NUTRI-SPEC
METABOLIC BALANCE
THROUGH
SPECIFIC NUTRITION
89 Swamp Road
Mifflintown, PA 17059
800-736-4320
717-436-8988
Fax: 717-436-8551
nutrispec@embarqmail.com
www.nutri-spec.net

**THE NUTRI-SPEC LETTER**

**Volume 15 Number 5**

From:
Guy R. Schenker, D.C.
May, 2004

Dear Doctor,

Offering NUTRI-SPEC to athletes, exercise nuts, weight lifters and body builders should be a triumphant experience for both you and your patients. Unfortunately, it rarely works out that way. Your association with those in serious training is almost certain to end in frustration for everyone involved. Why? These muscle heads read the sports, fitness, and body building magazines and actually believe what they read. There is at least as much misinformation about physical conditioning, and about the relationship between nutrition and exercise, as about any other health related topic. Some of the misconceptions about effective training methods are so thoroughly ingrained in our culture that they have achieved the status of mythology -- a universally accepted belief system.

Some of these exercise myths are analogous to some of our culture's most cherished nutrition myths --- such as that eating cholesterol will increase your chances of cardiovascular disease. In reality, the truth is exactly the opposite of the accepted wisdom --- eating a high cholesterol diet actually decreases our chance of having cardiovascular disease. What are some of these exercise myths? Here are some of our patients' most cherished beliefs about exercise:

- The best way to strengthen our cardiovascular systems and prevent heart attacks and strokes is with "aerobic" exercise such as running and cycling for long distances.

- If workouts are not yielding satisfactory strength gains, then we must do more in our workouts and work out more often.

- When in a physical conditioning program we need a high protein diet.

- Elite athletes are perfect human specimens and perfect examples of what it is like to be in perfect health.

- Sit-ups and crunches are the way to get rid of a flabby abdomen.

I know many of you share my personal interest in physical conditioning, and many, many of you have patients who are either athletes or fitness buffs. So, lets begin a discussion of exercise, and shatter a few myths along the way.

Is exercise beneficial? Potentially yes, but if done improperly it can be every bit as damaging as poor nutrition. Is training beyond the degree required to maintain health beneficial? No, it is destructive at least to some extent, but the destruction can be minimized if the training is done intelligently. Does athletic competition or rigorous personal training enrich our lives enough to be worth paying the price of increased catabolic stress? For many of us, yes, and the benefits can far exceed the costs if training is done with a little knowledge of physiology.

Our Creator has blessed us (or cursed us if you come from the couch potato point of view) with the need to move, the need to work, and the need to play. Ignore those needs and your life will be severely devalued. Perceive those needs as part of the gift of life to be celebrated, and your life will be thoroughly enriched. Let yourself be pushed beyond your physiological limit of anabolism, and you will destroy yourself as surely as if you eat doughnuts for breakfast every morning.

So, how much exercise is too little, how much is just right, and how much is too much? Before we can answer that question we must look at just how exercise is supposed to work for us. For the purposes of this discussion let us put aside the not insignificant psychological benefits of proper exercise. There is the exhilaration of movement, the intoxication of muscular power, and the pride in athletic achievement. There is also the emotional gratification of committing to an exercise regimen, sticking to it, and reaping the rewards. There is also the pleasure of enjoying more energy, and an alert mind, not to mention the satisfaction of an aesthetic physique. But let us turn our attention to the physical aspects of exercise.

Exercise is nothing more than a catabolic stressor that forces the body into an anabolic adaptation. In other words, exercise tears down striated muscle and heart muscle, forcing the body to rebuild. With its ever-impressive biological intelligence, the body rebuilds structure such that functional capacity is somewhat more than it was before the

original stressor. Striated and cardiac muscle hypertrophy, and the oxygen delivery system is expanded.

Put into NUTRI-SPEC terminology, muscular exercise involves a catabolic (dysaerobic) phase during exercise, followed by a much longer anabolic (anaerobic) phase lasting hours or days. There is generally a sympathetic activation just prior to and during exercise, followed by a parasympathetic dominance during the anabolic phase. Depending upon the type, intensity, and duration of exercise, glucogenic (sugar burning) or ketogenic (fat burning) metabolism may be dominant. With a lifetime of proper exercise we gain strength and gain stamina steadily, up until a physiological limit is reached between age 28 and 32. Beyond that point, strength and stamina can be maintained for decades. Along the way, exercise has a beneficial effect in promoting nutrient assimilation and utilization, which means that all aspects of health are enhanced by proper exercise.

**TO LIVE WELL AND LIVE LONG**
**WE MUST EXERCISE.**

Your typical patient is in pitiful physical condition. The resulting pitifully weak muscles are the least of his problems. Most significantly, his cardiovascular system has severely limited functional capacity from an early age, and shows the beginnings of pathology even before his physical prime is reached. Half your patients are going to die <u>of</u> cardiovascular disease, and most of the rest will die <u>with</u> cardiovascular disease (though something else nails them first). Not as obvious as their weak muscles, but just as certain to derive from insufficient exercise, are their weak bones. An even more insidious deficiency resulting from inadequate exercise is a weak hormonal system. Exercise is absolutely essential to facilitate optimum pituitary relationships to steroid hormone production.

At the other extreme you've got a few patients who are competitive athletes or who are devoted to a physical conditioning regimen, as well as patients who have not exercised in the past but who want to begin. What can you offer these patients? After reading these Letters you will be able to guarantee these patients that they will derive the absolute most from the time and energy invested in exercise. You will certainly offer them more of benefit than the mythology they receive from coaches, personal trainers, and exercise gurus.

There are two general approaches to exercise that we must consider: a) what is commonly termed "aerobic" exercise, and b) resistance training. By aerobic exercise is meant activities such as running, cycling, swimming, and exercise classes designed to get the heart rate

up. By resistance training is meant weight lifting and other forms of resisted movement designed to build strength. Everyone who exercises should include some of both exercise types in his training regimen. To benefit, however, he must ignore the methods advised by the experts. Their recommendations will result in an unbelievable waste of time and energy, giving him far less than the results he expects, while at the same time actually damaging his health.

As we discuss the various populations of exercisers, from those who exercise merely to lose weight to those who are seeking the full health benefits of exercise, all the way to those who are training for maximum performance, there are several principles that can be universally applied. The two problems that come up most often in exercise programs are:

1. Almost everyone who is serious about exercise <u>over trains</u>.

2. <u>High intensity, short duration, low volume exercise</u> is almost always the most effective way to train, while low intensity, long duration, high volume exercise generally makes a person weak, tired, hungry, and grouchy.

Suppose you have a patient who exercises or wants to exercise to stay lean and enjoy the other health benefits of exercise, yet not work toward maximum performance. What is the best regimen for this patient? The most common advice the experts give to this person is to make as his highest priority an aerobic exercise program involving walking, running, cycling, etc.

**THAT MAY BE THE ABSOLUTE WORST ADVICE IMAGINABLE.**

Why? First of all, I guarantee you the plan will fail to achieve your patient's goals in 90+% of the cases. In failing it will so discourage the person from exercise that he will very likely give it up forever. I have seen countless people with their spirits crushed after devoting hundreds of hours and vast quantities of energy to walking, running, and cycling, only to cry in desperation, "Why isn't this working for me?!"

Why do what people call "cardio exercise programs" almost invariably fail? They fail because they do not address the fundamental cause of people's overweight, under-conditioned bodies. Having excess body fat always involves having an inefficient metabolism. From a NUTRI-SPEC perspective this means having one or more metabolic imbalances. You can address these with nutrition, or, you can get to them with exercise.

To be effective for weight loss an exercise must stimulate the body to: a) pull fat out of storage and burn it for energy, and b) crank up the

cellular engines to run at optimum efficiency, 24 hours a day. Every single pound of lean body mass burns dozens of calories a day, even at rest, while a fat cell uses up about 2 calories per day. The reason cardio exercise fails is because it does nothing to get the body burning fat and does nothing to inhibit fat cell development and increase muscle cells. In a typical cardio workout the exerciser burns between 50 and 300 calories. In the process he becomes hungry enough that is it is very difficult to resist consuming 300 more calories per day. But more importantly, the calories burned are well within the amount that is available in the form of sugar and glycogen. Fat reserves rarely need to be touched in such a workout. Blood sugar drops, liver glycogen reserves drop and muscle glycogen reserves drop while …

**THE FAT CELLS JUST SIT THERE BEING FAT.**

You have to run as much as 2-3 miles or walk as long as 45 minutes to an hour before you burn your first fat calorie above what you would burn at rest. Furthermore, the minor metabolic impact of such a workout is short lived. In other words, the increased metabolic activity associated with exercise ends very quickly after the workout. Neither is there any long-term benefit to metabolic balance from such a wimpy approach to exercise. How many people do you know who had a physique resembling the shape of a big fat pear who went into a rigorous cardio exercise plan and succeeded (by investing unreasonable amounts of time and energy) in losing a significant amount of weight only to find that after "succeeding" they had achieved nothing more than transforming from a large pear to a small pear. With a fraction of that time and energy invested in a well conceived exercise plan these people could have completely changed their metabolism, and thus changed the shape of their bodies.

Low intensity, long duration exercise is …

**A LOSER.**

Whenever patients proudly proclaim that they are engaged in such jogging, walking, or cycling exercise plans, you must applaud their attitude and effort while setting them straight on the truth about exercise. Let them know that their plan is doomed to give limited benefits and that there is a much better, faster way. And what is that?

**INTERVAL TRAINING.**

Tell your patients, "If you want to get the full benefit out of your running, cycling, etc., then transform your workout from low intensity,

long duration, high volume to high intensity, short duration, low volume."

**FITNESS SUCCESS IS ALL ABOUT QUALITY, NOT QUANTITY.**

Short bursts of high intensity output will give you the hormonal and other metabolic effects that are supposed to derive from exercise, while at the same time building lean body mass, cutting down on fat, and keeping your metabolic engines fired up 24 hours a day.

Pretend there is a grizzly bear chasing you. Take off at nearly full speed and go like crazy until you feel as if you'd rather be Mr. Grizzly's lunch than take another step. At that point (which should be at the end of a 30-90 second burst) stop and catch your breath for a minute or two then blast off for another 30-90 seconds, followed by another breather, and so on for somewhere between 6 and 8 intervals. Then what? Nothing, you're done. Go home. Come back in 2-3 days and do it again. In the meantime, enjoy the surge of power you feel. You will be more mentally alert; your personality will sparkle; if you are a man you will feel more like a man, and if you are a woman, more like a woman; and even though the workout could almost be called painful, you will be looking forward to your next one.

Running or cycling in this manner definitely does not meet the definition of "aerobic" exercise. This anaerobic workout builds an oxygen debt and trains the body to repay that debt very quickly. Heart, lung, and vascular system functional capacity develops very quickly ( … all the benefits supposed to derive from aerobic exercise). Interval training is the #1 top priority for your health-seeking exercisers (and for all maximum performance exercisers as well).

The other component of a complete exercise regimen for the patient who wants to stay in shape is resistance training. The patient may choose either two resistance training and three interval training workouts weekly, or three resistance and two interval workouts.

Resistance training with endless sets and reps is as counter-productive as jogging. Again, the emphasis must be on high intensity, short duration, low volume workouts. (After a light warm-up set) do one set with heavy weight (70% of maximum single attempt lift) to failure of each exercise, and do only a few exercises. A convenient pattern is to work lower body, upper body and torso flexors one workout, and extensors the next.

Much more to come next month --- but you've just read enough to GET STARTED. (P.S.: Use GLUTAMINE to rescue your over-trainers.)