier

BIOMEDICAL ACTION

Purgative, emmenagogue, alterative, anti-inflammatory, haemostatic, astringent, diuretic

INDICATIONS

Digestion Rhubarb root has an affinity for *puriṣavāhasrotas* and is used in both constipation and diarrhoea; its action is dose-dependent. The anthroquinones purge the bowel while the tannins astringe and maintain its tone. As a laxative it takes about 8 hours to work and should be combined with antispasmodic herbs to prevent griping.

Beneficial in clearing the high *pitta* and *kapha* that manifests in dysentery and other damp-heat symptoms with blood and mucus in the stool. Used in post-fever constipation to clear *āma*. Also used to clear abdominal swelling (Tillotson 2001).

Liver Its affinity for *rakta dhātu* and bitter flavour make it a useful cholagogue. It can be used in acute hepatitis and cirrhosis with heat and liver congestion. It may be useful as part of a programme that purges small (<0.5mm) gallstones from the gall bladder. Do this only under the guidance of a qualified herbalist (McLean & Lyttleton 2002).

Cholesterol Reduces cholesterol (LDL) and it is also used to treat obesity (Chen & Chen 2004).

Gynaecology Clears adhesions and clots in *pitta–kapha* problems; endometriosis, fibroids and dysmenorrhoea. Also used in vaginal infections and STDs (Bensky & Gamble 1986).

Mucous membranes Its tropism for *rasa dhātu* make it a specific for mouth ulcers and ulceration of the whole GIT (anti-*Helicobacter pylori*) with *pitta* signs.

Bleeding Stops bleeding from heat in *rakta pitta* conditions; haemorrhoids, ulcers, haematuria, melaena (Williamson 2003).

Cancer Useful adjunct to treatment to clear tumours, *āma* and to remove toxins from the bowel.

COMBINATIONS

- * Fennel, ginger, peppermint to stop griping.
- * Licorice, psyllium husk, hemp seed to prevent dryness in the colon.

- * Manjishtha, shatavari, amalaki for high *pitta* and ulceration in the GIT.
- * Turmeric, myrrh, pippali for female reproductive stagnations with *āma*.

CONTRAINDICATIONS

Pregnancy and breast-feeding as emodin is excreted through the breast milk. *Vāta*-type of diarrhoea with weakness. Gout due to oxalic acid content. Use with caution in intestinal inflammation; never use in intestinal obstruction with abdominal pain of unknown origin. Avoid in physical debility as it drains the energy and *prāṇa* downwards.

SAFETY

It may reduce the absorption of iron (Harkness & Bratman 2003). It may cause griping and should be used with appropriate antispasmodics. Laxatives containing anthroquinone glycosides should not be used at a high dose for more than 2 weeks at a time due to the potential risk of causing an electrolyte imbalance if diarrhoea is caused. Hence caution with cardiac glycoside medication, thiazide diuretics, and concurrent hyperkalaemia from long-term laxative abuse due to potential problems caused by further electrolyte imbalance (WHO 1999).

DOSAGE

0.5g is astringent and constipating, 1g is laxative, 3g+ is purgative and it is also haemostatic when used at up to 9g per day in a decoction. As a tincture use 1–6ml per day of a 1:3 @ 25%.

NOTES

- It grows at 2500–4000m in the Himalayas.
- The root should be 3 years old prior to harvesting.
- Originally imported from China and Tibet as *Rheum palmatum* and *officinale*, the Indian species is *Rheum australe*.
- Suitable for short-term use only as it can cause habituation of the bowel.



ROSE

Common name **Rose (E), Gulab (H)** Sanskrit **Śata-patrī** Latin **Rosa centifolia/damascena–Flos (Rosaceae)**

Rose petals treat the heart and nerves, and lift the spirits. They have an affinity for the blood and, like all *Rosaceae* family, have a certain astringency that stops bleeding and reduces inflammation. *Śata-patrī* literally means the 'hundred-petalled'.

**ENERGETICS**

Rasa (taste) Bitter, pungent, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Dry, light

Doṣa effect VPK=

Dhātu (tissue) Plasma, blood, nerve, reproductive

Srotas (channel) Female reproductive, circulatory, nervous

CONSTITUENTS

Essential oils Citronellol, geraniol, eugenol

Organic acids Gallic

Tannins (10–24%)

Flavonoids Quercetin (Holmes 1989)

AYURVEDIC ACTION

Dīpana Awakens digestion

Hṛdaya Affinity for the heart and benefits blood flow

Śukrala Increases semen

Medhya Improves the intellect

Doṣatrayaraktajit Balances all three *doṣas* and the blood

BIOMEDICAL ACTION

Carminative, emmenagogue, nervine, antidepressant, astringent, anti-inflammatory, laxative, aromatic, aphrodisiac

INDICATIONS

Gynaecology Its affinity for the blood and *rakta dhātu* make it

useful in excessive menstrual bleeding, vaginal infections and inflammation. It clears *pitta* from the uterus and blood and is used in dysmenorrhoea, metrorrhagia, endometriosis and fibroids. It is specific for use in the menstrual cycle, during the final flare of the *pitta* phase from day 14 to 28, and can help to alleviate PMS symptoms associated with irritability, emotional sensitivity and heat (Holmes 1989). Its action on *śukra dhātu* enhances sexual desire and fertility. Very useful during menopause with hot flushes; use a rosewater spray for instantaneous cooling.

Nerves Rose's nourishing effect on *majjā dhātu* make it useful for nervous depression and anxiety. Its cooling quality can reduce symptoms of high *pitta*; red tongue tip, agitation, palpitations and headaches behind the eyes (*Bhāvaprakāśa*). It opens the heart chakra, *anāhata*, thus increasing patience, compassion and love.

Skin Roses are a specific for inflamed eyelids. They are a useful face wash for astringing the skin and clearing acne. Also used in inflammatory and sup-

purating skin conditions; eczema, psoriasis, urticaria, itching and irritation.

Digestion Good for ulcers, inflammation, acidity, enteritis and heartburn. Its astringent flavour is useful in diarrhoea from heat (use a high dose). Roses can help with fat metabolism and hence help to reduce blood lipid levels.

Reproduction Its calming effect on the emotions and the heart are complemented by its aphrodisiac effect. Its sweet *vipāka* helps to increase semen, sexual interest and fertility (*Bhāvaprakāśa*).

COMBINATIONS

- * Safflower, shatavari, turmeric for excessive menstrual bleeding with clots and pain.
- * Brahmi, gotu kola, arjuna for palpitations and tight chest.
- * Neem, manjishtha, chrysanthemum for skin inflammations with heat signs.
- * Amalaki, guduchi in high *pitta* and acid conditions of the intestines.
- * Ashwagandha, shatavari, kapikacchu and gokshura in infertility.

CONTRAINDICATIONS

None known, although caution during pregnancy.

SAFETY

It may reduce the absorption of iron (Harkness & Bratman 2003).

DOSAGE

1–10g per day or 5–15ml of a 1:2 @ 50% fresh tincture. Drink rose-water freely (5–50ml per day).

NOTES

- Roses thrive in acidic soil and grow up to 3m in height.
- Out of the hundreds of varieties any fragrant variety can be used medicinally.
- Gulkand—rose petal jam—is highly recommended as a cooling spread or drink which also acts as a mild laxative.
- Traditionally made into an *attar* which is a divine mixture of sandalwood oil with rose vapour infused through it—*gulab attar*.



SAFED MUSALI

Common name **White musali (E), Musi (H)** Sanskrit **Musalī** (Safed is Hinate) Latin **Asparagus adscendens–Radix (Liliaceae)**

Like most members of the *Asparagus* genus safed musali is considered to be a fertility tonic which nourishes the tissues of the mind, nervous and reproductive systems.



ENERGETICS

Rasa (taste) Sweet, bitter

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Moist, unctuous, heavy

Doṣa effect VP–, K+ in excess

Dhātu (tissue) All tissues, especially plasma, reproductive

Srotas (channel) Reproductive, digestive, lactation

CONSTITUENTS

Glycosides Asparagin

Saponins Sarsapogenin, diosgenin

(Paranjpe 2001)

AYURVEDIC ACTION

Rasāyana Rejuvenative, especially to the reproductive system

Jīvaniya Prolongs life

Vājīkaraṇa Aphrodisiac

Śukrala Increases sperm production

Ojovardhana Increases *ojas*

Pittaśamaka Cools and alleviates *pitta*

Stanya Increases breast milk and eases the flow

BIOMEDICAL ACTION

Adaptogen, demulcent, anti-inflammatory, aphrodisiac, galactagogue, diuretic

INDICATIONS

Reproduction As it directly nourishes the *śukra dhātu* it is used as a sweet tonic and rejuvenative for the reproductive system. It treats infertility, premature ejaculation, impotence and low sperm count. It also nourishes *ārtavāhasrotas* and promotes healthy ovulation in women (*Bhāvaprakāśa*).

Gynaecology Useful during pregnancy as a nutritive tonic for mother and fetus. Post-partum it replenishes lost fluids, *prāṇa*, *ojas* and improves the quantity and flow of breast milk. It is also used in chronic leucorrhoea.

Digestion Its sweet and unctuous properties treat intestinal inflammation caused by dysentery and food intolerances. All cases of high *pitta* benefit. It softens the stool and may be helpful in *pittaja* types of haemorrhoids (Nadkarni 1954).

Urine Its cooling and soothing effects are beneficial for *mūtravāhasrotas* and conditions involving aggravated *pitta* with painful and malodorous urination (Gogte 2000).

COMBINATIONS

- * Ashwagandha, bala, kapikacchu, frankincense, gokshura, guduchi for male reproductive problems.
- * Shatavari, turmeric, bala, licorice for female gynaecological conditions such as discharge, dryness and infertility.
- * Fennel, ajwain for improving lactation.
- * Amalaki, manjishtha, licorice for intestinal inflammation.

CONTRAINDICATIONS

With excess mucus, congestion, *kapha* or *āma*.

SAFETY

No drug–herb interactions are known.

DOSAGE

3–15g per day dried or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- There is some dispute over the true species of musali. *Asparagus adscendens* grows as a climbing shrub with typical asparagus-like striated leaves in northern India. *Chlorophytum borivillianum*, also of the *Liliaceae* family, is also a contender for the safed musali 'award' as it has lily-like like straight leaves which various textual references state as necessary.
- There is also a black variety, kali musali, that is considered to be *Curculingo orchioides* from the *Amaryllidaceae* family. This has the same virilising rejuvenative properties that also benefit the female reproductive and menstrual cycle. It is also used for strengthening the lower back, bones and kidneys when boiled with milk (cow or almond) and mixed with digestive spices to enhance nutritive quality.
- Equal parts of kapikacchu, gokshura and safed musali make *musali cūrṇa*, which is renowned for its reproductive tonic properties.



SAFFLOWER

Common name **Safflower (E)** Sanskrit **Kusumbha** Latin **Carthamus tinctorius–Flos (Compositae)**

These beautiful red flowers have a direct affinity for the blood. Use it when there are signs of stagnant blood in the heart, uterus or externally on bruised skin.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect KP–, V+

Dhātu (tissue) Blood, reproductive

Srotas (channel) Circulatory, digestive, female reproductive

CONSTITUENTS

Benzoquinone pigments

Cartharone (red colouring pigment)

Flavones

Lignans

Triterpene alcohols

Polysaccharides Xylose, fructose, galactose

Fatty acids Palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid

(Williamson 2002)

AYURVEDIC ACTION

Raktapittahara Alleviates bleeding

Raktavardhaka Increases circulation

Hṛdaya Benefits the heart

Kaphahara Reduces phlegmatic conditions

BIOMEDICAL ACTION

Emmenagogue, uterine stimulant, analgesic, carminative, diaphoretic, vulnerary



INDICATIONS

Gynaecology It has a tropism for *ārtava dhātu* and the uterus that rectifies menstrual pain that is fixed in one place with clots, amenorrhoea or endometriosis. It treats delayed or lack of menses caused by obstructions in the pelvic cavity due to high *kapha* and *pitta*.

Trauma For bruises, strains and stiff ligaments use a tincture internally and externally.

Heart Its affinity for *rakta dhātu* benefits the heart and chest pain, ischaemic heart disease and angina. It has been used to help normalise cholesterol levels (Bensky & Gamble 1993)

Skin Its positive effect on stagnant blood normalises *bhrājaka pitta* and treats suppurative rashes and measles. Very useful for spider naevi spreading over the skin; use internally and as an external tincture application. It is also considered to be antifungal as a wash.

Tumours It is used to remove static, palpable and unpalpable masses from the body (Williamson 2002).

Bleeding In bleeding conditions caused by high *pitta* (*Bhāvaprakāśa*); it should only be used at a low dose for this and when bleeding is caused by overflowing out of the channels due to a blockage. At a high dose outside the recommended dosage range it can cause bleeding.

COMBINATIONS

- * Guggulu, myrrh, turmeric, rose, mustaka for amenorrhoea and pain with clots.
- * Bola, frankincense, turmeric for skin trauma.
- * Arjuna, bala, guggulu for heart conditions.
- * Pippali, mint to induce a mild sweat.

CONTRAINDICATIONS

Pregnancy as it stimulates the uterus.

SAFETY

No drug–herb interactions are known but as it is used to thin the blood with an anticoagulant action it should be used cautiously with antiplatelet medication such as warfarin and heparin (Chen & Chen 2004).

DOSAGE

0.5–9g per day dried or 5–20ml per day of a 1:5 @ 25% tincture. At high doses it clears congestion in the blood tissues and channels; at low doses it regulates blood flow.

NOTES

- Used as a replacement for the more expensive and clinically stronger saffron (*Crocus sativus*).
- This is a very useful herb for the skin and blood circulation.
- The dried flowers should only be kept for one year.



SAFFRON

Common name **Saffron (E), Kesar (H)** Sanskrit **Kuinkuma, Ghusr̥ṇa** Latin **Crocus sativus–Stigmata (Iridaceae)**

In India saffron is cultivated in Kashmir and when it is flowering it fills the fields with a fantastic red glow. It is a small perennial growing to about 20cm with violet leaves and each flower producing three stamens. It takes about 160 flowers to produce 1g of dried saffron. Think gynaecology, blood, heart and reproduction when using saffron.



ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, unctuous

Doṣa effect VPK=, VK–

Dhātu (tissue) All tissues, especially blood and reproductive

Srotas (channel) Female reproductive, reproductive, digestive

CONSTITUENTS

Volatile oil Cineol, isophorone, safranal

Glycosides Crocin, picrocrocin, lycopene

β-carotene

Fixed oil

(Paranjpe 2001, Williamson 2002)

AYURVEDIC ACTION

Dīpana Increases the digestive fire

Pācana Digestive

Varṇya Improves the complexion

Kuṣṭhaghna Alleviates skin diseases

Śonitasthāpana Alleviates bleeding

Śīrorogajit Alleviates headaches

Vamanakara Stops vomiting

Yogavāhī Catalyst to other medicines

Rasāyana Rejuvenative

Vājīkaraṇa Aphrodisiac

Pāṇḍughna Alleviates anaemia

BIOMEDICAL ACTION

Emmenagogue, nervine, circulatory stimulant, antianginal, diuretic

INDICATIONS

Gynaecology It has a nourishing effect on *rasa dhātu* and an invigorating action on the blood. This can help to bring on delayed menses and increase the flow. It is also used in dysmenorrhoea. It is a wonderful tonic herb that nourishes the deeper tissues. Use with any fertility problems with *śukra dhātu* deficiency or obstruction (Gogte 2000).

Anaemia Its affinity for the blood and *rakta dhātu* is complemented by its ability to increase haemoglobin levels. This connection with the blood helps alleviate other symptoms that can arise from anaemia such as heart conditions with pain and liver congestion (Paranjpe 2001).

Heart Its positive effects on *rasa* and *rakta dhātu* actively encourages blood flow through the circulatory system. It is indicated in angina and cardiac congestion.

Reproduction It is a renowned aphrodisiac herb that can help

treat impotence and low libido.

It rejuvenates the *śukra dhātu* and nourishes the reproductive tissues (Frawley & Lad 1994).

Nerves Its nourishing effects subtly feed the nervous and reproductive tissues indicating its use for debilitating and degenerative diseases. Use when there is *vāta* disturbance, depression, *majjā dhātu* deficiency and general nervous debility (Gogte 2000).

Urine It goes directly to *mūtravāhasrotas* and a cold infusion is beneficial for painful urination.

External As a paste it helps to alleviate discoloration of the skin, acne and eczema. It can also be applied to the forehead to clear headaches caused by *vāta* and cold.

COMBINATIONS

- * Turmeric, ginger, myrrh in amenorrhoea and dysmenorrhoea.
- * Amalaki, ashwagandha in anaemia.
- * Arjuna and punarnava in heart conditions.
- * Shatavari, ashwagandha, kapikacchu for the reproductive system.
- * Brahmi, gotu kola, jatamansi for nervous disorders.

* Gokshura, licorice for painful urination.

CONTRAINDICATIONS

Pregnancy, as it stimulates the flow of blood in the uterus.

SAFETY

No drug–herb interactions are known.

DOSAGE

100–250mg per day (1–5 strands).

NOTES

- Saffron is also known as *ghusrina* as it is sacred to *Ghrishneshvara*, Lord Shiva.
- It is a very sattvic herb; its action on the blood and the heart encourages compassion and love.
- It is best extracted by soaking in warm milk and should be taken raw, not boiled.



SALT

Common name **Salt: rock, sea, black, Sambar** Sanskrit **Lavaṇa, Saindhava, Sāmudrā, Viḍa, Sauvarcala, Sākambharīya, Audbhijja** Latin **Sodii chloridum**

ENERGETICS

Rasa (taste) Salty, sweet

Vīrya (energy) Heating (apart from *saindava* rock salt, which is cooling)

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Heavy, wet, penetrating

Doṣa effect KP+, V–

Dhātu (tissue) All tissues

Srotas (channel) Digestive, urinary, nervous

CONSTITUENTS

Sodium chloride

Potassium

Sodium carbonate

Sodium sulphide

Iodine

Trace minerals

(Nadkarni 1954)

AYURVEDIC ACTION

Dīpana Appetite stimulant

Āmapācana Digests toxins

Srotarodhaghna Clears obstructed channels

Sukṣmagāmi Penetrates the minute channels of the body

Bhedaniya Purgative

Sleşmala Increases *kapha* and mucus

Anulomana Causes *vāta* to move downwards

Tikṣṇa Very penetrating to the subtle channels

BIOMEDICAL ACTION

Digestive, alkaline, expectorant, demulcent, lubricant, laxative, emetic, water retentive, osmotic, irritant, rubifacient



INDICATIONS

Digestion Salt stimulates digestion by increasing digestive enzymes and so benefits low appetite and indigestion. It also works directly on the taste receptors and clarifies the sense of taste. Higher doses can work as a laxative or emetic. The yogic practice of *śaṅkhaṅkṣā* and *ṣaṭkarma* utilises the osmotic properties of salt to draw toxins out of the mucous membranes prior to purgation (Swami Satyananda).

Lungs Salt has the ability to liquefy mucus and *kapha* in the lungs. It dislodges deep-seated phlegm and facilitates expectoration (*Bhāvaprakāśa*).

Tumours Salt has the specific ability to dissolve masses, lumps and tumours in the body. As it clears the channels it removes obstructions. Care must be taken when treating these conditions with salt due to its tendency to

cause water retention. Its iodine content (especially found in sea salt) plays a part in preventing goitre (Nadkarni 1954).

Nerves Helps to settle the nerves by descending *vāta* and calming the emotions.

COMBINATIONS

- * With digestive herbs to calm *vāta*. Salt is a crucial ingredient in the hingashtaka formula.
- * Licorice, vasa, ginger for mucus congestion.
- * Guggulu and frankincense for lumps and masses.

CONTRAINDICATIONS

High blood pressure, acidity, skin diseases.

SAFETY

No drug–herb interactions are known but its ability to cause high intracellular sodium levels can antagonise certain diuretics and hypotensive medications.

DOSAGE

250mg–10g per day.

NOTES

- *Saindhava* rock salt comes from open mines inland. It is considered the best salt as it is easy to digest and does not cause water retention as readily as the other types. It is also classified as *netrya* and is beneficial to the eyes.
- Sea salt (*Sodic muras*) contains many trace minerals and aggravates *kapha*.
- Sambar salt comes from lake Sambar in Rajasthan. It greatly increases *pitta*.
- *Bid lavaṇa* is also known as black salt or *kalānamak* in Indian markets. It is a manufactured product made from rock salt and sodium carbonate (*sarjakṣara*) with amalaki and haritaki. It directs *vāta* downwards.
- *Sauvarchala* salt is made from rock salt with sodium chloride, sulphide and carbonate. It has a hot *vipāka* and stimulates the appetite.
- *Audbhida* (*Potassium nitre*) is also known as fossilised salt. It increases *kapha*.
- In excess salt causes oedema, hypertension, high blood pressure, flaccidity of the skin, early greying and loss of hair, depletion of *śukra*, impotence, acidity, bleeding, corruption of plasma (*rasa*) and blood (*rakta*).
- When used externally as a 'salt pack' it reduces *kapha*, clears fluid swellings and acts as a light and drying substance.
- Essential for life in the correct proportions.



SANDALWOOD

Common name **White sandalwood (E)** Sanskrit **Candana (Śveta), Srī-gandha** Latin **Santalum album–Lignum (Santalaceae)**

Sandalwood is famed for its cooling fragrance and aroma. It is used for cooling *pitta* and clearing heat from the urinary, digestive and respiratory systems.

ENERGETICS

Rasa (taste) Bitter, sweet, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, light

Doṣa effect VPK–, V+ (in excess)

Dhātu (tissue) Plasma, blood, muscle, nerve, reproductive

Srotas (channel) Circulatory, digestive, respiratory, nervous, urinary

CONSTITUENTS

Essential oils (2.5–6%) Santalol, santalene, curcumene, borneol, santene, santenone, santalic acid, sanatal aldehyde (Paranjpe 2001, Williamson 2002)

AYURVEDIC ACTION

Pittakaphaśamaka Calms pitta

Dīpana Awakens digestion

Kāsaśvāśahara Alleviates breathing difficulties

Mūtrala Diuretic

Mūtrakṛcchraghna Alleviates dysuria

Tṛṣṇāghna Alleviates thirst

Dāhapraśamana Alleviates burning sensations

Viśaghna Destroys toxins

Kuṣṭhakaṇḍūghna Alleviates skin problems and itching

Varṇya Beneficial to the complexion

Raktapittaghna Stops bleeding

Śramahara Pleasing to the mind



Vṛśya Increases sexual potency

BIOMEDICAL ACTION

Alterative, carminative, cholagogue, expectorant, antispasmodic, analgesic, aromatic, refrigerant

INDICATIONS

Chest When there is stagnation and tightness in the thoracic region sandalwood can clear pain and encourage the flow of *prāṇa* and *vyāna vāyu*. It clears the airways obstructed with phlegm as it dries high *kapha* and regulates nervous spasmodic cough in high *vāta*. Its antibacterial properties clear infection. Sandalwood is used with any aggravation in the heart with anxiety, inflammation or congestion affecting heart rhythm (Bensky & Gamble 1986).

Digestion It cools inflammation of the intestines and regulates *samāna vāyu* by encouraging a smooth digestive process. It treats colitis, enteritis, ulcers and dysentery with signs of *pitta* and *kapha*; bleeding, heat, mucus and inflammation. Its bitter and aromatic nature help the flow of *rañjaka pitta* through the liver (Paranjpe 2001).

Nerves The aromatic nature of sandalwood is immediately calming to an aggravated nervous system; it balances *vyāna vāyu* and cools *sādhaka pitta*, making it useful for treating depression and mental imbalance. It cools any excessive 'heat' in the nervous system from excessive exposure to the sun, fire, emotions, etc.

Useful in headaches from high *pitta* with pain behind the eyes radiating along the temples, sensitivity to light, aggravated by irritation and heat (coffee, acidic foods, sour, salty, pungent flavours) (Frawley & Lad 1994).

Skin Useful in skin formulas, externally and internally. It relieves the inflammation and itching of *pitta* and *kapha* on the skin. Used for any burning sensation, redness, swelling; eczema, acne, urticaria (*Caraka*). It specifically helps to stop bleeding anywhere in the body and alleviates sensations of burning and heat.

Urine Sandalwood is excreted via the *mūtravāhasrotas* and can be used for burning and dark urine as it soothes an irritated bladder and urethra.

COMBINATIONS

- * Arjuna, cardamom, guggul for chest pain and stagnant *prāṇa vāyu*.
- * Shatavari, amalaki, guduchi, mustaka for intestinal inflammation.
- * Brahmi, gotu kola and shankhapushpi for nervous tension and agitation.
- * Guduchi, manjishtha, kalmegh for skin inflammations.
- * Vasa, anthrapachaka, pushkaramoola for lung congestion.

* Coriander, gokshura, punar-nava for urinary infection with *pitta* aggravation.

CONTRAINDICATIONS

None known, but caution during pregnancy due to its moving properties. Avoid in kidney diseases due to its high volatile content. Do not use for longer than 6 weeks due to its dispersing nature (Tillotson 2001).

SAFETY

No drug–herb interactions known but as it may interfere

with the cytochrome P-450 enzyme caution is advised with pharmaceutical medications that are also metabolised through this pathway.

DOSAGE

0.5–5g per day of powdered heartwood or 3–12ml of a 1:3 @ 50% tincture.

NOTES

- Native to the south-west Indian region of Mysore as a medium-sized evergreen tree. It is parasitical and requires a host plant to live on for about the first 15 years of its life.
- The historical restriction on cultivation has led to an illicit trade in this valuable crop and demise in its population. This limitation has recently been lifted and hopefully we will see the return and proliferation of this excellent medicine.
- It must come from a sustainable source where the girth of the tree is allowed to reach 60cm and be over 25 years old. Most sandalwood on the market is not from a sustainable source. Be cautious of adulteration with castor oil and cedarwood oil.
- A species from Australia, *Santalum spicata*, has recently become available. While there is a replanting programme in place the sustainability of this programme is disputed. This species is not as potent as *Santalum album*.
- Quality is an issue with the essential oil. The wood contains 2–6% volatile oils. Good quality oil should contain 90% santalols but these are often only in the 60–70% reference range.
- Rakta chandana or red sandalwood (*Pterocarpus santalinus*) has similar properties that benefit *pitta*, clear heat from the digestive tract and stop bleeding. It is CITES Appendix 2 listed with a special proviso on the ban of the trade in logs, wood-chips and unprocessed broken material.
- Sandalwood contains the perfect energetic combination of flavours to balance *pitta*—bitter, astringent and sweet.
- Used in religious ceremonies as a purifying scent.
- It has a specific effect on *ājñā cakra* that is very useful for *pitta/vāta* constitution and enhancing the quality of meditation.

SARIVA

Common name **Indian sarsaparilla (E), Sugandhi (H)** Sanskrit **Sāriva, Ananta-mūla** Latin **Hemidismus indica-Radix (Asclepiadaceae)**

Sariva smells sweet and is also known as sugandhi ‘the fragrant one’ in Hindi. Its red colour relates to its affinity for the blood and it treats all conditions with heat or toxins in the blood; dermatological, musculoskeletal, urogenital, gynaecological.



ENERGETICS

Rasa (taste) Sweet, bitter, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Light, unctuous
Doṣa effect VPK–

Dhātu (tissue) Plasma, blood, muscle, reproductive

Srotas (channel) Digestive, circulatory, nerve, female reproductive

CONSTITUENTS

Coumarins

Essential oil

Saponin

(Paranjpe 2001)

AYURVEDIC ACTION

Kuṣṭha Benefits skin problems

Āmaviṣanāśana Destroys toxic poisons

Varṇya Improves the complexion

Jvara Used in fevers

Dāhapraśamana Relieves burning sensations

Prameha Benefits urinary problems

Pittasamana Cools *pitta* and inflammations

Raktapittaghna Alleviates bleeding disorders from heat

Sugandhi Aromatic

Doṣatrayanāśana Clears an excess of all three *doṣas*

Śukrala Improves the quality of sperm

BIOMEDICAL ACTION

Alterative, febrifuge, diuretic, anti-inflammatory, antimiscarriage, vulnerary, fertility tonic

INDICATIONS

Skin Its cooling, sweet and bitter flavours and affinity for *rakta dhātu* clears inflammation from the skin; used in eczema, psoriasis, urticaria, acne rosacea and acne from aggravated *bhrañjaka pitta*. It ‘cleans’ the blood, reduces lymphatic swellings, stops itching and reduces suppuration. The root powder is used to treat STDs that are damp and hot. It is a specific for acne. Also of great benefit in burning sensations (*dāha*) anywhere around the body. It is used as an external paste or as a cream to benefit the above skin problems (Paranjpe 2001).

Urinary Urinary infections with dark red, cloudy, painful urination; cystitis, urethritis, kidney infections, prostatitis. It stimu-

lates the *mūtravāhasrotas* to clear excess water without straining the kidneys.

Digestion Useful herb for stimulating the appetite in *pitta prakṛti* without aggravating any acidity. It rectifies *mandāgni* and sluggish digestion. Used in inflammation of the mucous membranes throughout the body. Also used in hot, smelly and watery diarrhoea with excess *vāta* drawing *pitta* downwards (*Bhāvoprakāśa*).

Arthritis Its specific anti-inflammatory action is indicated when the joints are hot, red and inflamed. Also useful in acute and chronic gout.

Nerves Its sweet and cooling quality nourishes *sādhaka pitta* and the mind. Hence its use in disturbed, angry or irritated emotions from high *pitta* aggravating the equilibrium of the mind.

Gynaecology Traditional use for maintaining pregnancy and preventing habitual miscarriages. Also may be of benefit for menorrhagia caused by *pitta* overflowing from its channel in *ārtavahasrotas* (uterine system). Its nourishing effect on *rasa dhātu*

helps to increase the quantity and quality of breast milk (*Bhāvaprakāśa*).

Male fertility Classified as *śukrala*, a sperm-increasing herb, it is of value in fertility problems and low libido. Its saponin content is considered to have a steroidal effect that enhances the production of testosterone.

COMBINATIONS

- * Neem, manjishtha, guduchi, gotu kola, sandalwood, licorice for skin inflammation.
- * Coriander, gokshura, sandalwood for urinary infections.
- * Coriander, fennel, cumin for *pitta* digestion.
- * Haritaki, bilva, kutaja in diarrhoea.

- * Guduchi, daruharidra and turmeric for inflammatory arthritis.
- * Gotu kola, rose, brahmi for 'hot' emotions and disturbed *pitta*.
- * Ashoka, manjishtha, shatavari, rose for bleeding.
- * Gokshura, ashwagandha, safed musali, shatavari in male infertility.

CONTRAINDICATIONS

None known.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–10g per day dried or 3–15ml of a 1:3 @ 45% tincture.

NOTES

- Sariva grows throughout central and south India and in Sri Lanka. It is a thin, creeping plant growing up to 3m. It spreads throughout the circulatory system and cools any area of excessive heat.
- Another name for it is *ananta-mūla* 'the eternal root' as its root spreads for a long way underground and it survives periods of climatic stress (e.g. droughts).
- *Śvetasāriva*, white sariva (*Hemidismus indicus*) and *kṛṣṇasāriva*, black sariva (*Cryptolepis buchanani*) are mentioned in the texts.
- Its use is very similar to Jamaican sarsaparilla, *Smilax ornata* and *dwipautra*, *Smilax china*.



SARPAGANDHA

Common name **Rauwolfia (E), Indian snake root (E)** Sanskrit **Sarpagandha** Latin **Rauwolfia serpentina–Radix (Apocynaceae)**

Sarpagandha is a strong remedy for reducing blood pressure, sedating the nervous system and inducing sleep. Sarpagandha means ‘smell of the snake’ and it is renowned as an antidote for poisonous snake bites.



ENERGETICS

Rasa (taste) Bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect VPK–

Dhātu (tissue) Blood, nerve, reproductive

Srotas (channel) Mental, nervous, circulatory, reproductive

CONSTITUENTS

Indole alkaloids Reserpine, rescinnamine, reserpinine, ajmaline (WHO 1999, Williamson 2002)

AYURVEDIC ACTION

Aparājita Alleviates insanity

Nidrājanana Promotes sleep

Śūlapraśamana Pain relieving analgesic

Dīpana Enkindles the digestive fire

Āmapācaka Digests āma toxins

Viśaghna Destroys poisons

Kṛmighna Anthelmintic

Hṛdaya Treats the heart

BIOMEDICAL ACTION

Sedative, nervine, carminative, hypotensive, vasodilator, cardiotonic, alterative, antispasmodic, analgesic

INDICATIONS

Nerves Sarpagandha’s sedative properties are legendary. It nourishes *majjā dhātu* and reduces *vāta* to benefit insomnia and agitation. It is also used in manic psychological disturbance as a sedating tranquilliser. It is a wonderful brain tonic going directly to *manovāhasrotas* (Gogte 2000).

Heart Its affinity for the blood takes it directly to the heart. It swiftly dilates the blood vessels, causing high blood pressure to drop and the heart rate to reduce. Use drop-by-drop doses until the blood pressure has reduced. If the dose is wrong it can cause hypotension and lead to giddiness and sleepiness. It is a symptomatic remedy that treats the high blood pressure via the nervous system and so benefits high blood pressure caused by high *vāta* and arteriosclerosis. It should be used with a diuretic to prevent fluid retention and to support its antihypertensive effect (WHO 1999, Tillotson 2001).

Pain Its analgesic properties are useful in dysmenorrhoea with a spasmodic uterus and also

in colic from intestinal inflammation and spasm (Gogte 2000).

COMBINATIONS

- * Jatamamsi, brahmi, licorice, gotu kola in nervous conditions.
- * Arjuna, cardamom, rose in high blood pressure and palpitations.
- * Turmeric, fennel, ginger in pain.

CONTRAINDICATIONS

Pregnancy, breast-feeding, asthma, ulcers, kidney pain and depression.

SAFETY

Do not use with alcohol, selective serotonin reuptake inhibitors (SSRIs), beta-blockers or MAO inhibitors, levodopa, tricyclic antidepressants, or digoxin, as they may interact with or potentiate the herb. Sarpagandha can cause diarrhoea, low libido and weight gain in larger doses.

DOSAGE

250–750mg per day powder or 2–12 drops of a standardised tincture (1.0% weight/volume total alkaloids) (Tillotson 2001).

NOTES

- Sarpagandha is a thin shrub growing up to 1m in height. It grows all over India and Sri Lanka.
- It is an exceptionally powerful herb and must be used with caution and only when true high blood pressure or tension is diagnosed.
- Check the legal status of using this herb as it is subject to various rulings in different countries. It is banned for use in the UK unless prescribed by a doctor.
- Only use under the guidance of a trained herbalist as misuse can cause severe reactions.
- It has a controversial reputation due to the isolated alkaloid reserpine causing such strong side-effects. The whole root is much safer.
- It is CITES Appendix 2 listed and must be sold with the appropriate trade documents.



SENNA

Common name **Senna (E)** Sanskrit **Rāja-vṛkṣa, Mārkaṇḍika** Latin **Cassia angustifolia–Folium (Leguminosae)**

The leaf and pod of senna are powerful laxatives. It thrives in the dry and hot conditions of Gujarat and is especially good at purging dampness and heat. *Rāja-vṛkṣa* literally means 'snake smell'.

ENERGETICS

Rasa (taste) Bitter, pungent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light, penetrating

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood, fat

Srotas (channel) Digestive, excretory, circulatory

CONSTITUENTS

Anthraquinone glycosides

Sennosides, palmidin, aloe emodin

Flavonoids

Naphthalene glycosides

Polysaccharides

Mucilage

Tannin

(Williamson 2003)

AYURVEDIC ACTION

Virecana Medium strength laxative

Anuloma Redirects the flow of *vāta* downwards

Kuṣṭhahara Remover of skin diseases

Gulmaghna Alleviates abdominal obstructions and tumours

BIOMEDICAL ACTION

Laxative, carminative, alterative

INDICATIONS

Digestion Acute constipation from heat. It clears *pitta* from the



small intestine. Its affinity for *puriṣavāhasrotas* treats lower bowel rectal problems such as piles, anal fissure and fistula where soft stool is required (Bartram 1995, *Bhāvaprakāśa*).

Liver It can clear heat from *rañjaka pitta* and benefits skin diseases via its action on the liver (Gogte 2000).

COMBINATIONS

- * Ginger, fennel to prevent griping, used as 25–50% of the mixture.
- * Kushtha and mustaka to help clear intestines.
- * Gotu kola, manjishtha, neem, bakuchi in skin problems with constipation.

CONTRAINDICATIONS

Inflammatory bowel disease, intestinal obstruction, pregnancy and lactation.

SAFETY

It may reduce the absorption of iron. It may cause griping and should be used with appropriate antispasmodics. Laxatives containing anthraquinone glycosides should not be used at a

high dose for more than 2 weeks at a time due to the potential risk of causing an electrolyte imbalance if diarrhoea is caused. Hence caution with cardiac glycoside medication, thiazide diuretics and concurrent hyperkalaemia from long-term laxative abuse, due to potential problems caused by further electrolyte imbalance (WHO 1999, Harkness & Bratman 2003).

DOSAGE

1–3g is laxative, 3–6g is purgative, 5–10ml per day of a 1:5 @ 25% tincture.

NOTES

- Senna grows to 1.5m tall and thrives in Gujarat and Tamil Nadu.
- The leaf is stronger than the pods.
- Long-term use can create dependency.
- When used without carminative herbs it can be irritating to the intestines.

SHANKHAPUSHPI

Common name **Shankhapushpi (H), Shankhahuli (H)** Sanskrit *Śaṅkhauspī, Śaṅkhinī* Latin *Evolvulus alsinoides-Folium (Convolvulaceae)*

Shankhapushpi means 'the plant with flowers shaped like a conch'. The conch or *shankha* is one of Lord Shiva's sacred instruments often used in ritual worship. This is an auspicious plant. It effectively calms the nervous system.

ENERGETICS

Rasa (taste) Bitter, pungent, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect) Sweet

Guṇa (quality) Unctuous, light

Doṣa effect VKP–

Dhātu (tissue) Plasma, nerve, reproductive

Srotas (channel) Nervous, mental, excretory, reproductive

CONSTITUENTS

Alkaloids Shankapushpine, evolvine, betaine

Essential oils

(Paranjpe 2001)

AYURVEDIC ACTION

Medhya Promotes intellectual capacity

Majjā dhātu rasāyana

Rejuvenative to the nervous tissue

Unmādaghna Alleviates insanity and emotional instability

Vṛśya Aphrodisiac

Pacanabala Increases the strength of the digestive system

Chedana Laxative

Nidrājanana Promotes sleep

Tridoṣahara Alleviates all three doṣa

BIOMEDICAL ACTION

Nervine, sedative, antispasmodic, cephalic, digestive, laxa-



tive, vulnerary, haemostatic, tonic

INDICATIONS

Nerves It goes directly to *majjā dhātu* and treats disorders of the nervous system; pain, anxiety, insomnia, epilepsy and convulsions. It enters the *manovāhasrotas* and alleviates stress and promotes the integrity of the nervous system. Its descending nature draws the rising *vāta* downwards and helps to clean all the *dhātu* (*Bhāvaprakāśa*).

Digestion Slow digestion, water retention, borborygmus and constipation. It is specifically beneficial where digestion is upset by nervousness and anxiety. Its sweet and *sāra* quality encourages the bowel to flow freely.

Bleeding Its astringency is useful for stopping bleeding in the intestines, urinary and reproductive system.

Reproduction Its affinity for the deeper tissues and *śukra dhātu* is used to promote fertility in men and women (*Bhāvaprakāśa*, Paranjpe 2001).

Skin It has a useful alterative function on the *rakta dhātu* and benefits skin diseases with a nervous component (Gogte 2000).

COMBINATIONS

- * Vacha, brahmi, kushtha in epilepsy, nerve conditions; useful in speech impediment and to improve memory.
- * Gokshura, coriander, fennel for digestive gurgling and swelling.
- * Manjishtha, amalaki for bleeding.
- * Ashwagandha, shatavari, safed musali, kapikacchu in infertility.
- * Gotu kola, manjishtha, neem in skin disorders.

CONTRAINDICATIONS

None known.

SAFETY

No drug–herb interactions are known but caution with all sedative medication due to potential positive interactions.

DOSAGE

2–10g per day dried or 3–15ml of a 1:5 @ 25% tincture.

NOTES

- Shankhapushpi is a small creeper growing all over wasteland in India.
- *Caraka* considered this the best of all the nervine herbs.
- The exact species of shankhapushpi is used interchangeably around India. In the translation of the *Bhāvaprakāśa* that I have used shankhapushpi is classified as *Convolvulus pluricaulis*, as it is in the Ayurvedic Formulary of India. *Evolvulus alsinoides* is listed in *Indian Medicinal Plants* as shankhapushpi. *Clitoria ternata* is used in south India for shankhapushpi. Although these different species are used interchangeably for their *medhya* properties they do not necessarily compare in other actions. My experience is with *Evolvulus alsinoides*.
- All these species are multi-branched, indicating its ability to 'spread' throughout the nervous system.

SHATAVARI

Common name **Wild asparagus (E), Shatavar (H)** Sanskrit **Śatāvārī** Latin **Asparagus racemosus–Radix (Liliaceae)**

Shatavari can mean 'one hundred roots' (literally 'one hundred below') but is commonly referred to as 'the woman who has a hundred husbands'. As this name suggests it is a renowned tonic for the female reproductive system. It is also a superb anti-inflammatory.

ENERGETICS

Rasa (taste) Bitter, sweet

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Unctuous, heavy

Doṣa effect VP–, K+

Dhātu (tissue) All tissues

Srotas (channel) Digestive, female reproductive, respiratory

CONSTITUENTS

Alkaloids Asparagamine

Steroidal glycosides and saponins Shatavarin, sarasapogenin, diosgenin

Mucilage

(Williamson 2002)

AYURVEDIC ACTION

Balya Gives strength

Vr̥ṣya Aphrodisiac

Vājīkaraṇa Enhances sexual appetite

Rasāyana Rejuvenative, especially to the female reproductive system

Ārtavajanana Promotes menses

Vājīkaraṇa Promotes fertility

Prajāsthāpana Prevents miscarriage

Ojovardhanam Increases *ojas*

Stanyajanana Nourishes breast milk

Medhya Nervine

Mūtravirecana Diuretic

Śukrajanana Promotes sperm production



Śukraśodhana Purifies sperm

Raktapittaghna Alleviates bleeding from heat

Caḡṣuṣya Benefits eyesight

Śūlapraśamana Alleviates colic

BIOMEDICAL ACTION

Demulcent, galactagogue, anti-inflammatory, aphrodisiac, female reproductive tonic, spermatogenic, antihemorrhagic, expectorant, adaptogen, immunomodulator, antibacterial

INDICATIONS

Gynaecology Shatavari is the foremost uterine tonic.

Primarily used as a menstrual regulator in dysmenorrhoea, menorrhagia and menstrual irregularity. As *pitta doṣa* moves in both the blood and the *ārtavasrotas*, the cycle is often disturbed by excess heat. This heat can condense the blood (due to dehydration), cause it to move too quickly (due to its catalytic activity), cause it to overflow (due to its 'rebellious' nature) and cause inflammations (due to its irritating tendency). Its affinity for *śukra dhātu* tonifies female fertility; the unctuous properties increase the reproductive fluids, enhancing both conception and uterine

strength. It can be used to help prevent miscarriage. Shatavari is very useful in menopausal symptoms with hot flushes, irritability, irregular memory and dryness (Frawley & Lad 1994).

Lactation Its nourishing effect on *rasa dhātu* makes it a specific for increasing milk flow and quantity.

Digestion Its unctuous, bitter and sweet qualities soothe inflammation of the mucous membranes with high *pitta*; colitis, Crohn's disease, dysentery with bleeding, inflammation and pain. It is specifically active against *Entamoeba histolytica*. For conditions of gastric hyperacidity (*amlapitta*) with sour reflux and burning in the stomach it is a cooling anti-inflammatory. Its demulcent properties are specifically useful for healing bleeding ulcers and gastritis (Paranjpe 2001, Williamson 2002).

Lungs Where there is inflammation from dryness and heat shatavari increases moisture. Used in dry cough, sore throat and haemoptysis.

Male fertility Whenever there is low sperm count and irregularity consider using shatavari (*Bhāvaprakāśa*).

Urine Very useful in dysuria with hot and smelly urine with haematuria.

Anabolic Shatavari's *rasāyana* properties increase *māṃsa dhātu* building body mass, muscle tissue and nourishing the blood. It nourishes *ojas* and can enhance immunity in the treatment of cancer (Tillotson 2001).

Nerves It nourishes *majjā dhātu* and calms the nerves. It specifically nourishes the brain and reduces *vāta* disorders; spasms, pain and insomnia.

COMBINATIONS

- * Ashoka, rose, turmeric, mustaka for gynaecological conditions.
- * Manjishtha and ashoka for preventing miscarriages.
- * Ashwagandha as a uterine tonic and for infertility (male and female).
- * Ashwagandha, kapikacchu, gokshura, amalaki for boosting sperm quality and quantity.
- * Fennel, ajmoda for increased breast milk.
- * Amalaki, manjishtha, kutki for intestinal inflammation.
- * Licorice, vasa, neem for lung heat and high *pitta* problems.
- * Coriander, sandalwood, gokshura for urinary difficulty, pain, bleeding.

CONTRAINDICATIONS

Acute lung congestion, high *kapha*, low digestive fire, high *āma*.

SAFETY

No drug–herb interactions are known.

DOSAGE

3–30g per day dried or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- Thriving all over tropical India and Asia, it grows a mass of tuberous and juicy roots. It is a thorny perennial with striated leaves.
- Top quality shatavari is peeled to become yellow shatavari.
- It is commonly boiled with milk, ghee and digestive spices to increase its tonic properties and assist in the reduction of *pitta*.
- A major ingredient in narayana tail, a massage oil used for high *vāta* and muscular weakness with dry skin.

SHILAJIT

Common name **Mineral pitch, vegetable asphalt, bitumen (E)** Sanskrit **Śilā-jit** Latin **Asphaltum**

Shilajit literally means 'rock overpowering' and is a natural exudate from the rocks of the Himalayas and other mountainous regions of the world. Its high mineral content oozes out in the heat of the summer. It is a superb mineral supplement that benefits the kidneys, urinary and reproductive systems.

ENERGETICS

Rasa (taste) Pungent, bitter, salty, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, heavy

Doṣa effect VPK=, P+ in excess

Dhātu (tissue) All the tissues

Srotas (channel) Urinary, nervous, reproductive

CONSTITUENTS

Resins Benzoic acid, hippuric acid, fulvic acid

Minerals Silica, iron, antimony, calcium, copper, lithium, magnesium, manganese, molybdenum, phosphorus, sodium, strontium, zinc
(Tillotson 2001)

AYURVEDIC ACTION

Rasāyana Rejuvenative to the lipid tissue *kapha* and the urinary system

Vājīkaraṇa Enhances sexual potency

Medhya Enhances the intellect

Mūtrakṛcchraghna Alleviates painful urination

Apasmarmādaghna Alleviates disorders of the nervous system

Medohara Reduces fat tissue

Sandhāniya Heals broken bones



Chedana Scratches accumulated toxins from the tissues and channels

Tridoṣaghna Alleviates all three *doṣas*

BIOMEDICAL ACTION

Diuretic, lithotriptic, antidiabetic, nervine, tonic

INDICATIONS

Urinary It goes straight to *mūtravāhasrotas* and treats disorders of the urinary system with painful urination, cystitis, stones, incontinence and glycosuria. In prostatitis shilajit can help to clear stagnation of *kapha* and *vāta*. It tonifies *vāta* and can help to redirect the flow of *apāna vāyu* through the pelvic region (*Bhāvaprakāśa*).

Diabetes Shilajit's affinity for the fat tissue (*medas-dhātu*) and the water channel (*ambuvāhasrotas*) can help balance hyperglycaemia and regulate the blood sugar levels. Its scraping effect on the fat tissues can help to balance overweight conditions where there may be a tendency to acquire type 2 diabetes (Tillotson 2001).

Reproduction Use in male reproductive problems with premature ejaculation, spermatorrhoea, impotence and spermaturia. It strengthens the whole reproductive system and is a tonic to the sex organs. It also benefits the female reproductive system where there is weakness, infertility, dysmenorrhoea and PMS arising in someone who is deficient and weak with high *vāta* (Nadkarni 1954).

Blood It has a specific affinity for the blood; anaemia, high sugar levels, high cholesterol levels are all treated.

Bones As it builds both *rakta* and *asthi dhātu* it is used as part of a treatment strategy to heal broken bones. Its high mineral content indicates it for the treatment of osteoarthritis and osteoporosis.

COMBINATIONS

- * Gokshura, guggulu for stones and prostatitis.
- * Punarnava, guggulu for oedema and fluid retention.
- * Gurmar, karavella, neem, turmeric, black pepper for hyperglycaemia.
- * Ashwagandha, gokshura for male reproductive problems.
- * Shatavari, licorice for female reproductive conditions.
- * Amalaki, ginger, shatavari for anaemia.

CONTRAINDICATIONS

Not with high uric acid levels or heavy and hot-natured foods.

SAFETY

No drug–herb interactions are known.

DOSAGE

2–3 pills three times per day or 500mg–5g per day. The *Caraka Saṃhitā* recommends a minimum

dose of 12g per day and it needs to be taken for two months to attain maximum benefit.

NOTES

- There are four varieties mentioned in the *Bhāvaprakāśa*; red, yellow, blue and black. The black variety appears to be the best for medicinal purposes.
- The origins of shilajit are not absolutely certain but it appears to be the result of a complex of factors including the composted residue of certain resin- or latex-containing plants, the local environment from where it comes, the temperature, the humidity and the geological nature of the rock that it exudes from. It has been found all over the mountains of Asia and in Europe. These variable factors account for the different varieties as well as for the variable energetics and chemical constituents.
- Its *prabhāva* is to be able to cure any disease when used with other appropriate medications.
- To ‘purify’ it, shilajit is often macerated in a decoction of triphala and bhringaraja and left to dry (*Sārṅgadhara Saṃhita*).
- Good-quality shilajit should not smoke on burning.

TAGARAH

Common name **Indian valerian (E), Tagar (H)** Sanskrit **Tagara** Latin **Valeriana wallichii-Radix** (**Valerianaceae**)

Tagarah is a very heavy herb containing lots of the Earth element (*pṛthivī tattva*). It sedates the nervous system and *vāta*. Too much can dull the mind and be excessively sedating.

ENERGETICS

Rasa (taste) Bitter, pungent, sweet, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Light, unctuous

Doṣa effect VPK–

Dhātu (tissue) Plasma, blood, muscle, nerve

Srotas (channel) Digestive, nervous, respiratory

CONSTITUENTS

Alkaloids

Iridoids Valepotriates, valtrate

Essential oil Pinene, limonene, cineole, borneol, malliol (Paranjpe 2001)

AYURVEDIC ACTION

Unmādaghna Treats insanity and emotional instability

Nidrājanana Promotes sleep

Dīpana Awakens digestive fire

Hrdaya Benefits the heart

Śīrśarogaghna Has a specific affinity for treating diseases of the head

Sāra Laxative

BIOMEDICAL ACTION

Nervine, sedative, antispasmodic, carminative, laxative, hypotensive, anxiolytic, aromatic

INDICATIONS

Nerves The heaviness and warmth ground the agitation caused by excessive tension,



anxiety and restlessness from high *vāta*. It is used in insomnia, panic attacks and lack of concentration. It specifically cleans the channels of toxins and tension. It can also be used in the treatment of mild depression when there are signs of mania. It is useful in helping to reduce withdrawal symptoms from addictions to cigarettes, amphetamines and benzodiazepines. Good for diseases of the head from aggravated *vāta*; dull headaches at the back of the head with dizziness. It has a renowned traditional usage in the treatment of epilepsy and possession (*Bhāvaprakāśa*).

Heart Its relaxing qualities treat palpitations, tightness in the chest and high blood pressure. It clears excessive *vāta* from the thoracic region by regulating *vyāna* and *prāṇa vāyu*.

Digestion As a warming carminative it is useful in a formula for *viṣamāgni* with erratic digestion, bloating and constipation. It soothes all spasms in the intestines and prevents the movement of stress from the mind to the

intestines. It balances *samāna vāyu* and can help to regulate the movement of *apāna vāyu*; tagarah has a mild laxative effect in *vāta prakṛti*. It prevents intestinal fermentation that is so common in *vāta* types. Its hot and penetrating qualities can increase digestive metabolism in *kapha* types (Frawley & Lad 1994).

Gynaecology Its heavy and antispasmodic qualities can ease menstrual pain and cramps. Its sedative properties can calm menopausal irritability and prevent insomnia.

Lungs Its warm and unctuous energetics benefit the wheezing and spasmodic coughing of asthma and bronchitis. The pungency dries and moves the *kapha* and the demulcent properties oppose the dryness of *vāta*.

COMBINATIONS

* Brahmi and gotu kola in nervous problems. This is a helpful combination as the cool, light and bitter nature of brahmi and gotu kola oppose the warm, heavy and pungent nature of tagarah.

- * Combines well with vacha to give a calm mental clarity and oppose the heaviness of tagarah.
- * Arjuna, punarnava for tachycardia and constricted chest.
- * Haritaki, cardamom, fennel for spasms in the intestines.
- * Turmeric, ginger, guggul for dysmenorrhoea.
- * Vasa, anthrapachaka, pushkaramoola for respiratory blockages.

CONTRAINDICATIONS

Caution in high *pitta*. Therapeutic experience points to certain 'hot' individuals being aggravated by tagarah; the warmth of the herb increases aggravated heat and can exacerbate insomnia from high *pitta*. This is simply overcome by adjusting dosage and using with other appropriate cooling herbs. Contraindicated in depression.

SAFETY

Caution with central nervous system (CNS) depressants including alcohol. It may potentiate hypotensive medication.

DOSAGE

3–9g per day dried root or 3–15ml per day of a 1:3 @ 45% tincture.

NOTES

- Tagarah is a hardy perennial surviving the rigours of the Himalayan climate, growing at an altitude of up to 4000m.
- In prolonged usage (>6 weeks) it can increase *tamas* and feelings of inertia and stagnation in the system.
- It can be added to a bath to help induce a deep sleep.
- It balances all the five *vāyu* as excessive movement is restrained and insufficient movement stimulated. By relaxing constriction it opens the channels for *vāta* to flow freely.
- It is traditionally associated with the cerebrospinal fluid, *manovāhasrotas* and *rasa dhātu*.
- Useful to combine with a light and stimulating herb to offset excessive dullness.

TILA

Common name **Sesame seed (E), Til (H)** Sanskrit **Tila** Latin **Sesamum indicum–Semen (Pedaliaceae)**

Sesame is an annual plant with beautiful flowers. It grows in dry soil and it treats dry conditions; it is an antidote to the climate in which it thrives. It is excellent for high *vāta* with dry mucous membranes, weak muscles, bones and reproductive system.

ENERGETICS

Rasa (taste) Sweet, pungent, astringent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Heavy, unctuous

Doṣa effect V–, PK+, āma+

Dhātu (tissue) All the tissues

Srotas (channel) Digestive, bone, excretory, respiratory

CONSTITUENTS

Essential fatty acids Oleic, linoleic

Lignan Sesamin, sesamol, sesamolinal

Calcium

(Paranjpe 2001, Trease & Evans 2002)

AYURVEDIC ACTION

Balya Increases strength

Bṛmhaṇa Promotes bulk and is building

Prīṇana Gives satisfaction

Rasāyana Rejuvenative for all tissues

Vṛṣya Aphrodisiac

Sūkṣma Enters the smallest channels

Snehana Oleating

Snigdhavirecana Demulcent laxative

Keśya Benefits the hair

Tvakprasādana Skin tonic

Vraṇa Wound healer

Medhya Enhances memory and intelligence



BIOMEDICAL ACTION

Laxative, demulcent, emollient, nutritive tonic

INDICATIONS

Digestion Its unctuous property treats dry constipation in the elderly and *vāta* individuals. The seeds are hard to digest and can easily aggravate *pitta* due to their heating nature, and *kapha* due to their unctuous nature.

Used in haemorrhoids and ulcerated surfaces of the intestines it heals *rakta dhātu* and *purīṣavāhasrotas* to lubricate the bowel and soften the stool (Frawley & Lad 1994).

Lungs As a superb demulcent (*snehana*) the seeds can soothe a dry, hacking cough from aggravated *udāna* and *prāṇa vāta*. It helps to strengthen weak lungs by tonifying *prāṇavāhasrotas*.

Bones Sesame nourishes *asthi dhātu* and is a useful source of calcium for bones, teeth and hair. It is used to prevent osteoporosis from *asthigatavāta*, when *vāta* enters the bone tissue.

Skin Used internally and externally for dry skin it reduces high *vāta*. Externally it can benefit dry

eczema, dermatitis and psoriasis when there is not suppuration or broken skin. The oil is also used as a gargle for swollen and bleeding gums.

Rejuvenation The seeds and oil are considered to be an excellent tonic to *māmsa*, *majjā* and *śukra dhātu*. They help to assist recovery after illness and for increasing strength, memory and fertility (*Bhāvaprakāśa*).

Gynaecology The nutritive tonic action may benefit amenorrhoea and scanty periods from *rasa* and *rakta* deficiency.

COMBINATIONS

- * Haritaki, psyllium, hemp seeds for *vāta* dry constipation.
- * Licorice, bala, pushkaramoola for a dry and painful cough.
- * Guggulu, pippali, ashwagandha for bone strength.
- * Shatavari, licorice for *vāta* skin problems.
- * Shatavari, ashwagandha for reproductive problems with weakness.

CONTRAINDICATIONS

High *āma* and congestion. Skin eruptions from heat.

SAFETY

No drug–herb interactions are known.

DOSAGE

5–30g per day.

NOTES

- Sesame grows as an annual shrub up to 1 m in height.
- There are five varieties: black, white, red, wild and small.
- The black variety is considered more nutritious and beneficial to the reproductive system than the other varieties.
- The oil is the foremost massage oil that is used in Ayurveda, especially for *vāta* conditions.
- It has a special *prabhāva* as a hair tonic (*keśya*).

TRIVRUT

Common name **Trivrut (H), Nishoth (H)** Sanskrit **Tri-vṛta** Latin **Operculina turpethum/ipomea–Radix** (**Convolvulaceae**)

Trivrut literally means ‘having three parts’ possibly referring to its twisted vine. It is a useful laxative that effectively treats constipation, colic and haemorrhoids.

ENERGETICS

Rasa (taste) Pungent, bitter, sweet, astringent

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect PK–, V+

Dhātu (tissue) Plasma, blood

Srotas (channel) Excretory, circulatory

CONSTITUENTS

Glycosides Turpethene

Volatile oil

Resin

(Paranjpe 2001)

AYURVEDIC ACTION

Virecana Laxative

Bhedaniya Purgative and accumulation-breaking

Āmapacana Clears *āma*

Raktapitta Alleviates bleeding diseases

Vimlapana Anti-inflammatory

BIOMEDICAL ACTION

Laxative, purgative, circulatory stimulant, alterative

INDICATIONS

Digestion Its penetrating property enters *purīṣavahasrotas* and purges the bowel of all stagnant accumulations. It should be used



in individuals with a *mṛdu koṣṭha*, a soft bowel that has become constipated. It is used in conditions with deep-seated toxins that cause inflammation and swelling such as rheumatoid arthritis, gout and inflammatory bowel disease. It purges *pitta* and *kapha* from the bowel. It is very useful for haemorrhoids (Gogte 2000).

Skin Trivrut drains inflammatory watery accumulations from *rakta* and *medas-dhātu* and this helps to alleviate chronic skin conditions. It is *pitta śodhana* and clears *pitta* from the system.

Obesity Its affinity for the fat tissue enkindles *medas-dhātau-agni* and clears cholesterol (Gogte 2000).

COMBINATIONS

- * Always include antispasmodic herbs to prevent griping.
- * *Triphalā* for haemorrhoids.
- * Manjishtha, kutki, punarnava, neem for skin problems.
- * Guggulu, ginger, turmeric for high cholesterol and weight problems.



CONTRAINDICATIONS

Pregnancy; high *vāta*.

SAFETY

No drug–herb interactions are known.

DOSAGE

10–30mg per day of the powder.

NOTES

- Trivrut is a creeper growing all over India.
- *Caraka* mentions two varieties, white and a black. The white variety should be used as a mild laxative as the black variety is a violent purgative.
- The central part of the root should be removed and the root bark should be used.
- It is used as part of *virecana* purgative therapy in *pañca karma* to clear *kapha* and *pitta* and prevent seasonal disorders.
- It is used with salt, ginger and amalaki for *vāta*; sugar and raisins for *pitta*; hot water for *kapha*.

TULSI

Common name **Holy basil (E), Tulsi (H)** Sanskrit **Tulasī, Viṣṇu-priyā, Divyā** Latin **Ocimum sanctum–Folium (Labiatae)**

As its Latin name implies it is considered a very sacred plant. It is high in *sattva* imparting the quality of lightness and spiritual clarity. An excellent herb for lifting the heaviness of fevers, coughs and colds.

ENERGETICS

Rasa (taste) Pungent, bitter

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, nerve, reproductive

Srotas (channel) Respiratory, digestive, nervous, circulatory, urinary

CONSTITUENTS

Essential oil Eugenol, methyleugenol, carvacrol, limonene, carophyllene

Sterols β-sitosterol, stigmasterol

Flavonoids

Fatty acids

(Williamson 2002)

AYURVEDIC ACTION

Jvarahara Alleviates fevers

Śvedala Diaphoretic

Śvāsakāśahara Benefits breathing and alleviates coughing

Dīpana Enkindles the digestive fire

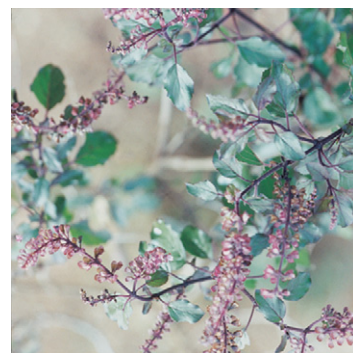
Hṛdaya Specific affinity for the heart

Kuṣṭha Alleviates skin disorders

Mūtrakṣchraghna Alleviates dysuria (seed)

BIOMEDICAL ACTION

Expectorant, febrifuge, diaphoretic, antispasmodic, antibacterial, nervine, carminative, aromatic

**INDICATIONS**

Lungs Tulsi clears *kapha* and mucus from the lungs and upper respiratory tract. Its action on *rasa dhātu* helps treat fevers and flu by encouraging sweating and therefore bringing the temperature down. Its action on *prāṇavāhasrotas* is used in asthma, bronchitis, rhinitis and other respiratory allergies. Human clinical trials have shown that tulsi can increase vital lung capacity and reduce laboured breathing. Tulsi specifically increases *prāṇa* and the vital life force. Its pungency and penetrating nature clears the dampness and toxic *āma* that can cause chest infections and fevers. Its *prabhāva* or special power is to be used in all fevers regardless of their cause (WHO 1999 Tillotson 2001).

Digestion Its aromatic pungency helps to move *vāta* through the intestines and calms a fermentive digestive tract. It moves *apāna vāyu* downwards. It also increases the appetite and is a good warming stimulant to the digestion. It acts on *medas-dhātu-agni* and can help to reduce weight as well as be used to reduce blood sugar

and total cholesterol levels (WHO 1999, Gogte 2000).

Nerves Used as a mild nervine for heightening awareness and mental clarity. A tea of the leaves is also used for tension headaches from high *vāta* and from congestion headaches from excess *kapha*.

Heart Its affinity for *rasa dhātu* helps to increase circulation through the heart where there is congestion from high *vāta* and *kapha* (Gogte 2000).

COMBINATIONS

- * Pippali, anthrapachaka, pushkaramoola for lung congestion with white, wet and sticky mucus.
- * Pippali, vasa, pit shirisha in nasal allergies with high *kapha*.
- * Ginger, fennel, cardamom in digestive malabsorption and flatulence.
- * Brahmi, vacha, gotu kola for benefiting the mind and clarity.

CONTRAINDICATIONS

In respiratory infections with high *pitta* without other cooling herbs.

SAFETY

No drug–herb interactions are known, although there is theoretical evidence that its eugenol content may deplete glutathione from the liver. Therefore caution should be used in patients using glutathione-depleting medication such as paracetamol (WHO 1999).

DOSAGE

1–9g per day dried or 5–15ml per day of a 1:5 @ 25% tincture.

NOTES

- Tulsi is a prolific shrub growing to about 75cm.
- There are different varieties: *śrīrāma* tulsi is the green variety, *krishna* tulsi is the red type and *vrina* tulsi is the larger variety.
- It is commonly found in Hindu courtyards and is used as part of the daily ritual to Vishnu, the Lord of Preservation.
- The tea is often combined with honey to aid its decongesting properties.
- It is used externally as a poultice for fungal infections and boils.
- The fresh juice is popular in India.
- The root and seed are also used, the root in fevers and the seeds as a mucilagenous demulcent.



TURMERIC

Common name **Turmeric (E), Haldi (H)** Sanskrit *Haridrā* Latin *Curcuma longa*–*Rhizoma* (*Zingiberaceae*)

Turmeric is a perennial grown throughout the tropical parts of Asia. It favours a warm and humid climate. *Haridrā* literally means ‘yellow’ and its strong yellow colour signifies its use as a liver herb that is good at drying damp and moving stagnation in the blood.



ENERGETICS

Rasa (taste) Pungent, bitter, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect) Pungent

Guṇa (quality) Dry, light

Doṣa effect VPK–, PV+ in excess

Dhātu (tissue) All the tissues

Srotas (channel) Digestive, circulatory, respiratory, female reproductive

CONSTITUENTS

Phenylpropanoids Yellow pigments; curcumin, curcumenone, curcumenol

Essential oils Sesquiterpene ketones, zingiberine, phellandrene, borneol, cineole

Glycans Ukonans

(Mills & Bone 2000, Williamson 2002)

AYURVEDIC ACTION

Lekhāniya ‘Scraping’ property

Dīpana Enkindles the digestive fire

Prameha Useful in diabetes

Pāṇḍughna Used in anaemia

Raktaśodhana Blood purifier

Ārtavajanana Promotes menses

Jvaraghna Alleviates fever

Viśaghna Destroys poisons

Kṛmighna Worm destroying

Varṇya Complexion enhancer

Kuṣṭhaghna Removes skin diseases

Kaṇḍūghna Stops itching

Vedanāsthāpana Analgesic

Sandhāniya Heals broken bones

Sirovirecana Useful in clearing stagnation from the head

Stanyaśodhaka Purifies breasts and breast milk

BIOMEDICAL ACTION

Emmenagogue, blood tonic, carminative, antibacterial, choleragogue, alterative, vulnerary, anti-inflammatory, antiplatelet, hypolipidaemic, antioxidant, anticarcinogenic

INDICATIONS

Digestion For all intestinal infections and mucus conditions.

Turmeric helps to promote ‘sweet’ intestines by reducing pathogenic bacteria and destroying *āma*. It has recently been proven to have an affinity for the large intestine and to play a preventative role in bowel cancer.

Other clinical trials have proven its efficacy at treating dyspepsia and stomach ulcers. Its bitter and pungent flavours act on the *agni* of *rasa dhātu* and enhance its ability to nourish the plasma and blood. Traditionally used in diabetes to clear *āma*, *kapha* and excess fat tissue (Paranjpe 2001, Bone 2003).

Liver A stimulant effect to the liver and *rañjaka pitta* increases the flow of blood through the hepatic system and increases bile

output. This helps to dissolve and prevent gallstones. It is traditionally considered a blood ‘purifier’ and is often used for beautifying the skin and clearing systemic toxemia; eczema, urticaria, psoriasis and acne. As with many liver herbs it is also good for the eyes; a wash is used in conjunctivitis and styes (Frawley & Lad 1994).

Gynaecology Turmeric is used to clear *kapha* accumulations from the lower abdomen, uterus and *apānakṣetra*. Fibroids, cysts, endometriosis, dysmenorrhoea, amenorrhoea and leucorrhoea are all treated by reducing congestion. As a specific herb for *rasa dhātu* it also works on its secondary tissue *stanyasrotas* and is used to purify breast milk as well as to promote the flow of the menses. A poultice can be very effective in mastitis (Atreya 1998).

Inflammation Curcumin reduces inflammation caused by arachidonic acid (cf usage for dysmenorrhoea). It is used in dermatitis, eczema, urticaria, psoriasis, colitis, asthma, rheumatoid arthritis, osteoarthritis. Hence it is used in *pitta-kapha* conditions at low doses and mixed with other bitter herbs. It is also a renowned antibacterial (Bone 2003).

Joints It treats inflammation of the joints, alleviates pain and strengthens the joints and tendons. Useful for treating gout, arthritis, broken bones and wounds.

Heart Turmeric nourishes the heart by virtue of its *raktavardhaka* and blood building quality. By increasing blood flow and reducing total cholesterol turmeric helps the functions of the heart. It has an antiplatelet activity and scrapes accumulations from the channels (*lekhanīya*) which helps to prevent coagulation and reduce *kapha* in the blood (Gogte 2000).

Infections Turmeric is an excellent antibiotic useful in fevers, sore throat and septicaemia.

External Excellent for reducing pain as a topical application in bruises, infections, sprains and pain. Use it carefully as it stains the skin and anything it comes into contact with.

COMBINATIONS

- * Kutki, bhumiāmalaki, pippali in liver congestion with high *kapha* and *pitta*; hepatitis, jaundice.
- * Amalaki and daruharidra in diabetes and for 'cooling' the liver.
- * Small amounts (1:10) of black or long pepper as the piperine content enhances the anti-inflammatory activity of turmeric.
- * Guggulu, mustaka, punarnava for congestion in the lower abdomen and menstrual imbalance with pain, tumours and clots.

- * Neem and guduchi as anti-inflammatory treatment with a *kapha-pitta* pathology.
- * Guggulu, arjuna, amalaki for heart conditions such as angina and atherosclerosis.
- * Neem, kutki, long pepper for liver disease.
- * Ginger, licorice and cloves in sore throats and fevers
- * Neem leaf externally for infections and inflammations.
- * Myrrh for pain and bruises.
- * Frankincense, guggulu, black pepper, musta and triphala for arthritis.

CONTRAINDICATIONS

Caution in high *vāta* and *pitta*. Be vigilant if gallstones are present. As turmeric stimulates the movement of blood it is used with caution at medicinal doses during pregnancy and in those trying to conceive. Not in acute jaundice and hepatitis (Bone 2003).

SAFETY

Much of the literature recommends that turmeric should not be given if antiplatelet or anticoagulant medication is being taken, as cyclooxygenase (COX) inhibition by turmeric will disable platelets and further encourage clotting prevention. Bone advises a maximum dosage of 15g per day, hence it is not contraindicated, but patients on warfarin should be monitored closely so that the cumulative blood-thinning effect of both medicinals does not exacerbate the effects of warfarin and necessitate dosage adjustment (Bone 2003, Treasure 2000).

DOSAGE

1–10g per day dried root or 3–15ml per day of a 1:3 @ 45% tincture.

NOTES

- Although at high doses it can aggravate *pitta*, used judiciously it is an excellent remedy for all diseases of *rasa* and *rakta*. It has a particular affinity for blood-related disorders.
- Traditionally popular with yogis to help stretch ligaments and repair injuries. Also said to clean the *nāḍī* network of channels.
- It has another yogic use as part of *ganesh kriya*; a freshly peeled root is inserted into the anus to cleanse the rectum and physically help to open *mūlādhāra cakara* (Swami Satyananda Saraswati)
- Turmeric alleviates *vāta* and *kapha* by virtue of its hot energy and *pitta* via its bitter flavour.
- Its pungency combined with its bitter taste, dries and clears *āma* from the system.
- Many *Curcuma* species have medicinal uses. Karchur (*Curcuma zedoaria*) is used to reduce *kapha* and increase circulation.

VACHA

Common name **Calamus root (E), Sweet flag (E), Vach (H)** Sanskrit **Vācā, Uragandha** Latin **Acorus calamus–Rhizoma (Araceae)**

Vacha literally means ‘speech’. Calamus thrives in wet, damp marshland and is a semi-aquatic perennial. Its qualities treat similar ‘terrain’ in the whole system; sluggish, congested, heavy and wet conditions, like those of a marshland, are opposed by the warm, drying, penetrating and stimulating qualities of vacha.

ENERGETICS

Rasa (taste) Pungent, bitter, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, muscle, fat, nerve, reproductive

Srotas (channel) Nervous, digestive, circulatory, respiratory, reproductive

CONSTITUENTS

Essential oils Acorin, calamine, acoretin, asarone (Williamson 2002)

AYURVEDIC ACTION

Dīpana Awakens digestive fire

Pācana Digests toxins

Lekhaniya Scrapes out accumulations

Pramathī Removes accumulated doṣas from the dhātus

Kṛmināśaka Destroys worms

Unmādaghna Benefits emotional problems

Apsmāraghna Used to treat epilepsy

Samjñāsthāpana Restores consciousness



Manosrasāyana Rejuvenative to the mind

Śirovirecana Purges the orifices of the head of *kapha* and *āma*
Sāra Laxative

BIOMEDICAL ACTION

Carminative, cephalic, nervous stimulant, anthelmintic, laxative, antispasmodic, anti-inflammatory, expectorant

INDICATIONS

Mind Its primary application is to open the mind, improve concentration, clarity and speech. Its stimulating effect on *majjā dhātu* makes it useful in treating depression and mental sluggishness where there is mental *āma*. It actually scrapes mental *āma* and stagnation from the subtle channels of the mind. This acrid root is also used in childhood developmental problems and in post-stroke speech difficulties. It encourages the flow of *udāna* and *prāṇa vāyu*. By nourishing *sādhaka pitta* it specifically strengthens the ability of the mind to receive information and recall from memory (Paranjpe 2001).

Digestion Its aromatic heating effect helps to calm the gastric nerves, prevent fermentation and clear excess *kapha* with dyspep-

sia, flatulence and borborygmus; vacha reduces both *samāna vāyu* and *kledaka kapha*. It is a rejuvenative to *medas-dhātvaṅni* and can help to reduce obesity.

Lungs Vacha clears damp, wet coughs from the lungs. It also has an affinity for the throat and *viśuddhi cakra*; it clears ‘obstructions’ from the throat. Its purgative effect on the head makes it an excellent remedy for sinus congestion, nasal polyps and rhinitis from *kapha* aggravation. High doses can cause vomiting and it is used as an emetic in *pañca karma* (Frawley & Lad 1994).

Urine Used traditionally for urinary gravel and infections by removing the *kapha* deposits.

COMBINATIONS

- * Brahmi, gotu kola, shankha-pushpi for mental clarity and to remove speech impairments.
- * Cardamom, fennel, ginger for cold, damp deposits in the GIT.
- * Licorice, vasa, tulsi in lung congestion.
- * Gokshura, shilajit, coriander for urinary gravel.

CONTRAINDICATIONS

Pregnancy or breastfeeding. Use one month on, one month off.

DOSAGE

1–5g per day dried root or
1–5ml per day of a 1:5 @ 60%
tincture.

SAFETY

No drug–herb interactions are known.

NOTES

- It is mainly cultivated in north India as an evergreen rhizome.
- *Acorus gramineus* also grows in India.
- Four varieties are mentioned in the *Bhāvaprakāśa* but *Acorus calamus* is the accepted species.
- It is sometimes purified by boiling it in ginger juice or milk.
- Always combine it with other aromatic herbs to offset the emetic nature; e.g. fennel, cardamom and peppermint.
- It is banned in the USA by the Food and Drug Administration (FDA) because it contains β -asarone which is considered to be carcinogenic. β -asarone is not present in all varieties.



VAMSA LOCHANA

Common name **Bamboo manna, the inner pith of bamboo (E), Vaṃśa-locana (H)** Sanskrit **Vamśa-locana, Tavakṣīrī** Latin **Bambusa arundinaceae (Graminaceae)**

Although all parts of the bamboo are used, in Ayurveda true Vamsa lochana is found inside the hollow bamboo at the internodes as a silica-like secretion. *Vaṃśa-locana* literally means 'bamboo eye', referring to the exudates of the silica appearing through an eye-like crack in the bamboo. Its rarity is due to the difficulty of its harvest. It is especially good at clearing lung infections.

ENERGETICS

Rasa (taste) Sweet, astringent

Vīrya (energy) Cooling

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Dry, light

Doṣa effect VPK–, K+ in excess

Dhātu (tissue) Plasma, blood, nerve

Srotas (channel) Respiratory, nervous

CONSTITUENTS

Silica

(Paranjpe 2001)

AYURVEDIC ACTION

Kāsaśvāsahara Benefits breathing

Jvaraghna Reduces fevers

Dāhprasāmana Alleviates burning sensations

Stambhana Astringent and prevents leakages

Raktapitta Stops bleeding

Mūtravirecana Diuretic

Vājīkaraṇa Increases sexual potency

Bṛmhaṇa Nourishing tonic

BIOMEDICAL ACTION

Expectorant, diuretic, febrifuge, lung tonic



INDICATIONS

Lungs Cough from high *kapha* and *pitta* indicated by an infected cough producing yellow-green sputum, which may be blood-streaked; asthma, bronchitis, pneumonia. It enters *rasa dhātu* and helps to clear fevers from *āma* and *pitta* in the plasma. It has nourishing and tonic properties that help to repair and strengthen lung tissue (*Bhāvaprakāśa*).

Heart As a rejuvenative to *avalambaka kapha* it has cardio-protective qualities and is used with signs of chest pain, heaviness and congested blood flow.

Bleeding Its haemostatic effect on *rakta dhātu* make it a useful herb to include as a part of a formula for bleeding from high *pitta* anywhere in the body (*Bhāvaprakāśa*).

Urine Its diuretic effect on *mūtravāhasrotas* can help with cloudy and concentrated urine with a pungent smell due to high *pitta*. It also benefits dysuria from high *vāta* (Gogte 2000).

COMBINATIONS

- * Vasa, anthrapachaka for *pitta-kapha* coughs.
- * Pippali, cinnamon for fevers.

- * Arjuna, punarnava for heart disorders.
- * Amalaki or manjshtha to stop bleeding from high *pitta*.
- * Gokshura, coriander for *pitta*-like urinary symptoms.

CONTRAINDICATIONS

High levels of dryness and *vāta* aggravation need to be balanced by using with demulcent ghee and aromatic pungent herbs.

SAFETY

No drug-herb interactions are known.

DOSAGE

1–9g per day (dried).

NOTES

- Bamboo grows all over India, especially Assam.
- The leaves are also used to clear *pitta* from the lungs and to encourage menstrual flow.
- It is commonly adulterated and produced synthetically. The genuine natural substance is a white, crumbly product.

VARUNA

Common name **Three-leafed caper (E), Varuna (H), Varna (H)** Sanskrit *Varuṇa* Latin *Crataeva nurvala–Cortex (Capparidaceae)*

The bark of varuna is a renowned diuretic helping to clear pain and stones from the bladder and kidneys.

ENERGETICS

Rasa (taste) Bitter, sweet, astringent

Vīrya (energy) Heating

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Dry, light

Doṣa effect VK–, P+

Dhātu (tissue) Blood, fat, bone

Srotas (channel) Digestive, circulatory, urinary, excretory

CONSTITUENTS

Alkaloids Cadabicine

Tannins

Triterpenes Diosgenin,

β-sitosterol, lupeol

Flavonoids Rutin, quercetin

(Williamson 2002)

AYURVEDIC ACTION

Bhedanīya Purges deposits from the urinary system

Dīpana Enkindles the digestive fire

Vātānulomana Directs the flow of *vāta* downwards

Gaṇḍamalanāśaka Clears lymphatic swellings

Mūtrakṛcchraghna Reduces dysuria

Āśmarīghna Clears urinary calculi

BIOMEDICAL ACTION

Lithotriptic, diuretic, bladder tonic, lymphatic, carminative



INDICATIONS

Urinary Its affinity for *mūtravāha-srotas* coupled with its *bhedanīya* property clears urinary deposits and urinary pain in cystitis and inflammation. It clears kidney, ureter and bladder stones. It is also used for other urinary symptoms with urinary incontinence, enuresis, hypotonic, atonic and neurogenic bladder. Used in benign prostatic hyperplasia, cystitis, interstitial cystitis and chronic urinary tract infections (*Bhāvaprakāśa*, Bone 2003).

Lymph Its effect on both *rasa* and *medas-dhātu* helps to clear inflamed lymphatic nodes, especially in the neck. It also helps to clear fatty deposits from the blood and to reduce lipid cells (Gogte 2000).

Digestion It balances *viśamāgni* in *vāta* types and directs *apāna vāyu* downwards. This helps to clear worms and abdominal distension.

COMBINATIONS

- * Gokshura, punarnava, licorice in kidney, bladder and ureter stones.
- * Punarnava, guggulu, ginger, kanchanara in lymphatic swelling.
- * Cardamom, fresh ginger in low *agni* for *vāta* types.

CONTRAINDICATIONS

Pregnancy, due to its descending action.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–6g per day or 3–15ml of a 1:3 @ 25% tincture.

NOTES

- Varuna is a medium-sized tree growing all over India, and thriving in Madhya Pradesh.

VASA

Common name **Malabar nut (E), Vasaka (H), Adusa (H)** Sanskrit **Vāsā, Vāsaka** Latin **Adhatoda vasica, syn. Justicia adhatoda–Folium (Acanthaceae)**

Vasa means 'perfume' and is a common evergreen perennial shrub growing all over the plains of India and Sri Lanka. It is a powerful bronchodilator and expectorant for use in respiratory conditions with high *kapha* and *pitta*.



ENERGETICS

Rasa (taste) Bitter, astringent

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry

Doṣa effect KP–, V+

Dhātu (tissue) Plasma, blood, fat

Srotas (channel) Respiratory, circulatory, digestive

CONSTITUENTS

Alkaloids Vasicine, vasicinone, vasicinol, maiontone

Essential oil Ketone
(Bone 1996)

AYURVEDIC ACTION

Kāsaśvāsahara Alleviates breathing difficulties

Udaraprasāmana Antiallergenic

Chardinigrahaṇa Prevents nausea

Jvaraghna Reduces fever

Raktapittahara Prevents bleeding diseases

Raktaprasādana Nourishes blood

Hṛdaya Heart tonic

Kuṣṭhaghna Alleviates skin diseases

BIOMEDICAL ACTION

Bronchodilator, expectorant, antispasmodic, alterative, styptic, uterine contractor, diaphoretic, febrifuge.

INDICATIONS

Lungs It is a specific for respiratory congestion and wheezing. As a powerful bronchodilator it eases breathlessness and bronchospasm. It clears inflammatory *pitta* heat and liquefies congestive *kapha*. It can be used where there is inflammation from an allergic response as it clears the lungs and nostrils. Its diaphoretic properties act on *rasa dhātu* and can be utilised in fevers to clear *āma* and displaced *pitta*. As it disperses stagnation and strongly scatters *prāṇa vāyu* it can aggravate *vāta* (Bone 1996).

Blood It is eulogised in the Sanskrit literature for stopping bleeding (*raktastambhana*). Its effect on *raktapitta* is to astringe the mucous membranes and it is effective in bleeding from ulcers, menorrhagia, epistaxis and the gingivitis with high *pitta* (Paranjpe 2001).

Skin Its ability to clear heat from *rakta dhātu* and cool *bhrājaka pitta* make it a useful herb for inflammatory skin diseases with a *pitta-kapha* pathology. Its mild diaphoretic action can help to

clear *kapha* toxins trapped in *rasa dhātu*.

Gynaecology Its astringency causes contraction of the uterus. This can be useful in bleeding and prolapse. Its oxytocic properties make it useful as a parturient to facilitate labour but it should not be used at any other stage during pregnancy (Bone 1996).

Heart Vasa stimulates the vagus nerve and causes vasodilation of the capillaries. This can help to increase the contractile ability of the heart and also lower blood pressure (Gogte 2000).

COMBINATIONS

- * Anthrapachaka, bibhitaki, pip-pali, licorice in lung congestion from bronchospasm. Can be used with dhatura for a stronger effect.
- * *Trikatu* and honey in asthma.
- * Manjishtha in bleeding from heat and high *pitta*.
- * Neem, chrysanthemum, manjishtha in skin disorders.
- * Rose, shatavari in excess uterine bleeding from heat.

CONTRAINDICATIONS

Pregnancy (safe post-partum); high *vāta*.

SAFETY

No negative drug–herb interactions are known but it may cause a positive interaction with anti-

tussive medication (Braun & Cohen 2003, 2004).

DOSAGE

0.5–1.5g per day powdered leaf or 2.5–7.5ml per day of a 1:5 @ 45% tincture.

NOTES

- It is exceptionally powerful and should only be used under the guidance of a herbalist.
- Only use short-term (up to 6 weeks maximum).
- Excess use can cause hypotension.



VIDANGA

Common name **Embelia (E), Viranga (H), Vaividanga (H)** Sanskrit **Viḍaṅga** Latin **Embelia ribes–Fructus (Myrsinaceae)**

Vidanga is a renowned remedy for treating digestive disorders, especially those characterised by abdominal bloating caused by worms.

ENERGETICS

Rasa (taste) Pungent, Bitter

Vīrya (energy) Hot

Vipāka (post-digestive effect)

Pungent

Guṇa (quality) Light, dry, penetrating

Doṣa effect VK–, P+

Dhātu (tissue) Plasma, blood, fat, reproductive

Srotas (channel) Digestive, excretory, urinary, reproductive

CONSTITUENTS

Volatile oil

Tannin

Quinones Embelin, vilangin

Alkaloid Christembine

Fatty acids

(Williamson 2002)

AYURVEDIC ACTION

Kṛmighna Vermifuge

Dīpana Enkindles the digestive fire

Āmapācana Digests *āma*

Sūlapraśamana Alleviates intestinal colic

Kuṣṭhaghna Destroys skin diseases

Vibandhaghna Clears constipation

Āmapacana Removes toxins

Bhedanīya Purgative that forcibly expels toxins

Mūtravirecana Diuretic



BIOMEDICAL ACTION

Vermifuge, alterative, carminative, laxative, contraceptive, diuretic

INDICATIONS

Digestion Traditionally used to clear *vāta* from the intestines. It specifically kills bacterial, fungal and worm infestations (round-, thread- and tape-) and is considered gentle enough to treat childhood worms. Powdered vidanga is taken with honey on an empty stomach and then castor oil is used as a purgative the following day to flush out the dead worms. It strengthens *agni* very effectively and hence treats the underlying cause of parasitical infestations. Also benefits stagnation in the *purīṣavāhasrotas* and frees constipation. It cures *sūla* causing colic and flatulence (*Bhāvaprakāśa*).

Skin As it clears *kapha* from the skin it prevents itching. It is a fine alterative and cleans the

blood and lymph of *āma* toxins causing swollen glands and suppurative skin problems. It stimulates *rasadhātvaṅni* to clear fatty toxins circulating in the plasma and lymphatic systems. It is also used in formulas for vitiligo and faults in the pigmentation of the skin. Can be applied as a medicated oil to clear fungal infections of the skin (Paranjpe 2001).

Urinary It helps to drain *kapha* and *vāta* out via the urinary system. Its effect on *medas-dhātu* can help in treating diabetes. Used in dysuria, stones, high uric acid levels and cloudy urine. It colours the urine red.

Reproduction Modern research has found that it reduces male fertility by reducing testosterone levels (Williamson 2002).

COMBINATIONS

- * Kutaja, garlic for worms.
- * Sariva, bakuchi, manjishtha for skin conditions.

* Punarnava, gokshura for urinary problems.

CONTRAINDICATIONS

Pregnancy; *pitta* aggravation.

SAFETY

No drug–herb interactions are known. Vidanga has been associated with damaging peripheral vision when taken at very high

doses well the above normal therapeutic range.

DOSAGE

1–15g per day or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- It grows all over India as a small shrub.
- The tincture has proven the most effective way to clear worms.
- Use a high dose to kill worms and follow with a purgative.
- It is presently banned for use in the UK under the 1977 Medicines Order.



VIDARI

Common name **Vidarikand (H)** Sanskrit **Vidārī** Latin **Pueraria tuberosa–Radix (Fabaceae)**

This enormous bulbous root is a renowned rejuvenating tonic for the reproductive systems of both men and women. It is sweet and nourishing.

ENERGETICS

Rasa (taste) Sweet

Vīrya (energy) Cold

Vipāka (post-digestive effect)

Sweet

Guṇa (quality) Heavy, unctuous

Doṣa effect PV–, K+

Dhātu (tissue) Plasma, blood, muscle, reproductive

Srotas (channel) Reproductive, lactation

CONSTITUENTS

Isoflavones Diadzein, puerarin, puerarone
(Paranjpe 2001)

AYURVEDIC ACTION

Balya Strengthening

Bṛṃhaṇīya Weight-increasing

Stanyavardhana Increases breast milk

Śukrala Increases sperm

Kāṇṭhya Benefits the throat

Varṇya Complexion-improving

Rasāyana Rejuvenator

BIOMEDICAL ACTION

Diuretic, nutritive, anabolic, galactagogue, alterative, aphrodisiac

INDICATIONS

Urinary In any disorder of the urinary channels vidari can be



considered for clearing inflammation and dryness from the urethra, bladder and kidneys. It specifically works on *pitta* and *vāta* in the lower abdomen. It is a demulcent for a deficient and dry *medā dhātu* (*Bhāvaprakāśa*).

Lactation A great herb to increase breast milk production as it directly tonifies *rasa dhātu* and *stanyavāhasrotas*. It also benefits the mother post-partum, building strength and energy (*Suśruta*).

Rejuvenation As a rejuvenative anabolic (*bṛṃhana*) herb it helps whenever *vāta* has increased, especially during convalescence and old age. Also used to increase *śukra dhātu*, fertility, reproductive essence and sperm production (*Bhāvaprakāśa*).

Lungs Vidari is very effective for alleviating coughs and clearing mucus. Its cooling property helps to soothe sore throats.



COMBINATIONS

- * Gokshura for urinary problems.
- * Shatavari, fennel for lactation and post-partum.
- * Bala, ashwagandha for rejuvenation.
- * Licorice, ginger, bala for dry coughs.

CONTRAINDICATIONS

None known.

SAFETY

No drug–herb interactions are known.

DOSAGE

1–15g per day or 3–15ml per day of a 1:3 @ 25% tincture.

NOTES

- This perennial tuber grows in the northern regions of India.
- *Ipomea digitat*, also known as *kṣīṛavidārī*, is mentioned in the texts and is used interchangeably.

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52 COMMON AYURVEDIC FORMULAS



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This section examines some of the most popular ayurvedic formulas, listing their ingredients, dosage and therapeutic uses. They are grouped according to formula category in alphabetical order. The creation of specific formulas is at the heart of the ayurvedic tradition and practice. These traditional formulas are the repository of knowledge passed down by generations of ayurvedic doctors. They are formulated to have multiple and synchronous actions on the *doṣa*, *dhātu*, *agni* and *āma* as per the required treatment strategy. Their precise formulation has left herbal creations that are ayurvedic works of art.

Diseases, be they inherent, invasive, or internal to the body, are said to originate from *karma*, the *doṣa*, or from both. To cut through them, one should use the best compounds, made of the finest ingredients, which take away suffering.

The method of preparation enhances the potency of the formula

Śārṅgadhara Saṃhitā

See Chapter 3 for a description of how these formulas are made.

ĀSAVA, ARIṢṬA: MEDICATED WINES

These self-generated alcoholic fermented preparations are a favourite part of ayurvedic treatment.

They enter the blood quickly, are tonifying and build strength in each particular organ or tissue system. The normal dose range is 12–24ml twice per day. See Chapter 3 to read more about *āsavas* and *ariṣṭas*.

Some common formulas and their indications are listed in Boxes 7.1 and 7.2:

Box 7.1

ĀSAVAS

Candanaāsava: Urinary and reproductive problems, urinary tract infections, burning sensations, bleeding disorders, reproductive problems, reproductive tonic.

Drākṣāsava: Digestive disturbances, indigestion, sluggish digestion, lack of appetite, bloating, constipation.

Hīṅgvasava: Digestive disorders, bloating, flatulence, colic, appetite-stimulant.

Kanakāsava: Respiratory disorders, asthma, bronchitis, cough, wheezing.

Kumārīāsava: Liver disorders, jaundice, ascites, hepatitis, cirrhosis.

Pippaliyāsava: Lung disorders, coughs, malabsorption, fevers.

Punarnavaāsava: Urinary disorders, water balance disturbance, lung problems caused by high *kapha*.

Box 7.2**ARIṢṬAS**

Abhayāriṣṭa: Constipation, haemorrhoids, acidity, lack of appetite.

Āśokāriṣṭa: Gynaecological disorders, metrorrhagia, dysmenorrhoea.

Daśamūlāriṣṭa: Nervous disorders due to disturbed *vāta*, chest problems, heart disease, digestive problems.

Kuṭajāriṣṭa: Diarrhoea, dysentery, colitis.

Sārasvatāriṣṭa: Brain tonic, anxiety, insomnia, improves concentration and memory.

Viḍaṅgāriṣṭa: Anthelmintic, digestive, diarrhoea.

AVALEHA: MEDICINAL JAMS**CYAVANAPRĀSĀ****Box 7.3****Cyavana's Elixir****Ingredients**

Each 5g contains:

Guduchi	<i>Tinospora cordifolia</i>	29mg
Bhumiamalaki	<i>Phyllanthus niruri</i>	29mg
Vidari	<i>Pueraria tuberosa</i>	29mg
Karchur	<i>Curcuma zedoaria</i>	29mg
Ela	<i>Elettaria cardamomum</i>	29mg
Musta	<i>Cyperus rotundus</i>	29mg
Punarnava	<i>Boerhaavia diffusa</i>	29mg
Vamsa Lochana	<i>Bambusa arundinaceae</i>	29mg
Gokshura	<i>Tribulus terrestris</i>	29mg
Kantakari	<i>Solanum xanthocarpum</i>	29mg
Vasa	<i>Adhatoda vasica</i>	29mg
Bilva	<i>Aegle marmelos</i>	29mg
Draksa	<i>Vitis vinifera</i>	29mg
Chedana	<i>Santalum album</i>	29mg
Pushkaramoola	<i>Inula racemosa</i>	29mg
Bala	<i>Sida cordifolia</i>	29mg
Shatawari	<i>Asparagus racemosus</i>	29mg
Kesar	<i>Crocus sativa</i>	29mg
Cinnamon	<i>Cinnamomum zeylanicum</i>	29mg
Tamalapattra	<i>Cinnamomum tamala</i>	29mg
Satapusa	<i>Foeniculum vulgare</i>	29mg
Trikatu	Three Spices	90mg
Ashwagandha	<i>Withania somnifera</i>	29mg
Triphala	Three Fruits	90mg
Madhu	<i>Mel</i>	125mg
Taila	<i>Sesamum indicum</i>	125mg
Ghee	Clarified butter	125mg
Gur/Jaggery	<i>Saccharum officinalis</i>	2778mg
Amalaki	<i>Emblica officinalis Recens</i>	1000mg

Method of preparation

The dried powdered herbs and the bundle of fresh amalaki are decocted in 12L of water reduced to 3L. The amalaki seeds are separated from the pulp and fried in the ghee and sesame oil. The jaggery is added to the strained decoction and boiled to form a syrup to which the fruit pulp is added. *Trikatu*, cinnamon, cardamom and saffron are added to the mixture and it is sealed (*Caraka Saṃhitā*, *Cikitsāsthāna*, taken from Kulkarni 2000)

ENERGETICS

Rasa (taste): Sweet, sour, pungent, bitter, astringent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Sweet

Guṇa (quality): Heavy, unctuous

Doṣa effect: VPK=

Dhātu (tissue): All

Srotas (channel): Digestive, excretory, urinary, respiratory, reproductive, blood

AYURVEDIC ACTION

Rasāyana Rejuvenative to all the tissues

Vājīkaraṇa Reproductive tonic

Balya Increases strength

Kāsaśvāsahara Alleviates coughs and asthma

Hṛdaya Heart tonic

Vātaraktahara Alleviates gout

Mūtrarogahara Alleviates urinary disorders

BIOMEDICAL ACTION

Immune tonic, adaptogen, anabolic, expectorant, laxative, digestive, carminative

INDICATIONS

Immunity The primary action of *cyavanaprāsā* is to increase resistance to infectious diseases, to build haemoglobin and white blood cells. It is especially good for the lungs as it nourishes the mucous membranes and helps to clear phlegm. It strengthens *vāta* and increases *ojas*.

Convalescence It is a superb remedy to include as part of a programme to facilitate recovery from illness and stress. It specifically increases muscle mass and tissue (*dhātu*) strength. If the digestion is good it does not aggravate *kapha*.

Reproduction It was originally created to give the elderly sage Cyavana the required virility to satisfy his young bride and hence it has a nourishing effect on the reproductive tissues. It should be

used as a prophylactic in times of excessive sexual activity as well as a tonic in cases of debility. Use when there is infertility, low libido and sexual weakness.

COMBINATIONS

- Usually combined with a personalised treatment regime.

CONTRAINDICATIONS

Avoid in hot weather for *pitta* types or with indigestion.

DOSAGE

1–3tsp (5–20g) morning and evening.

NOTES

- The herbs are a mixture of phlegm-clearing, *āma*-reducing, digestive-fire-increasing and reproductive tonics.
- It is taken with milk as a vehicle to help carry it deep into the tissues. Try with almond milk if dairy is unsuitable.
- Often used in winter as a tonic.
- There are numerous formulas for *cyavanaprāśā*. *Caraka Saṃhitā* is the first source of this legendary formula, and it is also mentioned in *Aṣṭāṅgahṛdaya Saṃhitā*, *Bhaiṣajya Ratnāvalī* and *Śārīrādhara Saṃhitā* with some minor changes. It is not mentioned in *Suśruta Saṃhitā*.
- Certain plants mentioned in *Caraka* have a doubtful identity, such as *jeevanti*. Other herbs including *agaru* (*Aquilaria agallocha*), *gambhari* (*Gmelina arborea*), *kakanasa* (*Martynia diandra*), *karkatashringi* (*Pistacia interrima*), *kushta* (*Saussurea lappa*), *kaghu kankari* (*Solanum xanthocarpum*), *mashaparni* (*Teramnus labialis*), *mudgaparni* (*Phaseolus trilobus*), *naga keshara* (*Mesua ferrea*), *nilotpala* (*Nymphaea stellata*), *patala* (*Stereospermum suaveolens*), *prishniparni* (*Uraria picta*), *shalparni* (*Desmodium gangeticum*), *shyonaka* (*Oroxylum indicum*), *varahikand* (*Dioscorea bulbifera*) and *yashthimadhu* (*Glycyrrhiza glabra*) and are also mentioned in *Caraka Saṃhitā* but for reasons of sustainability, availability and manufacturer choice, are not always included. There is a solid history of variation within the *cyavanaprāśā* formula and so appropriate amendments appear acceptable.

CŪRṂA: POWDER PREPARATIONS

AVIPATTIKĀRA CŪRṂA

Box 7.4

Ingredients

Each 1g contains:

Shunthi	<i>Zingiber officinale</i>	12.9mg
Maricha	<i>Piper nigrum</i>	12.9mg
Pippalī	<i>Piper longum</i>	12.9mg
Haritakī	<i>Terminalia chebula</i>	12.9mg
Bibhitakī	<i>Terminalia belerica</i>	12.9mg
Amalakī	<i>Embelia officinalis</i>	12.9mg
Musta	<i>Cyperus rotundus</i>	12.9mg
Bida	<i>Sodii chloridum</i>	12.9mg
Vidanga	<i>Embelia ribes</i>	12.9mg
Ela	<i>Elettaria cardamomum</i>	12.9mg
Tamalpatra	<i>Cinnamomum tamala</i>	12.9mg
Lavanga	<i>Syzygium aromaticum</i>	143mg
Trivrut	<i>Operculina turpethum</i>	286mg
Sharkara	<i>Saccharum officinalis</i>	429mg

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Bhaiṣajya Ratnāvalī*: *amlapittādhikāra*)

ENERGETICS

Rasa (taste): Bitter, pungent, astringent

Vīrya (energy): Cooling

Vipāka (post-digestive effect): Sweet

Guṇa (quality): Light, dry

Doṣa effect: PV–

Dhātu (tissue): Plasma, blood, muscle

Srotas (channel): Digestive, excretory

AYURVEDIC ACTION

Dīpana Enkindles the digestive fire

Pācana Digestive

Pittasamana Pacifies *pitta*

Pittasodhana Clears *pitta* from the body

Amlapittanāśaka Clears acidity

Virecana Laxative for *pitta*

Anulomana Redirects rebellious *vāta* downwards

BIOMEDICAL ACTION

Carminative, antacid, laxative, cholagogue, antiemetic, neuralgic

INDICATIONS

Gastrointestinal tract *Avipattikāra cūrṁa* is a useful laxative for *pitta* aggravation with heat, thirst

and constipation. It mildly purges the bowel carrying inflammatory acid toxins out of the intestines. In signs of nausea, hiccups, belching and vomiting, *pācaka pitta* is being pushed upwards. *Avipattikāra*'s ability to direct *apāna vāta* downwards alleviates such discomfort. It directly treats the cause of *pitta* digestive problems by balancing the digestive fire.

Acidity It is a specific remedy for reducing acid and burning in the stomach and chest region. It pacifies *tikṣṇāgni* or a digestive system that is too intensely active. It is the guiding formula for signs of acid regurgitation, a sour taste in the mouth, undigested food, thirst and other bilious symptoms.

Headaches Pain behind the eyes, at the side of the head, on the temples and in the forehead are signs of *pitta* aggravation due to disturbance of the digestive fire. *Avipattikāra cūrṇa* flushes this downwards.

COMBINATIONS

- Aloe vera juice as a carrier to soothe the mucus membranes.
- Licorice and shatavari for ulcers.
- *Kaiśor guggulu* for inflammation caused by *pitta* leaving its site in the small intestine and causing hot swellings.

CONTRAINDICATIONS

Pregnancy.

DOSAGE

2–5g three times per day.

NOTES

- *Trikaṭu* enkindles *agni*.
- *Triphalā* cleans the intestines and clears acids.
- *Musta* reduces *pitta*.
- *Vidanga* clears *pitta* and is a mild laxative. Use rhubarb root instead if *vidanga* cannot be used.
- *Ela* and *tamalapatra* reduce acidity. Use fennel instead of *tamalapatra* if it is unavailable.
- *Lavanga* increases the digestive fire without aggravating *pitta*.
- *Trivrut* is the main herb in the formula and purges the bowel. Sugar is cooling and clears acid. Take with warm water to prevent griping from aggravated *vāta*.

HIŅGVAṢṬAKA CŪRṆA: The Asafoetida Eight-herb Formula

Box 7.5

Ingredients

100g contains:

Shunthi	<i>Zingiber officinale</i>	12.5g
Black Pepper	<i>Piper nigrum</i>	12.5g
Pippali	<i>Piper longum</i>	12.5g
Ajamoda	<i>Apium graveolens</i>	12.5g
Saindhava	<i>Sodii chloridum</i>	12.5g
Jiraka	<i>Cuminum cyminum</i>	12.5g
Krisna jiraka	<i>Nigella sativa</i>	12.5g
Hingu	<i>Ferula asafoetida</i>	12.5g

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Yogaratanākara, Bhaiṣajya Ratnāvalī: agnimāndyārogādihikāra*)

ENERGETICS

Rasa (taste): Pungent, salty

Vīrya (energy): Hot

Vipāka (post-digestive effect): Pungent

Gūṇa (quality): Light, dry, penetrating

Doṣa effect: VK–, P+

Dhātu (tissue): Plasma, blood

Srotas (channel): Digestive, excretory, respiratory

AYURVEDIC ACTION

Dīpanīya Enkindles the digestive fire

Āmapacana Digests intestinal toxins

Vātānulomana Redirects *vāta* downwards

Śūlahara Alleviates pain

BIOMEDICAL ACTION

Carminative, digestive, laxative, anthelmintic, antispasmodic, expectorant

INDICATIONS

Gastrointestinal tract *Hiṅgvaṣṭaka* is a superb remedy for digestive disturbances that have a nervous component. Symptoms such as bloating, flatulence, borborygmus, lower intestinal pain and constipation are all signs of *apāna vāyu* not regulating the descent of the digestive energy. Other signs might be frequent belching, hiccups and indigestion. It can help people who are prone to a 'nervous stomach', who eat on the move, and who have erratic digestion. *Hiṅgvaṣṭaka* helps to regulate *samāna vāyu* operating in the middle of the abdomen and this

allows *apāna vāyu* to descend easily. It can also help floral imbalances by eradicating pathogenic bacteria such as *Candida albicans*, *Entamoeba histolytica* and *Shigella* spp. This helps to clear *āma*, a dirty coating on the back of the tongue and bad breath.

Lungs Its positive effects on correcting the flow of *vāta* can help with various respiratory disorders. By reducing mucus in the lungs it clears the way for *prāṇa* to flow freely. It can be included in formulas to treat asthma, bronchitis and shortness of breath.

COMBINATIONS

- Extra *trikaṭu* for more *kapha*-related mucus disorders in the lungs and digestive system.
- *Avipattikāra cūrṇa* when there are heat, acidity and *pitta* problems.
- *Triphalā* when there are more systemic signs of *āma*.

CONTRAINDICATIONS

Pregnancy, due to its descending action and hing content; aggravated *pitta*.

DOSAGE

1–2g three times per day.

NOTES

- All the herbs stimulate *agni*, direct *vāta* downwards and clear *āma*.
- It is the ayurvedic digestive enzyme.
- Used before a meal it helps to stimulate the appetite and descend *apāna vāyu* helping to reduce anorexia and lack of appetite.
- Used in the middle of a meal it helps regulate *samāna vāyu*.
- Used at the end of the meal it helps to remove *āma* and undigested food.

MAHĀSUDARŚANA CŪRṂA: The Formula For Creating Lustre

Box 7.6

Ingredients

Including

Triphala	Three Fruits
Vidanga	<i>Embelia ribes</i>
Trikatu	Three Spices
Ativisha	<i>Aconitum heterophyllum</i>
Mustaka	<i>Cyperus rotundus</i>
Chiretta	<i>Swertia chiretta</i>

Haridra	<i>Curcuma longa</i>
Guduchi	<i>Tinospora cordifolia</i>
Dhanvyas	<i>Fagonia cretica</i>
Katuka	<i>Picrorrhiza kurroa</i>
Parpat	<i>Fumaria indica</i>
Neem	<i>Azadiracta indica</i>
Yastimadhu	<i>Glycyrrhiza glabra</i>
Kutaja	<i>Holarrhena antidysenterica</i>
Chitraka	<i>Plumbago zeylanica</i>
Usheer	<i>Vetivera zizanoides</i>
Vacha	<i>Acorus calamus</i>
Devadaru	<i>Cedrus deodara</i>
Kantakari	<i>Solanum xanthocarpum</i>

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Bhaiṣajya Ratnāvali: Jvarādhikāra*).

ENERGETICS

Rasa (taste): Bitter, pungent, astringent

Vīrya (energy): Cooling

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Light, dry

Doṣa effect: PK–, V+

Dhātu (tissue): Plasma, blood

Srotas (channel): Respiratory, water

AYURVEDIC ACTION

Jvarahara Alleviates fevers

Yakṛduttejaka Tonifies the liver

Āmapacana Removes *āma*; especially *pitta*-inflammatory toxins

Pittaśodhana Clears *pitta* from the system

Raktaśodhana Cleans the blood

Cakṣuṣya Benefits the eyes

BIOMEDICAL ACTION

Alterative, febrifuge, antipyretic, cholagogue, antiviral, diaphoretic, diuretic, decongestant

INDICATIONS

Fever *Mahāsudarśana* clears inflammatory toxins from the body via the skin and urine. It directly clears heat from the system that has built up due to a displaced *agni* circulating in the plasma and blood. The low *agni* commonly causes *āma* blocking the channels of circulation (*srotas*) and hence obstructing the circulation of *vāta* causing some of the prodromal symptoms of fever. It neutralises viral infections by enhancing immunity and detoxifying the acidic burden. It is a specific for

influenza, acute phases of myalgic encephalomyelitis (ME) and the Epstein–Barr virus manifesting with sore throat, high temperature, thirst, constipation and burning sensations.

Lymph Its detoxifying and diuretic action reduces lymphatic swelling and congestion. Long-term chronic low immunity can cause swollen lymph glands and *mahāsudaršana* treats both the cause and the manifestation of this problem.

Liver This bitter-tasting formula stimulates the liver to release bile. The excess heat is cleared from the hepatic system and *rañjaka pitta*. It can help to treat hypochondrial pain, gallstones and liver toxicity. By treating the liver it clears heat from *ālocaka pitta* in the eyes and can be used to treat conjunctivitis and styes. *Pitta* headaches that manifest with pain behind the eyes, at the side of the head, on the temples and in the forehead are also treated with *mahāsudaršana*.

Skin Its alterative effects clear inflammatory *pitta* toxins from the blood helping to treat acne, eczema and sensations of burning on the skin. It can also be used where there is an allergic component such as in urticaria with itching and red inflamed weals.

COMBINATIONS

- Follow with immune-bolstering herbs such as ashwagandha or *cyavanaprāsā*.
- Anthrapachaka, vasa and *trikaṭu* in lung disorders.
- Sariva, pitshirisha and coriander for allergic reactions.

CONTRAINDICATIONS

Only use for *pitta* fevers; pregnancy.

DOSAGE

1–3g three times per day.

NOTES

- The bitter chiretta, guduchi, neem, kutki, haridra, musta and parpat all clear heat, reduce inflammation, are antiviral and rectify liver function.
- *Trikaṭu*, chitraka, ativisa, vacha and deodar all balance the digestive fire and push heat out of the body via the skin.
- *Triphalā*, vidanga, yastimandhu and kutaja all treat the bowel and aid elimination of toxins from the intestines.
- Vetiver acts as a diuretic.
- Replace CITES-listed kutki with kalamegha (*Andrographis paniculata*).

PUŠYĀNUGA CŪRṆA

Box 7.7

Ingredients

Each 1g contains:

Patha	<i>Cissampelos pareira</i>	40mg
Daruharidra	<i>Berberis aristata</i>	40mg
Jambulbeej	<i>Eugenia jambolana</i>	40mg
Amrabeej	<i>Mangifera indica</i>	40mg
Pashanbhed	<i>Saxifraga ligulata</i>	40mg
Lajjalu	<i>Mimosa pudica</i>	40mg
Draksa	<i>Vitis vinifera</i>	40mg
Nilotpal	<i>Nymphoea stellata</i>	40mg
Yasthimadhu	<i>Glycyrrhiza glabra</i>	40mg
Mocharas	<i>Salmelia malabarica</i>	40mg
Dhatki	<i>Woodfordia floribunda</i>	40mg
Sariva	<i>Hemidismus indica</i>	40mg
Arjuna	<i>Terminalia arjuna</i>	40mg
Lodhra	<i>Symplocos racemosa</i>	40mg
Suvarnagairika	<i>Kaolinum</i>	40mg
Katphal	<i>Myrica nagi</i>	40mg
Shunthi	<i>Zingiber officinale</i>	40mg
Chandan	<i>Santalum officinalis</i>	40mg
Mustaka	<i>Cyperus rotundus</i>	40mg
Bilvamool	<i>Aegle marmelos</i>	40mg
Maricha	<i>Piper nigrum</i>	40mg
Kutaj	<i>Holarrhena</i>	40mg
	<i>antidysenterica–radix</i>	
Indrayava	<i>Holarrhena</i>	40mg
	<i>antidysenterica–semen</i>	
Ativisha	<i>Aconitum heterophyllum</i>	40mg

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Bhaiṣajya Ratnāvalī: Strīrogādhikāra*).

ENERGETICS

Rasa (taste): Astringent, pungent, sweet, bitter

Vīrya (energy): Warming

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Light, dry

Doṣa effect: PKV–, V+ in excess

Dhātu (tissue): Plasma, blood, muscle, reproductive

Srotas (channel): Female reproductive, circulatory, water

AYURVEDIC ACTION

Raktapittahara Alleviates bleeding disorders

Strīrogaghna Alleviates gynaecological conditions

Śvetapradara Gynaecological pacifier
Ārtava śamana Treats leucorrhoea
Stambhana Prevents leakage of fluids
Kaṣāya Astringent

BIOMEDICAL ACTION

Haemostatic, vulnerary, uterine tonic, circulatory regulator, menstrual regulator, vasoconstrictor, alterative, anti-inflammatory, antispasmodic

INDICATIONS

Gynaecology *Puṣyānuga* is indicated for all female menstrual disorders involving congestion in the *ārtava srotas* (female reproductive channel). Conditions involving excessive bleeding such as metrorrhagia, fibroids and endometriosis are treated with this formula. Excess water stagnation with uterine tumours, ovarian cysts and leucorrhoea are dried up and reduced. Dysmenorrhoea due to high *pitta* and *kapha* is regulated as the obstruction causing the pain is removed. Menstrual irregularities such as mid-cycle bleeding and perimenopausal flooding are normalised. All inflammations and irritations, such as in thrush and vulvodynia, are treated.

Pregnancy With a restless fetus and mid-term bleeding *puṣyānuga* is indicated. It is also of great benefit post-partum to astringe the uterus muscles and purify the *stanya srotas* (lactation channel).

Blood Conditions involving excess bleeding, especially from the bowel and urinary system, are astringed and rectified. It specifically focuses on *rakta dhātu*, and the reckless movement of blood flooding out of its channel is addressed by reducing the stagnation that is causing the overflow. The blood nourishing action of the herbs help to treat anaemia. As a vasoconstrictor it tonifies the capillaries and assists the relaxation–contraction cycle in the capillary beds.

Nerves Irritations of the nervous system causing pain and uterine spasms are soothed.

COMBINATIONS

- *Kañcanāra guggulu* with fibroids, endometriosis and fibroids.
- *Kaiśor guggulu* with breast cysts and uterine tumours with heat signs.
- *Punarnavadi guggulu* in leucorrhoea, water retention and swollen breasts.
- *Shatavari* and *ashwagandha* for infertility and menstrual irregularity.

CONTRAINDICATIONS

Constipation; very high *vāta*.

DOSAGE

1–5g three times per day with rice water.

NOTES

- This is a complex formula involving multiple actions. Astringents such as *amrabija*, *arjuna*, *lodhra*, *bilvamool*, *kutaja*, *nilotpal* and *patha* all hold blood in its proper channels and clear *kapha* congestion.
- Cooling herbs such as *sariva*, *chandan*, *daruharidra* and *yastimadhu* help to clear *pitta*.
- Menstrual regulators such as *mustaka*, *lodhra*, and *patha* help to normalise the cycle.
- Antispasmodic *vāta*-reducing herbs such as *katphala*, *mustaka*, *yastimadhu*, and *sunthi* help with pain and uterine tension.
- Tonics such as *sariva*, *draksa*, *yastimadhu*, *arjuna* and *mustaka* all help to nourish *rasa* and *rakta*, hence building the blood count.
- It is known as *puṣyānuga* as the plants in this formula should be collected when the moon is in the *puṣya* constellation in December and January.

SITOPALĀDI CŪRṂA: The Sweet Cough Powder

Box 7.8

Ingredients

Each 100g contains:

Pippali	<i>Piper longum</i>	13g
Twak	<i>Cinnamomum zeylanicum</i>	5g
Vamsa lochana	<i>Bambusa arundinacea</i>	25g
Elae	<i>Elettaria cardamomum</i>	7g
Sitopala, Rock candy	<i>Saccharum officinalis</i>	50g

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Śārngadhara Saṁhitā*).

ENERGETICS

Rasa (taste): Sweet, pungent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Sweet

Guṇa (quality): Light, unctuous

Doṣa effect: VPK=, P+ in excess

Dhātu (tissue): Plasma, rakta

Srotas (channel): Respiratory, digestive

AYURVEDIC ACTION

Kāsaśvāsahara Alleviates cough and asthma (*pitta*-type)

Pratisārahara Clears colds and allergies

Dīpana Enkindles the digestive fire

Jvaraghna Alleviates fevers

Dāhaghna Reduces burning sensations

BIOMEDICAL ACTION

Expectorant, antiasthmatic, antiallergenic, febrifuge, diaphoretic, bronchodilator

INDICATIONS

Lungs *Sitopalādi* is the classic formula for coughs and colds arising from an excess of *vāta*, *pitta* and *kapha*. It is useful when there is shortness of breath, asthma with wheezing from contact with cold weather, bronchitis and chest congestion due to high *kapha*. When *prāṇa vāyu* is obstructed due to aggravated *śleṣaka* and *avalambaka kapha* then this formula clears the congestion and frees the flow of air. It is a specific for coughs with copious white or yellow-tinged sputum, sore throat, high fever and a muzzy head.

Nose Use *sitopalādi cūrṇa* for sinus congestion, a dull headache that feels as though there is a tight band around the head, and a runny nose.

Allergies For seasonal and allergic rhinitis from allergies to dust, mould and airborne pathogens, combine with other herbs to reduce mast cell proliferation.

COMBINATIONS

- *Trikaṭu* for severe mucus.
- *Mahāsudaśana* when there is fever and inflammation from high *pitta*.
- Pitshirisha, anthrapachaka and haritaki for allergic reactions that affect the respiratory system.

NOTES

- Use with ¼ teaspoon of honey to enhance its transport to the lungs.
- The vamsa lochana helps to alleviate *pitta* fevers, infected phlegm and haemoptysis. It is a very effective expectorant.
- Cardamom, long pepper and cinnamon help to reduce *kapha* and *vāta*.
- Long pepper helps to rejuvenate the underlying weakness in the respiratory system (*prāṇavāhasrotas*).

- *Sitopala* literally means ‘rock candy’ and refers to the cooling, demulcent *pitta*- and *vāta*-relieving properties of the preparation.
- With high *pitta* signs include more *pitta*-reducing herbs.

CONTRAINDICATIONS

None known.

DOSAGE

1–5g three times per day.

TRIKAṬU CŪRṆA: The Three Spices Formula**Box 7.9****Ingredients**

100g contains:

Shunthi	<i>Zingiber officinale</i>	33.3g
Maricha	<i>Piper nigrum</i>	33.3g
Pippali	<i>Piper longum</i>	33.3g

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Bhāvaprakāśīa, Bhaiṣajya Ratnavali: paribhāṣāprakaraṇa*).

ENERGETICS

Rasa (taste): Pungent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Light, dry

Doṣa effect: VK–, P+, can aggravate V in excess

Dhātu (tissue): Plasma, blood, muscle, fat

Srotas (channel): Digestive, respiratory, fat, eliminatory

AYURVEDIC ACTION

Dīpana Awakens digestion

Pācana Digests toxins

Āmanāśaka Destroys toxins

Kāsaśvāsahara Alleviates coughs and asthma and benefits breathing

Sthaulyamedoghna Removes fat and obesity

Rasāyana Rejuvenative, especially to *kapha* and the lungs

Pinasaghna Alleviates nasal congestion

BIOMEDICAL ACTION

Carminative, appetiser, digestive, expectorant, bronchodilator, diaphoretic

INDICATIONS

Gastrointestinal tract *Trikatu* is the remedy for stimulating a sluggish *agni*. It is indicated whenever there is low digestive activity with sluggishness, bloating, abdominal pain and flatulence due to high *kapha* or *vata*. It also helps in conditions of poor nutritional assimilation due to parasites, a leaky gut or low enzyme secretions. May help in IBS, *Candida albicans*, diarrhoea from cold or food intolerances to damp, wet and heavy foods. It is a specific remedy to help burn *ama* and undigested toxins in the digestive tract and bloodstream. When there is nausea due to excess phlegm this can help.

Lungs As *trikatu* rejuvenates the lungs it is used whenever there is a cough, wheezing or breathing difficulties with clear, sticky and white phlegm. Used in asthma, bronchitis, pneumonia, cough and colds. A superb remedy for hayfever and acute allergic rhinitis as an immediate way of drying up the copious nasal secretions; it has anti-allergenic effects. Also used in sinus congestion and chronic nasal blockage. It has an affinity for all the orifices of the head and clears a muzzy head, clears blocked ears and treats sore throats.

Metabolic With low metabolism, hypothyroid and the concurrent increase in weight, low energy, and lowered immunity, *trikatu* can be part of a treatment strategy. Where there is high cholesterol it may be indicated to encourage digestion of the excess lipids via enkindling *medas-dhatu agni*. With any feeling of coldness *trikatu* can help to warm the body.

COMBINATIONS

- *Triphala* in congestion, constipation, excess mucus.
- Used in numerous formulas as a digestive tonic to assist the digestion of the formula and to correct *vata* and *kapha*.

CONTRAINDICATIONS

Caution in pregnancy; high *pitta*; hyperacidity in the stomach.

DOSAGE

2–3 capsules or 1–2g two to three times per day.

NOTES

- Traditionally combined with honey to make a paste. Honey is said to clear mucus and help with cleansing.

- Use before meals as a *dipaniya*, a digestive stimulant, and after meals as a *pacaniya*, an aid to digestion.

TRIPHALĀ CŪRṆA: The Three Fruits Powder

Box 7.10

Ingredients

Each 100g contains:

Haritaki	<i>Terminalia chebula</i>	33.3mg
Bibhitaki	<i>Terminalia bellerica</i>	33.3mg
Amalaki	<i>Emblia officinalis</i>	33.3mg

Method of preparation

All the herbs are made into fine powder and mixed together to make a homogeneous mixture (*Bhāvaprakāśa*).

ENERGETICS

Rasa (taste): Sweet, sour, pungent, bitter, astringent

Vīrya (energy): Cooling

Vipāka (post-digestive effect): Sweet

Guṇa (quality): Light, dry

Doṣa effect: VPK=

Dhātu (tissue): All tissues rejuvenated

Srotas (channel): All channels cleansed, especially channels of elimination

CONSTITUENTS

Tannins, alkaloids, sennoside, ascorbic acid (Vitamin C), bioflavonoids, mucilage

AYURVEDIC ACTION

Pācana Toxin digester

Dīpana Appetiser

Rasāyana Rejuvenative

Anulomana Mild laxative, redirects the flow downwards

Netrarogaghna Treats eye disorders

Pramehaghna Alleviates diabetes

BIOMEDICAL ACTION

Laxative, colon tonic, aperient, alterative, anti-inflammatory, carminative, expectorant, antioxidant, antimicrobial

INDICATIONS

Digestion Traditionally used for maintaining a healthy digestive tract. Use when there are signs of sluggishness, constipation, bloating, flatulence,

abdominal pain and indigestion. It can help to heal ulcers, inflammations, haemorrhoids and general dysbiosis in the gastrointestinal tract.

Lungs When there is copious coughing with clear or white phlegm *triphalā* is used to clear this congestion and strengthen the lungs. Signs of rhinitis, hayfever and sinusitis may also benefit.

Skin When there are signs of toxicity in the blood with skin inflammations, acne or boils *triphalā* is used to detoxify the whole system. Also used as a mouthwash in gum inflammations with bleeding gums.

Eyes *Triphalā* has a long history of use for eye inflammation; conjunctivitis, styes, blepharitis. Use an eyewash of the infusion.

Weight In conditions of excess weight, high cholesterol and obesity. *Triphalā* can be used as part of a weight-balancing programme. Also used to help prevent overeating and food cravings due to its balanced spectrum of flavours.

COMBINATIONS

- *Triphalā* is combined with many herbs and formulas as it is central to ayurvedic programmes of health maintenance.
- *Trikaṭu* (ginger, black pepper and long pepper) in sluggish digestion and low appetite. Also beneficial in lung and nasal congestion.
- Neem, aloe vera and turmeric in skin conditions with inflammation.

CONTRAINDICATIONS

Caution in pregnancy.

DOSAGE

2–3 capsules 2 or 3 times per day; 0.5–5g of powder per day.

NOTES

- *Triphalā* is one of the most famous preparations from the ayurvedic formulary.
- *Triphalā* means ‘three fruits’.
- Some of its therapeutic action is believed to come from its possessing five of the six tastes (all but salty). It causes an enduring and deep cleansing of the tissues.
- Although sometimes classified as a laxative it is very mild, does not cause dependency and thoroughly detoxifies the digestive tract.
- It is commonly taken by soaking a teaspoon of the powder in water overnight as a cold infusion. This is then drunk on rising to promote a smooth bowel movement.

- Taken at night it has a milder aperient effect.
- As a powder, tablet or capsule it has a stronger effect.
- If *triphalā* fails to promote a bowel movement then stronger purgative herbs such as rhubarb (*Rheum palmatum*) can be added.

GUGGULU: PILLS MADE WITH COMMIPHORA MUKUL

GOKṢURĀDI GUGGULU

Box 7.11

Ingredients

Each 250mg tablet contains:

Gokshura	<i>Tribulus terrestris</i>	83.328 mg
Suddha guggulu	<i>Commiphora mukul</i>	83.328 mg
Shunthi	<i>Zingiber officinale</i>	11.904 mg
Maricha	<i>Piper nigrum</i>	11.904 mg
Pippali	<i>Piper longum</i>	11.904mg
Haritaki	<i>Terminalia chebula</i>	11.904 mg
Bibhitaki	<i>Terminalia belerica</i>	11.904 mg
Amlaki	<i>Emblica officinalis</i>	11.904 mg
Mustaka	<i>Cyperus rotundus</i>	11.904 mg

Method of preparation

Purified guggulu is added to the filtered decoction of gokshura. The remaining powders are mixed with this decoction to make a homogeneous mixture. The mixture is then dried, powdered and made into a tablet (*Śārngadhara Saṃhitā*, *Guggulu Śodhana* reference: *Bhārat Bhaiṣajya Ratnākara*).

ENERGETICS

Rasa (taste): Bitter, sweet, astringent, pungent

Vīrya (energy): Neutral

Vipaka (post-digestive effect): Neutral

Guṇa (quality): Dry

Doṣa effect: VPK=

Dhātu (tissue): Plasma, blood, muscle, fat, bone, nerve, reproductive

Srotas (channel): Urinary, water

AYURVEDIC ACTION

Lekhana Scrapes toxins

Śodhana Purifies the blood

Mūtrala Diuretic

Vṛkka aśmarīhara Treats renal calculi

Vṛṣya Increases sexual potency

Prameha Antidiabetic

Vātavyādhī Alleviates neurological disorders

Śveta pradara Treats leucorrhoea

Mūtrakṛccraghna Alleviates painful urination

Vātarakta Antigout

BIOMEDICAL ACTION

Diuretic, anti-inflammatory, antibacterial, lithagogue, aphrodisiac

INDICATIONS

Urine A traditional tonic for the genitourinary tract. Indicated in infections; cystitis, nephritis, incontinence with burning, frequency, cloudy urine, albuminuria, bleeding, excessive or obstructed urination with high *vāta-pitta*. Used to prevent and reduce stones caused by *kapha*.

Reproductive Specific application in male sexual dysfunction; premature ejaculation, nocturnal emissions, spermatorrhoea. Used for prostatitis and benign prostatic hypertrophy. Also used in female disorders such as leucorrhoea, endometriosis and infertility. It is a superb rejuvenative for the reproductive system when there is any weakness due to obstruction in the reproductive (*śukravāhasrotas*) or urinary (*mūtravāhasrotas*) channels.

Back Lower back problems, lumbago and kidney infections with high *vāta*.

COMBINATIONS

- Shilajit in sexual dysfunction.
- *Punarnavadi guggulu* in bladder and kidney stones.
- Sandalwood and coriander in enlarged prostate.

CONTRAINDICATIONS

Pregnancy.

DOSAGE

500mg–1g three times per day.

NOTES

- Gokshura guides the other herbs to the genitourinary system and is a renowned strengthening, lithotropic and sperm-purifying herb that alleviates urinary disorders.
- Guggulu acts as a cleaning resin that purifies all accumulations of *āma*.
- *Triphalā* clears *āma* and detoxifies the bladder and kidneys via the *mūtravāhasrotas* (urinary channels).
- *Trikatu* enkindles *agni* in all the tissues.
- Mustaka specifically moves in *mūtravāha*, *ārtava vāha* and *śukravāhasrotas* and therefore supports gokshura in guiding the formula downwards.
- It calms an overactive *vāta* and tonifies the depletion this causes.

- It soothes an inflamed *pitta* and heals the membranes that this damages.
- It reduces the adhesions and accumulations of *kapha* by scraping them away and clearing downwards.
- Drink with musta decoction or coriander seed cold water infusion

KAIŚOR GUGGULU**Box 7.12****Ingredients**

Each 250mg pill contains:

Haritaki	<i>Terminalia chebula</i>	7.75mg
Bibhitaki	<i>Terminalia belerica</i>	23.26mg
Amalaki	<i>Emblca officinale</i>	7.75mg
Guduchi	<i>Tinospora cordifolia</i>	11.63mg
Shunthi	<i>Zingiber officinale</i>	5.81mg
Marich	<i>Piper nigrum</i>	5.81mg
Pippali	<i>Piper longum</i>	5.81mg
Vidanga	<i>Embelia ribes</i>	5.81mg
Jaypala	<i>Croton tiglium</i>	0.73mg
Trivrut	<i>Operculina turpenthum</i>	0.73mg
Suddha guggulu	<i>Commiphora mukul</i>	186.05mg

Triturated with the decoction of:

Haritaki (<i>Terminalia chebula</i>)
Bibhitaki (<i>Terminalia belerica</i>)
Amalaki (<i>Emblca officinalis</i>)
Guduchi (<i>Tinospora cordifolia</i>)

Method of preparation

All the *cūrṇa* are made into fine powder and mixed with *suddha guggulu* to make a homogeneous mixture that is triturated with triphala and guduchi. The mixture is then dried, powdered, and made into tablet form (*Śāṅgadhara Saṃhitā, Bhaiṣajya Ratnāvalī: vātaraktādhikāra*).

Guggulu Śodhana reference: *Bhārat Bhaiṣajya Ratnākara*

ENERGETICS

Rasa (taste): Bitter, astringent, sweet, pungent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Dry, light

Doṣa effect: VPK–, balances all three *doṣa*

Dhātu (tissue): Plasma, blood, muscle, lipid, bone

Srotas (channel): Circulatory, skin

AYURVEDIC ACTION

Pittaśamana Pacifies *pitta* and inflammatory conditions

- Kuṣṭaghna** Benefits skin conditions
Āmavātanāśaka Reduces arthritic inflammations
Vātaraktaghna Alleviates gout
Vibandhaghna Alleviates constipation
Mūtrakṛcchraghna Treats painful urination and urinary disorders

BIOMEDICAL ACTION

Anti-inflammatory, diuretic, alterative, antipyretic, arthritic

INDICATIONS

Arthritis When there is inflammatory, painful, red, swollen arthritis, this is the remedy of choice. May benefit certain types of sciatica and muscle inflammation as well; tendonitis, polymyalgia.

Gout For all types of *vāta rakta* (gout) *kaiśor guggulu* is recommended. The obstructed *vāta* that is causing the pain is freed while the aggravated blood is cooled. Uric acid is also excreted and the crystalline deposits affecting the joints are scraped out.

Skin When there are inflammatory signs with infection, heat and burning, use *kaiśor guggulu* to clear *pitta* from the skin and blood. Also use it when *vāta* has entered the *rasa* and *rakta dhātu*. Specific for chronic eczema and psoriasis with lichenification, chronic plaques, itching and bleeding.

Lumps When a lump or growth (*arbuda* or *granthi*) is mixed with *pitta* and inflammatory toxins then *kaiśor guggulu* is indicated; certain cancers, especially breast and liver cancer, cirrhosis.

COMBINATIONS

- *Punarnava guggulu* in *kapha*-type arthritis.
- Sandalwood, neem, manjishtha in skin problems with heat signs.

CONTRAINDICATIONS

Pregnancy.

DOSAGE

500mg–1g three times per day.

NOTES

- Guduchi has a powerful anti-inflammatory action that penetrates deeply into the tissues.
- Guggulu scrapes the *pitta* and *vāta* toxins from the plasma, blood and muscle tissues.
- *Triphalā*, *vidanga* and *trivrut* combine to clear inflammatory toxins and *āma*.

- *Trikatu* digests the toxins in the tissues and enkindles the tissue *agni*.
- ‘*Kaiśor*’ indicates ‘youth’, hence it is used to prevent ageing and keep youth intact.
- For the best results the *Śārṅgadhara Saṃhitā* recommends that when using guggulu preparations avoid sour foods, penetrating foods, indigestion, excessive exercise, hot sun, alcohol and anger.

KAÑCANĀRA GUGGULU

Box 7.13

Ingredients

Each 250mg tablet contains:

Kanchanar twak	<i>Bauhinia variegata</i>	39mg
Triphala	Three Fruits	23.437mg
Trikatu	Three Spices	11.70mg
Varuna	<i>Crataeva religiosa</i>	3.90mg
Ela	<i>Elettaria cardamomum</i>	15.6mg
Tamalpatra	<i>Cinnamomum tamal</i>	15.6mg
Twak	<i>Cinnamomum zeylanicum</i>	15.6mg
Suddha guggulu	<i>Commiphora mukul</i>	124.8mg

Method of preparation

All the *cūrṇas* are made into fine powder and mixed with *suddha guggulu* to make a homogeneous mixture. The mixture is then dried, powdered and made into tablet form.

(*Śārṅgadhara Saṃhitā*, *Guggulu Śodhan* reference: *Bhārat Bhaiṣajya Ratnākara*)

ENERGETICS

Rasa (taste): Bitter, astringent, sweet, pungent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Dry, light

Doṣa effect: K–, balances all three *doṣa*

Dhātu (tissue): Plasma, blood, muscle, fat, bone, reproductive

Srotas (channel): Circulatory, lymphatic, eliminator

AYURVEDIC ACTION

Āmanāśaka Destroys *āma* and adhesions

Granthyarbudanāśaka Destroys tumours, growths and cancers

Vraṇaropaṇa Heals ulcers

Bhagandara Used in anal fistula

Strīroga Beneficial in menstrual disorders associated with high *kapha*

Raktapitta Internal bleeding disorders

BIOMEDICAL ACTION

Anti-inflammatory, lymphatic, antitumour, antiplatelet, diuretic, reduces cholesterol, alternative, decongestant

INDICATIONS

Growths *Kañcanāra guggulu* is a specific for clearing all growths and fluid-based accumulations in the body. It specifically reduces swellings and lumps (soft/hard/palpable/fixed/moveable) by drying the excess *kapha*. It is a favoured formula used in cancer caused by excess *kapha*. Also consider it in anal fistulas, abscesses and chronic skin lesions.

Thyroid It is also a specific herb for hypo- and hyperthyroid. It has a balancing activity on thyroxine production; increasing any deficient production and decreasing any excess. It also clears swellings in the neck and goitre.

Lymph It is a specific herb for swollen lymph nodes, cervical adenitis, scrofula, Hodgkin's disease and swollen glands in general. When *medas-dhātu-agni* becomes deficient and *kapha* becomes aggravated then lymphatic accumulations and growths can occur. It effectively flushes the lymphatic system of toxins, sluggishness and accumulated wastes. It may also be beneficial as a decongestant where the sinuses are blocked because of a sluggish lymphatic system.

Gynaecology Used for polycystic ovary syndrome (PCOS), fibroids, and vaginal discharge. It is a fantastic remedy for treating endometriosis as the kanchanar astringes the bleeding while the other ingredients scrape and eliminate the adhesions.

Skin In inflammatory skin disorders with oozing this is a very effective formula. When toxins are obstructing the deeper tissues of *medas-dhātu* and the fat tissue then *kañcanāra guggulu* is the appropriate formula.

Obesity When there are signs of excess weight with a sluggish lymphatic system and high cholesterol, *kañcanāra guggulu* is indicated.

COMBINATIONS

- Turmeric, myrrh and frankincense for growths and cancers.
- *Punarnavadi guggulu* for lymphatic congestion and oedema.
- Shatavari and rose in gynaecology.

CONTRAINDICATIONS

Pregnancy; any dryness in the body.

DOSAGE

500mg–1g three times per day.

NOTES

- This is the anti-*kapha* formula when there is such a degree of stagnation that the *āma* has congealed to form a palpable mass.
- Kanchanara is very astringent and dries excess *kapha* and reduces the lipid tissue.
- Guggulu scrapes the adhesive tissue away from the channels and works especially on *māṃsa* and *medas-dhātus*.
- *Triphalā*, *trikaṭu*, *varuna*, *ela* and *twak* all aid the digestion and elimination of the excess *kapha* by enkindling the digestive fire as well as clearing the toxins out through the urinary channel and the bowel.

PUNARNAVADI GUGGULU**Box 7.14****Ingredients**

Each 250g pill contains

Triphala	Three Fruits	16.86
Guduchi	<i>Tinospora cordifolia</i>	22.47mg
Trikatu	Three Spices	16.86
Vidanga	<i>Embelia ribes</i>	5.62mg
Dantimool	<i>Croton tiglium</i>	11.24mg
Trivrut	<i>Operculina tarpentum</i>	56.78mg
Shuddha guggulu	<i>Commiphora mukul</i>	89.89mg
Chitrakmool	<i>Plumbago zeylanicum</i>	5.62mg
Saindhav	<i>Sodium chloride impure</i>	5.62mg
Suddha bhallatak	<i>Semicarpus anacardium</i>	5.62mg
Punarnava	<i>Boerhaavia diffusa</i>	11.24mg

Triturated with the decoction of:

Punarnava	<i>Boerhaavia diffusa</i>
Shunthi	<i>Zingiber officinale</i>
Eranda mool	<i>Ricinis communis radix</i>

Method of preparation

All the *cūrmas* are made into fine powder and mixed with *suddha guggulu* to make a homogeneous mixture that is then triturated with punarnava, shunthi and *eraṇḍa mula*. The mixture is then dried, powdered and made into tablet form (*Bhaiṣajya Ratnavālī*, *Śodhana* reference: *Bhārat Bhaiṣajya Ratnākara*)

ENERGETICS

Rasa (taste): Bitter, astringent, sweet, pungent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Pungent
Guṇa (quality): Dry, light
Doṣa effect: VK–, P+
Dhātu (tissue): Plasma, blood, lipid
Srotas (channel): Water, urinary, circulatory

AYURVEDIC ACTION

Medhavarogaghna Reduces diseases of the lipid tissue

Mūtrala Diuretic

Vrkka Aśmarīhara Treats renal calculi

Mūtrakṛcchraghna Alleviates painful urination

Śothaghna Clears oedema

Hṛdaya Cardiac tonic

Vātaraktahara Alleviates gout and *vāta* aggravations in the blood.

BIOMEDICAL ACTION

Diuretic, lithagogue, reduces cholesterol, cardiogenic, hypotensive, anti-inflammatory, lymphatic, demulcent

INDICATIONS

Heart By clearing excess fluids from the lymph and tissues it reduces strain on the heart. When there is an excess of *avalambakha kapha* from a weakened circulatory system, fluids collect on the chest causing catarrh, breathlessness, barrel-like chest and tiredness on exertion; *punarnavadi guggulu* strengthens the heart by clearing the fluids, freeing the circulation and strengthening the heart. As a result of these actions it may be of use for the *kapha* type of hypertension.

Arthritis When there is swelling, stiffness, morning pain, pitting where the skin does not return to its normal tension after pressing, a sensation of cold and feeling cold to the touch, then there is arthritis from *kapha*. The herbs in *punarnavadi guggulu* are primarily warming, diuretic and anti-inflammatory; clearing this type of arthritis. It also benefits *vāta* types of arthritis, sciatica and gout where *vāta* has entered the blood and caused aggravation with pain. This may also be of benefit in certain types of skin disorders with *vāta* in the blood.

Urinary When there is difficulty urinating, painful urination or urinary calculi there are signs of congestion and stagnation in the *mūtravāhasrotas*. This formula clears the system of excess fluids and stagnant 'pools' of water.

It also helps to remove blockages in the sweat channels (*svedavāhasrotas*).

COMBINATIONS

- Pushkaramoola and bala in heart weakness and cardiac hypofunction.
- *Kaiśor guggulu* for *pitta-kapha* types of arthritis.
- *Gokshuradi guggulu* for kidney and bladder stones.

CONTRAINDICATIONS

Pregnancy; high *vāta* and dryness in the body.

DOSAGE

500mg–1g three times per day.

NOTES

- This formula is famous for its water-retention relieving properties.
- The primary diuretics are the punarnava and guduchi
- *Triphalā*, guggulu, dantimool and trivrut clear the *āma* and toxins out through the bowel.
- *Trikatu*, bhallataka and chitraka mool all burn the toxins and evaporate the excess fluids.
- The salt loosens the toxins.
- There appear to be various formulations of this guggulu, including mixing the punarnava with castor oil prior to adding to the other herbs. Castor oil can go rancid quickly on exposure to air and so this is no longer often done.

TRIPHALĀ GUGGULU

Box 7.15

Ingredients

Each 250 mg tablet contains

Haritaki	<i>Terminalia chebula</i>	27mg
Bibhitaki	<i>Terminalia bellerica</i>	27mg
Amalaki	<i>Emblica officinalis</i>	27mg
Pippali	<i>Piper longum</i>	27mg
Suddha guggulu	<i>Commiphora mukul</i>	138mg

Method of preparation

All the *chūrṇas* are made into fine powder and mixed with *suddha guggulu* to make a homogeneous mixture. The mixture is then dried, powdered and made into tablet form (*Sārṅgadhara Saṃhitā*, *śodhana* reference: *Bhārat Bhaiṣajya Ratnākara*)

ENERGETICS

Rasa (taste): Bitter, pungent, astringent, sweet

Vīrya (energy): Heating

Vipīka (post-digestive effect): Pungent

Guṇa (quality): Light, dry

Doṣa effect: VPK=, P+ in excess

Dhātu (tissue): Plasma, blood, muscle, fat

Srotas (channel): Circulatory, digestive, respiratory, excretory

AYURVEDIC ACTION

Lekhana Scrapes toxins

Śodhana Blood purifier

Bhagandara Treats anal fistula

Śothaghna Alleviates oedema

Arśoghna Treats haemorrhoids

Srotorodhaghna Alleviates obstructions to the channels

Vātaghna Alleviates *vāta*

BIOMEDICAL ACTION

Reduces cholesterol, laxative, carminative, alterative, anti-inflammatory

INDICATIONS

Heart Cardiac pain from atherosclerosis, angina, chest congestion. *Triphalā guggulu* has many clinical trials attesting to its ability to reduce cholesterol. Also used for oedema of the heart and the whole body.

Gastrointestinal tract Poor digestion with *āma*- and *kapha*-like symptoms; slow digestion, low metabolism, tiredness, obesity. Helps with deep-seated toxins and long-term constipation as it corrects the flow of *apāna vāta* downwards in the digestive tract. It has a traditional use for treating haemorrhoids and fistulas via its *agni*-enkindling effect. It both stimulates digestion and scrapes toxins away. It corrects *medas-dhātu-agni* to enable lipid tissue to metabolise nutrients efficiently.

Lungs Used in congested lung conditions to clear excess *kapha* from the plasma and chest; asthma, bronchitis, phlegmy cough. Also for sinus congestion, nasal drip and rhinitis.

Immunity Used as part of a strategy to strengthen the whole system by removing the causes that necessitate a response to accumulated pathogens; combats allergies, repetitive colds, boils and infections in *kapha* types by strengthening *agni* and clearing mucus toxins.

Arthritis *Triphalā guggulu* treats rheumatoid and osteoarthritis that have symptoms that are aggravated by cold, wet, damp conditions when *vāta* and *āma* have accumulated. It has a specific action on *śleṣaka kapha* and the synovial fluid in the joints.

COMBINATIONS

- Bitters in *pitta* aggravations; *kaiśor guggulu*.
- Demulcent tonic herbs in *vāta* aggravations; *yogarāja guggulu*, *bala*
- Diuretics in *kapha* aggravations; *punarnavadi guggulu*. Use bitter and pungent flavours.

CONTRAINDICATIONS

Caution in aggravated *pitta*. Contraindicated in conditions caused by *dhātu kaṣāya* when there is weakness of the tissues.

DOSAGE

500mg–1g three times per day.

NOTES

- *Triphalā* cleans the bowels, regulates the flow of *apāna vāta* and is an alterative by virtue of its *āma*-cleansing properties.
- Pippali enkindles *agni*, burns away *āma* and relieves *vāta*-type pain.
- *Guggulu* scrapes the channels and clears *āma* out of the system, specifically works on *medas-dhātu* and is an anti-inflammatory.
- Low *dhātvaṅni* causes the channels to become blocked. This *srotorodha* creates an obstruction to the flow of *vāta* around the body. When a *dhātu* becomes blocked *vāta* becomes *pratiloma* and flows in the wrong direction. *Triphalā guggulu* clears obstructions in the channels. It works so effectively in cases of obesity and congestion because it enkindles *medas-dhātu-agni*. This helps to maintain a balanced fat tissue and clear the *āma* from the *medas-vāha-srotas*. This prevents *vāta* from rebelling back to the stomach and fanning the flames of *agni*. This breaks the repetitive cycle of eating and then craving more, not due to real hunger but due to stagnation in the fat tissue. The flow of *prāṇa* in the body is smoothed. Its ability to encourage elimination points to its use in all forms of congestion.

YOGARĀJA GUGGULU

Box 7.16

Each 250mg tablet contains

Vidanga	<i>Embelia ribes</i>	3mg
Trikatu	Three Spices	9mg
Pippalimoola	<i>Piper longum radix</i>	3mg
Shatapushpa	<i>Foeniculum vulgare</i>	3mg
Devadaru	<i>Cedrus deodara</i>	3mg
Triphala	Three Fruits	9mg
Chavya	<i>Piper chava</i>	3mg
Chitraka	<i>Plumbago zeylanica</i>	3mg
Karchur	<i>Curcuma zedoaria</i>	3mg
Saindav	Rock salt	3mg
Yavakshar	<i>Potassii carbonas</i>	3mg
Rasna	<i>Pluchea lanceolata</i>	3mg
Kushtha	<i>Saussurea lappa</i>	3mg
Ajwain	<i>Trachyspermum ammi</i>	3mg
Twak	<i>Cinnamomum zeylanicum</i>	3mg
Ela	<i>Elettaria cardamomum</i>	3mg
Danti	<i>Baliospermum montanum</i>	3mg
Ashwagandha	<i>Withania somnifera</i>	3mg
Ajmoda	<i>Apium graveolens</i>	3mg
Jirak	<i>Cuminum cyminum</i>	3mg
Dhanyaka	<i>Coriandrum sativum</i>	3mg
Musta	<i>Cyperus rotundus</i>	3mg
Gokshur	<i>Tribulus terrestris</i>	3mg
Hapusha	<i>Juniperus communis</i>	3mg
Satavari	<i>Asparagus racemosus</i>	3mg
Koshtha	<i>Alpinia galangal</i>	3mg
Usheer	<i>Vetivera zizanioides</i>	3mg
Talispatra	<i>Taxus buccata</i>	3mg
Lavanga	<i>Syzygium aromaticum</i>	3mg
Loha bhasma	<i>Ferrum</i>	12mg
Suddha guggulu	<i>Commiphora mukul</i>	140mg

Method of preparation

The powdered herbs are mixed together with purified guggulu and then processed in a decoction of *triphalā* and *trikaṭu* (*Bhaiṣajya Ratnāvali*: *āmavātadhikāra*, *Sodhan* reference: *Bhārat Bhaiṣajya Ratnākara*)

ENERGETICS

Rasa (taste): Pungent, astringent, sweet

Vīrya (energy): Heating

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Dry, light

Doṣa effect: VK–, P+

Dhātu (tissue): Plasma, blood, muscles, bone, nerve

Srotas (channel): Circulatory, female reproductive

AYURVEDIC ACTION

Āmavātanāśaka Destroys arthritis

Vātaśodhana Clears *vāta* from the body

Lekhanīya Scrapes toxins from the body

BIOMEDICAL ACTION

Circulation stimulant, antiarthritic, alterative, anti-inflammatory, antispasmodic, carminative, muscle relaxant

INDICATIONS

Arthritis *Yogarāja guggulu* is famous for its use in the dry type of arthritis with degeneration of the joints due to excess *vāta* and deficiency of *śleṣaka kapha* preventing the nourishment of the synovial fluid. Symptoms such as pain, cracking, coldness, dryness, inflammation, deformation and numbness that arise in rheumatoid arthritis, multiple sclerosis, lumbago, gout, fibromyalgia, carpal tunnel syndrome and repetitive strain injury are all treated. The guggulu is the main part of the formula for clearing toxic accumulations in the joints and removing *srotorodha*. This helps the musculoskeletal system to be nourished as the pathways are cleared for essential nutrients to reach these deeper tissues.

Nerves Aggravation of the nerves due to excess use and strain can result in sciatica, spasms, neuralgia, tingling sensations, tremors and stiffness. *Yogarāja guggulu* helps to increase circulation and nourish the *asthi* and *majjā dhātus* (bone and nerve tissue). It helps to open constricted and dry channels by nourishing and increasing microcirculation. Very useful for tinnitus caused by *vāta*.

Gynaecology When the deeper tissues are stagnated by nervous contraction dysmenorrhoea can develop. *Yogarāja guggulu* directly eliminates these obstructions and relaxes the muscles to give a pain-free menstrual cycle.

COMBINATIONS

- *Punarnavadi guggulu* for *kapha*-type arthritis.
- *Kaiśor guggulu* for *pitta*-type arthritis.
- *Puṣyānuga cūrṇa* for dysmenorrhoea.

CONTRAINDICATIONS

None known.

DOSAGE

500mg–1g three times per day.

NOTES

- Guggulu is the leading herb and combines with *triphala*, *chitraka* and *vidanga* to clear *vāta* toxins from the joints and muscles.
- Karchur, hapusha, devadaru and twak all encourage circulation to the joints.
- Shatapushpa, dhanyaka, jirak, talispatra, ela, ajmoda and ajwain all act as antispasmodics to reduce *vāta*. With *saindav* they all help to digest the formula and treat the root cause of the problem.
- Maricha, shunthi, lavanga, citraha, pippali and pippalimool all warm the coldness in the joints.
- Ashwagandha, lohabhasma, yavkashar and shatavari all nourish the nerve, bone and muscle tissues to aid regeneration.
- Guggulu, usheer, amalaki, goksura and musta all help to clear inflammation.

KVĀTHA: DECOCTIONS**DAŚAMŪLA KVĀTHA: The Decoction of Ten Roots****Box 7.17****Ingredients**

Equal parts of the roots of:

Kantakari	<i>Solanum xanthocarpum</i>
Bruhati	<i>Solanum indicum</i>
Shaliparni	<i>Desmodium gangeticum</i>
Prushniparni	<i>Uraria picta</i>
Gokshura	<i>Tribulus terrestris</i>
Bilwa	<i>Aegle mermelos</i>
Shyonaka	<i>Oroxylum indicum</i>
Patala	<i>Stereospermum suaveolens</i>
Kashmari	<i>Gmelina arborea</i>
Agnimantha	<i>Clerodendron phlomoidis</i>

Method of preparation

1 part of the formula is decocted in 16 parts water until 4 parts remain. This is then strained and stored (*Bhaiṣajya ratnavali: kasarogadhikara*)

ENERGETICS

Rasa (taste): Astringent, sweet

Vīrya (energy): Warming

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Heavy, dry

Doṣa effect: VK–

Dhātu (tissue):

Srotas (channel): Respiratory, nerve, digestive

AYURVEDIC ACTION

Vātaśamana Pacifies *vāta* and nervous system
Anulomana Directs the flow of *vāta* downwards
Kāsaśvāsahara Alleviates cough and asthma
Jvarahara Alleviates fevers
Śūlaghna Alleviates pain

BIOMEDICAL ACTION

Expectorant, antiasthmatic, nervine, febrifuge, analgesic

INDICATIONS

Nerves *Daśamūla* is indicated for aggravations of the nervous system and pain when there are signs of debility. It is used as a decoction or enema for lower back pain, sciatica, tremors, Parkinson's disease and inflammation in the pelvic and sacral region.

Lungs For dry cough and respiratory weakness when there is high *vāta daśamūla* can be used as a tonic to strengthen the system.

Fevers When the immune system is depleted and is not throwing off fevers the decoction can cause diaphoresis and release the trapped *āma* toxins.

COMBINATIONS

- Bala or ashwagandha oil as a massage for lower back pain.
- *Punarnavadi guggulu* when back pain is complicated by water stagnation.
- *Trikaṭu* and vasa for respiratory problems.
- Tulsi for fevers.

CONTRAINDICATIONS

Not in pregnancy.

DOSAGE

50ml of the decoction twice per day with long pepper powder.

NOTES

- *Daśamūla* is the formula for *vāta* conditions with pain.
- This collection of nourishing roots acts as an antispasmodic and muscle tonic to alleviate the weakness of the tissues caused by overstimulation and weakness.
- It is a collection of roots from five big trees known as *brhat pañchamūla*, reducing *vāta*

and *kapha*, and five roots from smaller shrubs, reducing *vāta* and *pitta*, known as *laghu pañcamūla*.

- There is considerable adulteration of this formula today as many of the ingredients are difficult to obtain and unsustainably harvested. The *pañcāṅga* (root, stem, leaf, flower, and fruit) parts of the *laghu pañcamūla* plants are often used. Check your source to ensure that you know what you are using and that the supply is sustainable.

MAÑJIṢṬHADI KVĀTHA: Manjishtha Formula Decoction

Box 7.18

Ingredients

Equal parts of:

Manjishtha	<i>Rubia cordifolia</i>
Bakuchi	<i>Psoralea cordifolia</i>
Neem	<i>Azadiracta indica</i>
Agnimantha	<i>Clerodendron phlomoides</i>
Haritaki	<i>Terminalia chebula</i>
Daruharidra	<i>Berberis aristata</i>
Amalaki	<i>Emblia officinalis</i>
Vasaka	<i>Adhatoda vasica</i>
Satavari	<i>Asparagus racemosus</i>
Bala	<i>Sida cordifolia</i>
Yashtimadhu	<i>Glycyrrhiza glabra</i>
Patol	<i>Trichosanthes dioica</i>
Usheer	<i>Vetivera zizanioides</i>
Guduchi	<i>Tinospora cordifolia</i>
Rakta chandan	<i>Pterocarpus santalinus</i>
Tvak	<i>Cinnamomum zeylanicum</i>

Method of preparation

1 part of the formula is decocted in 16 parts water until 4 parts remain. This is then strained and stored (*Bhaiṣajya Ratnāvalī; Kuṣṭhadhikāra*)

ENERGETICS

Rasa (taste): Bitter

Vīrya (energy): Cooling

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Light, dry

Doṣa effect: PK–, V+

Dhātu (tissue): Plasma, blood, muscle

Srotas (channel): Circulatory, urinary, excretory

AYURVEDIC ACTION

Kuṣṭhaghna Alleviates skin diseases

Vātaraktaghna Alleviates gout

Raktapittaśamaka Reduces bleeding

BIOMEDICAL ACTION

Alterative, antipruritic, anti-inflammatory, haemostatic, circulatory stimulant, laxative, diuretic

INDICATIONS

Skin This bitter formula directly clears heat from the plasma and blood. When *pitta* overflows into the tissues it can irritate the skin and *mañjiṣṭhadi* clears these inflammatory toxins from the site of *bhrājaka kapha*. It clears heat by cleaning the liver, purifying the blood, increasing diuresis and promoting bowel movements. These actions combine to reduce itching, redness and swelling. Especially useful in stubborn conditions where there are chronic lesions that have become deep-seated into the muscle tissue with purpura, itching, lichenification, scarring and desquamation. Used in chronic eczema, psoriasis, acne, acne rosacea, systemic lupus erythematosus and vitiligo.

COMBINATIONS

- *Kaiśor guggulu* for internal tumours.
- *Punarnavadi guggulu* when oedema and heavy suppuration are present.

CONTRAINDICATIONS

Not in pregnancy.

DOSAGE

50ml of the decoction twice per day.

Further *kvāthas* are listed in Box. 7.19.

NOTES

- The bitter manjishtha and daruharidra clear high *pitta*, are anti-inflammatory, invigorate the blood, and remove chronic lesions.
- Bakuchi helps to heal the discoloration and lichenification of the skin.
- Bala, shatavari, yashtimadhu and amalaki all help to nourish the skin and *rasa dhātu* by removing itching and dryness induced by heat.
- Neem, agnimantha, vasa, patol, usheer, red sandalwood and guduchi all reduce inflammation, burning, redness and itching. They work directly on *rañjaka* and *bhrājaka pitta* by removing the excess heat out of the tissues.
- Twak benefits the skin and helps to digest the formula.
- Red sandalwood is CITES-listed; replace with sariva if necessary.

Box 7.19**ADDITIONAL KVĀTHAS**

Mahāmāñjiṣṭhādi kvātha: Skin disorders from high *pitta*, itching, inflammation and infection.

Mahāsudarśana kvātha: Chronic fevers, coughs.

Varuṇādi kvātha: Urinary stones, cystitis, burning, painful urination, prostatitis.

SIDDHA GHṚTA: MEDICATED GHEES**AMṚTA GHṚTA**

Guduchi, dry ginger

(*Cakradatta: Amavāta cikitsā*)

10–20g per day with warm water

Uses Used in all aggravations where *vāta* has entered the blood causing skin, joint and nerve disorders. Also used to kill worms and to clear the system of *āma*.

BRĀHMĪ GHṚTA

Brahmi, vacha, shankapushpi, kushtha, old ghee

(*Aṣṭāṅgahr̥daya Saṃhitā*)

10–20g per day with warm water

Uses Superb remedy for mental tonification and enhancing memory, concentration and clarity. Use in degenerative and behavioural disorders; Alzheimer's, motor neurone, anxiety, stress, insomnia, epilepsy, attention deficit and hyperactivity disorder (ADHD), Asperger's syndrome, autism, depression from weakness and other *pitta* disorders.

MAHĀTIKTA GHṚTA

Bitter and alterative herbs including aragvada, katuka, mustaka, neem, parpat, phandan, darvi, shatavari, sariva, guduchi, chiretta, yasthimadhu, amalaki

(*Bhaiṣajya Ratnāvali: Kuṣṭhādhikāra*)

10–20g per day with warm water and aloe vera juice

Uses All chronic skin diseases that are deep in the plasma, blood and muscle tissue with red eruptions and itching. May also benefit acidity, fever, metrorrhagia, cervical lymphadenitis.

PHALA GHṚTA

Manjishtha, *triphala*, daruharidra, kutki, yasthimadhu with ashwaḡandha, shatavari, tagara and other herbs

(*Aṣṭāṅgahr̥daya Saṃhitā*)

10–20g per day with warm water

Uses A famous uterine tonic that is taken during pregnancy to enhance the strength of the mother and the fetus. Also used in other gynaecological problems when there are inflammations and excessive bleeding.

ŚAT DHOUTA GHṚTA

Ghee washed 100 times in pure water (Ayurveda Therapy)

Apply externally

Uses Apply wherever there is burning, redness and inflammation.

ŚHATĀVARĪ GHṚTA

Shatavari juice and root, milk and ghee

(*Bhārat Bhaiṣajya Ratnākara*)

10–20g per day with warm milk

Uses A specific remedy for menstrual insufficiency that manifests with amenorrhoea, dysmenorrhoea and weakness. A superb rejuvenative to all seven *dhātu* with a specific effect on the reproductive tissue, hence assisting in both male and female infertility. Also used for male reproductive problems such as low sperm count. Used for acidity (*amlapitta*), it is safe for heartburn during pregnancy and digestive disorders resulting in inflammatory blood disorders such as gout and colitis.

TIKTA GHṚTA

Bitter ghee including neem, katuka, daruharidra, mustaka, chiretta, chandan.

(*Aṣṭāṅgahr̥daya Saṃhitā*)

10–20g per day with warm water and aloe vera juice

Uses Skin problems due to high *pitta*, swellings, redness, burning, itching, thirst, abscess, ulcers, inflamed tumours, anal fistula, bleeding piles.

TRIPHALĀ GHṚTA

Three Fruits Ghee including *triphala*, bhringaraja, vasa, grapes, licorice, guduchi, manjishtha, vetiver, sariva, devadaru

(*Bhaiṣajya Ratnāvali: netrarogādhikāra*)

Uses Use in ophthalmic diseases, blurred vision, keratitis, itching, strained eyes, conjunctivitis, styes, night blindness. It reduces all three *doṣa*, especially *kapha* aggravations where there are

sluggish bowels, low digestive fire, diabetes and obesity.

YAŠTYĀDI GHṚTA

Licorice ghee including sandalwood, sariva and milk

(*Bhārat Bhaiṣajya Ratnākara*)

2–3 drops applied into the nostrils

Uses When *pitta* is aggravated causing a sharp temporal headache or migraine affecting the eyes and forehead.

SIDDHA TAILA: MEDICATED OILS

ANU TAILA

A large formula containing a decoction of devadaru, cinnamon, sariva, daruharidra, licorice, cardamom, vetiver, mustaka, sandalwood, *triphala*, bilva, lotus stamen and other herbs decocted in sesame oil

(*Aṣṭāṅgaḥṛdaya Saṃhitā*)

Apply 2 drops to each nostril twice

Uses Specifically for clearing toxins and congestion from the head. Used in sinus congestion, recurrent colds and headaches.

AŚVAGANDHA TAILA

Ashwagandha decoction and sesame oil

(Ayurveda therapy)

Apply twice per day

Uses For strengthening the muscle tissue in weakness, wasting, excess sporting activity, impotence. Specific for *vāta* disorders.

BHR̥ṆGRĀJA TAILA

Bhringaraja with *triphala*, sariva and coconut oil.

(*Bhaiṣajya Ratnāvalī: kṣudrarogādhikāra*)

Apply to the scalp twice per day

Uses Rejuvenates the hair and prevents early greying and balding due to high *pitta*, aggravations of the bone tissue.

BRĀHMĪ TAILA

Brahmi with tagar, mustaka and sariva in coconut oil (Ayurveda therapy)

Apply to the head, nostrils and ears twice per day

Uses A fantastic application for nervous aggravation, insomnia, disturbed *vāta* and falling hair.

KSĪRABALA TAILA

Bala decoction, milk and sesame oil

(*Aṣṭāṅgaḥṛdaya Saṃhitā: vātarākta cikitsā*)

Apply twice per day

Uses A classic formula for exhaustion of the nervous system with spasms, pain, lower backache, sciatica. Can be used in enemas for the above conditions.

MAHĀNĀRĀYAṆA TAILA

A large formula for reducing *vāta* with appropriate herbs including ashwagandha, saffron, vacha, tagar, yastimadhu, sandalwood, shatavari, jatamansi, guggulu, bala, gokshura and bilva

(*Bhaiṣajya Ratnāvalī: vātavyādhyaadhikāra*)

Apply twice per day or take 2 teaspoons internally for oleation therapy or asthma

Uses Where there is pain in sciatica, gout, breathing problems, lung congestion and impotence.

MARICYĀDI TAILA

Black pepper formula including musta, jatamansi, trivrut, turmeric, devadaru, red sandalwood and mustard oil.

(*Bhaiṣajya Ratnāvalī: vātavyādhyaadhikāra*)

Apply 5–10 drops to the affected area.

Uses For disrupted pigmentation in vitiligo, ringworm, psoriasis (dry type).

NĀRĀYĀṆA TAILA

Includes ashwagandha, bala, bilva, gokshura, punarnava, neem, sandalwood, vacha, rock salt, devadaru, tagarah, shatavari decocted in sesame oil

(*Bhaiṣajya Ratnāvalī: vātavyādhikāra*)

Apply twice per day

Uses Useful formula for *vāta* aggravations with arthritis, muscular pain, sprains, lung congestion with asthma and enemas to clear *vāta* from the colon.

PARIBHADRA OIL

Neem leaves decocted in sesame oil

(Ayurveda therapy)

Apply to the affected area as necessary

Uses For inflammatory skin conditions with itching, supuration and redness from aggravated *pitta* such as eczema, psoriasis and ringworm.

VĀCĀ TAILA

Acorus oil decoction and sesame oil
(Ayurveda therapy)
Apply 2 drops into the nostrils

Uses Use as a *nasya* treatment for blocked channels in the head. Use in depression, sinusitis, muzzy head, rhinitis and headaches.

VAṬI: TABLETS**CANDRAPRABHA VAṬI: The Pill Giving the Glow of the Moon****Box 7.20****Ingredients**

Each 250mg tablet contains:

Candraprabha	Camphor	1.8mg
Vidanga	<i>Embelia ribes</i>	1.8mg
Shunthi	<i>Zingiber officinale</i>	1.8mg
Maricha	<i>Piper nigrum</i>	1.8mg
Pippali	<i>Piper longum</i>	1.8mg
Vacha	<i>Acorus calamus</i>	1.8mg
Pippalimoola	<i>Piper longum radix</i>	1.8mg
Devadaru	<i>Cedrus deodara</i>	1.8mg
Gajapippali	<i>Scindapsus officinalis</i>	1.8mg
Ativisha	<i>Aconitum heterophyllum</i>	1.8mg
Musta	<i>Cyperus rotundus</i>	1.8mg
Haritaki	<i>Terminalia chebula</i>	1.8mg
Bibhitaki	<i>Terminalia belerica</i>	1.8mg
Amalaki	<i>Embllica officinalis</i>	1.8mg
Chavya	<i>Piper chava</i>	1.8mg
Chitraka	<i>Plumbago zeylanica</i>	1.8mg
Karchur	<i>Curcuma zedoaria</i>	1.8mg
Chiretta	<i>Swertia chiretta</i>	1.8mg
Haridra	<i>Curcuma longa</i>	1.8mg
Saindava	Rock salt	1.8mg
Krishnalavana	Black salt	1.8mg
Bidlavana	Salt	1.8mg
Yavakshara	<i>Potassii carbonas</i>	1.8mg
Sajjikshara	<i>Sodi carbonas</i>	1.8mg
Suvarnamakshika	<i>Ferri sulphuratum</i>	1.8mg
bhasma		
Guduchi	<i>Tinospora cordifolia</i>	1.8mg
Daruharidra	<i>Berberis aristata</i>	1.8mg
Dhanyaka	<i>Coriandrum sativum</i>	1.8mg
Twak	<i>Cinnamomum zeylanicum</i>	7.2mg
Ela	<i>Elettaria cardamomum</i>	7.2mg
Tamalapatra	<i>Cinnamomum tamalae</i>	7.2mg
Trivrut	<i>Operculina turpethum</i>	7.2mg
Danti	<i>Baliospermum montanum</i>	7.2mg
Vamsa lochana	<i>Bambusa arundinaceae</i>	7.2mg

Loha bhasma	<i>Ferrum</i>	14.4mg
Khandasharkara	<i>Saccharum officinalis</i>	28.8mg
Shilajit	<i>Asphaltum</i>	57.6mg
Shuddha guggulu	<i>Commiphora mukul</i>	57.6mg

Method of preparation

All the herbs and minerals are made into fine powder and mixed with each other to make a homogeneous mixture. This is then bound with a binding agent such as acacia gum (*Śhāringadhara Saṃhitā, guggulu Śōdhana* reference: *Bhārat Bhaiṣajya Ratnākara*)

ENERGETICS

Rasa (taste): Bitter, pungent, sweet, astringent

Vīrya (energy): Heating

Vipāka (post-digestive effect): Pungent

Guṇa (quality): Dry, light

Doṣa effect: VPK–, P+ in excess

Dhātu (tissue): Plasma, blood, fat, reproductive

Srotas (channel): Urinary, water, reproductive

AYURVEDIC ACTION

Mūtravirecana Diuretic

Mūtrakṛcchraghna Dispels painful urination

Aśmarihara Lithagogue

Ṽṛṣya Increases sexual potency

Śukraśōdhana Sperm purifier

Rasāyana Rejuvenative

BIOMEDICAL ACTION

Diuretic, emmenagogue, lithagogue, prostatic, antidiabetic, sexual tonic, anti-inflammatory

INDICATIONS

Urine Candraprabha's primary action is the treatment of urinary problems. It clears *kapha* and fluid accumulations from the *ambuvāhasrotas* and *mūtravāhasrotas* (the water and urinary channels). This excess of fluid can cause cystitis, burning and painful urination with a cloudy colour. The albumin and sugar contents of the urine may be too high. It is a specific for *kapha* types of prostatitis with post-urinary dribbles, nocturia and urgency. It can benefit urinary stones and renal colic with back pains. It directly scrapes *āma* and sticky toxins from the channels.

Reproduction It is indicated for infertility caused by water stagnation in the water channels. This can manifest in men as spermatorrhoea, spermaturia, impotence and premature ejaculation. In women there may be the inability to conceive

due to salpingitis, ovarian cysts, leucorrhoea and menstrual irregularity.

Diabetes Its significant action on the water channels, kidneys and pancreas point to its use in diabetes and hyperglycaemia, especially the late-onset type that is complicated by obesity and high cholesterol. The *Śārṅgadhara Saṃhitā* says that it treats all 20 types of diabetes.

COMBINATIONS

- *Gokṣurādi guggulu* for stones or prostate problems.
- *Punarnavadi guggulu* for oedema.
- *Triphalā guggulu* for obesity and high cholesterol.
- Ashwagandha and shatavari when infertility is combined with reproductive tissue weakness.
- *Kaiśor guggulu* in gout.
- *Kañcanāra guggulu* in cysts, endometriosis and fibroids.

CONTRAINDICATIONS

Pathological kidney disease; caution in pregnancy as it has a descending action.

DOSAGE

500mg–1g three times per day.

NOTES

- The primary ingredients of guggulu and shilajit scrape *āma kapha* toxins from the urinary system. Guggulu also reduces *vāta* and shilajit nourishes all the *dhātu* and rejuvenates the reproductive and urinary systems.
- The synergy of *trikaṭu*, *triphalā* and the other *kapha*-balancing herbs focus the formula on reducing *kapha*. The remaining herbs have sharp, penetrating, hot and draining properties that help to dislodge *kapha* and reduce accumulation.
- The herbs remove water, balance *agni*, clear *kapha* and open the water passages
- The 'candraprabha' ingredient is camphor, *Curcuma zedoaria* or *Asparagus racemosus*, according to different authorities.

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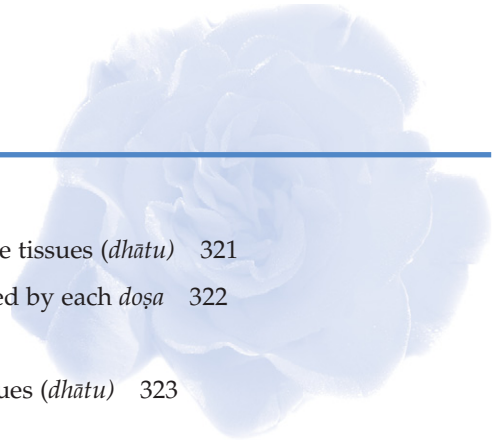


TABLE A1.1 *Dhāṭu duṣṭi*: Corrupted tissues (*dhāṭu*): signs and symptoms of the *doṣa* invading and corrupting the *dhāṭu*

DHĀTU	Vāta in the dhāṭu	Pitta in the dhāṭu	Kapha in the dhāṭu
RASA <i>Upadhātu</i> : menses, breast milk <i>Kiṭṭa</i> : <i>kapha</i>	Eczema, psoriasis, dry cough Vitiate the skin: dry, cracks, rough, dark patches, poor peripheral circulation, thin skin, itching from dryness, lack of sweating, pricking pains, numbness.	Acne, urticaria, dermatitis Causes red and inflamed skin, yellowish discoloration, high fevers, swollen lymph nodes sore throat, fever	Asthma, bronchitis, eczema Aggravates the skin and lungs: warts, cysts, fungal infections, wet eczema; damp skin, facial oedema. Cough with white sputum, swollen glands, nausea
RAKTA <i>Upadhātu</i> : tendons, blood vessels <i>Kiṭṭa</i> : <i>pitta</i>	Gout, varicose veins, heart disease, hypertension Dries the blood, causing blood clots, varicose veins, hard arteries, arteriosclerosis, easy bruising, palpitations, poor circulation, cold extremities, slow-healing wounds	Red and oozing skin inflammations, boils, jaundice, hepatitis, haemophilia, anaemia Aggravates the blood, rushing blood, heat in the hands and feet, hot flushes, bleeding disorders	Anaemia, bile congestion, gallstones Causes coagulation of the blood, high cholesterol, hypertension, arteriosclerosis, blood clots, leukopenia
MĀMSA <i>Upadhātu</i> : ligaments <i>Kiṭṭa</i> : ear, nose, eye lintel	Bell's palsy, spasms, paralysis, myomas Causes weakness and wasting of the muscles, cramps, twitches, tics, tiredness, lack of flexibility, myalgia	Colitis, ulcers, myocardial infarction <i>Pitta</i> invades the muscles and causes inflammation, abscesses and pain; gingivitis, gastritis, enteritis, colitis, appendicitis, myocarditis, fibromyalgia	Tumours, oedema, heart disorders Causes heavy, tired and swollen muscles, tumours, congestive heart failure and oedema
MEDAS <i>Upadhātu</i> : omentum <i>Kiṭṭa</i> : sweat	Diabetes, consumption, tuberculosis, lipoma Causes drying of the fat tissue, severe emaciation, lack of sweating, sunken eyes, prominent bones, hard and small lumps	Abscess, tumours, diabetes Causes infections in the fat tissue, excess sweating, excess urination, kidney infections, haematuria	Obesity, diabetes, tumours Causes excess fat tissue with excess weight, heaviness, tiredness; cold sweat, fibroids, lipomas, fatty liver
ASTHI <i>Upadhātu</i> : teeth <i>Kiṭṭa</i> : nails, hair	Arthritis, osteoporosis, bone tumours Brittle bones, frequent breaks, sensitive teeth, brittle nails, dry hair, loss of hair	Osteomyelitis, periostitis, arthritis Burning and pain in the joints and bones; red, inflamed type of arthritis	Bone spurs, osteoma, arthritis Causes swollen arthritic joints, excess hair, bone cancer
MAJĀ <i>Upadhātu</i> : eye fluid <i>Kiṭṭa</i> : tears	Nervous disorders, MS, epilepsy, sciatica, neuralgia Causes weak nerves, fear, anxiety, tremors, dizziness, tinnitus, blurred vision, tingling, numbness, loss of memory	Neuritis, meningitis, sciatica <i>Pitta</i> heat burns the nerves and marrow affecting red blood cell count, and causing numbness, headaches	Hydrocephalus, multiple sclerosis Causes lack of nervous sensitivity, slow responses, lethargy, nervous system problems, depression
ŚUKRA <i>Upadhātu</i> : <i>ojas</i> <i>Kiṭṭa</i> : smegma	Infertility, impotence, low immunity Oligo/azoo/asthenospermorrhoea, spermatorrhoea, prostatitis, testicular or prostate tumours. Dysmenorrhoea, scanty or lack of menstrual flow, uterine cysts or tumours. Fear, anxiety, feeling unloved	Menorrhagia, low sperm count, low immunity Causes burning and hence drying of the reproductive fluids and resultant lowered <i>ojas</i> . Painful, hot, frequent periods, mid-cycle bleeding. Swollen testicles or prostate, blood in semen	Sexual dysfunction, infertility Uterine tumours, cysts, fibroids, leucorrhoea. Hydrocoele, benign prostatic hypertrophy. Lowered immunity, benign tumours

TABLE A1.2 Signs and symptoms of deficiency and excess in the tissues (<i>dhiātū</i>)		
<i>DHĀTŪ</i>	Signs of deficiency	Signs of excess
RASA <i>Upadhātu</i> : menses, breast milk <i>Kiṭṭa</i> : <i>kapha</i>	Increased <i>vāta</i> , dryness, rough skin and lips, strange taste in the mouth, fatigue, emaciation, palpitations, tremors, heart pain and empty feeling, sensitive to sounds, ringing in the ears, insufficient breast milk, amenorrhoea, oligomenorrhoea, infertility, heart, blood, lymph, skin, mucous membranes	Increased <i>kapha</i> , <i>śrotorodha</i> , increased phlegm, low <i>agni</i> , nausea, <i>āma</i> congestive toxins
RAKTA <i>Upadhātu</i> : tendons, blood vessels <i>Kiṭṭa</i> : <i>pitta</i>	Low blood pressure, pale skin, anaemia, tight tendons, easily startled, dry or rough skin, increased <i>vāta</i> , desire for sour foods, slow pulse, pale tongue	Skin heat, abscess, bleeding, gout, hepatitis, jaundice, inflammation of the spleen and liver, high blood pressure, tumours, jaundice, low <i>agni</i> , increased <i>pitta</i> with red or yellow discolorations of the skin, discharges of the lungs, urine, stool, uterus, rapid pulse, red body of the tongue
MĀMSA <i>Upadhātu</i> : ligament <i>Kiṭṭa</i> : ear, nose, eye lintel	Emaciation, fear, increased <i>vāta</i> , muscular atrophy, lack of coordination	Tumours, fibroids, goitre, swollen muscles, large liver, irritable, inflamed tissues, abscesses, lymphadenitis, lymphadenopathy, increased <i>pitta</i> and <i>kapha</i>
MEDAS <i>Upadhātu</i> : omentum <i>Kiṭṭa</i> : sweat	Increased <i>vāta</i> , emaciation, cracking joints, joint weakness, fatigue, brittle hair, bones, nails and teeth	<i>Kapha</i> increased, obesity, pendulous breasts, abdomen and buttocks, sexual debility, asthma, poor mobility, fear, hypertension, diabetes
ASTHI <i>Upadhātu</i> : teeth <i>Kiṭṭa</i> : nails, hair	Weak bones and teeth, osteoporosis, dwarfism, painful and loose joints, falling hair, early grey hair, brittle nails, falling or decaying teeth, <i>vāta</i> increased	Bone spurs, extra teeth, arthritis, joint pain, bone cancer, gigantism
MAJĀ <i>Upadhātu</i> : eye fluid <i>Kiṭṭa</i> : tears	<i>Vāta</i> increased, feeling ungrounded, porous bones, joint pain, bone lightness, dizzy, eye floaters, dark patches around the eyes, blindness, low sex drive, fear, loss of memory	<i>Kapha</i> increased, hypertrophic growths, heavy limbs, non-healing sores, deep infections, fatigue
ŚUKRA <i>Upadhātu</i> : <i>ojas</i> <i>Kiṭṭa</i> : <i>smegma</i>	Low sex drive, impotence, infertility, sore back, low energy, low <i>ojas</i> , fear, lack of love, <i>vāta</i> increased, premature ejaculation, low sperm count, low sperm motility, prostatitis, amenorrhoea, leucorrhoea, dysmenorrhoea, clotted menstrual blood	Excess sexual desire, urinary calculi, prostatitis, anger, <i>pitta</i> increased, acne, greasy hair and skin, malodorosity, a short menstrual cycle

TABLE A1.3 Specific herbs for each tissue (*dhātu*) when disrupted by each *doṣa*

DHĀTU	Vāta	Pitta	Kapha
RASA <i>Upadhātu</i> : menses, breast milk <i>Kiṭṭa</i> : kapha	Ginger (fresh) Tulsi Mahasudarshana	Neem Aloe Peppermint	Ginger (dry) Kanchanara Trikatu
RAKTA <i>Upadhātu</i> : tendons, blood vessels <i>Kiṭṭa</i> : pitta	Amalaki Shatavari Lohabhasma Licorice	Neem Manjishtha Guduchi Amalaki Ashoka	Manjishtha Kutki Daruharidra Myrrh Ashoka
MĀMSA <i>Upadhātu</i> : ligament <i>Kiṭṭa</i> : ear, nose, eye lintel	Ashwagandha Bala Ghee	Guduchi Kaishor guggulu Turmeric	<i>Kañcanāra guggulu</i> Arjuna Turmeric
MEDAS <i>Upadhātu</i> : omentum <i>Kiṭṭa</i> : sweat	Licorice Vidari kandha Shatavari Ashwagandha	Neem Turmeric Manjishtha Shankapushpi	Kutki Shilajit <i>Triphalā guggulu</i> Gudmar
ASTHI <i>Upadhātu</i> : teeth <i>Kiṭṭa</i> : nails, hair	<i>Yogarāja guggulu</i> Ashwagandha	<i>Kaiśor guggulu</i> Gotu kola	<i>Punarnavadi guggulu</i> <i>Goksurādi guggulu</i>
MAJJĀ <i>Upadhātu</i> : eye fluid <i>Kiṭṭa</i> : tears	Jatamamsi Ashwagandha Vacha	Jatamamsi Brahmi Gotu kola Bhringaraja	Brahmi Vacha Frankincense
ŚUKRA <i>Upadhātu</i> : ojas <i>Kiṭṭa</i> : smegma	Ashwagandha Kapikacchu Vidari Bala	Shankapushpi Rose Guduchi Safed musali Shatavari Ashoka	Shilajit Kapikacchu Gokshura Ashwagandha Ashoka

TABLE A1.4 Herbs for *agni* and *āma* by *doṣa*

Herbs for stimulating and enkindling digestive fire (<i>agni dīpana</i>)	Herbs for digesting and removing toxic <i>āma</i> (<i>āma pacana</i>)	
Vāta: variable viśamāgni	Pitta: intense tīkṣṇāgni	Kapha: slow Maṇḍāāgni
Chitrak Fresh ginger, lime, <i>Hiṅgvaṣṭaka cūrṇa</i> <i>Trikaṭu</i> Cardamom Tulsi	Guduchi Shatavari Pomegranate seeds (roasted) Coriander Kutki	Trikatu Chitrak Cinnamon Vacha Tulsi
Vāta	Pitta	Kapha
<i>Pungent carminatives</i> Pippali Fresh ginger Black pepper Fennel Guggulu Castor oil Ajwain Ajmoda Haritaki Cumin seed Tulsi Triphala	<i>Bitter and pungent cholagogue carminatives</i> Neem Musta Coriander Kutki Cinnamon Amchur—mango seed powder Manjishtha Avipattikar churna Daruharidra Triphala Rhubarb root Sariva	<i>Pungent and bitter stimulants</i> Pippali Dry ginger Black pepper Tulsi Vacha Cumin Punarnava Guggulu Fenugreek Turmeric Bibhitaki Triphala

TABLE A1.5 Herbs that generally increase and decrease the tissues (<i>dhātu</i>)			
<i>Dhātu</i>	Herbs that increase the <i>dhātu</i>	Herbs that decrease the <i>dhātu</i>	Doṣa-specific treatment: for when the <i>dhātu</i> are invaded by the <i>doṣa</i>
RASA <i>Upadhātu</i> : menses, breast milk <i>Kiṭṭa</i> : <i>kapha</i>	Shatavari, licorice, bala, linseed, sesame oil, demulcents amalaki, salt, fruit juice, dairy products, aloe vera	Pungent, expectorants, pippali, dry ginger, black pepper, bitters and astringents	<i>Rasagatavāta</i> = <i>agni</i> stimulants and nourishing demulcents <i>Rasagatapitta</i> = Alteratives, anti-inflammatory <i>Rasagatakapha</i> = Pungent, bitter, astringent herbs
RAKTA <i>Upadhātu</i> : tendons, blood vessels <i>Kiṭṭa</i> : <i>pitta</i>	Amalaki, shatavari, saffron, shilajit, turmeric ghee, arjuna, spirulina, iron	Bitter alteratives, neem, kutki manjishtha, guduchi, gotu kola	<i>Raktagatavāta</i> = Blood builders <i>Raktagatapitta</i> = Alteratives, anti-inflammatory <i>Raktagatakapha</i> = Pungents and bitters
MĀMSA <i>Upadhātu</i> : ligament <i>Kiṭṭa</i> : ear, nose, eye lintel	Ashwagandha, bala, licorice ghee, grains, protein, amalaki urad dal	Blood movers; guggulu, turmeric, aloe vera, musta, manjishtha, arjuna	<i>Māmsagatavāta</i> = Antispasmodics, muscle relaxants <i>Māmsagatapitta</i> = Alteratives, anti-inflammatory <i>Māmsagatakapha</i> = Pungent herbs, scraping
MEDAS <i>Upadhātu</i> : omentum <i>Kiṭṭa</i> : sweat	Black gram, dates, vidari kandha shatavari, safed musali, ashwagandha licorice, demulcents	Antispasmodics; jatamamsi, brahmi bitter and pungent reduces <i>amā lekhan</i> ; old guggulu, old honey, shilajit	<i>Medasgatavāta</i> = Sweet tonics <i>Medasgatapitta</i> = Bitters, laxatives <i>Medasgatakapha</i> = Pungent, scraping, diuretics
ASTHI <i>Upadhātu</i> : teeth <i>Kiṭṭa</i> : nails, hair	Ghee, dairy products, nuts, seeds minerals; calcium, zinc, magnesium, boron milk, sesame seeds, seaweeds	<i>Trikatu</i> , <i>triphalā</i> , sweating guggulu, frankincense, turmeric	<i>Asthigatavāta</i> = Warm demulcents and sesame oil <i>Asthigatapitta</i> = Clear damp heat; bitter laxatives <i>Asthigatakapha</i> = Clear damp cold; warming diuretics
MAJĀ <i>Upadhātu</i> : eye fluid <i>Kiṭṭa</i> : tears	Ashwagandha, walnuts, ghee, almonds, ashwagandha nervines, blood tonics	Vacha, diuretics	<i>Majjāgatavāta</i> = Nerve tonics, grounding sedatives <i>Majjāgatapitta</i> = Cooling nervines <i>Majjāgatakapha</i> = Channel-opening aromatic herbs
ŚUKRA <i>Upadhātu</i> : ojas <i>Kiṭṭa</i> : smegma	Jatamamsi, bala, shatavari ashwagandha, kapikacchu, safed musali, ghee, almonds, dairy products, pippali, saffron, guduchi	Pungents and bitters; dry ginger, kutki, neem	<i>Śukragatavāta</i> = Sweet tonics <i>Śukragatapitta</i> = Alteratives, diuretics <i>Śukragatakapha</i> = Pungent diuretics

TABLE A1.6 *Vāta*-reducing herbs

ENGLISH SANSKRIT LATIN	Winter cherry root Aśvagandhā <i>Withania somnifera</i>	Castor seed oil Eraṇḍa/ Vatari <i>Ricinus communis</i>	White musali root Safed Musali <i>Asparagus adscendens</i>	Indian Valerian root Tagara <i>Valeriana wallichii</i>	Sesame seeds Tila <i>Sesamum indicum</i>
DOṢA	VK-, P+ āma+	V-, PK+	VP-, K+	VK-, P+	V-, PK+
GUṆA	Heavy, dry	Heavy, oily	Heavy, oily	Light, unctuous	Heavy, oily
RASA	Astringent, bitter, sweet	Pungent, sweet	Sweet, bitter	Bitter, pungent, sweet, astringent	Sweet
VĪRYA	HEATING	HEATING	COLD	HEATING	HEATING
VIPĀKA	Sweet	Pungent	Sweet	Pungent	Sweet
DHĀTU	Rakta Māmsa Medas Asthi Mājñā Sukra	All	All, especially Rasa, Śukra	Rasa, Rakta Mājñā	All, especially asthi
SROTAS	Nervous, reproductive, respiratory	Excretory, nervous, female reproductive	Reproductive, respiratory	Nervous, digestive, respiratory	Excretory, reproductive, urinary, respiratory
ACTION	<i>Rasāyana</i> ; <i>vāta</i> , anti-ageing <i>Vājīkaraṇa</i> ; increases semen quality and quantity, fertility Reduces <i>vāta</i> ; muscular weakness Reduces wasting; AIDS, MS, TB Calms and tonifies nervous system, benefits insomnia Treats VK coughs Uterine tonic, calms <i>vāta</i> , pain, treats infertility Increases <i>ojas</i> and immunity Benefits hypothyroid	Demulcent purgative Use in reducing therapy Clears eye problems Benefits congestive arthritis Skin infections, nail fungus External: lumps, tumours Promotes delivery	<i>Rasāyana</i> tonic <i>Vājīkaraṇa</i> ; increases fertility Benefits pre-/post-partum Increases breast milk Benefits gastrointestinal inflammation Nutritive tonic	Calms <i>vāta</i> ; gastrointestinal tract, mind Clears <i>āma</i> from intestines Clears <i>vāta</i> from nerves Calms, grounds and soothes Use in insomnia, anxiety, Benefits high blood pressure and palpitations Benefits dysmenorrhoea Benefits asthma and wheezing	Promotes <i>ojas</i> <i>Rasāyana</i> to <i>vāta</i> Demulcent laxative Nutritive tonic to muscles Beneficial in haemorrhoids Treats dry coughs Strengthens the bones
DOSE	1–15g	1–3 tsps	3–15g	3–9g	10–30g
CONTRA-INDICATIONS	<i>Āma</i> or <i>srotarodha</i> High <i>pitta</i> Caution in pregnancy, immunosuppressive, thyroid and antidiabetic medication	Kidney disease, bladder, gallbladder, gastrointestinal infection, jaundice, dysuria Pregnancy and age <12 Long-term use	<i>Āma</i> and congestion	CNS depressants Excess may cause dullness Caution in high <i>pitta</i>	High <i>pitta</i> , skin inflammations <i>Āma</i> , obesity Large doses in pregnancy
BIOMEDICAL ACTIONS	Aphrodisiac nervine, sedative astringent oncology adaptogen	Cathartic, demulcent analgesic, nervine anti-inflammatory	Demulcent, galactagogue nutritive tonic	Anti-spasmodic, nervine carminative, stomachic sedative + stimulant	Laxative, emollient demulcent, diuretic galactagogue, emmenagogue nutritive

TABLE A1.6 *Vāta*-reducing herbs

ENGLISH SANSKRIT LATIN	Cinnamon bark Twac <i>Cinnamomum zeylanicum</i>	Calamus root Vaca <i>Acorus calamus</i>	Licorice root Yaṣṭimadhu <i>Glycyrrhiza glabra</i>	Asafoetida resin Hingu <i>Ferrula asafoetida</i>	Fenugreek seed Methi <i>Trigonella foenum-graecum</i>
DOṢA GUṆA RASA VĪRYA VIPĀKA DHĀTU SROTAS	VK-, P+ Light, dry Pungent, bitter, astringent HOT Sweet <i>Rasa Rakta Māmsa Majjā</i> Circulatory, digestive, respiratory, urinary, reproductive	VK-, P+ Light, dry Pungent, bitter, astringent HOT Pungent <i>Rasa Māmsa Medas Majjā</i> Circulatory, digestive, nervous, reproductive, respiratory	VPK-, K+ (long term) Heavy, moist Sweet, bitter COOL NEUTRAL Sweet, bitter All Digestive, excretory, nervous, reproductive, respiratory	VK-, P+ Heavy, oily Pungent HOT Pungent <i>Rasa Rakta Māmsa Asthi Majjā</i> Digestive, nervous, respiratory, excretory, circulatory, reproductive	VK-, P+ Light, soft, slimy Bitter, pungent, astringent HEATING Pungent <i>Rasa Rakta Medas Majjā</i> Digestive, respiratory, urinary, reproductive, lactation
ACTION	Increases <i>agni</i> Clears lungs and mucus Increases circulation Prevents excess urination Treats uterine congestion Treats all cold conditions Can be used to clear <i>sāma pitta</i>	<i>Rasāyana</i> to <i>vāta</i> and <i>kapha</i> Clears VK from <i>manas srotas</i> Reduces all wet secretions Clears <i>āma</i> ; head and channels Benefits gastrointestinal tract; bloating External: nasal polyps	<i>Vāta</i> from nervous system <i>Pitta</i> from gastrointestinal tract <i>Kapha</i> from lungs and stomach Reproductive tonic Reduces inflammations; ulcers, skin Specific for asthma Strengthens the kidneys Reduces harmful gastric-irritating effects of NSAID medication	Clears <i>vāta</i> Increases secretions Alleviates pain; cold, back Benefits legs Digestive stimulant VK Diabetic; clears water channels Reduces cholesterol Beneficial post-partum; milk, bowels	Clears <i>vāta</i> Increases secretions Alleviates pain; cold, back Benefits legs Digestive stimulant VK Diabetic; clears water channels Reduces cholesterol Beneficial post-partum; milk, bowels
DOSE	1–5g	3–9g	1–9g	0.1–1g	3–9g
CONTRA-INDICATIONS	High <i>pitta</i> Bleeding from intestines Caution in pregnancy	Bleeding and high <i>pitta</i> Pregnancy Use for 1 month maximum	Oedema, hypertension, congestive heart failure, cholestatic liver disorders Stops Na/K absorption, therefore caution in osteoporosis Diuretic medication, corticosteroids, caution with contraceptive pill Caution in pregnancy	High <i>pitta</i> Pregnancy	High <i>pitta</i> Pregnancy
BIOMEDICAL ACTIONS	Analgesic, astringent carminative, diaphoretic diuretic, expectorant antirheumatic/bacterial	Antispasmodic, decongestant emetic, expectorant nervine, stimulant	Demulcent, emetic expectorant, laxative sedative, tonic	Antispasmodic/fungal analgesic, antihelmintic stimulant, aphrodisiac carminative	Expectorant, diuretic mucous membrane tonic warm anti-inflammatory galactagogue antidiabetic cholesterolaemic

TABLE A1.7 *Pitta*-reducing herbs

ENGLISH SANSKRIT LATIN	Embelic myrobalan fruit <i>Āmalaki, Dhātṛī</i> <i>Embelica officinalis</i>	Himalayan Rhubarb root <i>Amlavetasa</i> <i>Rheum palmatum/ australe</i>	Lemongrass leaf <i>Bhūtr̥ṇa</i> <i>Cymbopogon citratus</i>	Chiretta leaf <i>Ciryatā</i> <i>Sweria chirata</i>	Indian Barberry root <i>Dāruharidrā</i> <i>Berberis aristata</i>
DOṢA	PK–, Best for PV	PK– V+	PK–, (V+ in excess)	PK–, V+	PK–, V+
GUṆA	Light Dry	Light Dry Descending	Light Penetrating	Dry Light	Dry Light
RASA	All apart from salty	Bitter Astringent	Pungent Bitter	Bitter	Bitter Astringent
VIRYA	COOLING	COLD	COOLING	COLD	Heating
VIPĀKA	Sweet	Pungent	Pungent	Pungent	Pungent
DHATU	All and increases <i>ojas</i>	<i>Rasa Rakta Medas</i>	<i>Rasa Rakta Medas Majjā</i>	<i>Rasa Rakta Māmsa</i>	<i>Rasa Rakta Medas</i>
SROTAS	Circulatory, digestive, excretory	Excretory, digestive, female reproductive	Circulatory, nervous, metabolic	<i>Medas</i> Circulatory respiratory	Circulatory, digestive, excretory
ACTION	<i>Pitta</i> rejuvenative Clears heat; gastrointestinal tract and blood Stops bleeding and builds blood Sattvic; balances emotions Heart tonic Benefits diabetes and urine Mild laxative Benefits the hair	Clears <i>pitta</i> ; liver, jaundice Clears <i>āma</i> and stagnation Clears damp heat Purges the bowel and worms Reduces tumours Treats skin problems Clears congestion from uterus Prevents bleeding; gastrointestinal tract, uterus	Cools <i>pitta</i> Calms spasm; GIT Carminative; clears gas and <i>vāta</i> Reduces mucus and <i>kapha</i> Diaphoretic; reduces fever	Cleans <i>rakta</i> ; skin Cools <i>pitta</i> ; <i>rañjaka</i> and <i>bhrājaka</i> Benefits liver, eyes, heart Cleans gastrointestinal tract of worms Reduces <i>pitta</i> fevers Gastrointestinal tract anti-inflammatory	Clears <i>āma</i> Cleans <i>pitta</i> Benefits liver, urinary system, skin Benefits diabetes Specific for bleeding piles
DOSE	1–15g	1g is astringent, 3–6g purges	1–9g	1–5g	1–9g
CONTRAINDICATIONS	Diarrhoea in <i>pitta prakṛti</i> High <i>āma</i> and <i>kapha</i>	Pregnancy High <i>vāta</i> , weakness Gout, <i>vāta</i> piles	None	High <i>vāta</i> Pregnancy	High <i>vāta</i> , wasting
BIOMEDICAL ACTIONS	Haemostatic, astringent laxative, refrigerant stomachic, anti-inflammatory anti-oxidant	Purgative, haemostatic antipyretic, anthelmintic bitter tonic, alternative vermifuge	Antispasmodic, diaphoretic diuretic, emmenagogue febrifuge, carminative	Anthelmintic, astringent febrifuge, antispasmodic antidiarrhoea	Diuretic, antibilious, cholagogue, refrigerant, stomachic antipyretic, alterative, antidiabetic

TABLE A1.7 *Pitta*-reducing herbs

ENGLISH SANSKRIT LATIN	Mint: Peppermint leaf <i>Pudina</i> <i>Mentha piperita</i>	Kutki root <i>Kaṭukā</i> <i>Picrorhiza kurroa</i>	Indian Madder root <i>Mañjiṣṭhā</i> <i>Rubia cordifolia</i>	Nutgrass root <i>Musta</i> <i>Cyperus rotundus</i>	Neem leaf <i>Nimba</i> <i>Azadiracta indica</i>
DOṢA GUṆA RASA VĪRYA VIPĀKA DHĀTU SROTAS	VPK– (V+ in excess) Dry Light Penetrating Sweet Pungent COOL Pungent <i>Rasa Rakta Majjā</i> Circulatory, digestive, respiratory nervous	PK–, V+ Dry Light Bitter Pungent COLD Pungent <i>Rasa Rakta Majjā Artava</i> Excretory, digestive, nervous, female reproductive	PK–, V+ Dry Light Bitter Sweet COLD Pungent <i>Rasa Rakta Mārṣa</i> Circulatory, female reproductive	PK– (V+ in excess) Pungent Bitter Astringent COOL Pungent <i>Rasa Rakta Mārṣa Majjā</i> Digestive, circulatory, female reproductive	PK– V+ Dry Light Bitter COLD Pungent <i>Rasa Rakta Medās</i> Circulatory, digestive, respiratory, urinary
ACTION	Regulates <i>pitta</i> and <i>vāta</i> in the intestines Reduces nausea, bloating, spasms and pain Promotes sweating in fevers Reduces <i>kapha</i> secretions from the head in colds Useful for stopping itching in skin diseases	Cools <i>pitta</i> Affinity for skin, uterus, eyes Clears heat from CNS Drains <i>pitta</i> via the bowel Rejuvenates <i>medās</i> ; reduces fat	Rejuvenates blood, best blood cleanser Stops bleeding Cools <i>pitta</i> : liver, gastro- intestinal tract, skin Heals <i>kapha</i> , bones, tumours Specific for eczema, psoriasis	<i>Dipana, pacana</i> = <i>Agni</i> + Aids digestion and <i>samāna vāyu</i> Benefits uterus; moves blood Benefits blood and stops itching Clears congestion in <i>artavavāhasrotas</i> Treats fevers	Clears heat from <i>ārtavasrotas</i> Anti- <i>pitta</i> : blood, skin infections, eczema, psoriasis Clears parasites from gastrointestinal tract Benefits <i>rañjaka</i> and <i>bhṛājaka pitta</i>
DOSE	1–30g per day	1–2g per day	3–6g	3–9g	1–9g
CONTRAINDICATIONS	Very high <i>vāta</i> Gallstones Iron medication	High <i>vāta</i> Pregnancy CITES listed	Pregnancy Cold chills, <i>vāta</i> aggravations	High <i>vāta</i> Pregnancy Oil on <i>pitta</i> skin	High <i>vāta</i> Pregnancy Oil on <i>pitta</i> skin
BIOMEDICAL ACTIONS	Carminative, digestive, diaphoretic, anti-pruritic, nervine	Low dose: bitter stomachic, laxative High dose: purgative, cholagogue, febrifuge, skin problems, alterative	Alterative, haemostatic anti-tumour, astringent diuretic, emmenagogue lithotropic	Antifungal and antiparasitic, rheumatic antispasmodic, carminative diuretic, emmenagogue alterative	Anti-inflammatory emmenagogue, antiviral insecticide, anthelmintic alterative

TABLE A1.8 <i>Kapha</i> -reducing herbs					
ENGLISH SANSKRIT LATIN	Dry Ginger <i>Suṣṭhī</i> <i>Zingiber officinale</i>	Beleric Myrobalan <i>Bibhitaki</i> <i>Terminalia belerica</i>	Myrrh <i>Bola</i> <i>Commiphora myrrha</i>	White Leadwort <i>Citraka</i> <i>Plumbago zeylanica</i>	Cardamom seed <i>Elā</i> <i>Elattaria cardamomum</i>
DOṢA GUNA RASA VIRYA VIPĀKA DHĀTU SROTAS	KV– P+ Dry Light Pungent Sweet HOT Sweet All Digestive, respiratory	KPV– (V+ in excess) Dry, Light Astringent HEATING Sweet <i>Rasa Māṃṣa Asthi</i> Digestive, excretory, nervous, respiratory	KV– (P+ in excess) Dry Bitter-Pungent Sweet Astringent HOT Pungent All Circulatory, lymph, nervous, reproductive, respiratory	KV– P/Agni+ Dry Light Pungent VERY HOT Pungent <i>Asthi Rasa Rakta Śukra</i> Digestive, nervous, female reproductive	VK– (P+ in excess) Dry, Light, Aromatic Pungent Sweet HEATING Pungent <i>Rasa Rakta Mājā</i> Circulatory, digestive, nervous, respiratory
ACTION	Specific to reduce <i>āma</i> Digestive stimulant Reduces mucus, clears lungs Anti-inflammatory; joints, arthritis Circulatory stimulant; clears cold Reduces <i>kapha</i> with honey Benefits dysmenorrhea	<i>Rasāyana</i> to <i>kapha</i> Benefits urinary stones Laxative and astringent Benefits lungs; gastro- intestinal tract, throat Reduces mucus Holds <i>vāta</i> in place Heart tonic	Mucous membrane inflammation; lymphatic Regulates menses Reduces uterine growths and congestion Invigorates blood Clears <i>āma</i> ; <i>lekhaniya</i> herb Clears cardiac congestion Antibacterial	Reduces <i>āma</i> ; gastrointes- tinal tract and joints Raises low <i>agni</i> Stimulates digestion Treats <i>raktavāta</i> ; joint pain Reduces congestion; <i>lekhaniya</i> Specific for <i>vāta kapha</i> piles Externally; skin abscesses	Aids <i>śamana</i> in absorption Reduces <i>kapha</i> in lung and gastrointestinal tract Clears mucus and bloating Regulates <i>apāna vāyu</i> in liver Reduces amagenic quality of milk Calms nervous gastro- intestinal tract and urinary symptoms Treats painful urination
DOSE	1–15g	1–9g	3–12g	1–9g	1–15g
CONTRAINDICATIONS	High <i>pitta</i> with inflamed skin fever, bleeding, ulcers	High <i>vāta</i> Dyones	In high <i>pitta</i> and excessive uterine bleeding May aggravate <i>pitta prakṛti</i> kidney problems	Pregnancy High doses	Ulcers; high <i>pitta</i>
BIOMEDICAL ACTION	Analgesic, antiemetic, carminative, aphrodisiac, diaphoretic, expectorant, sialagogue, nervine	Anthelmintic, antiseptic, expectorant, laxative, lithotropic, astringent	Alterative, analgesic, antiseptic, antispasmodic, emmenagogue, expectorant, antiplatelet, cholesterolaemic	Stimulant, caustic digestive, antiparasite	Carminative, diaphoretic, expectorant, stomachic

TABLE A1.8 *Kapha*-reducing herbs

ENGLISH SANSKRIT LATIN	Gurmar leaf <i>Meśaśrīga</i> <i>Gymnema sylvestre</i>	Guggul, Indian <i>Guggulu</i> <i>Balsamodendron mukul</i>	Turmeric root <i>Haridra</i> <i>Curcuma longa</i>	Long Pepper fruit <i>Pippali</i> <i>Piper longum</i>	Holy Basil leaf <i>Tulsi</i> <i>Ocimum sanctum</i>
DOṢA	KP– V+	KPV– (P+ in excess)	K– (VP+ in excess)	KV– P+	VK– (P+ in excess)
GUṆA	Dry Light	Dry	Dry, Light Aromatic	Unctuous	Dry Light
RASA	Bitter Astringent	Sweet Pungent Bitter	Bitter Astringent Pungent	Pungent	Pungent
VĪRYA	COOL	Astringent	HEATING	HOT	WARM
VIPĀKA	Pungent	HOT	Pungent	Sweet	Pungent
DHĀTU	<i>Rasa Rakta Medas Śukra</i>	All	All	All apart from <i>Asfhi</i>	<i>Rasa Rakta Majjā śukra</i>
SROTAS	Circulatory, urinary, reproductive	Circulatory, digestive, nervous, respiratory	Circulatory, digestive, respiratory, urinary, female reproductive	Digestive, reproductive, respiratory	Digestive, nervous, respiratory
ACTION	Antidiabetic Regulates the water system Heals pancreas Lowers blood sugar levels <i>Rasāyana</i> to <i>pitta</i>	Treats arthritis Clears inflammations Reduces <i>āma</i> and mucus Clears congestion; channels, heart, uterus <i>Yogavāhi</i> ; carries herbs deep into tissues Antidiabetic, anticholesterol Heals fractures	Benefits <i>rasa dhātu agni</i> and whole gastrointestinal tract Regulates liver and reduces gallstones Moves blood; pain, trauma Aids ligaments/joints Treats diabetes Reduces uterine congestion Treats heart congestion External: bruises/sprains	Increases <i>agni</i> Clears <i>āma</i> , mucus, <i>kapha</i> <i>Rasāyana</i> to <i>kapha</i> and <i>medas</i> Nourishes the reproductive tissues Protects the liver from toxins Specific tonic for the lungs Increases absorption of nutrients	Clears damp and <i>kapha</i> Purifies <i>vāta</i> and <i>prāna</i> Calms mind: sattvic Clears cold and damp Reduces fevers and ‘flu Diaphoretic Treats respiratory allergies Soothes the nerves Rejuvenates <i>rasa</i> tissue
DOSE	5–10g	1–10g	1–9g	1–9g	1–9g
CONTRAINDICATIONS	High <i>vāta</i> Leaf stimulates the heart Observe blood sugar levels with antidiabetic medication	<i>Pitta prakṛti</i> Kidney infections With sour, hot, penetrating foods Pregnancy and excess uterine bleeding Observe with hypotensive medication	High <i>pitta</i> Pregnancy Acute jaundice and hepatitis Caution with blood-thinning medication	High <i>pitta</i> Intestinal inflammations Drugs that metabolise via the liver at high doses	High <i>pitta</i>
BIOMEDICAL ACTIONS	Refrigerant, diuretic, stomachic, tonic	Alterative, analgesic, astringent, antispasmodic, anti-inflammatory, expectorant, nerve, cholesterol-lowering, emmenagogue, antiplatelet	Alterative, antihelminthic, antibacterial, carminative, vulnerary, emmenagogue, anti-inflammatory, antiplatelet	Analgesic, antihelminthic, aphrodisiac, carminative, expectorant, emmenagogue	Antibacterial, antiseptic, antispasmodic, diaphoretic, febrifuge, nerve, expectorant

TABLE A1.9 <i>Triidoṣa</i> -balancing herbs					
ENGLISH SANSKRIT LATIN	Myrobalan fruit <i>Haritaki</i> <i>Terminalia chebula</i>	Guduchi stem <i>Guḷūci</i> <i>Tinospora cordifolia</i>	Gotu Kola, Indian Pennywort leaf <i>Maṇḍūkāpāṇi</i> <i>Centella asiatica</i> syn. <i>Hydrocotyle asiatica</i>	Caltops/Puncture Vine fruit <i>Gokṣura</i> <i>Tribulus terrestris</i>	Saffron <i>Kuṅkuma</i> <i>Crocus sativus</i>
DOṢA	VPK= Best for <i>vāta</i> Dry Light All apart from Salty. Mainly Astringent HEATING Sweet All	VPK= Best for <i>pitta</i> Light Unctuous Bitter Sweet HOT Sweet <i>Rasa Rakta Māmsa Medas</i> <i>Majjā Śukra</i>	VPK= Best for <i>pitta</i> Light Dry Bitter COOL Sweet All apart from <i>Śukra</i>	VPK Dry Sweet Bitter COOL Sweet <i>Rasa Rakta Majjā Śukra</i>	VPK= Light Pungent Bitter Sweet COOL Sweet All especially <i>Rakta</i>
SROTAS	Digestive, excretory, nervous, respiratory, female reproductive	Circulatory, digestive, nervous, respiratory	Circulatory, digestive, nervous, respiratory, reproductive	Nervous, reproductive, respiratory, urinary	Circulatory, digestive, nervous, female reproductive
ACTION	Stops leakage and discharge Reduces inflammation; GIT, lung, urinary Aids absorption <i>Rasāyana</i> to <i>vāta</i> Laxative and astringent Prevents coughs	Clears heat and <i>āma</i> Reduces <i>pitta</i> ; gastro- intestinal tract, urine, skin Reduces fever Major herb for gout and arthritis Tonifies reproductive system Specific for hot skin conditions	<i>Sattva</i> +++ Cleans blood and reduces heat Specific for throat, skin, brain Promotes intellect and calms nervous system Encourages microcirculation <i>Rasāyana</i> for <i>pitta</i>	Opens <i>sahasrāra/sattva</i> Clears hot urine <i>Vāta</i> tropic; <i>apāna kṣetra</i> Antiarthritic Removes stones <i>Rasāyana</i> and <i>vājīkaraṇa</i> Purifies sperm Benefits skin conditions	<i>Rasāyana</i> and <i>Vājīkaraṇa</i> Cools <i>pitta</i> and liver Promotes action of herbs; catalyst Regulates menses Blood tonic <i>Sattvic</i>
DOSE	1–15g Pregnancy Dehydration, emaciation Can aggravate <i>pitta</i> in excess	1–30g Caution in pregnancy	1–15g Large dose might cause <i>vāta</i> headaches, caution in pregnancy	1–9g Dehydration and dryness Pregnancy MAOI drugs	100–250mg = 1–5 strands Not in pregnancy
CONTRAINDICATIONS					
BIOMEDICAL ACTIONS	Astringent (ripe), laxative (unripe), alterative, nervine	Alterative, antiperiodic, diuretic	Nervine, febrifuge, alterative, diuretic, tonic, circulatory stimulant	Diuretic, lithotropic, nervine, analgesic, anabolic	Emmenagogue, alterative, antispasmodic, carminative

TABLE A1.9 *Tridoṣa*-balancing herbs

ENGLISH SANSKRIT LATIN	Arjuna Myrobalan bark <i>Arjuna</i> <i>Terminalia arjuna</i>	Psoralea seed <i>Bākuci</i> <i>Psoralea corylifolia</i>	Country Mallow root <i>Bala</i> <i>Sida cordifolia</i>	Eclipta leaf <i>Bhīṅgarāja</i> <i>Eclipta alba</i>	Bael fruit <i>Bilva</i> <i>Aegle marmelos immaturus</i>
DOṢA GUṆA RASA VĪRYA VIPĀKA DHĀTU SROTAS	VPK= Best for <i>pitta</i> Dry Light Astringent COLD Sweet <i>Rasa Rakta Śukra</i> Digestive, circulatory, reproductive	VPK= KV– (P+ in excess) Dry Pungent Bitter HOT Pungent <i>Rasa Rakta Māmsa</i> Circulatory, respiratory, muscle, lymphatic	VPK= (K & āma+ in excess) Moist Heavy Sweet COLD Sweet All, especially <i>Majjā</i> and <i>Śukra</i> Circulatory, nervous, reproductive, urinary, respiratory	VPK= P– Bitter Astringent Sweet COLD Sweet <i>Rasa Rakta Asthi Majjā</i> Circulatory, digestive, nervous	VPK= P–K– Dry Bitter Pungent COOL Pungent <i>Rasa Rakta Majjā Śukra</i> Circulatory, digestive, reproductive, nervous
ACTION	Heart tonic; treats arrhythmia, pain, hypertension Clears cardiac congestion Liver tonic Benefits skin conditions Heals tissues, stops bleeding Reduces cholesterol	<i>Bhṛājaka pitta</i> ; leucoderma, psoriasis Clears cold from <i>vāta</i> sites Diarrhoea from cold and worms Treats impotency from cold Treats painful back problems Benefits asthma from high <i>vāta</i>	Heart tonic Soothes <i>vāta</i> ; nerve tonic Soothes inflammation and pain Tonic for muscles and reproduction Benefits urinary problems Heart muscle tonic Benefits lungs Treats back problems	<i>Rasāyana</i> ; <i>pitta</i> , liver, kidneys Benefits skin, hair, bones Haemostatic; uterine bleeding Tonifies nervous system; insomnia Treats liver problems; cirrhosis Benefits <i>rañjaka</i> and <i>bhṛājaka pitta</i>	<i>Kapha</i> in gastrointestinal tract Clears <i>āma</i> and reduces <i>kapha</i> and <i>vāta</i> Soothes inflamed mucous membranes Reduces colic and intestinal pain Prevents diarrhoea and dysentery Increases the digestive fire Stops bleeding in the gastrointestinal tract
DOSE	1–15g	3–10g	1–15g	250 mg–5g/day	1–12g/day
CONTRAINDICATIONS	None	High <i>pitta</i> when taken alone Low body fluids with dryness UV therapy	Āma or congestion Beta-blockers, MAOI, steroids, ephedrine-containing drugs	Cold conditions	Constipation
BIOMEDICAL ACTIONS	Cardiac stimulant; astringent, haemostatic, alterative	Aromatic, anthelmintic, antibacterial, antifungal, diuretic, diaphoretic, antidiarrhoeal, stimulant, alterative	Analgesic, aphrodisiac, demulcent, diuretic, nervine, rejuvenative, tonic, vulinerary, neuralgic	Alterative, antipyretic, haemostatic, laxative, nervine, vulinerary	Astringent, haemostatic, digestive, stomachic, antipyretic, febrifuge, antibillious, clears parasites

(Continued)

TABLE A1.9 *Tridoṣa*-balancing herbs (Continued)

ENGLISH SANSKRIT LATIN	Coriander seed, leaf <i>Dhanyāka</i> <i>Coriandrum sativum</i>	Isabgol-Psyllium seed, <i>Aśvakamā</i> <i>Plantago ovata</i>	Indian Spikenard root <i>Jaṭāmāṃsī</i> <i>Nardostachys jatamansi</i>	Aloe vera juice and gel <i>Kumāri</i> <i>Aloe barbadensis</i>	Costus root <i>Kuṣṭha, Kuṣ</i> <i>Saussurea lappa</i>
DOṢA	VPK= P– Dry	VPK= Moist Heavy	VPK= V–P– Light Penetrating	Juice VPK= P– (pwd=V+) Moist, Heavy	VPK= V+ in excess Dry
GUNA	Dry	Moist Heavy	Light Penetrating	Bitter, Astringent	Pungent Bitter
RASA	Bitter Pungent	Astringent Sweet	Blitter Sweet Astringent	Bitter, Astringent, Pungent, Sweet	WARMING
VĪRYA	COOLING	COOL	COOL	COOL	All
VIPĀKA	Pungent	Rasa Māṃsa	Rakta Mājā	Sweet	Circulatory, digestive, respiratory
DHĀTU	Rasa Rakta Māṃsa	Digestive, excretory	Circulatory, nervous, digestive, respiratory, reproductive	All	
SROTAS	Digestive, respiratory, urinary			Circulatory, female reproductive, digestive, excretory, nervous	
ACTION	Clears <i>pitta</i> ; allergenic, burning Eyewash for conjunctivitis and <i>kapha</i> Clears heat, bleeding Best for <i>pitta tīkṣṇa agni</i> Diuretic; cold infusion of seeds Expectorant	Clears <i>āma</i> ; absorbs <i>kapha</i> With buttermilk hot diarrhoea With warm milk for constipation Lubricates dry intestines Heals ulcers Benefits urinary inflammation	Calms <i>vāta</i> ; insomnia, anxiety Cleans <i>rakta</i> ; skin inflammation Reduces pain; muscular, nervous Reduces dysmenorrhoea Reduces high blood pressure Regulates gastrointestinal tract; bloating, colic Benefits the hair Rejuvenates <i>mājā dhātu</i>	Clears <i>pitta</i> , benefits liver, heals skin Soothes inflammation; skin, lungs, gastrointestinal tract Uterine tonic, nourishes <i>śukra dhātu</i> External; clears heat and heals wounds Benefits eye swellings Juice is a mild laxative Whole leaf powder is a strong purgative	Soothes <i>vāta</i> spasms; gastrointestinal tract, lungs, mind Clears <i>kapha</i> congestion Moves <i>apāna</i> and <i>sarmāna</i> Blackens hair Treats asthma Benefits arthritis and joints Benefits dysmenorrhoea Treats skin, itching and redness in <i>pitta</i>
DOSE	1–15g	5–10g	1–5g	Juice: 5–25ml Powder: 0.1–0.5g	1–9g
CONTRAINDICATIONS		Prolonged use lowers fertility Low digestive fire Other medication	Caution in pregnancy CITES listed	Pregnancy (whole leaf powder) Cold conditions	Dryness <i>Vāta</i> dryness and <i>pitta</i> heat CITES listed
BIOMEDICAL ACTIONS	Alterative, antibilious, carminative, diaphoretic, diuretic, stomachic	Demulcent, emollient, laxative, diuretic	Antispasmodic, aromatic, diuretic, emmenagogue, nervine, carminative	Stomachic, purgative, emmenagogue, antihelmintic, refrigerant, vulnery	Antihelmintic, astringent, antispasmodic, carminative, expectorant, diuretic, alterative

TABLE A1.10 Ayurvedic weights and measures and their metric equivalents (based on the *māgadha māna* of the *Bhāvaprakāśa Nighāṇṭu*)

Ayurvedic weight		Metric weight (volume also equivalent)
30 paramanu	1 trasarenu, 1 vamshi	0.0367mg
6 trasarenu	1 marichi	0.22mg
6 marichi	1 rajjika	1.30mg
3 rajjika	1 sarshapa	3.91mg
8 sarshapa	1 yava	31.25mg
4 yava	1 gunja	125mg
2 gunja		250mg
4 gunja		500mg
8 gunja	1 masha, 1 hemadhanyaka	1g
4 masha	1 shana, 1 dharana, 1 tanka	4g
12 masha	1 karsha, 1 tola	12g
2 karsha, 2 tola	1 shukti	24g
2 shukti, 4 tola	1 pāla	48g
2 pala, 8 tola	1 prasriti	96g
2 prasriti	1 anjali, 1 kudava	192g
1 kudava	1 manika, 1 sarava	384g
2 manika	1 prastha	768g
4 prastha	1 adhaka	3.072kg
4 adhaka	1 drona	12.288kg
2 drona	1 surpa	24.576kg
2 surpa	1 droni	49.152kg
4 droni	1 khari	196.608kg
100 pala	1 tula	4.8kg
2000 pala	1 bhara	96kg

TREATMENT GLOSSARY

The conditions are listed alphabetically with some of the basic treatment principles listed after each condition. Relevant herbs follow.

For dosage, restrictions and contraindications please refer to the relevant Plant Profiles.

ACIDITY

Reduce burning, clear heat, soothe inflammation, reduce *pitta*

- Licorice, amalaki, shatavari, mustaka, cardamom, haritaki, psyllium, rhubarb root, rose, peppermint, sandalwood

ACNE

Reduce redness, swelling, pain, pus, clean *rasa-rakta dhātu*

- Neem, gotu kola, manjishtha, sariva, aloe vera juice
- Apply aloe vera gel mixed with sandalwood and turmeric essential oils

ALLERGIES

Stop reaction, reduce inflammation, itching, irritation and secretions.

- Wet type: *trikaṭu*, vasa, anthrapachaka, ephedra, nigella seeds
- Nervous type: licorice, haritaki, nigella seeds, jatamamsi, tagarah
- Heat type: coriander leaf, chrysanthemum, amalaki, pit shirisha, kalmegh, sandalwood

ARTHRITIS

Osteo- and rheumatoid: clear toxins and *āma*, reduce inflammation, increase circulation, and activate *agni*.

- Wet type: guggulu, *triphalā*, punarnava, gokshura, turmeric, dry ginger, frankincense, vacha, *punarnavadi guggulu*, gold water

- Dry type: guggulu, *trikaṭu*, castor oil, gandharva, haritaki, *triphalā*, licorice, ashwagandha, bala, *yogarāja guggulu*, maharayan oil
- Hot type: guggulu, *triphalā*, guduchi, sariva, aloe vera, manjishtha, *kaiśor guggulu*, castor oil

ASTHMA

Reduce wheezing, phlegm, and *kapha*, enhance breathing, and calm *vāta*

Acute

- Sip ½ tsp maharayan oil in licorice water

Chronic

- Wet type: pushkaramoola, vasa, anthrapachaka, pippali, mustard seeds, bibhitaki, cinnamon, tulsi, ephedra
- Dry/nervous type: licorice, amalaki, bala, ashwagandha, pippali, shatavari, hing
- Hot type: kutki, vasa, licorice, guduchi, bhumiamalaki, frankincense, sitopaladi

ATHEROSCLEROSIS

Clear adhesions, obstructions and inflammation

- Wet type from plaque: guggulu, pushkaramoola, arjuna, bibhitaki, turmeric, ginger
- Dry type from tension: guggulu, tagarah, jatamamsi, brahmi, hemp seed oil
- Hot type from inflammation: guduchi, aloe vera, neem, daruharidra

BACK PAIN

Reduce pain, stop spasms, increase circulation, strengthen back

- Tagarah, jatamamsi, mustaka, ashwagandha, dashmoola tea, *yogarāja guggulu*, *kaiśor guggulu*, maharayan oil, ginger poultice (fresh grated ginger mixed with a little warm water, wrapped in muslin and applied to area of pain with a hot water bottle placed on top)

BLEEDING

Stop bleeding, increase circulation, calm *pitta* and *rakta*

- External: apply turmeric, manjishtha, haritaki, bilva powders
- Internal: manjishtha, rhubarb root, turmeric, bilva, kushtha, safflower

BREASTFEEDING

Nourish reproductive tissue, clean breast milk, enhance flow

- Shatavari, fennel, ajmoda, ajwain, turmeric, bala, licorice, almonds, ghee all help to increase the quantity and quality of milk

CHOLESTEROL

Increase *medosdhātvgni*, clear toxins, regulate bowels

- Guggulu, garlic, turmeric, fenugreek, shilajit, *trikaṭu*, *triphalā guggulu*

COLDS/FLU

Remove phlegm, reduce *āma*, reduce fever, induce sweating, clear bowels

- Wet type: tulsi, pippali, cinnamon, dry ginger, ephedra
- Dry type: cardamom, cinnamon, fresh ginger, castor oil
- Hot type: sitopaladi, mahasudarshan, lemon-grass, vasa, kalmegh

CONSTIPATION

Clear obstruction, relax the colon, stimulate peristalsis

- Wet type: *triphalā*, punarnava, vacha, pippali, senna
- Dry type: *triphalā*, castor oil, haritaki, psyllium, linseed, hemp seed
- Hot type: rhubarb root, kutki, daruharidra, aloe powder, aragvad

COUGH

Clear phlegm, ease breathing, clear throat

- Wet type: pippali, tulsi, pushkaramoola, cinnamon, cloves, mustard seeds, dhatura, devadaru, honey

- Dry type: licorice, bala, shatavari, ajmoda, dhatura, honey
- Hot type: sitopaladi, mahasudarshan, vasa, licorice, neem, vamsa lochana

CYSTITIS

Reduce pain, incontinence, bleeding, clear *pitta*

- Guduchi, coriander seed, neem, manjishtha, gokshura

DANDRUFF

Reduce dryness, nourish *rasa-asthi dhātu*, clear fungal infection

- External: neem oil, bhringaraj oil
- Internal: hemp seed oil

DEPRESSION

Awaken mind, clear stagnation, regulate liver, increase *ojas*

- Damp type: vacha, turmeric, chitraka, ginger, punarnava, gotu kola
- Nervous type: tagarah, jatamamsi, brahmi, gotu kola, tulsi, ashwagandha
- Hot type: guduchi, daruharidra, rhubarb root, brahmi oil nose drops, shatavari

DIABETES

Regulate blood sugar, promote insulin, increase circulation, protect nerves

- Gurmar, karavela, turmeric, black pepper, shilajit, punarnava, guduchi, kutki, copper water

DIARRHOEA

Astringe the bowel, arrest bowel motions, correct *agni*

- Wet type: bilva, nutmeg, bibhitaki, psyllium, kutaj
- Hot type: manjishtha, rhubarb root, shatavari, amalaki, psyllium

DIZZINESS

Calm nervous system, regulate digestion, build blood

- Nervous type: tagarah, jatamamsi, gotu kola, hing, ashwagandha, *triphalā*

- Digestive type: licorice, amalaki, shatavari, ghee, sandalwood
- Blood type: shilajit, sariva, amalaki, cyavanaprasha, iron, ghee

EARACHE

Reduce pain, calm *vāta*, clear infection

- External: garlic oil, neem oil, hing, onion juice
- Internal: turmeric, garlic, neem, vacha

EYES

Reduce eyelid inflammation, dryness, clear *pitta*, regulate the liver

- External: rose water drops, castor oil drops, *triphala* wash
- Internal: guduchi, shatavari, daruharidra, chrysanthemum, aloe vera

FLATULENCE

Reduce bloating, clear gas, increase *agni*, regulate *apāna vāyu*

- Ajmoda, ajwain, cumin, hing, cardamom, ginger, fennel, baking soda, hinvastaka, *triphala*

GUMS

Reduce inflammation, stop bleeding, prevent receding, clear infection

- Myrrh, haritaki, manjishtha, *triphala*, bilva, neem, turmeric

HAEMORRHOIDS

Reduce pain and bleeding, strengthen *agni* and venous return

- Dry type: hinvastaka, dashmoola, aloe vera, *triphala*, *triphala guggulu*, psyllium, linseeds, ginger
- Hot type: aloe vera, daruharidra, guduchi, neem, coconut oil

HAIR

Nourish hair, tonify *asthi dhātu*

- Bhringraja, amalaki, gotu kola, ashwagandha, bakuchi, cyavanaprasha

HANGOVERS

Clear pain, rehydrate tissues, regulate liver, reduce heat

- Tagarah, shatavari, vidari kandha, gotu kola, jatamamsi, neem

HEADACHES

Clear pain, prevent spasms, clear muzzy head, reduce inflammation

- Wet type: vacha, *trikaṭu*, cinnamon, eucalyptus oil, camphor oil, guggulu
- Nervous type: tagarah, jatamamsi, nutmeg
- Heat type: aloe vera, chrysanthemum, brahmi, bhringaraja

HEART

Tonify heart muscle, regulate rhythm, clear congestion

- Congestive type: guggulu, arjuna, turmeric, frankincense, bibhitaki, punarnava, gold water, amalaki
- Arrhythmic-deficient type: tagarah, jatamamsi, pushkaramoola, arjuna, ashwagandha, bala, cyavanaprasha
- Inflammatory type: aloe vera juice, arjuna, neem, sariva, amalaki

HICCUPS

Prevent spasms, descend *vāta*

- Ginger, asafoetida, cardamom

HIGH BLOOD PRESSURE

Lower blood pressure, relax arteries, control blood flow, reduce congestion, stress and irritation

- Wet type from plaque: guggulu, pushkaramoola, arjuna, bibhitaki, turmeric, ginger
- Dry type from tension: guggulu, tagarah, jatamamsi, brahmi, sarpagandha, hemp seed oil
- Hot type from inflammation: guduchi, aloe vera, neem, daruharidra, amalaki

HYPOGLYCAEMIA

Reduce *pitta* and calm *vāta*

- Aloe vera juice, guduchi, neem, licorice tea, jatamamsi, shankapushpi, brahmi

IMMUNITY

Tonify *ojas*, strengthen all tissues

- Ashwagandha, garlic, licorice, turmeric, myrrh, bala, shatavari, safed musali, ghee

IMPOTENCE

Rejuvenate reproductive system, relax stress, reduce weight

- Obstructive type: guggulu, arjuna, frankincense, pippali, turmeric, ginger, gokshura
- Deficient type: ashwagandha, bala, vidari kanda, kapikacchu, safed musali
- Hot type: guduchi, shatavari, saffron, amalaki, kapikacchu, aloe vera

INDIGESTION

Strengthen *agni*, reduce accumulations

- Wet type: *trikaṭu*, fenugreek, cinnamon, chitrak
- Nervous type: fresh ginger, tagarah, fennel, nutmeg, cardamom, chitraka
- Hot type: coriander, pomegranate seeds, lemon-grass

INSOMNIA

Calm the nervous system, reduce heat, relax the mind

- Tagarah, jatamamsi, gokshura, nutmeg, ashwagandha, bala, brahmi, gotu kola

MASTITIS

Clear pain, swelling and infection

- External: turmeric paste, aloe vera gel, neem cream

MEMORY

Enhance mind, tonify *ojas*

- Brahmi, gotu kola, jatamamsi, tagarah, shankapushpi, nutmeg, ashwagandha, ghee

MENSES

Stop pain, regulate flow, clear cysts, fibroids, reduce premenstrual syndrome (PMS)

- Obstructive-damp type: ginger, ashoka, saffron, punarnava, gokshura, myrrh, *triphala guggulu*, *puṣyānuga cūrṇa*

- Nervous type: jatamamsi, tagarah, ginger, ashwagandha, vidari kandha, dashmoola
- Heat type: musta, aloe vera juice, shatavari, *kaiśor guggulu*, *phala ghr̥ta*, coconut oil

NAUSEA

Calm the stomach, descend *vāta* and reduce *pitta*

- Fresh ginger, peppermint, cardamom, shatavari, rose water

OBESITY

Reduce weight, drain fluids, increase *medosdhātovni*

- Guggulu, *triphala*, *trikaṭu*, triphala guggulu, chitraka, punarnava, shilajit, kutki

OEDEMA

Clear water retention, reduce swelling and *kapha*

- Punarnava, coriander, turmeric, gokshura

OSTEOPOROSIS

Strengthen the bones, nourish *asthi dhātu*

- Ashwagandha, bala, vidari kandha, guggulu, almonds

PROSTATITIS

Clear stagnation, tonify weakness

- Punarnava, gokshura, shilajit, *punarnavadi guggulu*, ashwagandha, vidari kandha

SKIN

Improve quality, reduce inflammation, swelling, dryness, itching

- Wet type: punarnava, coriander, fennel, pit shirisha, varuna, gokshura, turmeric
- Dry-nervous type: jatamamsi, tagarah, brahmi, gotu kola, hemp seed oil
- Hot type: sandalwood, manjishtha, neem, kutki, daruharidra, coconut oil

STONES (GALL- AND KIDNEY-)

Clear pain, accumulations, and deposits

- Manjishtha, varuna, gokshura, bhumiamalaki, punarnava, myrrh, fennel, turmeric, lemon juice, musta, *punarnavadi guggulu*, gokshuradi guggulu

STRESS

Calm nervous system and *vāta* and nourish *majjā dhātu*

- Tagarah, jatamamsi, brahmi, gotu kola, licorice, almonds, cyavanaprasha

TINNITUS

Reduce ringing in the ears, reduce stress, calm high pressure in the ears

- Gokshura, jatamamsi, tagarah, *yogarāja guggulu*

TIREDFNESS

Reduce stagnation, strengthen deficiency

- Ashwagandha, kapikacchu, shatavari, ginger, safed musali, cyavanaprasha

ULCERS

Reduce inflammation, clear pain, heal ulcer, reduce *pitta*

- Aloe vera juice with turmeric, licorice, shatavari, vidari kandha, amalaki, jatamamsi, brahmi

YEAST INFECTIONS

Clear fungal infections, digestive symptoms

- Hingvastaka, musta, kutki, neem, licorice, turmeric



GLOSSARY OF TERMS

Acute disease Any disease with a sudden onset, intense symptoms and brief duration.

Agni The digestive fire with the function of regulating digestion, absorption and assimilation.

Āhāra rasa The food essence created after *agni* transforms food into an absorbable form. It nourishes all the tissues.

Allopathic System of medicine that uses treatments that oppose the pathology, i.e. anti-inflammatories to treat inflammation. Also refers to modern scientific medicine.

Ālocaka pitta The aspect of *pitta* residing in the eyes. It assimilates visual impressions.

Alterative A herb that alters the chemical state of the blood; blood cleanser.

Āma Undigested food, herbs or experiences that create disease-forming toxins.

Āmāsaya The stomach.

Amenorrhoea Absence of menstruation.

Anabolic Describes an agent involved in the building phase of metabolism.

Analgesic A pain-relieving agent.

Anthelmintic An agent that kills parasitic worms.

Antibiotic An agent that kills bacteria.

Antipruritic An agent that stops itching.

Antipyretic An agent that reduces fever.

Antispasmodic An agent that relieves muscular spasms and contraction.

Apāna vāyu The aspect of *vāta* responsible for moving downwards and eliminating stool, flatus, urine, menses and the fetus.

Aperient A mild laxative.

Aphrodisiac An agent that tonifies the reproductive system.

Aromatic A fragrant herb, containing essential oil, that tonifies digestion and reduces flatulence.

Ārtava The menstrual channel, tissue and ova.

Aṣṭāṅgahṛdaya Saṃhitā The Eight-Limbed Heart Sutra written by *Vāgbhaṭa* c.600CE; a collated work on the essence of Ayurveda.

Asthi dhātu Bone tissue, giving support to the body.

Astringent An agent that causes cell contraction, used to dry discharges and reduce leakages. Astringent herbs are usually tannin-rich.

Avalambaka kapha The aspect of *kapha* that resides in the heart and lungs, supports *ojas* and is connected with immunity.

Ayurveda The traditional medical system of India, meaning the 'science of life'.

Bhasma An alchemical tonic compound usually made from metal or gems.

Bhāvaprākāśa Written by *Bhāvamishra* around 1596CE. The most important ayurvedic *materia medica* treatise, listing the energetics of herbs and foods.

Bhrājaka pitta The aspect of *pitta* that resides in the skin and gives awareness of touch, skin colour and lustre.

Bhūtāgni The aspect of *agni* that resides in the liver and is responsible for transforming the elements of earth, water, fire, air and space.

Bodhaka kapha An aspect of *kapha* that resides in the tongue and mouth that facilitates taste and digestion.

Borborygmus Rumbling sounds from the intestines caused by movements of fluid and gas.

Carminative An agent that relieves gas, spasms and helps digestion.

Catabolic Describes the destructive phase of metabolism.

Cathartic A strong laxative that causes a complete flushing of the bowel.

Cakra An energy centre linking the physical and astral realms. Also related with the plexuses from which nerve fibres spread throughout the body.

Caraka The author considered to have expounded the *Caraka Saṃhitā*, the oldest extant Ayurvedic text written between 150BC–100CE.

Chronic disease A disease with gradual onset, long-term symptoms and gradual changes.

Demulcent A soft and mucilaginous agent that protects the mucous membranes.

Dhanvantri The Lord of Ayurveda.

Dhātu One of the seven tissues that give structure and support to the whole body.

Dhātu-agni (also written correctly as dhātvaṅni) The digestive fire that exists in the tissue membranes and is responsible for digesting the unstable portion of the *dhātu* into the stable portion. It also separates the waste products, secondary tissue and unstable portion of the next tissue in the nutritive hierarchy (Chapter 2) from the stable portion.

Diaphoretic An agent that causes sweating.

Diuretic An agent that facilitates and increases urination.

Doṣa One of the three humours, called *vāta*, *pitta* and *kapha*. When balanced they are responsible for good health, but when imbalanced they act as ‘faults’ and can cause illness.

Dysmenorrhoea Painful menses.

Emetic An agent that induces vomiting.

Emmenagogue An agent that encourages menstruation and the circulation of blood in the uterus.

Expectorant An agent that encourages coughing and clearing phlegm from the lungs.

Febrifuge An agent that reduces fever.

Ghee Clarified butter. To make ghee take 500g unsalted butter, simmer on a low heat for 20–30 minutes until the liquid is clear. A foam will rise to the top and the solid particles will sink to the bottom. Be careful to avoid burning the bottom

of the pan. The ghee is ready when the liquid is clear. Store in an airtight container.

Guṇa The three subtle qualities of nature; *sattva*, *rajas* and *tamas*. Also the 20 attributes that describe the different qualities of matter in Ayurveda.

Haematemesis Vomiting of blood.

Haemostatic An agent that stops bleeding.

Hanuman The monkey god, loyal to Lord Rama. He is the symbol of fearlessness and loyalty. He brought the mountain of healing herbs, Ritigala, from India to Sri Lanka.

Homoeopathic System of medicine that uses remedies that are similar to the symptoms, i.e. it uses homoeopathic doses of coffee to treat insomnia.

Horripilation When the body hairs stand on end.

Hṛdaya The heart.

Hypolipidaemic An agent that reduces blood lipids.

Jatharāgni The digestive fire which lives in the stomach and duodenum. It transforms food into food essence (*dhāra rasa*).

Kalaa The membrane housing the *dhātu agni* of each tissue.

Kapha One of the three *doṣas* with qualities of earth and water. It is heavy, wet and cold, lives in the stomach and is responsible for nourishing the mucus membranes, bones, joints, heart and memory. It lubricates the organs and joints and binds the whole body together. When healthy, it creates love and compassion, when destabilised, it creates phlegm, excess weight, lung problems, greed and attachment.

Kledaka kapha The form of *kapha* that resides in the stomach and nourishes the mucous membranes throughout the body. It is responsible for liquefying food and protecting the stomach wall from corrosive digestive acid.

Kṣaya A deficient state of the *doṣa* or *dhātu*.

Laxative An agent that causes a mild bowel motion.

Lithotriptic An agent that can dissolve gall-, kidney, and bladder stones.

Majjā dhātu Nervous tissue and bone marrow, giving nourishment to the nervous system and unctuousness to the nerves.

Māmsa dhātu Muscle tissue, giving strength and binding the body together.

Manas prakṛti The mental constitution regulated by *sattwa*, *rajas* and *tamas*.

Mandāgni A slow and deficient digestive fire, characteristic of *kapha* disorders.

Materia medica The materials of medicine. The study of the drugs or substances that are used to treat disease. Commonly used to refer to books that are collections of herbal materials.

Medas-dhātu (also written correctly as medodhātu) Fat tissue, which protects the organs and other tissues and lubricates the body.

Menorrhagia Excessive menstrual bleeding.

Nervine An agent that nourishes and calms the nervous system.

Ojas The essence of all digestion that maintains the inherent immunity and strength of the body. The ultimate result of perfectly digesting *kapha* foods and experiences.

Organoleptic Describes the use of the senses to perceive the qualities of matter.

Pācaka pitta The aspect of *pitta* that resides in the small intestine, acting from the stomach to the ileocaecal valve, and facilitates the digestion of food.

Pañca karma The five cleansing techniques of therapeutic emesis, purgation, enemas, nasal cleansing and blood-letting.

Pañcamahābhūta The five great elements of space, air, fire, water and earth that make up the material universe. Created from a division of *puruṣa* and *prakṛti*.

Peristalsis Wave-like motions through the channels of the body, notably the colon.

Pitta doṣa The humour comprised of water and fire. It is hot, wet and light and its main site is the small intestine. It is responsible for the metabolic processes of the body. When healthy it adds zest, clarity and energy to life, but when

aggravated it creates burning, inflammation and anger.

Prabhāva The unique action of a plant above and beyond its energetic qualities.

Prajñāparādha A crime against wisdom that is a formative factor in disease; acting against your inner knowledge.

Prakopa The second stage of the disease process, which irritates and aggravates organs in the body. The term *doṣa prakopa* is commonly used to indicate an imbalance in the humours.

Prakṛti The manifest aspect of reality that is expressed in matter, nature and creation. Also used to describe the individual constitution and inherent nature of every person.

Prāṇa The subtle essence of the life force. It travels on the breath and is absorbed from the air, food and nature. It is responsible for vitality and cellular communication. It is the link between the body and the mind. The ultimate result of perfectly digesting *vāta* foods and experiences.

Prāṇa vāyu One of the five aspects of *vāta* that is responsible for inspiration and drawing things into the body. Its main seat is the brain and it operates between the navel and throat. It regulates mental functions and respiration.

Prāṇāyāma The yogic practice of breathing with awareness. The focus is on extending the length of breath and balancing the rhythm.

Puruṣa The subtle aspect of consciousness that is ever still and watchful. This is the witness to all of creation, detached, yet ever conscious.

Rajas The quality of nature responsible for movement, passion and energy.

Rakta dhātu The blood tissue responsible for giving life and colour to the tissues.

Rañjaka pitta The aspect of *pitta* that lives in the liver and spleen and affects the quality of blood.

Rasa The taste of a substance. The six tastes of sweet, sour, salty, pungent, bitter and astringent are used in Ayurveda to classify the quality of foods and herbs. Also used to mean the essence of something.

Rasa dhātu The plasma tissue, which nourishes the other tissues in the body and has a direct effect on the skin and the menstrual cycle.

Rasāyana A substance that tonifies and nourishes the whole system.

Rejuvenative A substance that tonifies and nourishes the whole system.

Roga Disease.

Sādhaka pitta The aspect of *pitta* that lives in the heart and is responsible for awareness and intelligence.

Samāna vāyu One of the aspects of *vāta* responsible for regulating the flow of *prāṇa* in the middle of the abdomen. This helps to support the digestive process.

Samprāpti The pathology of a disease.

Sāṃkhya The philosophical system from which Ayurveda draws the cosmological understanding of matter and evolution.

Sara Denotes tissues of a high quality.

Sattva The quality of nature reflected in compassion, light and intelligence.

Sedative A substance that tranquillises the function of the nervous system.

Śakti Meaning 'energy'; represents the dynamic feminine vitality throughout the universe. The natural and balancing opposite to Shiva.

Shiva Meaning the 'auspicious one', Shiva is one of the main Hindu deities and represents the energy of destruction and transformation.

Śukra dhātu The reproductive system relating to sexual function; sperm in men, ova in women.

Śleṣaka kapha The aspect of *kapha* that lubricates and protects the joints.

Srotāṃsi The channels that carry nutrients, *prāṇa*, tissues and wastes around the body. They interlink the body as a network of tubes. *Srotāṃsi* is plural—'channels', and *srotas* is singular—'channel'.

Stimulant Increases metabolism, circulation and the function of an organ.

Suppuration The formation of pus or fluid leaking from a wound.

Suśruta Saṃhitā A detailed surgical text written c.100–500CE by the great *Suśruta*.

Svastha Health.

Tamas The quality of nature that reflects dullness, inertia and darkness.

Tantra A spiritual path for deifying the body, utilizing all the senses. Successfully practised, this results in being carried across to the other side of existence, the shores of liberation.

Tarpaka kapha The aspect of *kapha* that lubricates and nourishes the brain. Responsible for memory retention.

Tejas The essence of the fire element. The result of the perfect digestion of all *pitta*-natured foods, which gives consciousness and clarity to the mind.

Tīkṣṇa The quality of sharpness that can penetrate deeply into the tissues.

Tīkṣṇāgni The nature of the digestive system when it is overactive. This can lead to rapid digestion, hunger, hypoglycaemia and over-metabolism. The tendency of *pitta* aggravation is to have a *tīkṣṇāgni*.

Udāna vāyu The quality of *vāta* that resides in the throat and upward movements, regulates speech and exhalation.

Vasodilator An agent that encourages the relaxation of blood vessels.

Vāta The humour made from space and air elements. It is light, dry and cold and resides in the large intestine. It is responsible for all movement in the nervous system, muscles, heart and mind. When out of balance it creates bloating, erratic digestion, constipation and anxiety; when in balance it creates inspirational creativity and flexibility.

Vikṛti The current state of a person's health or the present state of imbalance, as opposed to the *prakṛti*, which is the life-long constitution.

Vipāka The post-digestive energetic effect of the tastes.

Vīrya The energetics of a herb: hot or cold.

Viṣamāgni The nature of the digestive fire when it is erratic; sometimes digesting well and at

others not digesting efficiently. Common in *vāta* disorders.

Vitiāte To disturb the function or structure of a *doṣa*, *dhātu* or *mala*.

Vṛddhi A condition of excess in the humours, tissues or wastes.

Vulnerary Helps the healing of wounds.

Vyāna vāyu The quality of *vāta* that is responsible for spreading outwards. It regulates the circulation, nervous system and all joint movements.

Yoga The practice of unifying the mind and body, self and cosmic self. Commonly practised as postures, breathing techniques and meditation practices to harmonise the health of the body and mind.



RESOURCES

If you have any queries regarding this book please contact me at sebastian@pukkaherbs.com and I will be happy to answer any questions that you have. Information about my herbal practice is at Blue Sky Clinic: 01225 835068.

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Banyan Botanicals: www.banyanbotanicals.com

The Ayurvedic Institute: www.ayurveda.com

European Institute of Vedic Studies: www.atreya.com

Ayurvedic Nutrition: www.ayurvedicnutrition.com

My favourites for all herb research

Planet Herbs: www.planetherbs.com

Michael Tierra's site. First-class information on western herbalism, Ayurveda and traditional Chinese medicine. My teacher and a true pioneer of energetic herbalism.

The Virtual Herbal: www.christopherhobbs.com

This is the work of a prolific writer and master herbalist. Great reviews on medicinal mushrooms.

One Earth Herbs: www.oneearthherbs.com

Alan Tillotson's site. The words of a great herbalist. Lots of information on Ayurveda, TCM and western herbs. Very detailed knowledge of ophthalmology.

Henriette's Herbal Homepage:

www.ibiblio.org/herbmed

Henriette Kreis' website dedicated to herbal information. Priceless. Fantastic source of herbal information, including original herbal pharmacopoeias and King's Dispensatory.

Southwest School of Botanical Medicine:

www.swsbm.com

Michael Moore's site. Full of herbal gems and early pharmacopoeias.

Herbological: www.herbological.com

Jonathan Treasure's site. Great information on drug-herb interactions and articles on various herbal topics.

The Phytochemistry of Herbs: www.herbalchem.net

In-depth information on phytochemistry.

Dr Duke's Phytochemical and Ethnobotanical Databases: www.ars-grin.gov/duke

James Duke's magnificent databases on phytochemistry and ethnobotany

The National Library of Medicine:

www.ncbi.nlm.nih.gov/entrez/

Rocky Mountain Herbal Institute:

www.rmhiherbal.org

The TCM Herbal Database from The Rocky Mountain Herbal Institute. Great knowledge on Chinese herbs.

Botanical:

www.botanical.com/botanical/mgmh/mgmh.html

A Modern Herbal (M Grieve, 931): the great herbal tome.

Ediblewild: www.ediblewild.com

The name says it all!

Health World Online:

www.healthy.net/scr/center.asp?centerid=24

Good info on conditions and herbs

Organic Consumers Association: www.organicconsumers.org

Also has information on genetically engineered food.

Genetic Engineering and its Dangers:

<http://online.sfsu.edu/~rone/GEessays/gedanger.htm>

The dangers of genetic engineering.

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A NOTE ON THE TRANSLITERATION AND PRONUNCIATION OF THE SOUNDS

Diacritical marks have been used only to show the correct pronunciation of the Sanskrit words. They have not been done according to convention, i.e. compound words have not been broken according to convention and the rules on *sandhi* (word-junctions within the compounds) have not been systematically observed. In this respect transliterations should not be copied from this work, or be used for any other purpose other than learning the correct pronunciation of the word.

The following list gives readers an indication of correct pronunciation of Sanskrit, which contains

both long and short vowels; glottal, palatal, lingual, dental and labial stops, all of which can be aspirated, unaspirated, voiced, or unvoiced. The table lists the primary sounds according to where they are pronounced in the throat and mouth; whether they are voiced, unvoiced, aspirated and unaspirated in the relative combinations; and length of the vowels (short or long). The table (A7.1) is to be read both down and across, i.e. 'ka' is a glottal stop, pronounced in the throat, it is unvoiced and unaspirated; 'bha' is a labial stop, pronounced at the lips, it is both voiced and aspirated.

Box A7.1

Additional sounds and diphthongs

Anusvāra and Visarga

Anusvāra

ṁ Anusvāra, the 'nasal glide' follows a vowel and represents the nasal relative to the class of the consonant that follows it, i.e. aṁjali = añjali.

Visarga

ḥ Visarga follows a vowel and is pronounced as an expulsion of breath made in the articulatory position of the preceding vowel. It has the characteristic of an echo.

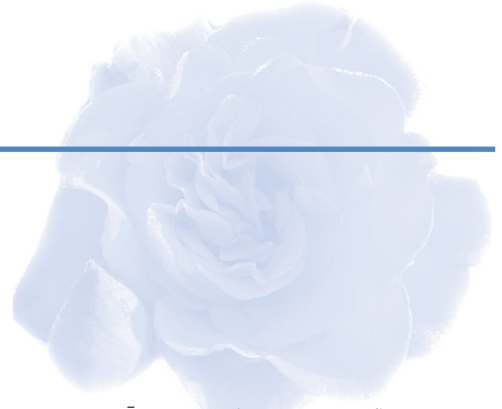
Diphthongs

- e e is a combination of a and i pronounced like 'ey' in 'they'. Given the position of the component vowels it is pronounced in the glottal and palatal positions.
- ai ai is a combination of a and the diphthong e, pronounced like 'ai' in 'aisle'. Given the position of the component vowels it is pronounced in the glottal and palatal positions
- o o is a combination of a and u, pronounced like 'o' in 'note'. Given the position of the component vowels it is pronounced in the glottal and palatal positions.
- au au is a combination of a and the diphthong o, pronounced like 'ai' in 'aisle'. Given the position of the component vowels it is pronounced in the glottal and palatal positions

Table A7.1 Primary vowels and consonants

Vowels are pronounced short or long							
Voiced	a/ā	i/ī	e	ai	u/ū	au	ṛ/o
Place of utterance	Throat	Soft palate	Hard palate	Back of the teeth	Lips		
Name	Glottal	Palatal	Retroflex	Dental	Labial		
Consonants have an inherent a for pronunciation							
Unvoiced, unaspirated	ka	ca	ṭa	ta	pa		
Unvoiced, aspirated	kha	cha	ṭha	tha	pha		
Voiced, unaspirated	ga	ja	ḍa	da	ba		
Voiced, aspirated	gha	jha	ḍha	dha	bha		
Voiced, nasal	ṅa	ña	ṇa	na	ma		
Semi-vowels		ya	ra	la	va		
Sibilants, unvoiced			śa	ṣa	sa		
Aspirate	ha						

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