**Advanced Aromatherapy™**

**Aromatherapy for the Respiratory System**

**Module 4**

**[0:00:00]**

Colleen: Hello everyone and welcome to Module 4 of Advanced Aromatherapy: Therapeutic Application of Essential Oils for Clarity, Health and Happiness with David Crow titled Aromatherapy for the Respiratory System. This is your host Colleen at The Shift Network. Just a couple of reminders, you can find out all of the handouts that David is referring to on the course homepage under Module 4 and perhaps we will review some from Module 3 as well, I'm not sure. If at any time you do have a technical issue or question and you're on the telephone, please press 5 and I'll come along and assist you. And if you have a technical question and you're on the webcast, please type the question directly on the box and provide your email address so that I may respond. That covers it for today, so a big welcome back to you David.

David: Thank you, Colleen, and welcome back to everybody. I hope that you have had a very enjoyable two weeks of exploring essential oils. Before we start with the lecture part, I will just invite people to call in, raise your hand and submit anything you would like on the webcast concerning your progress, concerning what you have been doing with essential oils. In the first three modules, I gave you a lot of information in larger categories of therapeutic functions and a lot of ideas of how oils could be used. So you already have quite a bit of introduction to how aromatherapy is done and therapeutic classification of oils, as well as having some monographs that have some good recipes in them. So I'll just go ahead and open it up with an invitation if any of you would like to share any stories about what you are doing with essential oils and your adventures with aromatherapy so far.

 While we are giving people a few minutes to respond to that, we can go ahead and turn your attention to the course page where you can see the various files that we will be studying today. We'll take a moment and go through these. One is at the top titled *Contagion*. This is a slideshow. Go ahead and open that. It's a PDF. And of course to get to all of these, just click on the title of Module 4 and the menu will drop down. So go ahead and open the PDF on contagion. This will be the first part of our class today is talking about the historical use of these plants and why these are so important for the respiratory conditions. And the antimicrobial science of essential oils, which is a very, very big part of aromatherapy. You can go ahead and open up the other PDFs as well, *Essential Oils and Contagion*. This one is an article that I am going to unpack a little bit at a time as we're going through the slideshow. Then you're going to see a file called *Major Respiratory Oils*. Go ahead and open that. I will explain all of these a step at a time. Open the monographs for Modules 4 and 5 five. There's quite a lot of information here about individual oils. There's an article titled *Protocols for Withdrawals*. Some of you may have seen this in a previous advanced herbal class. *Respiratory Therapeutics*. This is a nice list that is specifically for this class and the next class, and so we have two classes dedicated to respiratory system. And then we have a file on the webcast questions that have come in over the last few modules. So those are the things you would like to open. And you can also, while you are at it, click on the link above Module 3. Go ahead and open the file titled *Monographs for Module 3* as long as you are at it. And we can go back to some of these oils from the last modules as some of these, for example, the tea tree, well, actually almost all of these are also relevant to our module today. So now that everybody has files opened and I have extended an invitation to you, I will just extend that invitation again and turn it back to you Colleen. And I'll just say does anybody have any wonderful testimonial or stories or questions or concerns about the use of essential oils so far?

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Colleen: Okay, thank you so much. I wanted to remind everyone to press 1 if you're on the phone to share with all of us. And from the webcast, I do see already one question or sharing from [Participant]. "I diffused vetiver, laurel, lavender and sometimes jatamansi near my head when going to sleep. My eyes are very dry when I wake up. Is it one of these oils that has that effect or should I just put the diffuser further away?

David: Well, I would suggest keeping the diffuser further away. Could you give me that list again? There's vetiver and laurel and what else?

Colleen: Lavender and jatamansi.

David: Right, okay. So I would say that the oil that has the potential to actually be drying would be the laurel. And that's the one that has a bit of a cinnamon spice kind of note. The vetiver and the jatamansi probably will not have that effect. Lavender probably will not have that effect. So I would say you might just try taking that oil out of that blend. It could be that it is simply that one oil that is doing it. But in general, let's keep in mind that essential oils can be drying, and so if you are finding that something is too drying, then don't use it so much. Again, what you don't mention is how close is the diffuser. If you have a diffuser that is basically blowing essential oils on you all night long, I don't know that that's necessarily a good thing. You might want to just move the diffuser a little bit further away. So those would be the two answers I would give is take the laurel out. It's not really a major oil for sleep really. It's a good oil for the respiratory system as we will learn today and next week, but the others are for more for sleep actually. The jatamansi and the vetiver and the lavender, those are relaxing. Laurel is really more of a stimulant type of oil. So I would take that out, try it and I would also move the diffuser away from diffusing directly by your head. That could be an issue. That would be the answer on that. Anything else, Colleen? Anybody want to raise their hand?

Colleen: Yes, we have many questions.

David: Okay, good. Has anybody called in?

Colleen: Yup, we have [Participant]. And [Participant], you have the mic. Go ahead please.

Participant: Thank you. So David, what I'm finding when I'm using essential oils either as individual oil or when I'm putting them together and using them as part of my energy treatment with clients. What I'm finding is that I don't have an actual terminology, I can't come up with it, but the oils almost seem to have psychospiritual qualities to them. They work directly on the issues that the client is presenting in my session, in our session. And I wonder if you could speak a little bit more about it in terms of the inclusive qualities. I know it affects the consciousness and you do have talked about that, but in terms of what it actually does to affect consciousness or aspect of consciousness that need to be addressed for the specific issue. Thank you.

David: Yes, well, thank you. Very good observation. We are actually going to be spending quite a lot of time exploring this question because this is one of the primary ways that aromatherapy is very beneficial. And the link of course is through the olfactory system. Through the olfactory system there's a direct connection to the limbic system, and with the limbic system we are addressing the various aspects of our biorhythms and our emotional states and our moods and many things related to memory and so forth. So we actually have several full modules. We're going to talk about this in Modules 12 and 13 about aromatherapy for emotional wellbeing. So we have two classes dedicated just to answering your question, and then we also will be talking about that coming up. After we get done with respiratory and digestive systems, we have a module on treatment of the nervous system.

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 So the observation that you have made is very important and it is a primary way that aromatherapy works is through the olfactory system. And the link between fragrance and emotions and states of consciousness and that is directly through the limbic system. And through the limbic system, many other systems are therefore affected, specifically the endocrine system which can therefore have very positive effects on hormonal balance and stress and the adrenal balance and the nervous system and the immune system and so forth. So it's a great observation and I would just say that would be the short answer that I could give now is that is the mechanism that you are observing. You are observing that the fragrance in conjunction with your therapeutic healing touch that you are giving and the way that you are working with your clients is helping them to be able to access probably emotional memory for the most part. And also doing that in mostly likely I would say, I don't know exactly what treatment you're giving, but I would say that it's probably also a relaxed kind of state in a nurturing safe environment. So you put all those elements together of you and your healing work and your energy and your compassionate presence along with the fragrance of the plants. And then the person's nervous system relaxing from the work that you were doing and the fragrance going into their limbic system and all of those things are equally important. So that's the short answer and let's explore that more when we get to the modules that are specifically for that, but that's a great observation and that is a very, very important aspect of aromatherapy. So thank you, great comment.

Colleen: Thank you.

David: Okay, shall we do one more?

Colleen: Yes please, let's do that. And we have [Participant]. Go ahead [Participant], you have the mic.

Participant: Oh, hi, David.

David: Hello.

Participant: I'm calling over here on Maui, Hawaii where I live. I'm wondering if you seen the film that said *Ancient Secrets of Essential Oils*?

David: I have not. I have not. But the first thought that crosses my mind is how ancient do they claim that essential oils are?

Participant: Well, they claimed they're quite ancient and I'm really hoping that you take a look at this film. It's the only film that's been done in aromatherapy. It's only been out for a few months, but I purchased a copy of it. I've watched it twice. Two of the things that I find fascinating and would love to talk with you about after you've seen the film is that they're taking essential oils orally in the film. It's quite interesting to watch it actually. But it's about an hour and 20 minutes, a little bit less than that long. There are some beautiful parts of the film. I just was hoping you have seen it so we could have a little discussion because some of the information is contradictory to what we are learning at these sessions with you. So I'm open to all of it and the learning and understanding and growing.

David: Well, for some reason, I have a suspicion that this is probably produced by a major multilevel marketing company, and the reason that I say that is because, first of all, essential oils are not really that ancient. The majority of essential oils have really appeared in the last hundred years. And anybody who says that they were using essential oils during biblical times doesn't know the history of distillation. They were using aromatic plants and preparation as I have explained before, but let's say that's a kind of mythologizing, you could say. That's a polite way of saying that they are stretching the truth a little bit. Because the essential oil world has really just developed fairly recently. We know that distillation of alcohol goes back a couple of thousand years, but the generally agreed on starting date of distilling essential oils was probably maybe 700 years ago at the latest. And even if it was being done earlier than that, it was certainly not being done on any large scale where lots of people had access to oils. It may have been an individual alchemist here and there that was producing something on a very small scale. So first of all, I'm suspicious about that claim that there's something particularly ancient about essential oils. And then, of course, when people like to put the word "secrets" along with that, I'm always rather suspicious because all the information about essential oils and distillation and the use of herbs traditionally is widely and easily accessible.

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 It sounds like that. It sounds like marketing. And then of course, if the movie includes people taking essential oils internally, then we know that it's advocating unsafe use of essential oils and that's basically in the realm of multilevel marketing. We've unpacked that extensively and everybody knows the reasons why we do not take essential oils internally as I have explained.

Participant: The name of the MD that takes them and says, "Watch me poison myself like that," because it's Dr. Wenker if you know of him.

David: I don't know the name, but what I can say is that yes, lots of MDs have gotten involved with this. In my opinion, that makes no difference whatsoever because I have heard horrible poisoning cases of patients that have happened because MDs have thought that they know how to use essential oils. And if you are taking internal oils for yourself internally, that's your own choice.

Participant: I actually don't do that. I don't take them internally. And the blends that I make for other people are tropical blends. But I'm open-minded. And the film is a really great film. It has really opened my mind to thinking about all the different possibilities and choices that I make as a mature adult that makes educated decisions. It's a fantastic film. It's a really good film.

David: That's great. Okay, let's wrap up this conversation here because I know we have many, many people that are always going to be debating the pros and cons of taking essential oils internally. This is an individual choice and you are welcome to do that if you would like. But I have outlined my personal and my clinical. I'm speaking as a medical practitioner here also. My responsibility in this class is to tell all of you how to use essential oils safely and wisely. So I have given you all the contraindications in the beginning. If people would like to go ahead and do that, that's perfectly fine, but there are risks involved. And the risks are very unpredictable as we have talked about because what may work for one person may cause a serious problem for another person. That's the responsibility that I have to you as a practitioner and an educator. Now, I'm going to contradict myself in the next two modules. I'm going to tell you some very specific ways on how you can take essential oils internally. How do you like that?

Participant: All of it is just fine.

David: Okay, great. Well, would you like to go ahead to mention the name of the movie again for people who may not have caught it who might be interested in checking this out?

Participant: It's called *Ancient Secrets of Essential Oils*.

David: Okay. Now let's go ahead and jump into our lecture for today. Speaking of ancient secrets, that's a lot of what we're going to talk about now. So let's go ahead and I'll give you an overview first of what we're going to be covering here in this module. We're now moving to the specific therapeutic applications of essential oils for the respiratory system. In my opinion, this is one of the strongest aspects of using essential oils and aromatherapy. You will find that as we go through various modules, for example, when we come to the digestive system, when we come to balancing the hormonal system, when we come to working with emotional wellbeing and so forth. That essential oils and aromatherapy have different abilities. I have explained this before in the first class, and I have said that in many ways essential oils and aromatherapy are the first line of treatment that are highly, highly effective for certain kind of things, and they are moderately useful for other kind of things, and they're really not very useful for whole range of things. So this again is one of the subjects that people are going to ask over and over again. And I will mention and remind everybody that you do have access to a consulting email and you can contact me about particular questions. That's where I do get a lot of the discussion material actually is that people send in a lot of questions. And one of the reoccurring questions that happens quite a bit is that people assume that essential oils will do all kinds of things that they really won't do. And really, that's best described in the category of metabolic disorders.

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 So people think that there's an essential oil that's really good for treating cancer and there's an essential oil that's really good for lowering blood pressure or there's an essential oil that's really good for diabetes and so forth. That's simply not true and that's also part of the misconception about essential oils that's being propagated out there. That's because people are not putting essential oils into the bigger context of herbal medicine. They are a very refined extracted concentrated form of herbal medicine, but that doesn't mean that they are applicable as a complete pharmacy. Now, the reason that I'm saying that is because when we come to treating the respiratory system, we find that essential oils and aromatherapy are actually some of the most important of the herbal medicines. They are the highly concentrated form of herbal medicines and the aromatic plants that are extremely beneficial for the respiratory system and not just for treating colds and flus but also for strengthening the respiratory immune system and also for treating the atmosphere. That means purification of airborne pathogens. The respiratory system is something that is a major system that can be treated with essential oils as the first line of treatment. I'll go so far as to say that in my clinical practice that what I have seen is that many, many acute and chronic respiratory conditions can be highly effectively treated using essential oils in various forms, that we'll talk about today and next week, as the first line of treatment that is even better in many cases than herbal medicine. So in this case, this is a clear example of the real strong aspects of aromatherapy. But as we go and study other systems, we're going to find that maybe we should actually be using the whole plant form instead, or maybe this is not even a situation where essential oils are really that important. This is also one of my responsibilities is to help sort this out and to put essential oils in the proper context from the medical clinical viewpoint.

 Now, some of the topics that we have to get into are contagion and the antimicrobial power of essential oils. This is a big subject and there's a lot to talk about because not only are the essential oils one of the first lines of treatment for the respiratory system, which makes perfect sense because we're inhaling them. But, as you know, they are also produced by the plants as part of their complex biological immunity as well, and that includes having various types of antimicrobial functions. Therefore, another very strong aspect of aromatherapy that is coming out is about the research into the antimicrobial powers of the essential oils, and so we'll talk about that.

 This is a complicated subject because there's also a lot of misinformation that's being given about this as well. People are hearing that this oil will kill this particular microbe, but they're not hearing the big picture that well, okay, it will kill that microbe in a Petri dish. But it's not going to be very effective once it's in your bloodstream. They will hear that it is effective for this at this particular phase of replication of that particular microbe, but they don't hear that it's not effective at another stage and so forth. So there's a lot of very valuable information that we can explore, and this will also help us to understand when the essential oils can realistically be expected to have antimicrobial powers and when we would not expect them to do that. This will all be part of the first presentation, the slideshow. We're also going to look here at the historical use of aromatic plants for epidemic and then unpack some of the differences between the in vivo and the in vitro research. Let's go ahead and start. So if you would, please open the slideshow, the PDF, and we can go ahead and start with that. Let me also mention that you have an article that goes with that. So what I'm going to do is I am going to basically cover the information that is in the article. And at the same time, I am also going to be unpacking a number of other subjects that are in the slideshow together.

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 So let's go ahead and start together with the PDF. You should be looking at slide number 1 which is showing some perfume bottles. And just to orient ourselves to this particular topic. These essential oils, as I have mentioned, have been around in widespread available use for about, well, in some cases just a few decades. But they do go back in terms of pharmacy for at least a hundred years more widely available and in perfumery, maybe even a bit further than that, but really not that far back in terms of history. But what has been known is that the aromatic plants have been a primary source of medicine going back probably throughout human history. That's what we would like to look at here, because really, if we're talking about the ancient uses of aromatics, that's a completely valid point. That is historically accurate. Let's look at how the aromatic plants have been used for a long period of time and why. And if we understand that the primary compounds from the aromatic plants are the essential oils, then what we can see is that people were actually using essential oils. They were just using them in nonconcentrated plant-based forms.

 Let's go ahead and move to the next slide, and this is going to show one of the traditional uses. This is a gentleman who is burning frankincense in a censer and this is classical aromatherapy. Now this, you can make a case that this type of aromatherapy, this type of use of essential oils, it really does go back to ancient times. You could see something like this is happening thousands of years ago in Egypt, in Morocco. That is how essential oils were used then. Keep in mind that when the plants are fumigated like this, when people use the aromatic plants for fumigation, that we do get the essential oil compounds into our respiratory system. And they do have antimicrobial powers in the atmosphere, and they do affect the limbic system through the olfactory sense. Therefore, we are still getting aromatherapy and we're still getting essential oil compound. But we're not getting them in a highly concentrated form and we're also getting them with soot because the plant material is burning. So using a diffuser with a pure essential oil is a much cleaner way, a modern innovation, a much cleaner way of doing exactly the same thing.

 There is something important here to start talking about which is the ancient concept of contagion. Long before there was microbiology, the aromatic plants were used for their anticontagion powers. And modern research has now extensively documented these powers in both the essential oils and the aromatic plants. If we look at this, we find that classical medical systems like traditional Chinese medicine and Ayurveda didn't actually know the details of microbiology. They didn't have microscopes, and so they didn't have terms like Staphylococcus aureus or Herpes simplex. They didn't know about the presence of those microbes, but they had a general concept. They had a general understanding of it, and they used different terms. Like for example in Tibetan medicine, they had a clear understanding of contagion. They saw that epidemics move from place to place to place, and they knew that there was something connecting it all together, contact with sick people or airborne pathogens or through food and water and so forth. So we hear terms like wind worms to describe airborne pathogens. In Ayurveda and Chinese medicine, there are these concepts of invisible pathogens such as wind heat or wind cold. That's mostly what we're going to be talking about in the respiratory treatment modules, something that is airborne.

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So they had a very fundamental understanding of contagion, but they also had a fairly sophisticated spiritual concept and philosophical concept about good hygiene and prevention and so forth. So Ayurveda, for example, really elaborates a lot on how to prevent disease through the cultivation of good personal hygienic practices. And using our mind correctly and not indulging in doing things we know we shouldn't do, how to have a good lifestyle, how to have a healthy diet and so forth. And what they found, one of the basic things that was understood, if you go to slide 3. One of the things that is common to all of these traditions is that there is a strong link between the classical concepts of contagion, illness and smells, and that's where the aromatic plants come in. So it was very obvious to everybody, even though they did not have microscopes. People could still smell the presence of pathogens coming from sewage and sick people and rotting garbage. They knew that those were sources of illness and they gave them various names, like for example malaria. That term, mal-aria, it means just that. It means bad air. So in places where there's bad air, there would be mosquito infestation and that would be associated with the spread of the disease. So the bad vapors, therefore, were identified as being the source of the pathogens, which is completely correct, and they were called different things like evil vapors and evil spirits. So the link was made between the sense of smell and contagion, even though they couldn't see the microbes.

 So if you now go to slide 4, this is a concept of contagion and this is called miasma. This is a picture of a miasma during the Civil War. The concept of miasma is that it is a vapor or a cloud of mist that causes disease. Even though people didn't know about microbes, they understood that something was connected to the atmosphere. This was actually a very popular and well-established concept up until about a hundred years ago really. That there was still that idea that wherever there's bad smell there's going to be illness that's going to be transmitted. If you go to the next slide, this is actually a sad picture of life in many parts of the world. For those of you who have traveled, maybe you've been in India, maybe you've been in South America, maybe you've been in Central America or Africa. Even in the United States, we have scenes like this. This is basically the modern version of a miasma. This is large landfills where people, they basically live in these areas, they work in these areas, and these are sources of a huge amount of environmental toxins. So this concept of miasma is very relevant. And we see it not just on the large scale. You can go ahead to the next slide 6. It's not just here that we're concerned about it and not just an extreme example such as this that's relevant to respiratory health because we have it also in our homes. I was just in dialogue with a gentleman today who is a teacher in a school and he's having to work in a classroom that's a trailer and it appears to be affected by mold. So it's the same idea. What are we going to do with aromatherapy? Well, we are protecting ourselves from these evil vapors. And if you go to number 7, you can see another picture of the glands of the essential oil-containing plants. This is something that we've already talked about. The aromatic plants have always been the primary antidote for the bad vapors. That's the link with respiratory health is that when you are talking about essential oils and the respiratory system, this goes back a very long ways. If you go ahead to slide 8, this actually goes back to the Stone Age. I have found a research, studies that were done on Stone Age settlements from 77,000 years ago and they have found the presence of aromatic plants that were there. That showed that their essential oil content had insecticidal properties. So we see then that the ancient use of the aromatic plants is very well-established a very long way back. And it's my personal suspicion that actually, aromatic plants were probably one of the first groups of plants that Homo sapiens were attracted to using hundreds of thousands of years ago. So in that sense, aromatherapy has been around a very long time, but it's been in the whole plant form.

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 So now if you go on to the next you'll see a modern version here. These are lavender bundles and this was used in old Europe. This is another form of aromatherapy that was used for centuries and centuries because in old Europe the conditions of hygiene were absolutely terrible. Old Europe was probably one of the most polluted places on the planet because they just dump their raw sewage just out the window every morning into the street. There was no pubic sanitation and that's how a lot of the epidemics were started of course. Very, very poor hygiene. So what they used to do, instead of having a good hygienic system, is that they would just cover everything with aromatic plants. This is something that you should also think about. The more you have the aromatic plants in your environment, the stronger your immune system will be and the more pure and cleansed the atmosphere of your home will be. It doesn't have to be a diffuser. It doesn't have to even be essential oils. It can just be the aromatic plants.

 If you go to the next slide, number 10, this is an image that some of you might know what it is. This is a plague doctor. The plague doctors were going around treating people with the plague and they were wearing a mask. And if you know anything about this, you say, well, what was in that mask? Why do they have that mask? Well, that mask was full of aromatic plants. So they were basically breathing an aromatherapy filter and they would put things in it like lavender, fresh lavender flowers and cinnamon and clove and things like that. And that would, I'm sure, reduce the risk of contagion significantly along with wearing the robes and so forth. That's like extreme aromatherapy. Now if we go to the next one, now I'm just going to go through a list here, several slides in rapid succession here. To show you examples of various ways that aromatherapy was done before distillation of essential oils became commonplace. This is a picture in India and they burn many, many things; in this case, it's camphor specifically. If you go to the next one, here's an ancient picture of aromatherapy. The use of aromatic plants in ritual and ceremony is very important. There was a lot of formulation of very interesting kinds of medicinal and psychoactive kinds of compounds that lifted people's consciousness for prayer and meditation and so forth.

 If you go to slide number 13, this is a modern version of the same thing taken in India. You can see towards the bottom of the slide there, you'll see there are these buckets and these buckets are full of all kinds of flowers and aromatic oils and resins and so forth. This is a puja, a fire ceremony. Basically, the idea is to give offerings to the fire and the fire represents the mouth of God. Well, what is fire? Fire is sunlight that has been captured by the plant. And what is sunlight? Sunlight is stellar energy. And what is stellar energy? Stellar energy is the creative power of the universe in the fire element form. This is a way of basically worshipping God through worshipping the elements directly. So the fire is fed with these various aromatic offerings. In addition to the spiritual benefits of prayer and meditation and the social benefits of everybody getting together, what else is happening? When you put a whole bunch of aromatic plants in a fire like this, the room becomes full of smoke. So in a certain way, it's like a group vaccination. Everybody is breathing in the aromatic molecules and it's having a very good effect on the respiratory system.

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 Let's continue. This is just to show that these things are universal. Next, we see palo santo burning in the Andean ceremonies. This is one of the oils that we're going to be studying extensively in this course. It's not only antimicrobial and good for the respiratory system, but it's a very psychoactive aromatic plant. And then to the next image you'll see the sweat lodge. The sweat lodge of course uses a number of aromatic plants. They use tobacco, of course, but they also use sage and they use cedar, and of course, these have a purifying effect on the body and the mind. So if we go to slide 16 you'll see this is our modern version or aromatherapy in a spa setting or maybe even in your home setting. Maybe this looks like your bath where you get to soak in a bunch of flower petals. So this is modern aromatherapy. Then if you go to slide 17 you see the herbal garden. What I'll mention here about the herbal garden and I've already alluded to it by saying that the more aromatic plants you have in your environment, the healthier your environment will be and you will be. This was well-known in traditional cultures. So in many places, especially in the tropics, there was a lot of planting of aromatic plants around the home for mosquito repelling functions and so forth. Another example of this would be lemon grass if you go to the next slide. Lemon grass was traditional used to clean the homes. What they would do is actually take the fresh lemongrass and dip it in buckets of water and then rub down the walls and rub down the floors and so forth. This came through the Caribbean to the United States in the south actually. So lemon grass has been part of our aromatic tradition as well. If you go to slide 19, that's when we started of how the early aromatic compounds were first made. The distillation, as I said, is a relatively recent development, but aromatic compounds go back thousands of years without a doubt and this is how it was done. The aromatic plants were basically infused into different kinds of carrier oils, and this will be something that you will get some information on as we go a step at a time. If you go to the next slide, number 20, you'll see an image of a traditional Indian attar vendor. Now you know what an attar is, and the attar was not just a classical Indian perfume that was used for enjoyment, but it was also a medicine in Ayurveda that was applied to the marma points, the acupressure points for therapeutic benefits. And the attar also refers to a type of physician, a type of healer who uses fragrance as the major therapeutic modality. So the attar maker also made a wide variety of perfumes and incenses, and these had both medical and magical kinds of application.

 Let's go to the next image here. This is distillation. This is an image of alchemical symbolism. Alchemical symbolism was closely linked actually to the development of the distillation process. But most of these, you'll see that most of the alchemical literature that shows distillation equipment goes back at the most about 500 years. The process of distillation was both literal and metaphoric. It was both the actual extraction of the spirit of the plant, but it was also the extraction of spirit from matter. This is a big subject. What is alchemy? Well, alchemy is about distillation. Essential oil distillation has an alchemical side of it. Distilling plants is actually a very interesting spiritual kind of undertaking. This was the distillation of roses, specifically an image here distilling roses. I'm sorry, that's the alchemical side. The next slide is the distillation of roses. This is the oldest form of essential oil, the oldest species of essential oil that we know historically. The first one to be distilled was rose oil, and it is attributed to the Arab physician Avicenna. And that was approximately 700 years ago. So rose oil now is a huge business and it is a beautiful oil and we'll be studying it.

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 So go ahead to the next slide and now we have spices, and it's important to remember, if we're talking about antimicrobial benefits. The primary source, the primary form of medicine that people had for centuries, they didn't have antibiotics, they didn't have antimicrobials, they didn't have anti-fungal medicines, they had spices. And that's why spices were so valuable. And the spices because of their antimicrobial powers were also the basis of food preservation. Let's keep in mind that still in many parts of the world there are no refrigerators and the refrigerator is a relatively modern innovation. And so food spoilage was a very, very big problem and the aromatic plants were the primary antimicrobial way of preventing food spoilage. So let's go now to the next slide and you will see here an interesting image. Those of you who are gardeners and beekeepers will know what this is. This is the integration of aromatic plants and apiaries. Some of you may know that the bees are under a lot of stress from a lot of different directions. From pesticides and GMOs and lack of food in their environments and many, many issues. But one of the things that beekeepers are now learning to do is to plant the aromatic plants around the hive to protect them from the mites. The Varroa mite is a very big pest of the hive and can cause a lot of problems. So this is an example of how the aromatic plants and the essential oils can actually be used for other creatures other than ourselves. Now, let's continue with our discussion about essential oils for the respiratory system, contagion and epidemic. So if you would please go to the next very sad-looking image, this is a picture of one of the major epidemics in Europe. The reason that I'm going to talk about this is because probably by now a question should have come up in your mind and that is, if these aromatic plants are so good for these antimicrobial powers, if these plants have so much anti-infectious, antibiotic, antiviral powers and they've been used in all these ways then why is it that there were these massive epidemics? Well, that's a good question. I'm glad that you thought of it. The answer is political. The answer is that infectious epidemics are not caused by microbes alone. In order for the microbe to flourish, there have to be numerous conditions in the environment, in the economy and in the society. So it is well-known that when here is economic collapse in a country and there is great poverty that epidemic starts. It's well-known that epidemics follow war and conflict and so forth.

 This was written about, and I'm just mentioning this to point out the brilliance of the old Ayurvedic doctors. This was written about 2500 years ago by the Ayurvedic physician Charaka, and he pointed out that epidemics were actually caused by corruption in the government. The way he explained it was to say that when governments become corrupt that people are misled, and when people are misled they leave behind a spiritual hygienic kind of lifestyle of living in harmony with nature. And they start to become involved in all kinds of activities that are unhealthy for them and for society and this leads to all kinds of toxins in the atmosphere. It's very interesting. He was actually predicting global warming 2500 years ago. And people also were not doing the ceremonies to balance heaven and earth. And because of that the combination of the heat toxins plus people turning away from spiritual lifestyle, he says that the devas, the angelic beings in the heaven realms would become displeased and the rain would not come on time. First there would be droughts and then there would be floods. And because of that, the crops would suffer, and because of that the people would become weak, and because of that people would be susceptible to epidemics. Well, this sounds very relevant to some of the challenges that we have now on a global scale today.

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 So if you go ahead to the next slide, what we see are more images of epidemics and I'm just going to give you a few examples here. Because whenever we look at epidemics and contagion, we see that it is not just a matter of microbes. Because this picture, for example in Medieval Europe, Medieval Europe was a breeding ground of microbes because of the economics and the poverty. If you go to the next slide, this is the Ebola virus. Well, how did the Ebola virus take off last year? It took off very much because of politics in Africa that made healthcare less available, emergency responses less available and so forth. So this is a little bit of political education about the potential for epidemic if we don't have a good healthcare system. If you go to the next slide, well, this is a good example of why we need aromatic plants for our respiratory system. This is in China. And you may or may not know that China is having an epidemic of cancer. Well, it's obviously undoubtedly linked to environmental contamination. And if you go to the next slide you'll see that this is the AIDS epidemic. So that's a little bit of a political discussion just to answer that question about well, what role do the aromatic plants have? Now, if you look at the next slide, this sage. The aromatic plants have a very important place in the pharmacopeias of every herbal tradition because of their antimicrobial and anti-infectious properties. That's the link we now have tying this back to a little bit of history into the modern form of essential oils because the next list of oils will basically be some of the major oils that we are going to be talking about in the respiratory system. What we're looking at here is sage, and there are many kinds of sage. It's specifically the white sage. You will meet that oil.

 Then if you go to the next one, this is mint. We're going to be discussing mint in the respiratory section. If you go to the next one, this is catnip. Catnip is distilled, but it is not a major oil. It's very expensive, it's not widely available, but it has a very unique interesting properties. It's one of the best oils for repelling mosquitoes for example. If you go to the next one, this is Thai basil. There are many, many species of basil. We're going to concentrate on the sweet basil and the holy basil, the tulsi holy basil. So if you go to the next slide 34, this is one of the oreganos. Oregano is a very, very important oil. We need to know how to use it carefully. It is some of the oils that is burning people the most. For those of you who have done the reading on the adverse reactions reports you will see that oregano comes up very, very frequently for burning the skin if it's applied directly without dilation. And especially when parents are told to put it directly on the skin of children, children are being burned by it. It is also one of the oils that is the most caustic and irritant to the mouth and to the esophagus and to the GI tract. So many, many adverse reactions are coming because people have been told that oregano oil is so great. Well, it is so great as long as you know how to use it right.

 Slide 35, this is a type of thyme. Also very, very potent medicinal plant that we should know how to use. The next one, slide 36, is actually an aromatic from Chinese medicine. This is called Schizonepeta. It's a relative of catnip. And then if you go to 37, this is the holy basil. And this is a major herb that we are going to be studying. And then number 38 is going to be tea tree, a major one. Let's just keep going. This is something that you can refer back to. This is a little reference document so that as we go now you have a visual reference for the plants as well. The next one, 39, geranium. A lot of research has been done and tea tree and lavender and geranium and many others have been found to have extensive antimicrobial powers.

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40 is lemon grass. This is a very important aromatic plant as well. And let's just go ahead and wrap up this slideshow. We have just a few more. No. 41 is niaouli. This is a relative of tea tree. It's a type of Melaleuca. It's actually an invasive species, which is nice because we can distill it and we can get a medicine and control it at the same time. Then if you go to the next slide 42, this is the palmarosa grass. We're going to be studying this. Basically, what we see then with distillation is you take a huge amount of plant material and you put it into the still. If you go to 43, here's an image of the distillation. You can see the oil rising to the top and that oil represents all of that plant material. And in some cases, it's really extreme, like 70,000 pounds of rose petals to get one liter of oils. So huge amount of plant material comes out highly concentrated. And then if you go to 44, you see that the whole practice of aromatherapy is making it biocompatible again, diluting it back again. So a lot of things have been discovered about the use of essential oils just in the diffusers. They found that it is very, very beneficial for prevention of colds and flus and even used in hospitals for reducing the contagion of MRSA and so forth.

 So if you go to 45, and now we're going to talk a little bit for just a couple of minutes about some of the complexities of using essential oils. And then we're going to actually jump into the practicalities of what you can do for the next week to make some blends for yourself. This information is actually in the article that accompanies this slideshow, but I'm going to just sum it up quickly before we close this. That is to point out that there's a lot of confusion about what essential oils do when it comes to their antimicrobial powers. There is absolutely no doubt whatsoever that essential oils have very strong antimicrobial powers. No question about it. The confusion is coming because information that is gathered in scientific research is being taken out of context. So the scientific research looks very, very specifically at certain strains of microbes in certain conditions in certain stages of replication.

 Here's an example. This is the name of the study, Comparative Study on the Antiviral Activity Derived from Essential Oils. What they're looking at there is essential oils from eucalyptus, tea tree, thyme against herpes simplex 1 in vitro. That's always what you're going to find is that these studies are done in vitro. What does that mean? In a Petri dish. That's the primary thing that is problematic about the research because the essential oils are not biocompatible. They're not water-soluble, which means that they can't get into the body the way the herbs can if they're taken as the tea. They're highly caustic to the mucous membrane, as you know. They cannot safely be ingested in any significant amounts without becoming either greatly irritant to the digestive tract or toxic to the liver or toxic to the nervous system and so forth. We've covered that in detail.

 Going on with this particular study, what we find is that the essential oils that were researched, tea tree, eucalyptus and thyme, were able to reduce viral infectivity greater than 96%. Okay, now that is astounding information. A lot of these studies have that kind of information. And not only is it astounding that the essential oils will kill almost 100% of the microbes, but they will also kill an equal amount of microbes that are resistant to drugs. That's what's exciting about the essential oil research. But here's the problem is that's in a Petri dish. That's not in the human body.

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 As you go through and you read this article, there is going to be a lot of examples of this that you can take some further time and unpack and read about. Go ahead to the next slide. You can see a Petri dish with something that's growing. That's where this information is coming from. What this basically means is that essential oils are really good when they come directly into contact with the microbes. But once the microbe is actually in the body, a completely different mechanism is required to get the drug, meaning the monoterpenes or whatever active constituents are, to get the essential oil as a drug into the tissues. That's where all of the research is going right now because that represents a huge breakthrough in medicine. To be able to figure out how to actually make essential oils biocompatible is a very, very big subject of research right now, because they do have these great powers. It's just that we cannot translate that and say here is this study that says oregano oil kills all these microbes; therefore, take oregano oil in this particular form. That's where the problem comes is that the science does tell us very powerful antimicrobial benefits, but it's not practical to administer it as an antimicrobial drug.

 So let's go ahead and go to the next slide, and here's the lemon balm actually that's being talked about, and I'm going to speed through this quickly. What it was found in another study here, Melissa officinalis affects the infectivity of enveloped herpes virus. So enveloped herpes virus basically means that the herpes virus has already been assimilated into the body. Here's what's interesting about it. They found that a 0.0004% dilution, that's a miniscule amount, was needed to inhibit the virus. So a very, very strong information here that lemon balm oil is very good for herpes outbreaks. But the research then goes on to say that that effect decreases significantly once the virus is actually multiplying in your tissues. So I think that that is sufficient to explain the concept, the difficulty that we have when translating that, and so we should spend the next of the class, so what do we do about it? Let's get some essential oils and how are we going to use them to actually benefit our respiratory system knowing that they do have these kinds of functions? This science is very, very important. It tells us that these oils do these kinds of things against microbes. The challenge scientifically is finding the safe way to do it biologically. Let's just go ahead and scan through the images. Forty-eight is actually a picture of manuka. This is a lemon-scented tea tree. Forty-nine is eucalyptus. There's an interesting piece of information in the article. Eucalyptus it's not just the essential oil works against the particular microbe whether it's in the body or in the Petri dish. It's also that essential oils have very specific microbes they work against and others they do not. So the Eucalyptus globulus, this is what the species is, it's a very important oil for the respiratory system, it's been found to be most effective against Haemophilus influenza and parainfluenza, followed in effectiveness by Streptococcus pneumonia and its weakest actions are for mumps. So that's very, very important to understand is that there's a spectrum of activity against the microbes. Let's go to the next one. Here's another image of tea tree and here's another image of Petri dish and so forth. And then, finally the last slide here in this series takes us back to the ancient uses of the aromatic plant and let's conclude with that. Now, if you continue scrolling down you'll see that there are a few random slides. These are just things that didn't make it to the slideshow and I sent you a copy that didn't have them trimmed out, so don't worry about it. They're just a few extra images. Okay, good. I hope that you have a much greater understanding of some of the primary topics that are listed for our module today. Contagion and the antimicrobial powers of essential oils, the historical use of aromatic plants for epidemics, the in vitro and in vivo research on antimicrobial effects of essential oils.

**[1:05:00**

 And now let's move into what are we actually going to do with the essential oils. So there are several other files now. And this is where the fun starts. This is where we start to make our own blends and this is where we start to actually apply things therapeutically. This will also be what we talked about for the entire module next week along with a few herbal suggestions to go with it. Now, because we are going to be getting into the practicalities not just the ways to use essential oils that we have already discussed, such as diffuser and steam inhalation and so forth. There's going to be a number of other specific applications that are specific for the respiratory system. I would like to mention one thing. If you do not have any background with making your own blends, then you would like a little bit of guidance on this because the information that I am now launching into is how to blend certain oils for specific respiratory functions, specific respiratory complaints and therapeutic benefits.

 Now, the simple equipment, all you need basically is a mixing bottle, one ounce mixing bottle, two ounce, anything. Wide mouth is the best, and you need a pipette. And for this purpose, although it's not particularly ecological, I do suggest that you get the disposable plastic pipettes. That's really all you need. All you need is a plastic pipette and a wide mouth bottle, wide mouth jar of any size, smaller is probably best to start with, with a lid on it. That's all you need to get started with blending. The basic concept with this is that you create what's called a synergy. Which is a simple mixture of your core essential oils for a particular system. I'm going to give you ideas now about the oils that you would like for specific kinds of things.

 For those of you who don't have these two items, we are making it available. I'll just mention here that you do have the discount code AROMATHERAPY20. And if you go to the course page to the link on the bottom then you'll see where you can take advantage of this. The discount code again AROMATHERAPY20. That's 20% off everything at the Floracopeia store and 15% more off the tester kits. We are also going to soon. I believe within a day or so actually, you can do a search on the site for a blending kit. And that's going to be available. So all the things I'm talking about will be available. A few other things will be in the kit as well. So for those of you who would like to do the blending, that's a simple way to do it. You don't have to do that. All you need to do is basically just take a bottle and dispense a few drops into a jar, dispense a few drops from another bottle and so forth. It's a very inexact science. It's very flexible. It's like cooking. With essential oil blending you do not have to be overly concerned. You really can't ruin anything.

 Now, let's go ahead and look at a few other files here. Let's look first of all at the file titled Major Respiratory Oils for Modules 4 and 5. So now we're going to be setting up all the groups of oils and how to approach them to start making respiratory therapeutic formulas. So if you open the file titled Major Respiratory Oils for Modules 4 and 5. This is a list of the most important oils that are most commonly used and have the most historic background as well as good scientific evidence. These are the ones that we should think about as the core oils for making our blends for the respiratory system. You'll see that there are several kinds of eucalyptus, several kinds of species of eucalyptus. There's the lemon-scented, the citriodora; there's the peppermint-scented, the dives; there's the globulus; there's the rose-scented, the macarthurii; there's the narrow leaf, the radiate; then there's the silver fir. And whenever we are talking about fir species, they're very interchangeable. You'll be able to find many, many species on the market. We sometimes carry a number of species also. They're relatively interchangeable and the same with the eucalyptus. You'll see also hyssop, an aromatic plant, a specific variety is used. Juniper, there's a couple of different species of juniper. Inula, which is a very interesting Chinese flower actually that is very mucolytic. I'm going to explain these terms and how we group the oils down in terms of therapeutic categories.

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 The manuka is the lemon-scented tea tree. Monarda is actually called bee balm. It grows in the United States and it's also known as Bergamot. It's not the bergamot fruit, but it's a very important respiratory oil. Myrtle, a very important respiratory oil. Peppermint is a very powerful oil. In my opinion, it's overused and overrated. It has dangers. It can cause irritation to the skin. It can cause serious gastric inflammation and irritation if taken internally, but it is also very important when used correctly for the respiratory system. Various species of pine oil are also classified as major respiratory oils. One of my favorite, and that's also because I know the distiller personally inspired him to start distilling this in Colorado actually, the pinyon pine. Then a co-distillation of pinyon and juniper, and what that means is that he puts both the pinyon needles and the juniper needles in the still at the same time and gets a mixture. Ravensara, we will be talking about in some detail, very, very important essential oil now known for having significant antiviral effects and also one of the first lines of defense against cold and flus. Rosemary, that we're going to study briefly in this section on the respiratory health, but even more when we're talking about aromatherapy for cognitive function. Spruce again, many species are available. We carry one of them. Tea tree of course, tulsi, the Holy Basil was in your monograph from your last module, and then the white sage. These are the oils that I have picked as the most important oils to have in your collection for treating the respiratory system.

 Now, if you would open the file titled Respiratory Therapeutics. So what do we do then when we are making a formula for treating specific conditions? First of all, we identify the condition, then we identify the core oils that would be what we call the synergy. That can be one oil. It can be two oils. It can be three oils. This is what is called in Chinese medicine the chief herbs. So there's a theory, there's a protocol and an approach for blending herbs in Chinese and Ayurvedic medicine that can be applied for blending essential oils for therapeutic purposes. There's a very similar concept that's also found in perfumeries for making perfume blends. Therefore, what we see then is that you start with the synergy or the accord as they call it in perfumery. And that gives you the core formula that is going to have the generalized overall function that is beneficial. Then you add certain oils known to have specific therapeutic benefits to make the blend more holistic and more comprehensive. So let's go through these oils and look at the terms here so that you understand what you're trying to do with the oils.

 Antitussive. That means it is soothing to a cough. You may or may not have a cough as the primary symptom. Therefore, if the cough is the primary thing, you may want to just make a synergy of antitussive oils primarily. Or you may want to start with a synergy of say eucalyptus and spruce and fir, something like that. There's lots of ways to do this. I will be giving you lots of recipes. They're already there in the monographs that we can look at. You start adding certain things that have the function that you're looking for. So if the cough is the primary thing you're looking for, what about the rock rose, the cistus? Well, that's a beautiful perfume ingredient. Very sweet, very soothing. Eucalyptus, you see it is already antitussive; frankincense; inula, the flower oil there. Antitussive is soothing to the cough; juniper; peppermint; pinyon pine. Here's the whole list. The rosemary chemotype cineol, that's what that means. I'll unpack that more as we go along. CT means chemotype. It means that there's a specific concentration of a compound called cineol, which is actually also called eucalyptol. So that means that the rosemary has a high concentration of compounds that are very similar to eucalyptus.

 Then next major category, anti-inflammatory. If the respiratory condition that you are treating has a significant presence of inflammation, you would think about chamomile, a nice cooling blue oil; frankincense, cooling; helichrysum, a cooling flower; jatamansi, cooling root; lavender, cooling flower and so on. Then we say well, here's the next category, antimicrobial. Aren't they all antimicrobial? Yes, but many oils have specific known antimicrobial functions for the respiratory system like tulsi, holy basil, like the palo santo, the pinyon pine. So this is a list and it narrows it down a bit so that it helps you understand every oil has antimicrobial powers, but how are you going to use certain ones that target the respiratory system specifically? Then the next category, antispasmodic. Okay, well, that's self-explanatory. The cough is spasmodic. You want it to relax. Can you use antispasmodic and anti-inflammatory and antitussive oils all together? Yes, of course. That's what your blend is about, anti-asthmatic. That is self-explanatory. Balsamic means that it is soothing to the mucous membranes of the lungs, and that's a very different kind of function and there's less oils that are really known to be soothing. And they become more soothing if you put them a steam, for example. You can find more oils that are soothing, but the two primary ones, frankincense and sandalwood.

 Now, the origins of this information, the sources of this information is from many different sources. And this is confusing because many people say all kinds of things about essential oils and that's one of the problems both of the marketing and with the newness of the subject. Really, modern aromatherapy is really just about 10 years old. And there's all kinds of people saying all kinds of things about these oils do this, and these oils do that and it gets very confusing. People say that one oil would do all these kinds of things or something can be treated with all these oils. And when you start doing the research and looking at it, there's very little consensus. That's what's problematic about it is where is this information coming from. Is it coming from personal experience? Is it coming because there' a study that says in a Petri dish that it will do this? A lot of the information in my opinion is coming secondhand, thirdhand and fourth-hand, and so my job here to present this responsibly is to basically distill a lot of information together and find the common thread. So that's what I have done. These are things that correspond to both my own personal clinical experience and my understanding of the chemistry of the oils and traditional historical uses of the plants and modern scientific research and what a number of modern sources, modern authors, speakers, educators agree on. So that's how this information is there.

 So decongestant, that means that it basically opens up the sinuses. Well, there are a lot of oils that will do this, but these are the most famous. Now we come to expectorant. That's self-explanatory. It means that it loosens the phlegm in the chest so that it is more easily expelled, expectorated. What's interesting here is that so many oils can be found listed given as reliable expectorants. So if we look at the function of the essential oils, we can start to understand that they have different activities. Some are going to be stronger antimicrobials against certain strains of microbes. Some are going to be a little more anti-asthmatic and so forth. But lots of oils are going to help to loosen the Kapha, loosen the phlegm and get it out of the lungs. That's because the aromatic plants have that general stimulant effect on the mucous membrane.

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Keep in mind you can get that expectorant effect not just by breathing the essential oils from the diffuser, direct palm inhalation, steam inhalation, all the things we've already talked about. You can also accentuate that effect by drinking some of these aromatic plants as teas. For example, if you use some of these expectorant oils in a diffuser, you can also see here several that you can use as herbs. For example, diffusing cardamom is going to have a nice effect for helping to expectorate. You can also chew cardamom seeds at the same time. You can diffuse the tulsi, holy basil or the sweet basil. That will help with expectoration. But you can also use sweet basil in your cooking and you can drink tulsi tea. You can make the white sage tea. You can diffuse the white sage for expectorant purposes. If you're using things on both levels, that means that you're hitting the congestion from both the exterior and the interior at the same time. This is how you can start to think about incorporating herbal medicine into the treatment of respiratory conditions as well.

 Let's go to the final category here therapeutically of mucolytic. What that means is that it basically helps to dissolve and soften the congestion. So it makes the phlegm in the chest more liquefied so that it will be expectorated more easily. I hope that you find this very helpful. Let's see if we have time here. I don't think we have time to actually do some specific therapeutics yet, but I want to bring your attention to the monographs. In the next module, what we're going to do then is we're going to look at a lot of different specific formulas, but they're also here in your monographs. You can go ahead and you can start to connect all this information together. And even before we get to class next week, you will have a huge amount of information for making some blends and using them in some different ways. Let's look at the monographs for modules 4 and 5. These are the oils that I have picked that I think are the most important to really study in some detail. Inula, let's leave this as a homework assignment. This will be one of your deepening practices. Read all these monographs. But let's just go ahead and scroll through here.

 First we come to fir. Let me see. What happened to our inula? Okay, there it is. If you will scroll down with me what I want to focus on here to get you started with some of the applied therapeutics here. Is I want to point out the final section of each monograph. This is where you're going to find how to use fir essential oil So if you scroll down fir oil to the paragraph how to use fir essential oil, that's where the therapeutics really start. This oil can be diffused, used in direct inhalations, used in the bath water or topically. Now this oil, very low dermotoxic potential. This is not an oil that we have to worry about burning our skin. To promote respiratory and musculoskeletal health. You're going to see that a lot of these oils also cross over into the musculoskeletal category. So two to three drops of fir oil in the bathwater or here's a recipe for a massage oil: five to six drops in an ounce of carrier oil. Because it's low dermotoxic potential, you can add more. It's a relatively safe oil. You use that on the joints and the muscles for reducing inflammation, helping the spasms, cramps, and it warms the circulation. Also, the fir oil, a lot of these respiratory oils also cross over into oils that are also really good for our mood and for clarifying the mind.

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So here are a few recipes here for you for the muscles and joints and here's a recipe for purifying the atmosphere: grand fir or silver fir, juniper, cypress, cedarwood. These are very flexible. If you want to be precise, you have a pipette; you want to measure it exactly, that's fine. You don't have to worry about it though. Keep in mind that you can also translate the term drops into parts, and that means eight teaspoons of fir, four teaspoons of juniper and so forth. And then, of course if you're a large scale manufacturer, you're going to think eight gallons of fir and four gallons of juniper. So parts. Think in terms of parts. Here's a specific recipe for sinus allergies, and these are a few things that are commonly known that are good for sinuses and a couple of things that are not well-known, a few personal recommendations here. So sinus allergies: two parts of laurel, four parts of eucalyptus, and I did not specify what type of eucalyptus and that's very flexible, but in general for the respiratory system, the two species that are most commonly used are going to be the globulus and the radiata*.* And so four parts of radiata or globulus, four parts of fir, whatever fir you like. The fir oils are very interchangeable. And then here, you have a new oil that's unique, a kind of a secret recommendation based on my clinical experience, ginger glass oil. Gingergrass is a relative of lemongrass and lemongrass is a relative of citronella. They are all in the Cymbopogon family. Gingergrass is kind of a mildly warming spicy kind of lemongrass oil. Easily available, not very expensive. Keep in mind that you can do whatever you want with this blend. You could just use two drops of laurel. You could just use four drops of eucalyptus. You could just put those two together. You can be very, very creative with how you do this. There are no real set rules.

 Let's go ahead and scroll down to the inula. This is a very, very important oil. I have met this oil but I haven't used it extensively. I have met it coming from the still, from a distiller in Corsica. It is a beautiful oil and the reason that I included it is because it is highly regarded in aromatherapy as one of the major mucolytic expectorants. So respiratory health, if you scroll down, you'll see here. This is a really good blend for basically opening up congestion of the chest: two parts inula, two parts myrtle, one part peppermint. I always put the peppermint concentration very, very low. Some people actually have sensitivities to the mints. Some people can actually get unpleasant toxic headache from mint oils so you should be careful of that. Eucalyptus, quite safe, and then pine. And so you can dilute this, you can put it in the carrier oil, and here is something we're going to unpack a bit more next week. And that is specific ways of using oils other than just the diffuser, palm inhalation, steam inhalation, and so forth. You can also make these into chest rubs so you can basically put it in the carrier oil as a chest rub, but you can also put it into salves. You can get a salve base that maybe is already compounded specifically as a chest rub for respiratory conditions. You can spice it up more. You can add your own oils to that. You can also put it into unscented base of cream and lotion and so forth. We'll talk about the specific details a bit next week. Another one that I'd like you to read through carefully here, laurel. Laurel is a very, very important oil and very strong. It's got a kind of cinnamon note to it. It's a great mental stimulant. And also, a formula, another blend here for you, a decongestant and expectorant blend. This has laurel, the eucalyptus, cedar, frankincense. Those are all the ones that are on your previous list of expectorant and decongestant.

 Then the other oils, since we are now running out of time. Monarda oil, this is the bee balm. This has actually more like a floral note to it. It's a beautiful oil. We don't carry it but it is easily accessible. And because that has these floral notes, it's not good just for the respiratory system but also very good as kind of a calming, relaxing, anti-anxiety type of oil as well. So monarda is commonly listed. It is well known in the world of aromatherapy as a major respiratory oil. So I've included it. Again, what you see here is that it crosses over. If you go down to the recipe section of monarda, what you see here is that it crosses over between the respiratory function and the emotional functions. So there's a blend here that is for sinus infections. Monarda is a specific oil for the sinuses and eucalyptus, tea tree is a specific oil for sinus infection. Lavender, cooling for sinus and infections also.

**[1:30:33]**

Then you see that monarda is also used as anti-anxiety. So for that, the chamomile is also relaxing, the neroli orange blossom, the citruses, the lavender, the flowers. And from my personal experience, I put in the palo santo because that is a relative of frankincense actually, therapeutically and very, very calming. Scrolling through just to give you the rest of this. This will be your homework assignment. Myrtle, very, very important respiratory oil. Again, you're going to see many ways of using this particular oil. There are no specific formulas here, but lots of ways to use it in the bath, a couple of blends there are mentioned just in how to use it, diffuser, palm inhalation and I'll mention that steam inhalation of myrtle oil is a specific treatment for sinus allergy. So I hope that now that we are into the actual therapeutics that you are getting something substantial that's going to help you right now today if you have these oils. Continuing on, we see the wonderful benefits of pine oil and lots of scientific information and lots of good formulas here, including house spray, winter immune support. And then one of my favorite oils, the pinyon pine. And you'll see that a lot of this is very similar to the other pine oils, but it is a specific type of species of pine. And then finally, the spruce oil down at the bottom. So we are now fully into respiratory therapeutics, and you now have a full list of the major respiratory oils that you can procure for yourself if you do not have them. We have covered the historical background about contagion and introduced the bigger subject of the antimicrobial powers. Now we are starting to break down the oils into specific therapeutic categories as antitussive, anti-inflammatory, antimicrobial. I've given you the basic introduction to what you would like to do to create a core blend. And I'm going to unpack that further next week and you don't have to worry about it because you have so many recipes to work with on the monographs from not just this week but last week also, the last module also. Many recipes for example in the tea tree monograph and the tulsi monograph and so forth. Many of those oils that were in the last module are also very important oils for the respiratory system. So we're going to see that frequently that we will refer back to monographs from other sections. And what I will do is I will post the monographs again on a weekly basis so you don't have to keep going back looking for them in past modules.

 Next week what I will do then is post all the relevant monographs together and we will continue studying more specific blends and applying them to specific types of respiratory conditions, such as bronchitis and allergies and inflammation and infection and so forth. And then we can answer lots of specific therapeutic questions and you'll get a lot of good recipes that way. Okay, so our time is finished for the lecture part, but we have a few more minutes. I hope that you found this helpful, a good introduction to the therapeutic section for the respiratory system. You have a lot of information to work with now, and I will go ahead and open it up for any kinds of questions. Keep in mind that if you submit a question on the webcast and I do not get around to answering it on the call, I will always answer it in a file the following week. I answer all the questions. So if you do not get your call answered, if you call in and we don't get to your call, you can submit the same question via the webcast and it will get answered. Also, for those of you who are listening in later in the week who are not here in person, you can submit your questions through the webcast any time during the week, so that way everybody in the class will get all of your questions answered within a week

**[1:35:20]**

 So, Colleen, I'm going to turn it back to you and I will just open up. Does anybody have any questions, concerns, complaints, testimonials, anything that you would like to share at this point, it's open for you.

Colleen: Thank you so much, David. I did want to say that I'm very grateful that you're providing all of this space for question and answer for everyone. As of this week, you'll note under the module that the webcast Q&A file is right there and it is the questions from the previous weeks. So thank you so much, David, for that. It's just awesome.

 I'll start just with a webcast question from [Participant] and she's saying that her mother has end stage COPD. Last winter I made her an inhaler consisting of equal parts of inula, Eucalyptus radiata and laurel. With this blend benefit from the addition of frankincense to add some soothing quality to the blend? She does say that she gets a lot of benefit from it the way it is but I could maybe improve it.

David: Yes, frankincense for me is an excellent addition. I would definitely recommend that. Good blend.

Colleen:Beautiful. Okay. And we'll go to [Participant]. You have the mic. Go ahead please, [Participant].

Participant: Thank you so much. Well, I broke my ankle and leg very badly in late February, and I'm still experiencing a lot of swelling and pain and there are many broken blood vessels and little veins that have occurred. I'm wondering if you could recommend a blend that would help heal it a little more quickly and maybe take those veins down.

David: Yes, absolutely. We're going to be studying this. Let me just check here on the number of what the module is. But we actually have at least one module dedicated to this. Let me see. Where are we? Yes, Module 9, musculoskeletal system. I can go ahead and give a recommendation.

Participant: Oh, thank you.

David: And that is to use the helichrysum oil. Helichrysum is the number one choice for injuries, trauma, circulatory issues, bruising, soft tissue injuries and so forth. And helichrysum is relatively safe for direct application. Some people can be a little sensitive if you put too much of it directly on your face for example. So what I would do is I would start with it in carrier oil, but it can be a fairly high concentration. You can actually use like up to 50% because it's very safe on the skin. But the other thing is that helichrysum oil is very expensive. And so that may be a concern. But it does go a long ways. And then also the other oil that is really very, very good for this is frankincense oil. So I commonly recommend the combination of helichrysum and frankincense together and both of those are low derma toxic oils, they're relatively safe to apply directly. You could just easily put them on as straight oils and then cover them with carrier oil or vice versa, or mix them in to the carrier oil. Of course the sensitivity, the reaction depends very much on your skin. The health of your skin whether your skin is very thin and dry, if you have a history of the skin being reactive. So I wouldn't recommend putting those oils directly on in large amounts repeatedly. I would definitely recommend diluting them down in carrier oil. But if you were to take carrier oil say one ounce of a carrier oil and then put say ten drops of the helichrysum and ten drops of the frankincense in it, you will have a very safe and very effective application for that. I hear more testimonials about the healing power of helichrysum than just about anything else. So that is an excellent oil for that. Sorry to hear about the injury, but I think if you do that you may be able to call us back relatively soon with a good report.

**[1:40:15]**

Participant: Oh, wonderful. Thank you so much. I really appreciate all your wonderful knowledge and information.

David: Well, thank you. You're most welcome. Okay, so we have time for maybe one more.

Colleen: Okay. Thank you so much, David. This is a question from [Participant]. "For manuka tea tree, would the essential oil that contains the antibacterial activity come from the flower or the leaf?" And one more small question on that, "When the plant from which the essential oil is harvested is diseased, like with bugs or infected, does that impact the quality of the essential oil?"

David: Okay, so I believe the question was is the oil distilled from the leaves or the flower, correct?

Colleen: Yes, from the manuka tea tree.

David: So manuka is a species of Melaleuca and Melaleuca is the tea tree. So this is called the lemon-scented tea tree. Now, typically, the oil will mostly come from the leaves, but the distiller will often end up with flowers in there also. So I would say that the majority of the oil is from the leaves, but probably flowers may get in there also. What was the second part of the question? Is the plant diseased? Well, that's definitely a quality control issue that distillers are going to be aware of. Distillers will not be distilling diseased plat material because diseased plant material in general will yield less oil tan healthy plants, and the yield of the oil is very, very important. So that's the quick answer to that. That's a big distillation and botany question, but it's a good question. So I hope that answers that.

 With that, I think it's time to sign off. I will just encourage everybody, read the monographs and that is your homework assignment. Your homework assignment is also to enjoy making some blends and to experiment with them safely following the safety guidelines that we have outlined. In addition to that, I invite you to breakout groups. The breakout groups are an excellent place to get more information and learn more from your fellow students and contribute what you know to fellow students and a place to share your experiences. I'll also invite you to the social media group that is available, and I will also invite you if you have any specific medical kinds of concerns related to the field of aromatherapy, you can also contact me at the email address that's given. So lots of opportunities to discuss the learning process, what you are learning and the information.

 Okay, so Colleen, I'll turn it back to you. I would just say thank you to everybody from all over the world for your interest in this very important and complex and very wonderful subject. Thank you for joining me here again this week. Have a great week of exploring the oils and I'll talk to you next week.

Colleen: Wonderful. Thank you so, so much, David from all of us.

**[1:43:58] End of Audio**

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