

NUTRI-SPEC



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THE NUTRI-SPEC LETTER

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From:
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Dear Doctor,

In closing last month's Letter ...

I GAVE YOU A "TEASER."

In the postscript, and without further comment, I suggested that you "use GLUTAMINE to rescue your over-trainers."

THIS STATEMENT WAS A TEST ...

to see if you should be categorized as a "muscle head." We defined a muscle head last month as an exercise enthusiast who reads the sports, fitness, and body building magazines and actually believes what he reads. These are the exercise fanatics so desperate for improved performance that they are easily snookered by the charlatans of the exercise and nutrition industries, believing in any mythology that promises an extra pound of muscle or a minute off the marathon time.

If I were a huckster like nearly everyone else in this industry, I could easily hype the anabolic effects of glutamine, selling zillions of dollars of it to unsuspecting NUTRI-SPEC doctors to distribute to their athletic patients. The truth is, if you were to use glutamine as a magic bullet for your patients in intensive training, you and your patients would be much better off than if you used the absolutely absurd junk promoted by the industry – nearly all of which is worthless, and most of which is actually harmful.

You see, glutamine truly is an amazing amino acid, with incredible anti-catabolic effects. Read all about it on pages 175-177 of your

NUTRI-SPEC manual, but for now let's just talk about the effects of glutamine on the muscular system specifically, as it relates to exercise, and most particularly to over-training.

One important and unique biological effect of glutamine is its ubiquitous presence as a nitrogen shuttle. As part of the body's stress reaction (and that is any stress reaction, not just the stress of muscular activity), muscle tissue breaks down and amino acids are liberated. (This catabolic state is exaggerated, of course, in your dysaerobic patients.) Glutamine comprises 33% of the amino acids liberated from muscle breakdown during stress. What is more, fully 60% of the free amino acids in the intracellular amino acid pool (mostly found in muscles) consists of glutamine. This amino acid pool is reserved to be mobilized into plasma when amino acids (particularly glutamine) are needed at other organ sites. So, we see that muscle tissue is first a storage depot for glutamine, and second, a synthesizer of glutamine.

In response to stress (either emotional, or disease-related, or as part of over-training) glutamine synthesis increases by 200-400 percent, yet the glutamine level in muscles decreases by 50% and the glutamine level in the blood decreases by 30%. How is it that glutamine levels decrease while synthesis is actually increased by 2-4 times? It is decreased simply because glutamine is utilized for tissue repair throughout the body. The muscle wasting that occurs when a person is sick or under chronic stress is virtually 100% due to glutamine deficiency. The metabolic stress of over-training results in muscle wasting such that the athlete loses muscle, and suffers decreased performance in whatever his sport may be.

This muscle wasting associated with glutamine depletion, is the rationale behind one of the exercise myths that we exposed last month, namely that, "If work-outs are not yielding satisfactory gains, then we must do more in our work-outs and work-out more often." When an athlete over-trains (and they all do) glutamine levels decrease 9% below normal. This is due to muscle catabolism that exceeds the anabolic rebuilding capacity. The glutamine is also pulled out of the muscles to be sent to the kidneys to help eliminate the acids produced during exercise.

Can you envision how those in intensive training are trapped in a vicious cycle? They do workouts that are too long in duration and do them too often. Initially their gains in strength/stamina are very gratifying. They are physically and emotionally pumped. Then suddenly and inexplicably the gains stop as the state of over-training beyond anabolic capability is reached. In desperation, these athletes work harder, longer, and more often in a frantic attempt to break through the

plateau. However, the plateau turns into a nosedive as catabolic devastation totally overwhelms them. Workouts are severely curtailed or ceased altogether for a period of days, weeks, or even months. Once the catabolic damage is repaired, such an athlete once again becomes fired up, plunging anew into the same idiotic work-out regimen that destroyed him the first time (or, comes up with a new work-out plan based on what he reads in this month's issue of Muscle Head magazine).

Parallel to their self-destructive workouts, these muscle heads pursue self-destructive nutrition with equal fervor. They swallow the most bizarre combinations of products labeled as "protein shakes," "ergogenic aids," and "anabolic aids." This pile of garbage would be good for a laugh if its harm were limited to wasting the athlete's hard-earned cash. But the truth is, these products are almost invariably truly damaging to the health, and (more absurdly) specifically counter-productive as far as being either ergogenic, anabolic, or a source of protein.

First, consider the so-called "protein shakes." All the products I have looked at (going back nearly 40 years) should more appropriately be called "sugar shakes." Not only does an extremely high percentage of the calories come from sugar, but the sugar tends to be largely fructose, which is the most damaging form of sugar (as applies to glycemic control, to insulin resistance, and to elevation of triglycerides, as well as oxidative damage through glycation).

Now, ask yourself just what is the source of protein in these shakes. It invariably comes from either soy or whey. You, as a NUTRI-SPEC practitioner, are more knowledgeable about the damage caused by soy than any other clinicians in the world. You have a two-month series of NUTRI-SPEC Letters on the topic of soy death that you should routinely distribute to your patients to dissuade them from eating any soy-containing products. [If you missed out on the soy story, call us right away and we'll mail you the essential information that you must convey to your patients.] Now, take all the damaging effects attributed to soy and compound it one degree further by asking your self just what must be done to a soybean to get it into a powder? The thing must be heated to double death, then exposed to a tremendous amount of oxidation by being ground and sprayed then re-collected into a powder. The proteins have been thoroughly denatured (nitrogen split off), and are thus pitifully inferior as a source of dietary protein.

What about the products using whey as a protein source? Yikes!! Whey is nearly as damaging as soy! Whey is a concentrated source of SEROTONIN precursors. Platelet aggregation, muscular degeneration, accelerated aging, increased inflammation, and connective tissue breakdown for my athletic patients? NO WHEY!!! There just isn't a

significant amount of usable protein in a “protein shake.” Furthermore, even if the protein content were functionally usable protein, the quantity in these (very expensive) health destroyers is no more than one could obtain much more inexpensively by eating an additional serving of meat, fish, poultry, eggs or cheese. Pretty silly, don’t you think?

But wait, there is more. These shakes are dressed up with grotesque quantities of cheap B Vitamin precursors. The problem there (as you, a NUTRI-SPEC practitioner are uniquely knowledgeable) is that excess B vitamins actually inhibit energy production. Give vitamin B1, for example, to an athlete who tends to be both glucogenic and anaerobic, and watch his athletic performance (not to mention all aspects of his health) deteriorate.

Ergogenic aids? Anabolic aids? Ha! Ha! Ha! Ha! Ha! Put yourself in a NUTRI-SPEC mindset and read these labels for another good laugh. Some of the ergogenic aids are loaded with B vitamins, which, again, are counterproductive in terms of energy production. Many of them are also loaded with herbal stimulants, which always prompts me to tell the patient taking the product that it is a lot cheaper (and more effective) to drink coffee if stimulation is all you want.

When a product is labeled as an anabolic aid there is no telling what you may find in the list of ingredients. Often you will find plant sterols that probably tend to push a person into an anaerobic imbalance, yet have no specific muscle anabolic effect whatsoever. Some of these products are also nothing more than weight gain products with a concentrated content of sugar and fat. For these products I always tell my patients they would do just as well to save a lot of money and eat ice cream instead.

Do you know what is absolutely the most amusing about ergogenic and anabolic aids? The two types of products should theoretically be exactly opposite in their metabolic effects. Ergogenics is the catabolism of reserves for rapid energy production during exercise, and anabolics is the use of sugars, fats, and amino acids to rebuild tissues and replenish reserves. Now, think how absurd it is that many companies sell products labeled as ergogenic aids and anabolic aids that contain many of the same ingredients. Only because they are selling to muscle heads can they get away with such nonsense.

At this point in our discussion the muscle head in you may be wondering, why, if so-called ergogenic and anabolic aids are ridiculous junk, and if all my patients in intensive training are over-training, and, if glutamine has real scientific evidence backing up the fact that it is truly anabolic (anti-catabolic) for those who have over-trained ...

**WHY CAN'T I GIVE GLUTAMINE TO ALL
MY PATIENTS WHO ARE IN INTENSIVE TRAINING
AND HAVE PROBABLY OVER-TRAINED?**

The reason you cannot use glutamine as a “remedy” for over-training is the same reason why NUTRI-SPEC practitioners don't offer remedies for any disease or condition. We must carefully consider the metabolic effect of the supplements we recommend. Glutamine is powerfully anti-catabolic and anti-dysaerobic in its metabolic effect, which means that it has tremendous potential to push a person into an anaerobic imbalance. Indiscriminately prescribing glutamine to your athletes in training is certain to result in disaster since more than half of them are indeed suffering from an anaerobic imbalance.

The trouble with anaerobic and dysaerobic patients is that their imbalances tend to be exacerbated any time they over-train. Strenuous exercise is accompanied by a dysaerobic/catabolic phase during and immediately following the exercise, then shortly following the exercise the patient swings into an anaerobic/anabolic phase which is designed to continue until all the recovery and rebuilding from the workout is completed. (This recovery phase generally takes 48 hours to be taken to completion.)

Those who over-train are all chronically in either a catabolic state or an incomplete anabolic state. By that I mean they are either dysaerobic/catabolic and cannot initiate the anabolic phase they need to recover and stimulate the desired hypertrophy from their previous workout --- or --- they are in an anaerobic/anabolic state in which their body is desperately working as fast as it can to complete recovery from its previous workout, but recovery is never completed before they go into their next workout. In either case, these athletes are going into their next workout having not fully recovered (and thus not having achieved the full benefits of) their previous workouts.

The truth is, that more than half of your over-trainers will be stuck in an anaerobic metabolic imbalance. For these, anything more than short-term glutamine supplementation can be disastrous. For your patients in intensive training who do not test anaerobic, you may freely use glutamine, but do so judiciously. It takes very little time for glutamine to push a person anaerobic. For those who actually test as dysaerobic, feel free to load them up with glutamine at 3 capsules two times daily before meals until the dysaerobic pattern is resolved.

In next month's Letter, I will give you a sure way to tell if your athlete is over-training. Just the presence of either an anaerobic or dysaerobic

test pattern in an athlete is in itself conclusive evidence of over-training, but when the anaerobic/dysaerobic clinical picture is not clear there are some other clinical indicators that will give you not only conclusive evidence of over-training, but the means to monitor your patient athlete as he recharges his batteries in preparation for the start of a more thoughtfully conceived exercise regimen. We will also next month get back to the discussion we started last issue of how to counsel those patients who want to exercise to look and feel their best, but without going gung-ho for Olympian gains. Re-read last month's letter and get your patients off their nonproductive exercise routines and onto a productive plan.

While you're waiting for next month's info, think about this: you've got the perfect nutrition regimen for athletes in training built into your NUTRI-SPEC system ...

YOUR DIPHASIC NUTRITION PLAN.

Doesn't your Diphasic Plan offer comprehensive protection against both the pathological disintegration and the pathological hyperplasia associated with the aging process? Isn't the DNP designed to facilitate restoration of normal diurnal metabolic cycling? Now consider this: isn't intensive training a metabolic stressor perfectly analogous to aging? Isn't the major risk of maximal workouts the crossing over the line into over-training, such that the metabolic cycle gets stuck in either a catabolic or an incomplete anabolic phase --- suspending the diurnal cycle and leaving the athlete defenseless against pathological disintegration and pathological hyperplasia?

Yes, the metabolic stress of strenuous training is perfectly analogous to aging. Tell all your athletic patients to put aside the muscle head hype and go on the most empowering nutrition regimen ever conceived for athletes --- your DNP. New slogan: DNP + POWER TEA.

Much, much more next month.

Sincerely,

Guy R. Schenker, D.C.