1 -- You can get as big as a pro bodybuilder. without taking steroids; it just takes longer.

Despite what many of the magazines say, all professional bodybuilders use either steroids or steroids in combination with other growth-enhancing drugs. Without manipulating hormones, it just isn't possible to get that degree of muscularity, the paper-thin skin, and the continuing ability to pack on mass, despite sometimes having poor workout habits and relative ignorance of the principles involved that many pro bodybuilders have. Many supplement distributors, in order to sell their products, would have you believe otherwise.

Still, that's no reason to give up. By using state-of-the-art training principles, consuming a nutrient-rich diet, and by getting proper amounts of rest, almost every person can make incredible changes in his or her physique. The competitive bodybuilder circuit may not be in your future, but building the kind of physique that gains you respect is certainly achievable, as are self-respect and robust health.

2 -- In order to get really big, you have to eat a super-high-calorie diet.

Well, that's true; you'll get really big if you eat a super high-calorie diet, but you'll look like the Michelin Man's fraternal twin. However, if you want to get big, *lean-tissue wise*, then super-high-calorie diets are probably not for you unless you are one of those very few people with

metabolicrates so fast you can burn off these calories instead of depositing them as fat. Unfortunately, studies show that, in most people, about 65% of the new tissue gains brought about by high-calorie diets consists of fat! Of the remaining 35%, approximately 15% consists of increased intracellular fluid volume, leaving a very modest percentage attributable to increased lean muscle mass. According to Dr Scott Connelly *(MM2K*, Spring 1992, p. 21), only about 20% to 25% of increased muscle growth stems from increased protein synthesis. The rest of the muscle growth is directly attributable to increased proliferation of the satellite cells in the basal lamina of muscle tissue, and dietary energy (calories) is *not* a key factor in the differentiation of these cells into new myofibres (muscle cells).

Of all factors determining muscle growth, prevention of protein breakdown (anti-catabolism) seems to be the most relevant, but adding adipose [fat] tissue through constant overfeeding can actually increase muscle pro- teolysis (breakdown). Furthermore, additional adipose mass can radically alter hormone balances which are responsible for controlling protein breakdown in muscle. Insulin balance, for one, which partially controls anti-catabolism in the body, is impaired by consistent overfeeding. So much for the eat-big-to-get-big philosophy!

Stay away from the super-high calorie diets unless you're a genetic freak, or you're woefully lean and don't mind putting on fat [or you're using appropriate pharmaceutical

supplements].

3 -- If you eat a low-fat diet, it doesn't matter how many calories you take in, you won't gain any fat.

The bottom line is, if you exceed your energy requirements, you'll gradually get fatter and fatter. It's true that eating a diet rich in fat will pack on the pounds quicker for a variety of reasons, the most significant being that a gram of fat has nine calories as opposed to the four calories per gram that carbohydrates and proteins carry. Fat is also metabolized differently in the body. It takes a lesser amount of calories to assimilate the energy in ingested fat than it does to assimilate an equal (weight wise) amount of carbohydrates. Consequently, more fat calories get stored than carbohydrate calories. However, the gross intake of carbohydrates, as facilitated by many of the weight-gain powders, will make you fat very quickly.

4 -- The more you work out, the more you'll grow.

No, no no. This is one of the most damaging myths that ever reared its ugly head. 95% of the pros will tell you that the biggest bodybuilding mistake they ever made was to over-train--and this happened even when they were taking steroids. Imagine how easy it is for the natural athlete to overtrain! When you train your muscles too often for them to heal, the end-result is zero growth and perhaps even losses. Working out every day, if you're truly using the proper amount of intensity, will lead to gross overtraining. A body part, worked properly, ie. worked to complete, total muscular failure that recruited as many muscle fibers

as physiologically possible, can take 5-10 days to heal. To take it a step further, even working a *different* body part in the next few days might constitute overtraining. If you truly work your quads to absolute fiber-tearing failure, doing another power workout the next day that entails heavy bench-presses or deadlifts is going to, in all probability, inhibit gains. After a serious leg workout, your whole system mobilizes to heal and recover from the blow you've dealt it. How, then, can the body be expected to heal from an equally brutal workout the next day? It can't, at least not without using some drugs to help deal with the catabolic processes going on in your body [and even *they're* usually not enough .]

Learn to accept rest as a valuable part of your workout. You should probably spend as many days out of the gym as you do in it.

5 -- The longer you work out, the better.

It just isn't necessary to do 20-30 sets for a body part, or even 10 sets like many 'experts' would have you believe. In fact, research has shown that it's possible to completely fatigue a muscle in one set, provided that that set taxes a muscle completely, ie. incorporates as many muscle fibers as possible and takes them to the point of ischemic rigour where, rather than contract and relax, the muscle fibers freeze up, sort of like a microscopic version of *rigor mortis.* Any further contraction causes microscopic tearing. Hypertrophy is just one adaption to this kind of stress and it's naturally the kind most bodybuilders are

interested in.
This kind of intensity can usually be achieved by doing drop or break-down sets where you rep out, lower the weight, and continue doing reps until you either can't do another rep or you've run out of weight. It can also be achieved by doing your maximum number of reps on a particular exercise: by a combination of will, tenacity, and short rest periods, you complete ten more reps. You achieve the short rest periods by locking out the weight-bearing joint in question without putting the weight down. In other words, completely surpass your normal pain and energy thresholds.
If you can truly work your muscle to the point described, it will afford you little, if any, benefit to do another set (Westcott, 1986). The exception would be the body parts that are so big that they have distinct geographical areas, like the back, which obviously has an upper, middle and lower part. The chest might also fall into this category, as it has a distinct upper and lower part, each with different insertion points.
6 -- You don't have to be strong to be big
For a variety of reasons, people, even those with an equal amount of muscle mass, vary in strength enormously. It might have something to do with fast-twitch/slow-twitch muscle ratios, or it might have something to do with the efficiency of nerve pathways or even limb length and the resultant torque. But it is still a relative term. To get bigger muscles, you have to lift heavier weight, and you,

not the guy next door, have to become stronger -- stronger than you were. Increasing muscle strength in the natural athlete, except in a very few, rare instances, requires that the tension applied to muscle fibers be high. If the tension applied to muscle fibers are light, maximal growth will not occur (Lieber, 1992).

7 -- The training programmes that work best for pro bodybuilders are best for everyone.

You see it happen every day in gyms across the country. Some bodybuilding neophyte will walk up to a guy who looks like he's an escaped attraction from *Jurassic Park* and ask him how he trains. The biggest guy in the gym likely got that way from either taking a tremendous amount of drugs and/or by being genetically pre-dispositioned to get big. Follow a horse home and you'll find horse parents. The guy in your gym who is best bodybuilder is the guy who has made the most progress and done the most to his physique using natural techniques. He may still be a pencil neck, but he may have put on 40 pounds [19kg] of lean body mass to get where he is, and that, in all probability, took some know-how. That person probably doesn't overtrain, keeps his sets down to a minimum, and uses great form and concentration on the eccentric (negative) portion of each exercise repetition.

Many pros spend hours and hours doing innumerable sets--so many it would far surpass the average person's recuperative abilities. If average people followed the

routines of average pro bodybuilders, they would, in effect, start to whittle down what muscle mass they did have or, at best, make only a tiny bit of progress after a couple of years.

8 -- You can't build muscle on a sub-maintenance calorie intake diet.

It may be a little harder, and it may require a little bit more know-how and a little bit more conscientious effort, but it can be done. The fact is, the obese state in humans and animals is not universally correlated with absolute levels of caloric intake and neither is the accrual of lean body mass. The ability to realize changes in lean/fat ratios is regulated by components of the automatic nervous system working in concert with several endocrine hormones; this is called nutrient partitioning. For example, certain beta-agonist drugs like Clenbuterol increase meat production in cattle over 30% while simultaneously diminishing bodyfat *without* increasing the amount or composition of their feed. Other drugs, including growth hormone, certain oestrogens, cortisol, ephedrine, and IGF-1 are all examples of re-partitioning agents. All increase oxygen consumption at the expense of fat storage--independent of energy intake!

Drugs are not the only way to do this, however. It's true that a significant component of this mechanism is genetically linked, but specific nutrients, in specific amounts, when combined with an effective training programme, can markedly improve the lean/fat ratio of

adult humans. MET-Rx is one such nutrient re-partitioning agent, and several companies are trying to duplicate its successes ***[warning: one of the authors of this article has a significant financial stake in Substrate Technologies, the makers of MET-Rx].***

9 -- You can't grow if you only work each body part once a week.

If you work out -- work out *intensely*-- then it can take 5-10 days for the muscles to heal. Although the following should be taken with a grain of salt when determining your own exercise frequency, a study in the May 1993 issue of the *Journal of Physiology* revealed it can take weeks for muscles to recuperate from an intense workout. The study involved a group of men and women who had worked their forearms to the max. All of the subjects said they were sore two days after exercising, and the soreness was gone by the seventh day, and the swelling was gone by the ninth day. After six weeks, the subjects had only gained back half the strength they had before the original exercise! By no means are we advocating that you wait two months between workouts, but we are trying to prove the point that it takes muscles longer to heal than what you might have previously thought. For some people, especially natural bodybuilders, waiting a week between body part workouts might be just what the doctor ordered for size and strength gains!

10 -- You can't make gains if. you only train with weights three days a week.

Although you probably couldn't find a single steroid-assisted athlete who trains only three days a week [well, I was, and I made fantastic gains!], there's absolutely no reason why a three-day-a-week routine couldn't work for many natural athletes. As long as your routine attacked the whole body and you worked to failure on each set, you could easily experience great gains on this sort of routine. However, you need to pay even more attention to your diet if you only train three days a week, especially if your job involves little or no physical activity, and you like to spend your idle time eating. Ignore those who say three-day-a-week bodybuilders are only 'recreational lifters'. Think quality and *not* quantity.

11 -- You should only rest 45 seconds in between sets. That's true if you're trying to improve cardiovascular health or lose some bodyfat. *But* in order to build muscle, you need to allow enough time for the muscle to recuperate fully (ie. let the lactic acid buildup in your muscles dissipate and ATP levels build back up). In order to make muscles grow, you have to lift the heaviest weight possible, thereby allowing the maximum number of muscle fibers to be recruited. If the amount of weight you lift is being limited by the amount of lactic acid left over from the previous set, you're only testing your ability to battle the effects of lactic acid. In other words, you're trying to swim across a pool while wearing concrete overshoes. When training heavy, take [at least!] two and three minutes between your sets. Notice I said, "when

training heavy." The truth is, you can't train heavy all the time. Periodization calls for cycling heavy workouts with less intense training sessions in an effort to keep the body from becoming overtrained. (See 'Periodization' by Brad Jeffreys on p. 85 of the Feb/March 1993 issue of *MM2K*)

12 -- You have to use fancy weightlifting equipment in order to make the best gains.

Futuristic-looking, complex machinery designed to give your muscles the 'ultimate workout' is typically *less* effective than good-old barbells and dumbbells. Using simple free weights (barbells and dumbbells) on basic multi-joint exercises, like the squat, bench press, shoulder press, and deadlift, is still the most effective means of resistance exercise ever invented. Scientific research has shown that many exercise machines lack the proper eccentric component of an exercise that's necessary to stimulate muscle tissue to remodel (grow). (See the article titled 'Research Confirms that Bodybuilders Should Pay Heavy Attention to Negative Reps' by Bill Phillips on p.18 of the Feb/March issue of *MM2K*)

13 -- Weight training makes you big; aerobic exercise cuts you up.

Manipulations in your nutrient intake are the main factor in getting cut up, and how you do it doesn't matter. If your daily caloric expenditure exceeds your daily caloric intake on a consistent basis, you will lose fat and get more cut. Aerobic exercise is generally meant to improve cardiovascular efficiency, but if you do it long enough,

you will burn up calories and in the long run drop the fat. However, weightlifting can do the same thing, only better. Studies have shown that the body burns far more efficiently if exercise is performed at a moderate pace for periods longer than 20 minutes. (It generally takes that long for the glucose in the bloodstream to be 'burned up', causing the body to dip into glycogen reserves for its energy) Once the glycogen reserves are used up, the body must metabolize fatty acids for energy. That equate to lost bodyfat.

In the long run, bodybuilding is *more efficient* than aerobics for burning up calories. Let me explain--if researchers were to undertake a study of twins whereby one twin performed daily aerobics and the other practiced a bodybuilding programme where the end result was increased lean body mass, the bodybuilding twin would ultimately be a more efficient fat burner than his aerobic twin. Why? Well, by adding lean body mass, that person's metabolic requirements are higher--muscle uses energy even while it is not being used. The aerobic twin might use more calories during the time period of exercise itself, but the weight-lifting twin would use a higher amount during rest time, leading to a higher net 24-hour expenditure. The weight lifter burns fat just *sitting* there.

14 -- You can completely reshape a muscle by doing isolation exercises.

You can't limit growth to only one area of a muscle. Larry Scott, for whom the 'biceps peaking' Scott curl was named,

had tremendous biceps, but he *didn't* have much of a peak. The shape of your biceps, or for that matter, any muscle, is determined by your genetic makeup. When you work a muscle, any muscle, it works on the all-or-nothing principle, meaning that each muscle fiber recruited to do a lift -- along the entire length of that muscle -- is contracted fully. Why would a certain number of them, like the ones in the middle of the biceps, suddenly start to grow differently or at a faster rate than its partners? If anything, the muscles that are closest to the insertion points are the most prone to mechanical stress, and you don't see them get any bigger than the rest of the muscle. If they did, everyone would have proportions like Popeye.

This is true of any muscle, but you're probably thinking, what about quads? I know that when I do hack squats with my feet together, it tends to give me more sweep in my legs. Sure it does, but the quadriceps are made up of four different main muscles, and doing hacks with your feet together forces the *vastus lateralis* muscles on the outside of the leg to work harder; consequently, they grow proportionately along their entire length and give the outer quads more sweep.

As further evidence, take a look at a picture of any young professional bodybuilder before he was developed enough to become a pro. He will have virtually the same structural lines as he does today. All that has changed is that his muscles are now *bigger*.

15 -- If you get a pump , you're working the muscles

adequately to ensure muscular hypertrophy, or if your muscles are burning, that means you are promoting muscle growth.

A pump, despite what Arnold Schwarzenegger said about it "feeling better than coming", is nothing more than the muscle becoming engorged with blood from capillary action. It can be achieved easily by curling a soup can fifty times. It by no means equates to the muscular intensity needed to promote growth. The same is true of the coveted 'burn' that Hollywood muscleheads advise the public to 'go for'. A burn is simply an accumulation of lactic acid, a by-product of chemical respiration. You can get a burn by peddling a bicycle or simply extending your arm straight out and moving it in tiny circles [or sitting in a burning fireplace!]. It does not necessarily mean you are promoting muscle growth. For hypertrophy to occur, you have to subject the muscles to high levels of tension, and high tension levels are best induced by heavy weights.

16 -- If you do hundreds of sit-ups a day, you will eventually achieve a narrow, washboard-type midsection. There is no such thing as spot-reduction. Doing thousands and thousands of sit-ups will give you tight abdominal muscles, but they will do nothing to rid your midsection of fat. Thigh adductor and abductor movements will give women's thighs more firmness, but they will do nothing to rid the area of fat, or what is commonly [and erroneously] called cellulite. Nothing will rid the body of fat, unless it is a carefully-orchestrated reduction in your daily energy

intake; in other words, if you burn more calories than you ingest (or do that in conjunction with a nutrient partitioning agent. See #8)

17 -- Training like a powerlifter --deadlifts, heavy squats, bench presses--will make your physique look blocky. Blockiness, like baldness or a flat chest, is a genetic trait. If you were born blocky, then powerlifting will simply make you a bigger blocky person. The only way to offset a blocky appearance is to give special emphasis to the lats, the outer muscles of the thighs, and to a fat-reducing diet which will keep the midsection as narrow as possible. With these modifications, you will give your body the illusion of a more "aerodynamic" appearance. The truth is, powerlifting exercises are excellent for bodybuilding.

18 -- High repetitions make your muscles harder and more cut up.

Although there is some evidence to suggest that high repetitions might induce some extra capillary intrusion into a muscle, they will do nothing to make the muscle harder or more cut up. If a completely sedentary person began weightlifting, using either low reps or high reps, he or she would experience a rapid increase in *tonus*, the degree of muscular contraction that the muscle maintains even when that muscle is relaxed, but that would happen regardless of rep range. The only way that high repetitions would make a muscle more cut up is if, by doing a higher number of reps, your body as a whole was in negative energy balance, and you were burning more calories than

you were ingesting. The truth is, heavy weights, lifted for 5-8 reps per set, can build rock-hard muscles. You just have to get the fat off them to see how "hard" they are.

19 -- Instinctive training is the best way to promote gains.

If bodybuilders followed their instincts, they'd go home and pop open a Bud [much prefer Toohey's Red myself!]. Instinctive training is a wonderful catch-phrase, and it might even work for drug-assisted athletes since the very act of opening up a Bud would probably induce muscular growth in them. However, in a natural bodybuilder, the approach to long-term, consistent gains in muscular mass has to be, shall we say, a bit more scientific. Research results conducted by exercise physiologists recommend a systematic approach such as the one encompassed by periodization where the bodybuilder, through a period of several weeks, lifts ever-increasing pre-set percentages of a one-rep lift. This heavy period is also periodically staggered with a lighter training phase 'cycle'. Ultimately, the percentages increase, the maximum one-rep lifts increase, and lean body mass increases. There is nothing instinctive about it.

20 -- Women need to train differently than men.

On a microscopic level, there is virtually no difference between the muscle tissue of men and the muscle tissue of women. Men and women have different levels of the same hormones, and that's what is responsible for the difference in the amount of muscle a man can typically put on and the amount of muscle a woman can typically gain. There is

absolutely no reason why either should train differently than the other sex, provided they have the same goals. The only difference in training might be as a result of cultural, sexual preferences. A woman might desire to develop her glutes a little more so she looks better in a pair of 'Guess' jeans. Conversely, a man might want to build his lats a little more so that he fits the cultural stereotype of a virile man.

21 -- There are food supplements available that are just as effective as steroids, yet safer.

The only things as effective as steroids are other steroids. Despite the proclamations of some supplement distributors, usually in giant, 35-point type, no currently available supplement works like steroids. However, nutrients and supplements can be extremely effective, especially if your diet is lacking in some critical component or you're genetically predisposed to accept that nutrient or supplement. Biochemically, individuals vary enormously, and the interaction of genetics, coupled with the widely varying diets that each of us eats, makes it virtually impossible to gauge just what will work for one individual and what won't. That is why some supplements work better than others for some people, just as some people are genetically predispositioned to accept steroids more readily than others. Food supplements do have benefits that can't be overlooked -- they're generally safe, and they won't get you thrown into jail. *But* none of them build muscle as fast or as well as steroids.

22 -- Professional bodybuilders represent the epitome of health and fitness.

The ultimate irony is that the IFBB is facing in trying to get bodybuilders into the Olympics is that while every athlete in *every other sport* is presumably the healthiest they've ever been so that they are able to compete *athletically* and break records, the bodybuilder is so weak on competition day that he or she would have trouble fending off the attacks of an enraged toy poodle. The weeks of constant dieting, workouts that continually tax the body almost beyond recovery, and a constant influx of potentially harmful drugs and diuretics have brought most of them to total exhaustion.

And think about the huge amounts of food some steroid-using bodybuilders eat. In all the longevity sites in the world where people routinely live to be one hundred, the only common denominator is that they all either under-eat or eat just enough to meet their daily caloric requirements. By ingesting less food, they ingest less harmful chemicals, and fewer free radicals are formed in the body. The average professional builder probably eats at least four or five times what these aforementioned people eat. As a result, bodybuilders often suffer from high cholesterol and high blood pressure. Plus, with all that extra mass, the heart has to work that much harder and will probably stop beating years before it was designed to. That's why professional bodybuilding is the ultimate act of vanity. It was done strictly to fulfill some misguided notion of the

superhuman ideal, and health was not even a consideration. Almost without exception, these guys and gals are not healthy, and they'll probably be among the first to tell you so. However, weight-training and consuming a nutrient-rich diet *is* very healthy, as long as it is *not* carried to extremes.

23 -- Training with weights causes your muscles to get tight and hinders flexibility and, consequently, athletic performance.

If anything, when done properly (slowly and using a complete range of motion), weight training increases flexibility. Many athletes now engage in weight training in order to improve their performance in their chosen sport -- witness Evander Hollyfield or any number of track athletes, basketball players, or gymnasts; the list goes on and on.

This lie goes all the way back to the 1930s. Companies that were selling isometric exercise programmes by mail were trying to convince people _not_ to exercise with barbells, simply because it wasn't practical to send weights through the mail. So they made up the 'muscle-bound' lie. This lie might have been fueled from the feeling of 'tightness' that accompanies an intense workout. If the workout was intense and a sufficient number of muscle fibers were recruited and microscopically damaged, then even the normal tonus (the normal amount of contraction experienced by a relaxed muscle) is more than enough to cause a feeling of pain and tightness. The tightness is

compounded by the 'tugging' of the tendons on the muscles. Stretching, however, would do much to alleviate this tightness, and stretching is a recommended part of any athletic pursuit.

The only possible confirmation of this lie concerns a baseball pitcher's arm. An intense weight training programme might affect a pitcher's ability to throw a fast ball, but it wouldn't be because of a lack of flexibility. The speed a pitcher can generate seems to be determined more by a complex relationship of tendon length and strength and nervous system efficiency as opposed to muscular strength, and weight training could, possibly, upset this delicate balance.

24 -- Loading up on carbohydrates is an excellent way to enhance your athletic performance.

The traditional manner in which athletes 'carb up' for an athletic competition usually involves first depleting the body's stores of carbohydrates through exercise and diet. This is then followed by rest and a high carbohydrate intake. However, studies have shown that this type of preparation is unnecessary. An athlete who eats a balanced, high-carbohydrate diet and is in reasonably good shape has plenty of carbohydrates in his or her system to meet the demands of short-duration exercises that don't exceed roughly one hour. Anyone that does exercises that last more than an hour, like long-distance running or cycling, may benefit from 'carbing up', but the ability of muscles to use fat as a source of energy rather

than carbohydrates in endurance events may be even more important to performance at that level.

25 -- Consuming foods high in sugar before training provides your body with extra energy to sustain workouts. Simple sugars like sucrose don't need to be broken down by the body's enzymes to be used as energy like complex carbohydrates do. Therefore, they elicit a rapid release of insulin, the hormone that regulates blood-sugar levels. The trouble is, the sudden, rapid influx of sugar into the system causes the body to release insulin in what must be considered a haphazard method, ie. the amount released is usually more than what's needed to metabolise the sugar. Consequently, your blood sugar often temporarily drops to a point that is actually lower than it was _before_ you had the sugar, which might cause you to become more exhausted much earlier than it normally would. Your body is then forced to dip into its glycogen reserves in order to correct the imbalance.

To ensure that you have enough energy to complete a workout, eat nutrient- rich foods with low glycemic indices (those that elicit a smooth, steady stream of sugar into the bloodstream) like barley, lentils or beans.

26 -- All anabolic steroids are extremely toxic and dangerous.

Here's a good trivia question borrowed from Dan Duchaine's *Underground Steroid Handbook* [highly recommended]: if you lined up a bottle of Dianabol (a popular steroid), a bottle of Lasix (a diuretic used by heart

patients and bodybuilders who want to 'cut up' for a competition), a bottle of Valium, a bottle of aspirin, and a bottle of Slow-K (a potassium supplement), which one, upon eating a 100 tablets, *wouldn't* kill you? Well, most likely the Dianabol. This isn't an endorsement of steroids; it's just an effective illustration of the stigma generally associated with all steroids: 'they'll give you brain tumors like Lyle Alzado . . . they'll cause your heart to enlarge and eventually give out [they cause spontaneous decapitation . .]'. Maybe, but all steroids are different. Some are more dangerous than others. Birth control pills are steroids. Testosterone patches have been used with great success to enhance the quality of life for elderly men. Some of the steroids that bodybuilders use are very mild, and the risk associated with them is virtually negligible. Still, there _are_ dangerous steroids, and that's all the more reason that athletes who choose to use them must be more knowledgeable about them. This is what Bill Phillips' *Anabolic Reference Guide* [_very_ highly-recommended] is all about -- education. Of course, the physical changes that steroids bring about might cause adverse psychological effects in the user, and that fact shouldn't be ignored.

27 -- If you stop working out, your muscle will turn into fat.

This is almost too preposterous to address. Muscle can no sooner turn to fat than gold can turn into lead. Muscle is made up of individual cells--living, 'breathing' cells that

undergo all kinds of complex metabolic processes. Fat cells are simply storage packets of lipids. The possibility of one changing into another is akin to the bowling ball in your storage closet turning into your Aunt Edna. If you stop working out, if you stop applying resistance to your muscles on a consistent basis, they will simply adapt to the new condition. In other words, they'll shrink. If the degree of inactivity or immobilization is severe, the muscles will shrink faster than the surrounding skin, and a temporary condition of loose skin might be experienced, but that too would remedy itself with time.

28 -- Ingesting MCT . (medium-chain triglyceride) oils will give you tons of energy, but they won't make you fat. MCTs first gained prominence for treating persons suffering from fat mal- absorption, pancreatic deficiency, or stomach or esophageal diseases. Researchers found that MCTs, because of their better solubility and motility, underwent a rapid hydrolysis by salivary, gastric, and pancreatic enzymes. Consequently, they were able to reach the liver and provide energy much more quickly than long-chain triglycerides (Guillot, et al., 1993). There was also some evidence that MCTs reduced lipid deposition in fat stores compared with that resulting from LCTs under identical energy intake conditions. However, this is no reason to believe that ingesting these oils in excess will not result in a positive energy balance which the body stores as fat. MCTs, like regular oils, like regular fats, have nine calories per gramme. Even though they are

metabolized differently, using them in excessive amounts will add inches to your waistline.

29 -- If everyone took the same amount of steroids, everyone would look like a professional bodybuilder. One of the ironies of steroid use is that some people are genetically 'gifted' in terms of steroid receptors. That means that they have a large number of receptor sites in the muscles with which a particular steroid can combine and exert its mass-building effects. The man or woman who won the last contest might very well have the most active steroid receptors rather than being the most dedicated, knowledgeable bodybuilder. On the other hand, some people might possess very few receptors for a particular steroid. That's why they experience very little, if any, growth on a particular steroid. Another factor that influences receptor affinity is age. The highest receptor affinity seems to occur in late teenage years. This is a generalization, but it seems to be true for a good number of people. Since there is a greater uptake in these individuals, they are often able to take lower dosages for longer periods of time and make better gains than older users. The truth is, two bodybuilders could take the same steroid stack, train and eat the same, and one could turn out to be in the Olympia, and the other might never even win a local contest. The difference in how people react to these drugs is incredible.

30 -- Someone with a well-built body must be knowledgeable about fitness and physique development.

Despite popular belief, just because some guy has 20" [51cm] arms or 30" [77cm] thighs, that does not automatically credential him as a bodybuilding expert. Unfortunately, in a society where looks count for so much, well-built lifters are often regarded as bodybuilding scientists. The unfortunate fact is, many well-built athletes, even pro bodybuilders, have no idea how they got where they are. Many of them are so genetically gifted and embellish their genetic potential even further by using tons of bodybuilding drugs that they actually succeed *in spite of themselves*. With few exceptions, elite bodybuilders are the last people in the world you want to turn to for bodybuilding advice if you're genetically average like 98% of us. You're more likely to find expert advice from someone who has 'walked a mile in your shoes'.

The above has been reprinted from the October/November edition of *Muscle Media 2000.*