

EPHEDRA & OTHER STIMULANTS

After receiving several phone calls from concerned customers wanting to know if any of the E-CAPS products contained ephedra or other stimulants, I knew it was time to deal with this issue. Although the phone calls were prompted by recent TV propaganda about ephedra based "herbal ecstasy" products causing a number of deaths, it did serve as a good reminder for me that many endurance athletes use stimulants such as caffeine regularly and still more are considering it. According to the T.V. and news stories in the New York Times and others, as many as 15 deaths are linked to ephedra use. Most if not all of these deaths have resulted from taking large quantities of "herbal ecstasy" products by people who frequent the after hours club scene. Never the less, the danger should not be ignored by others who might be tempted to use ephedra or other potent stimulants in an attempt to improve athletic performance

Unfortunately, potent stimulants such as ephedra, AKA ma huang and its components ephedrine and pseudoephedrine and synthetic versions, as well as stimulants in the caffeine family, are finding their way into more and more products directed at athletes. What surprises me even more is that there seems to be little, if any, resistance to using stimulants by many athletes. In addition, there is little information being offered by the usual "experts" concerning the drawbacks and potential dangers of using stimulants such as ephedra and others to increase athletic performance.

To answer the question for the benefit of all of you who did not call, E-CAPS products do not contain any stimulants, especially ephedra. They never have, and they never will. We are generally opposed to the use of stimulants as a means for improving athletic performance. The next several paragraphs will explain why.

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ANNOUNCING A NEW E-CAPS PRODUCT: PHYTO-MAX NATURE'S MOST WONDROUS, BOUNTIFUL FOOD

Our Exclusive, New Fresh Water Grown, Phyto-Nutrient, Herb

Phyto-Max (100% Hydrilla Verticillata, rooted algae) is a "Wild Harvested" fresh water grown herbal algae. It is the most recently discovered anti-oxidant, phyto-nutrient, complex enzyme, mineral rich, whole food concentrate. Best of all, even though Phyto-Max is superior in nutritional value to trendy green products such as Klamath Lake blue-green algae, it is only a fraction of the cost.

This unique, organic herb provides an abundance of naturally occurring MINERALS, PROTEINS, CALCIUM, POTASSIUM, LIPIDS, CAROTENOIDS, RNA, DNA, GLA, NITROGEN, CARBOHYDRATES, MAGNESIUM, SODIUM, CHLOROPHYLL, IRON, VITAMINS B1, B2, B3, B5, B6, PHOSPHORUS, MANGANESE, ZINC, COPPER, COBALT, SELENIUM, MOLYBDENUM, 17 AMINO ACIDS, ESSENTIAL ENZYMES, S.O.D., and several unnamed enzymes.

The synergy of complex nutrients found in Phyto-Max offers you the unique nutrition needed to fortify your immune system, build and protect healthy cells and provide you with natural energy from a whole food herb.

"Hydrilla Verticillata" (Phyto-Max) and its nutrient components have been

proven effective as a "muscle builder, energy enhancer, nutrient provider, antiarthritic, free radical scavenger, and has dynamic applications for stress management, skin disorders and age associated diseases." "Hydrilla Verticillata" also enhances nutrients absorption and helps control toxic reactions caused by drugs and chemical exposures from our diet and environment. Especially of note is the herb's ability to act as an appetite suppressant as also noted in several University studies.

In laboratory tests performed at the University of Florida, "Hydrilla Verticillata" showed significant improvement and increased bio-production in the yield of milk from dairy cattle as well as noticeable weight losses in the cattle (average of 10% loss in 90 days) when supplemented with the aquatic herb.

Botany Professor George Bowes (USF) states that "there are certain exclusive unnamed enzymes within Hydrilla Verticillata that are essential to its extraordinary nature." Abstracts and copies of all of the university and other research that has been done over the last 20 years on hydrilla verticillata is available for anyone who is interested. Just write Endurance News to request a copy.

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PHYTO-MAX NUTRITIONAL ANALYSIS CHART

Several independent laboratories performed chemical and nutrient value assays on the processed herb (*Hydrilla Verticillata*) and reported on their extraordinary findings. A general overview of these findings follow.

One daily serving of Phyto-Max is 3-6 capsules.

EACH 6 CAPSULES OF PHYTO-MAX PROVIDE:		AMINO ACID PROFILE:	FATTY ACID PROFILE BY PERCENTAGE:		
Beta Carotene	7200 IU	Lysine+	24.24 mg	Oleic*	31.6 %
Vitamin B1 (Thiamine)	6000 mcg	Histidine+	7.68 mg	Palmitic	22.4 %
Vitamin B2 (Riboflavin)	19.20 mcg	Arginine+	23.28+	Linoleic**	18.4 %
Vitamin B3 (Niacin)	1120 mcg	Aspartic acid	45.6 mg	Linolenic**	11.7 %
Vitamin B5 (Pantothenic Acid)	2600 mcg	Threonine+	19.92 mg	Stearic	6.5 %
Vitamin B6 (Pyridoxine)	8200 mcg	Serine	21.84 mg	Palmitoleic*	5.3 %
Vitamin B12 (Cobalamine)	239.8 mcg	Glutamic acid	45.36 mg	Myristoleic*	1.4 %
Potassium	56,000 mcg	Proline	19.68 mg	Eicosandic	1.0 %
Magnesium	17,400 mcg	Glycine	30.72 mg	(Saturated Fatty Acid)	
Sodium	15,000 mcg	Alanine	28.8 mg	(Monounsaturated Fatty Acid*)	
Manganese	5600 mcg	Cystine	2.16 mg	(Polyunsaturated Fatty Acid**)	
Iron	8200 mcg	Valine+	23.52 mg		
Copper	50 mcg	Methionine+	8.16 mg		
Zinc	140 mcg	Isoleucine+	19.2 mg		
Selenium	124 mcg	Leucine+	35.76 mg		
Cobalt	98 mcg	Tyrosine	16.56 mg		
Molybdenum	3.6 mcg	Phenylalanine+	16.56 mg		
Calcium	334,000 mcg	+essential amino acids			
Chlorophyll	10,000 mcg				
Phosphorous	6800 mcg				

Minerals are essential for bodily processes and combine to form enzyme activity or to become an enzyme or hormone component.

A protein molecule is comprised of amino acids joined together. When these are separated by the digestive process the amino acids are able to be utilized by the body more completely than isolate chemical amino acid's not bound to the protein molecule. All are necessary for complete nutrition and overall health.

(PHYTO-MAX continued from page 1)

To preserve the delicate nutrients contained within the aquatic herb, a specially developed, patent pending, processing technology exclusive to the manufacturer is employed. The process includes a 5 stage pressure wash and bath system that includes ozone injection in the bath to remove bacteria and micro organisms. The drying process is commenced with low temperatures (<88* F) Jet Turbine blowers that remove all the moisture from the plant without damaging the living enzymes and nutrients found within that plant. The result is truly exceptional, live whole "Superfood Concentrate".

Before there was medicine... There was FOOD. Phyto-Max is a SUPER FOOD!

Super Foods are foods SUPERIOR in nutritional value to common foods.

SUPER FOOD CONCENTRATE: You would have

to consume 2.75 pounds of freshly harvested "Hydrilla Verticillata" (rooted algae) to equal one serving (3 capsules) of Phyto-Max.

Instead of the old saw "An Apple a days helps keep the doctor away", you could say "3-6 Phyto-Max each day helps keep the hospital away".



Compare the food value of Phyto-Max to the popular foods below. One Daily Serving, 3 Capsules, of Phyto-Max contains:

As much "Calcium" as 7 1/2 glasses of milk
 As much "Chlorophyll" as 5 tossed salads
 As much "Beta Carotene" as a cup of tomato juice
 As much "B Vitamins" as a cup of spinach
 As much "Potassium" as a small banana
 As much "Magnesium" as a cup of lima beans
 As much "Zinc" as a cup of green beans

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DOUBLE STANDARDS FOR NUTRITIONAL SUPPLEMENTS & DRUGS

There is no doubt that the media is much more critical of natural nutritional supplements than they are about prescription drugs. The most recent evidence of this is the way they have handled the publication of two recent studies demonstrating that Chromium Picolinate, see EN #11, and popular cholesterol drugs cause cancer in rodents. The common denominator in both of these studies was the use of dosage equivalents higher than humans would normally consume.

When the chromium picolinate study was published, the media had a field day. There were front page headlines in The New York Times, USA Today, and most of the other major newspapers as well as the electronic media that chromium caused cancer. Most of the stories failed to differentiate between the three types of chromium or point out that only the picolinate form had caused cancer in the ovaries of hamsters. Several of the stories barely mentioned or completely omitted the fact that the dosage equivalents used in the study were almost **eight thousand (8,000)** times higher than recommended for human consumption.

Compare that to a recently published study that showed popular cholesterol drugs cause cancer in mice. The treatment of this story was just the opposite of what was reported in the chromium stories. I found the AP article buried on page A9 in a small two column story in our local newspaper titled "Popular cholesterol drugs cause cancer in rodents". Many of the major media outlets did not even pick up this story and the ones that did, gave it scant attention. The opening paragraph states "A study that found two of the most popular types of cholesterol-lowering drugs cause cancer in rodents is drawing criticism because it was based on doses far larger than those prescribed for humans."

The story goes on to say that both doctors

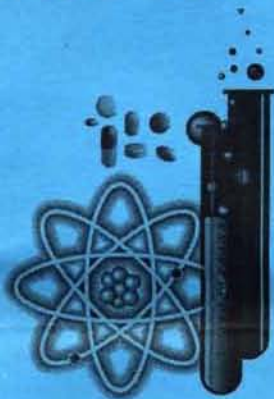
and the drug maker are questioning the validity of the study because it involved dosage equivalents up to **three hundred (300)** times higher than prescribed for humans. Further along the article does admit that one of the drugs tested, lovastatin, was administered in dosage equivalents just two to four times higher than the maximum that would be prescribed for humans. At these levels it caused an increase in stomach, liver and lung tumors in the mice.

The AP story also mentions that patients may take these cholesterol-lowering drugs for more than 30 years. This bit of information would not appear significant because they don't tell you that the reason for researchers using dosage equivalents higher than normal is to duplicate the affects of lower dosages over long periods of time.

Now some of you may be thinking that this is an isolated incident that I am blowing out of proportion.

Unfortunately, that is not the case. I could site dozens of instances in which the media has hyped questionable findings about natural supplements or downplayed or ignored damaging information about popular drugs. For example, just recently we have seen stories claiming that vitamin A (beta-carotene) actually increases your risk of cancer. Then we have the dirty secret that 10-15 thousand people are dying unnecessarily each year from the use of over the counter, non steroidal anti-inflammatory, pain relievers. If you are waiting for that story to break, don't hold your breath.

The truth is that the different treatment that these two stories received from the mainstream media is in fact very indicative of the different treatment that natural supplements receive vs. drugs. If the media maintains this type of double standard for natural supplements and drugs, do you think they might be biased in their reporting on other issues such as crime, politics, world affairs and social issues? Nahh. ■



TID-BITS

Miscellaneous Information For Athletes

Visit E-CAPS on the World Wide Web

Next time you're browsing the web, visit our site: www.e-caps.com/supplements/



The site is full of interesting information about E-CAPS' products including descriptions, instructions and a lot more. You can also place orders directly through the web site using our on-line order form.



E-CAPS and Hammer Nutrition, Ltd. at NORBA NCS Park City & Mammoth

Mt. Bike Racers: I am planning to be at both NORBA NCS races in Park City and Mammoth with E-CAPS and Hammer Nutrition products. I will probably have a booth at both events and I would like to meet you in person and shoot the breeze. So, if you are going to be there, look us up.



100TH BOSTON MARATHON

The 100th running of the Boston Marathon was a historical milestone for runners and endurance athletes in general. There were record participants, record crowds and with all of the hype and anticipation that could possibly be generated by the sports media, we were assured an event to remember. I thought it would be fun and interesting to get a first hand perspective from a couple of triathletes who ran in the historical event.

BILL'S BOSTON MARATHON

Oh Geez, what am I doing in here again, the day before the Marathon? Each year I say that I am not going into the Expo and here I am walking around aimlessly race bag in hand.

The Expo is hot, stuffy and there are too many people. I am actually being pushed around by the crowd. Occasionally I see a fellow runner, the kind you see each year only the day before the race. Same conversation. You look in great shape, What is the weather going to be like? Are you aiming for 3 hours? Too much for me so I leave without seeing more than a couple exhibitors.

Back in my hotel room I am safe... safe from the crowds and distractions. I don't know what it is but the two days before the marathon and other big races my body seems to shut down. It doesn't want me to do anything but to get off my feet and stay quiet. Today is no exception. It is better to be alone with my own thoughts.

After a restless sleep I rise early full of confidence that today's race will be a good one and there is nothing more I can worry about that will help. The weather is very cold as I board my VIP bus (VIP status is accorded to me due to my 2:58 finishing time of last year and my age).

As we reach the special VIP starting area we know that there are 40,000 runners elsewhere who are clustered in an athlete's tent city being entertained by bands and speakers. Most have been there since 7AM. For all of us we are blessed with a warming sun after a week of cold rain and snow. It promises to be a perfect day for running.

After a long wait the starting gun goes off at 12 noon sharp. I am in the 5th corral, some 5000 runners back from the starting line. We were all worried by a potentially slow start but when it only takes us 1:30 to get to the starting line our group is all

smiles. A sub 3 hours marathon is still possible. As we move along at a sub 7 minute pace all is looking well. But after 5 miles I begin to feel tight and I am not running smoothly. At 10 miles I am a few minutes off my pace and I begin to worry. Could it be that my cold is not gone completely? What about the biking I've done these past two months? What about the two 1/2 marathons done in March? Was this all too much? Need to get all of this out of my mind and make up the time and see where I am at 15 miles. But it is not any better at 15. Now is the time to back off a bit and get into a slower pace that will guarantee finishing the race and feeling okay.

At the finish I am really feeling dead. Every muscle is sore and cramping. For me this means dehydration. My "computer chip" finishing time is 3:12:31 and I am very disheartened. Within a few hours of drinking fluids the cramping goes away but I can't stop thinking about my finish time. Probably last in my age group! I will not look forward to seeing the results.

Ah ha, a week away from my 60th birthday I receive the New England results. I am not last but rather 20th out of 657. Even better, I would have been 2nd in my new age group. I have received a reprieve!... until next year.

Now on to the task at hand: training for an Ironman Qualifier, the National Championships, the World Championships, and the Ironman. As with Boston I will try to spend little time in the Expos and go into my usual two day trance before each race.

Maybe, just maybe, I will see if I have enough time to run a late fall marathon. Better to go into Boston 1997 with a 3 hours qualifying time than a 3:12. Maybe!



JEFF'S AWESOME BOSTON JOURNEY

The decision to run in the 100th BAA Marathon was made after racing in the 98th Boston in 1994. I had run a P.R. there and wanted to improve upon it. As a semi-retired triathlete, I was in search of a new athletic goal. A P.R. at the 100th running of the Boston Marathon seemed like a good challenge. It also would give me a good reason to work on my running, typically my worst segment of the triathlon.

Central Florida had a large contingent of runners competing at Boston. My travel companions were the Cohen brothers, Gary and Doug, both C.P.A.'s, and very good runners. I regularly trained with Gary, who had run a 2:22 at the Marine Corps Marathon in the early 1980's and just missed Olympic Trial qualification. Doug was also a very good runner, but was coming back from an injury and was hoping to finish this year after dropping out in 1994.

We flew into Boston on Saturday, 2 days prior to the race. We ran into some trouble when we tried to check into the Marriott Hotel where I had confirmed reservations. The desk clerk could not find any available rooms with two double beds and a rollaway. We had no intentions of sleeping together. The desk clerk must have appreciated our humor or predicament, because she gave us a suite on the 17th floor. It was a 3-room suite with 3 double beds, wet bar, refrigerator, 3 phones, 2 TV's and a couch!

As I was unpacking my gear, my companions were amazed at my variety and amount of nutritional supplements and homeopathic and performance enhancement aids, including one can of Energy Surge, Training Caps, Enduro Caps, Traumex, vitamins and anti-oxidants, and a bottle of Creatine Boost. We joked about my apparent philosophy of training as little as possible and "buying my way to a faster time".

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100TH BOSTON MARATHON

Not to be outdone, Gary labeled his water bottle "PR In A Bottle" and proceeded to carry it with him all weekend, espousing the virtues of his magical concoction to all that would listen.

After unpacking we headed to the expo, picked up our race packets and wandered through the exhibits. Gary stood in line for an hour and spent a small fortune buying Boston paraphernalia. Doug and I went back to the hotel for an easy swim and hot tub.

Sunday, the day before the race, Gary and Doug walked in the cold rain to the Red Sox game. It was a miserable day. I politely declined their invitation to join them. Watching a movie at the local theater was a far better way to relax than sitting in the freezing rain. Besides, I had still not fully recovered from that week's track workout and my legs needed additional rest.

When the guys returned from the ball game, we took a hot tub and planned race strategy for the next day's marathon. I was anxious to race. I had been training for six months, the last three seriously. My training had gone very well and I knew that I was in the best running shape of my life. When I told other runners that I hoped to PR at Boston, I was met with polite but disbelieving smiles. The smiles knew of the Boston crowds. I had qualified with a less than stellar effort and thus was seeded with 8000+ athletes ahead of me. To have a good race I would need to get a quick start and get out of traffic as soon as possible. In 1994 it had taken me 2 and a half minutes to reach the start. I was hoping I could do so again.

On race day, we awoke to a beautiful, cool, sunny morning with a 10 MPH headwind. To avoid walking one mile, we took a taxi to the buses. Ultimate destination? Hopkinton!! After standing in line for 45 minutes, we finally boarded the buses. The normally 4-minute drive to Hopkinton with 800 buses transporting 37,000+ runners took 2 and a half hours.

Once in Hopkinton, the runners were directed to the "athlete's village". The village was comprised of several huge tents with thousand of runners cramped

together on damp ground. This was definitely not where I wanted to be. Luckily we found dry pavement along with several hundred other runners behind a nearby auto shop.

We had about one hour to wait before proceeding to the start. Stretching out my towel and self, I sipped on my Energy Surge cocktail. Race strategy was once again reviewed in my mind. My singlet was tightly pinned to my running shorts, and safety pinned to the inside of my singlet pocket were 5 Hammer Gels. The plan was to take one Hammer Gel at miles 10, 15, 18, 21 and 23 and drink 2



cups of water with each. As it turned out, with the weather as comfortable as it was, there was no problem getting enough liquids.

Before long, we were headed toward the start. This was an incredible sight, one that I will never forget. The road that leads to the start was filled with thousands of runners, all headed toward the same destination. Along the route, hundreds of us were scattering through the neighborhood in search of places to relieve ourselves. One unlucky homeowner, with a heavily wooded lot, had his property covered with human waste.

I knew this was the largest marathon

in history, but nothing had prepared me for the shock I had upon arriving at my starting corral. The road was so jam-packed with athletes we literally could not stretch to touch our toes. My original plan to scoot along the side barricades proved impossible. Too many people!

The energetic and vocal crowd became even more animated when the TV camera atop a cherry picker filmed us just moments before the start. Right on time at 12:00 noon the gun went off! What seemed like an eternity was only 30 seconds of standing, and in just 2:14 I crossed the starting line!

Now was the time to be aggressive. I was positioned all the way to the right. In order to minimize time lost, I chose to run along the grass adjacent to the road. The grassy path was much less congested, but full of other obstacles such as driveways, mailboxes, holes, spectators and guardrails. It was challenge not to fall or twist an ankle I ran like this for the first 2 miles.

As far back in the pack as I was, I ran a 7:05 first mile, and 6:10 for my second. After the third mile the crowd diminished enough to run fairly unencumbered. This was as good a start as I had hoped for. The steady early downhill helped the crowd move well through the first 10K.

During the first five miles I was running with left foot pain and did not feel well. After about 40 minutes, the pain gradually disappeared. (Later that night, the foot pain returned and subsequent X-rays revealed a stress fracture of the 5th metatarsal).

The race was progressing well and I was running very even splits. I caught Doug just before Wesleyen College. He was running steady, felt good, and was going to finish this year. (He ended up with a 2:55 PR).

The 16th mile was a steady downhill. Here I really began to feel the cumulative effect of the mostly downhill course on my legs. At mile 17 the course gradually inclined. This is where I began to lose steam in '94 and I was determined to avoid a repeat performance. Maintaining my form and staying focused, I continued

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NOW AVAILABLE FROM E-CAPS - TORQUE BARS

As you may or may not know, I am very picky about which energy bars I make available to E-CAPS' customers. Until now, we have only offered the BTU Stoker and Balance Bars. I still think the BTU Stoker is the best Power Bar style bar in that it has similar taste and consistency. More importantly, it does not contain high fructose corn syrup like Power Bar does. However, I am very excited about offering you the Torque Bars because I think they are far superior to any low fat energy bar. They are without a doubt the cleanest, healthiest energy bar on the market. Torque Bars do not contain any syrups let alone fructose, dairy or wheat ingredients. Made with predominantly crushed fruit, they are moist and taste great. Although they may not be as aesthetically pleasing as some bars, the taste and performance of the bar is really what counts.

Now here's the good part: I have made special arrangements with Paul Maag, the president of Torque Bar, which enables me to offer you these bars for only \$1.19 each. They sell in retail stores for \$1.69 to \$1.79. At \$1.19, you can save about 30% when you buy Torque Bars from E-CAPS. However, please understand that our purpose for offering you these bars at a reduced price is twofold: First, I want to give you this "perk" to say thank you for supporting E-CAPS. Second, Paul wants to increase distribution and use of his bars by the

creme de la creme of hard-core endurance athletes, namely E-CAPS customers. As a side note, if you know of any retailers who sell Torque Bars, please do not ask them to match our price. That is not fair to the retailer and it is not why Paul and I have made this arrangement. On the other hand, if after buying the bars from E-CAPS, you decide that you would like your favorite retailer to carry Torque Bars, at the suggested retail price, please give them Paul's Number (800) 861-9004.

The following information on Torque Bars was gleaned from their literature:

The Torque Bar was first introduced in January of 1994. In a little over two years, it has become a favorite of the natural and whole foods crowd as well as a lot of endurance athletes like yourself. With over 1,000 U.S. retailers stocking them and distribution in Japan and several other foreign countries, Torque Bar is here to stay.

Torque Bar was developed by cyclists who grew tired of eating corn syrup encrusted, chemically laced, athletic energy bars. Torque Bar is unique, not another copy! It was developed and tested by athletes in the harsh southwest desert environment. Torque Bar has excelled beyond expectations.

Torque Bar provides your body with a three part energy enhancement. First, during manufacturing, the condensed fruit is partially crushed to release naturally present fruit syrups. Second, individual fruit cells that survive the crushing process are digested later for an intermediate energy source. Third, direct ATP formation is stimulated by the

fructoligosaccharides present within the Torque Bar formula.

FOS

Fructoligosaccharides from the Jerusalem Artichoke are incorporated

*"To put it simply,
Torque Bars have real
fruit, taste great and
really work!"*

into every Torque Bar. These expensive natural energy enhancers have been touted as the athletic enhancing miracle of the 21st century. The fructose polymers (FOS) contained in the Jerusalem Artichoke tuber have been demonstrated to help sustain blood sugar levels.

Fructoligosaccharides naturally stimulate bifidus bacteria in the intestinal tract for improved digestion and sustained health. Increasing the colony of these "good bacteria" are also a source of B vitamins as well as lowering of cholesterol, reduction of blood pressure, improved intestinal health, and a secondary source of ATP (adenosine triphosphate), the active energy source of the human cell.

Torque Bar contains no milk protein or other animal products. Only expensive soy protein isolate is used to provide a protein source to repair muscle tissue and other body protein needs. Oat bran in the formula provides additional fiber enhancement as well as benefit in cholesterol reduction.

After two years of testing in the southwest desert, athletes found Torque Bar to be superior for intense athletic events and

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BALANCE BAR UPDATE

By the time you read this, Balance Foods, Inc., formerly Bio-Foods, one of the marketers of the 40% carbohydrate 30% protein and fat energy bars made popular by Barry Sears, will have introduced their newest flavor along with other minor updates to go along with their corporate name change. The other changes include new graphics for the wrappers and boxes, change in bar size, changes to the ingredient deck, and a change in the number of bars per box. All of these changes represent the earnest efforts of Balance Foods to make their product even more competitive with other 40/30/30 bars such as PR as well as the plethora of high carb bars that now permeate the market.

The most significant of these changes is the addition of a new flavor - one that, like the current Toasted Crunch, won't melt and get all messy above room temperature. The flavor is called mocha, and it tastes like a mocha. Very chocolaty but also like coffee too. The consistency is soft and seems like it might get messy in very hot weather, but I can't say because we have not had anything warmer than the low 70's.

Balance Foods is also updating the wrappers and boxes so that they will be color keyed by flavor. This is intended to make it easier for retailers and consumers to distinguish one flavor from another. They also claim that the graphics are superior to those of other energy bars.

The ingredient changes which are universal for all existing flavors and the newest flavor are minor and would be more accurately described as deletions. These

changes or deletions seem to be more focused on improving shelf life and stability of the product rather than any recognizable benefits for you, the consumer. The ingredients eliminated from the formula are primarily B vitamins such as B6 and B12 as well as vitamin K1, vitamin D3 and dicalcium phosphate. We are only guessing on the motives, but these vitamins can go rancid easily which shortens shelf life.

Even with these changes, it must be pointed out that five of the first six ingredients in these bars are sugars. After protein, the ingredients in descending order of amount are high fructose corn syrup, high maltose corn syrup, honey, sugar and sorbitol syrup. Chicory Oligofructose is also added, bringing the number of sugars or sugar compounds in these energy bars to six (6)! For an in depth article about fructose and refined sugars, see Endurance News #11.

The last bit of changes for the Balance Bars are a slight increase in the size of each bar and the number of bars packaged in a box. The bars have gone from 48 grams to 50 grams and will now come in boxes of 15 instead of 14. Both of these changes are reflected in the price. So, instead of \$19.95 for a box of 14 bars, E-CAPS will now sell Balance Bars for \$22.95 for a box of 15, which works out to \$1.53 per bar.

What this all means is that if you buy 40/30/30 energy bars, you should be buying Balance Bars from E-CAPS. If on the other hand, the wrapper of the bars you are buying says PR*Bar or Bio-Zone Bar on it, you are simply paying to much. ■



**Happy
4TH
OF
JULY!**

**Thursday
July 4, 1996**



ARE YOU SUFFERING FROM A PROTEIN DEFICIENCY? Part II

(Reprinted from issue #2 of Endurance News)

Let me say it one more time; If you are experiencing a feeling of over training characterized by excessive fatigue, slow muscular recovery, crankiness and/or poor immune function - you are protein deficient!!



In the first part of this article I raised the issue of chronic protein deficiencies among endurance athletes and discussed some of the myths that have led to this situation - including the infamous 70% carbohydrate diet. Part I concluded with the recommendation that you set a goal of eating 1/2 gram of protein per pound of body weight each day. For most of you, this is going to represent a significant change in your dietary habits.

So, part II of this article is dedicated to explaining in more detail why you need more protein and how you can easily get the extra protein with some relatively painless changes in your diet.



RESEARCH CONFIRMS IT

In case you were wondering what kind of documentation there is to support my ideas about protein requirements, you're in luck. In 1992 Richard Kreider, Ph.D. presented his findings on protein needs of endurance athletes to the American College of Sports Medicine. His research indicated that athletes do break down muscle tissue during intense endurance training. Furthermore, he demonstrated that replacing the protein had a positive effect on fatigue, moodiness and the immune system. Kreider, who is director of the Wellness Institute and Research Center at Old Dominion University in Norfolk Virginia, studied the effects of hard training on protein breakdown, mood disturbances and immune status in college swimmers. Since the research was funded by a company that sells



amino acids, the protein source used in the research was a group of 3 amino acids called "Branched Chain" or BCAA's (See accompanying article for more on BCAA's and amino acids).

After a month of training, the swimmers who had used the protein supplement experienced less muscle breakdown than the placebo group. By measuring nitrogen waste levels, which is a by product of muscle tissue breakdown, the research showed that the levels were 37% lower in the swimmers who used a protein supplement compared to those who took a placebo. Additionally, the swimmers who used the protein experienced less mood swings and improved immune response.

John Ivy, Ph.D. of the University of Texas at Austin also did a study which examined protein given after endurance exercise. His test involved cyclists doing a 2 hour time trial, then immediately after the time trial, each cyclist was given one of three mixtures; Carbohydrates, protein or a combination of the two. Blood samples and muscle biopsies revealed that the carbohydrate-protein combination produced muscle glycogen 38% faster than the carbohydrate alone. Protein only produced glycogen at the slowest rate.

These studies and other research demonstrates that endurance athletes in heavy training need about 50% more protein than recreational athletes. Specifically, this translates to .54 grams of protein per pound of body weight. So if you weigh 165 pounds, multiply that times .54 and you come up with 89.1 grams of protein as your daily requirement. This is more than twice the USRDA for adults and is probably quite a bit more than you are accustomed to eating. Also keep in mind that this amount of protein is only for maintaining the muscle mass you currently have. If

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(PROTEIN DEFICIENCY from page 8)

you want to add muscle, in the off season for instance, you will need to increase your protein intake to .75 grams per pound of body weight to get the most out of your strength training.

Now that you know you are suffering from a protein deficiency in your diet, what are you going to do about it? You basically have two options; You can start using protein supplements or change your diet.

PROTEIN SUPPLEMENTS

Protein supplements come in all shapes and sizes, from amino acid tablets to generic protein powder to so called "metabolic optimizers" and so on. The single greatest feature of all of these various protein supplements is convenience. If you don't have time or the desire to prepare and shop for healthy foods, then using a protein supplement might make sense. However, keep in mind that these supplements are not cheap, some are \$3.50 a serving or more, and that they do not offer anything that could not be attained through normal dietary means.

You should also know that excessive amino acid supplementation can be hard on your liver and kidneys. Countless unfortunate body builders have proven this with their "more is better" mentality. So, don't assume that you can get all of your protein from these type of supplements. However, limited use can help you meet your protein needs without emptying your wallet. My suggestion is to get a generic protein powder consisting of milk and egg protein solids or a soy based protein. These are the least expensive and have an amino acid profile similar to what we find in regular foods. (See related article for more on protein supplements.)

Special note for vegetarians: If you are unwilling to eat meat and/or dairy products, a good quality protein supplement is a necessity. A soy protein powder for meals and a BCAA capsule for immediately after workouts would be ideal. The reason being that it is almost impossible for you to get

adequate proteins from combinations of rice and beans. Besides, vegetarian protein sources are relatively low in mineral content and lack complete amino acid profiles.

CHANGE YOUR DIET

The most economical and healthy way to meet your protein newly realized needs is by modifying your diet. By incorporating protein into most of your meals and snacks, you should be able to reach your desired level of protein without resorting to expensive protein supplements. By dividing your body weight by 2, you will know roughly how many grams of protein you need on a daily basis. By reading labels and becoming familiar with protein rich foods, you should be able to keep a fairly accurate mental tally of your protein intake for the day. For some, writing what you eat in a diary may be better for judging your daily protein intake.

The best overall approach is to eat a balanced combination of carbohydrates and protein at each meal and snack. Things like yogurt, cottage cheese, soft boiled eggs with toast and milk with fruit or cereal for breakfast. Turkey or chicken sandwiches with a green salad for lunch. Tuna, packed in water, with kidney and garbanzo beans on a bed of lettuce with light salad dressing is a favorite meal or after noon snack (See recipe on page __). Dinner should almost always include a complete protein from animal or dairy sources. However, lentils, kidney beans and vegetarian protein sources can be substituted for added variety. You can also keep a couple of hard boiled eggs and baked potatoes in you refrigerator for a quick snack anytime you need it.

Hopefully, this article has helped you realize how important protein is to your health and achieving maximum performance from your body. A more comprehensive diet with suggestions for breakfast, lunch, dinner and snacks is available free of charge from Endurance News. Just drop us a line and we will be happy to send you a copy. ■

(BOSTON MARATHON from page 5)

passing people. The uphill actually felt better than downhill and I did not lose much time the last 6 miles.

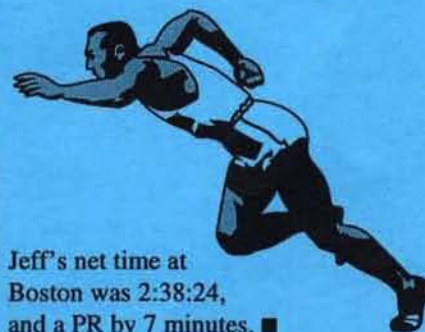
Running the last quarter of a mile was terrific. Slightly downhill and with the finish line in sight, I knew I had run a very good race. At the finish were dozens of volunteers congratulating the finishers. As I thanked one of the women volunteers, my eyes welled up with tears. It was that rare and wonderful feeling, knowing you had done your best, and accomplished your goal.

All the training and sacrifice was worth that feeling of accomplishment. As in all imported things in life, it's the journey that makes the destination worthwhile. Boston was a worthy destination. I'll always remember my Boston experience. Not only was it a truly historic event, but also a very personal experience, filled with pain, joy and triumph.

ABOUT THE AUTHOR

Jeff Cuddeback was the overall 1992 Triathlon National Amateur Champion and the 1993 Triple Crown Winner, winning the 35-39 age group at the National World and Hawaiian Ironman Championships. He was named Tri Fed Amateur Athlete of the Year in 1993. Jeff holds Masters Degrees in Industrial Psychology and Exercise Physiology. He personally coaches triathletes of all abilities. He is Director of Future Tri Camp Camps held in Clermont, Florida.

Jeff lives with his wife, Kim, and their 3-year-old daughter, Maris. He is Office Manager and Rehabilitation Director of his wife's chiropractic practice. For information on Tri Camp or coaching, Jeff can be reached at 407 774-1147.



Jeff's net time at Boston was 2:38:24, and a PR by 7 minutes. ■

First of all, what is a stimulant? According to Webster's New World Dictionary a stimulant is defined as "any drug, etc. that temporarily increases the activity of some vital process (in the body) or of some organ". Expanding on that definition, stimulants are foreign substances which, when ingested, causes the body to react by trying to flush it out of your system. To do this, it excites the central nervous system, which in turn accelerates metabolism, respiratory and cardiac function as well as all of the other physiologic functions in the body. You certainly get a perception of increased energy, but in the process you are also stressing your body (nutrient depletion, tissue breakdown, etc.) to an even greater extent that you would under normal training conditions.

The problem with using stimulants to enhance training is that they do absolutely nothing to improve recovery. I am sure that I don't need to remind you how important recovery is in the training process. I could even argue that it is THE most important factor. It is not difficult to follow a scenario where you train harder and harder using a stimulant to enhance your workouts and for a few weeks, you think things are going great. Then, before you know it you've dug yourself into a hole and you're overtrained, sick, injured or worse. Using stimulants only on race days is not much better because it is very difficult to train at one level and expect to jump up to another level on race day. It is a hit and miss proposition at best and you still risk illness, injury or coming up short and hitting the wall before the finish.

Another area of concern when using stimulants in training or racing is their diuretic effects. A diuretic increases fluid loss through increased urination and to a lesser extent increased perspiration in hot weather conditions. You probably know how important proper hydration is to your performance and how difficult it is to avoid dehydration in hot weather. Taking caffeine and other stimulants in hot and/or humid weather may exacerbate the

problem of dehydration and electrolyte depletion, both of which can put you in the medical tent with an I.V. in your arm. If you're lucky, a couple of bags of I.V. solution and a mean headache will be the extent of the repercussions from such an incident.

To understand why stimulants are commonly used by athletes, we should step back and look at the big picture. Stimulants, lead by caffeine, are widely used and accepted in this country and around the world. The proliferation of coffee houses and drive thru espresso stands has got everyone drinking these tasty, but potent, caffeine concoctions. Caffeine is one of the last "acceptable" drugs that people can indulge in without being outcast or sent to a drug rehab center. If a coworker or friend drinks espresso or some other coffee excessively, most people would think nothing of it. And almost no one would say that person has a drug problem. In fact, that person will probably get a pat on the back for being such an energetic, hard worker. But, caffeine and many other stimulants share a common characteristic with illicit drugs; They are very addictive.

Shifting the focus from the general population to athletes, we see much of the same behavior and even more common use in many instances. Among many cyclists, the pre-ride espresso, latte or a stiff cup of home brew is almost a ritual if not an accepted aspect of our subculture. For example, the Wednesday

morning group that I used to ride with met at a cafe and about half the riders would have a big coffee, mocha or latte before going out and hammering for three hours. This is probably true for most of you who ride with groups as well. In the professional ranks of many endurance sports, stimulant use is even more widespread.

Then there are the new and existing stimulant based products being marketed to athletes with names like Buzz Gum, Turbo Charge and Race Pace that promise to energize your workouts and propel you to new "highs". These products feature the most powerful of stimulants such as ma huang, guarana, caffeine from cola nuts and several others in the stimulant family. With products like these and their misleading advertisements, it is no wonder that stimulant use is rising instead of decreasing.

Certain people might disagree that the use of powerful, competition banned, stimulants such as ephedra (ma huang) brings with it a degree of danger for the athlete. But when you combine these types of stimulants, with various factors including amount used, the level of stress and the health condition of the athlete, there is a potential for harmful, if not fatal, results. But what about coffee? We have heard that it is a legitimate performance enhancer and the down sides are minimal. I would disagree, citing the diuretic and other side effects. You may have also read that caffeine increases your body's ability to burn fat. While



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this is true, there are several lipotropics (fat burners) such as L-carnitine and choline to name a couple, which will work just as well or better and have no down side.

Here is some information on coffee and caffeine that you may or may not be familiar with. Based on fairly conclusive research, here is what we know about the health risks of coffee and caffeine; Coffee is highly addictive. An "addict" who stops drinking coffee may experience withdrawal symptoms including excessive fatigue, headaches and irritability. We also know that the oils in coffee tend to raise cholesterol levels. Caffeine in the system makes it much more difficult for your body to absorb calcium. It may also contribute to heart disease and high blood pressure. For women, excessive caffeine can contribute to infertility and miscarriages. Heavy coffee drinking will also tend to stain your teeth and may contribute to gastrointestinal ailments because of increased acid levels.

As I said earlier, I am against the casual use of stimulants by athletes or anyone else. If you enjoy an occasional cup of coffee, no problem. Your body can handle just about anything in moderation. However, I would caution you to keep your coffee intake to a minimum and try to wean yourself of it slowly instead of going "cold turkey". Also, don't make the mistake of thinking that drinking decaf will solve the problem. Decaffeinated coffee still contains the same oils, acids and dozens of other chemicals which may contribute to or cause the ailments described earlier.

If you are considering or are already using stimulants to enhance your performance, you need to give much thought to the question of whether the temporary, some would argue negligible, benefits are worth the extra stress on your body and the potential health problems that can result from stimulant use. I hope you will decide to choose other, safer and healthier methods to enhance your athletic performance. ■

(TORQUE BARS from page 6)

training. Torque Bar contains a higher moisture content than all of the leading bars. Cyclists and runners have found that Torque Bar can be used while their body is highly aerobic without experiencing "Dry Mouth Syndrome".

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WHY FRUIT IS BETTER

THE ORIGINAL FOOD SOURCE

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Today, modern medicine tells us that what was old is new. New study's of fruits and vegetable find that they are packed with "Phyto Nutrients" many of which are antioxidants. This is only a very recent discovery, since the chemical process to isolate these life giving nutrients is less than 10 years old! Contrary to what many may think, these nutrients are not what we refer to as "vitamins". For example, it is estimated that the tomato naturally contains 10,000 different phyto nutrient chemicals.

All fruits and vegetables are made up of individual cells. These cells encapsulate carbohydrates. When we eat fruits and vegetables, some of the cells are broken in the chewing process, and are readily available for our body to use as energy. However, many of the cells survive and are swallowed whole. Our stomach acids and digestive enzymes then work in the cellular walls of the fruit, finally making the carbohydrate available after this delay. This delay helps the body to resist the "sugar high" that results in the consumption of candy and other sugar

products.

TORQUE BAR: WHOLE CRUSHED FRUIT BASE

In the development of Torque Bar, we used only the latest studies and the best ingredients to make a great tasting energy bar. Torque Bar costs more to make than any other leading bar on the market. Only the finest ingredients are included in Torque Bar. For example, blueberries (in blueberry Torque Bar) are full of Phyto Nutrients. California Dates make a much better tasting base than corn syrup and as we have discussed, is much healthier.

ATHLETES CHOICE

The Torque Bar was designed to be high in moisture! In fact, Torque Bar contains 13% moisture. Most other leading bars contain approximately 2% moisture. When performing an athletic endeavor the body needs hydration. Dry viscous products such as the leading bars are undesirable because they take moisture away. Torque Bars were tested by National Offroad Bicycle Association racers in the heat of the southwest desert. It was found that Torque Bar could be eaten even without chewing with great results. TRY THAT WITH A CORN OR RICE SYRUP BASED BAR! ■

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(PHYTO-MAX continued from page 2)

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Endurance News Mission Statement

The objective of Endurance News is to provide you, the serious endurance athlete, with a valuable resource that you will find to be informative, educational, thought provoking and helpful in your ongoing pursuit of optimum performance and health.

Endurance News features insightful articles on diet, nutrition, training and other topics of interest to endurance athletes - Written by myself as well as professional and elite amateur athletes, and other experts in the area of nutrition and exercise. In addition, EN will include articles highlighting new and existing E-CAPS products and how to get the maximum benefits from them.

In reading this and future issues, please remember that the views expressed in this publication will always be biased in favor of a healthy diet, hard training that emphasizes quality over quantity, and prudent supplementation to improve health and performance. But above all, we at Endurance News believe there are no short cuts, and success can only come from hard work.

Brian Frank
Editor

Legal disclaimer: The contents of Endurance News are not intended to provide medical advice to individuals. For medical advice, please consult a licensed physician. ■

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