Phosphatidylserine (PS) has recently been studied as a phospholipid for use by athletes as a means to lower post-exercise cortisol. PS is marketed as a "cortisol blocker."

Research indicates PS may decrease the 24-hour peak rise in post-exercise cortisol levels, thereby possibly being an anabolic agent. The theory is: the less corticoids released, the lower the muscle catabolism may be after exercise. Several studies show this, but only for the immediate 24-hour post exercise period. None of the studies indicate the implications of lowering post-exercise cortisol for extended periods.

Monteleone et al., (1990) collected blood samples before and after the exercise for plasma epinephrine (E), norepinephrine (NE), dopamine (DA), adrenocorticotropic (ACTH), cortisol, growth hormone (GH), prolactin (PRL) and glucose determinations. Blood pressure and heart rate were also recorded. Physical stress induced a clear-cut increase in plasma E, NE, ACTH, cortisol, GH and PRL, whereas no significant change was observed in plasma DA and glucose. Pretreatment of IV-dosed 50 and 75 mg BC-PS significantly blunted the ACTH and cortisol responses to physical stress.

Sumikawa et al., (1993) indicated both "physical training and acute exercise decrease phosphatidylserine and polyunsaturated fatty acids in erythrocyte membranes, possibly due to lipid peroxidation, suggesting limited enhancement of erythrocyte defense mechanisms in adaptation to chronic oxidative stress."

REFERENCES


Sumikawa K, Mu...
CARBOHYDRATES can be both good and bad. A diet should be built around your protein needs. Carbs and fat are also important, but your body craves and desperately needs them to be present in your diet. Any time you find yourself eating the same thing all the time, you are not eating optimally. Your body craves and desperately needs variety.

BALANCE & VARIETY
Your body craves and desperately needs these to be present in your diet. Any time you find yourself eating the same thing all the time, you are not eating optimally.

SUGAR, SALT, DAIRY & REFINED WHEAT
The less you eat, the better you will feel and the healthier your body will be.

PROTEIN IS KEY
Carbs and fat are also important, but your diet should be built around your protein needs.

CARBOHYDRATES
Carbohydrates can be both good and bad. Since most people tend to lean towards bad carbs instead of good, this area might take some work. Sugar and refined wheat based carbs are the enemy.

FRESH, WHOLE FOODS ARE GOOD - PACKAGED, PROCESSED FOODS ARE BAD
Whenever possible, even at extra expense and time, we should seek out good foods and avoid the bad.

FAT IS OK
Dietary fats should not be avoided or embraced, they should just be allowed to find their way into your diet. Since most people, including athletes, believe that they are following a 40-30-30 diet, eat too much fat (the ones Dr. Bill has done computer dietary analysis are eating as much as 60% of their calories from fat), you probably don't need to go looking for fat to add to your diet. It is usually a naturally occurring component of proteins. If you need more, raw nuts and vegetable fats such as avocado, olives, olive oil, etc. are best.

BUILDING YOUR DIET
Start with protein. You want a minimum of 1/2 gram per pound of body weight each day to maintain your current level of lean muscle mass. If you are trying to add lean muscle mass and doing the necessary resistance training, your protein needs will increase to 3/4 to 1 full gram of protein per pound of body weight. So, if you weigh 150 pounds, 75 grams is your daily minimum and 150 would be a maximum. In order to accomplish this you will need to eat a variety of proteins three times each day and possibly a protein rich snack between meals. Protein supplements of the Whey and or SOY variety can be added to simplify reaching your daily goal.

Next, add your carbohydrates - The goal is at least 6-9 servings per day of high quality fresh fruits and vegetables (organic whenever possible). Again, you need to eat fruits & vegetables with every meal and as snacks in between. The next group of carbohydrates are whole grains and rice. Oats, various different types of rice and more esoteric grains, along with potatoes, sweet potatoes and yams should be the bulk of your starchy carbohydrates. (Please notice that refined wheat products such as bread and pasta are not included here.)

Lastly, you have your "treats." These are the goodies that you allow yourself in extreme moderation as a reward for being such a good eater. It might be something truly wicked like a piece of chocolate or a bowl of ice cream or it might be something that may be a staple in your current diet like a big bowl of wheat pasta or a sandwich made with extra sour dough bread. These treats can be consumed once or twice a week or there about.

TOTAL CALORIC INTAKE
This seems painfully obvious, but needs to be stated anyway. The more you exercise, the more calories you will burn and thus the more calories you will need to consume. However, don't always let your appetite determine your caloric intake. It's far better to use the scale. Measure your weight at the same time each day and record it in your training diary. Achieving a constant weight is the obvious goal. Sorry, no charts saying "if you exercise this many hours a day you need this many calories." Counting calories is a distraction that most of us don't need in our lives.

WEIGHT LOSS
The only way to lose weight is to burn more calories than you consume. That is easy to say and quite a bit harder to actually live. However, in addition to this axiomatic truth, the type of calories and the time of day that you consume them can contribute to weight loss or weight gain. I have found that the best way to lose weight, especially while training is to eliminate some or all of the starchy carbohydrates from your diet. You may feel hungry all the time for the first 7-14 days, but you will lose fat weight without sacrificing a lot of lean muscle mass. Above all, don't be a slave to your appetite. Remember, it is your eating habits that determines your appetite. Don't let your appetite convince you otherwise.

MISCELLANEOUS
Ideally, it is better to consume the majority of your calories in the AM and midday/early afternoon hours. You should try to avoid eating after 7 PM. You should never skip breakfast because it gets your metabolism fired up for the day; it really is the most important meal of the day. Likewise, eating your last meal by or before 7 PM and doing some light exercise afterwards, even a 20 minute walk, will give your body time to metabolize those calories before going into a restive state when excess calories are more likely to be stored as fat.
The purpose of this article is to review the "basics" of how good digestion should occur to those of you who have no gastric stress problems as well as those who do. Several distinct practical applications for improving fuel economy and/or replenishment of the depleted macro- and micro-substrates required for your optimal health and maximal endurance performance are discussed in their simplest, easiest-to-understand, relative terms.

HOW HEALTHY DIGESTION OCCURS
When food enters the mouth, signals are passed to the salivary glands, located in the mouth, as to what mixture preparation of the enzyme, ptyalin, to generate for the initial digestion of masticated carbohydrates. These signals are also interpreted by the stomach to prepare an exact-matching Hydrochloric Acid (HCl) pH to assist breakdown of incoming proteins and dietary fibers.

CHEW IT WELL
The more you chew your food, the more effective are these transmitted chemo-signals interpreted for your maximal-efficient digestive rate of absorption. Chewing too little will cause undigested foods to pass into gastric channels putrefying in time and contributing to premature fatigue-like symptoms.

Gastric HCl production decreases with age. If you have digestive problems, taking an antacid may contribute to flatulence relief, but it may also decrease the rate of digestion. Most health care professionals have a simple test method for determining HCl production; patients swallow a small pill attached to a light string. The pill is then retrieved and its color will indicate stomach acid level. If your digestive enzymes are gastric-poor, health food stores supply combine-supplement products containing protease, lipase, and amylase for digestion of proteins, lipids, and carbohydrates.

Experimenting with these supplements may take some time to determine which one is best for your metabolic demands. A solution suggested by Meyerowitz (1999) is to stimulate natural secretions (rather depending upon digestive supplements) by drinking 1-3 tablespoons raw unfiltered apple cider vinegar in 8 ounces water just prior to your meal.

As the food passes from the stomach into the small intestine, the pancreas secretes more enzymes (alkaline pH) to further breakdown proteins and carbohydrates. The gallbladder is active here, providing bile for the breakdown of lipids.

PROBLEM #1-Overeating
Most body's digestive systems can only handle at max around 200-250 grams of carbohydrates, after an individual is exercise-depleted. For every 4 grams above a 250 grams carbohydrate intake, 3 grams is routinely converted into fat stores for most of us! Some excess carbs may not be completely digested, contributing to a premature state of fatigue. Eating smaller portions and/or avoiding eating to satisfaction, and resting digestive organs between meals, insures adequate enzymes for the meals to follow, resulting in a higher energy state, translating into enhanced endurance performance upon demand.

PROBLEM #2
When to eat and when not to eat. If you eat late or prior to bedtime, the food tends to sit in warm humid digestive caverns, drawing out and depleting digestive enzymes, without permitting gastric absorption due to it shutting down during sleep. A percentage of the food eaten late in the day may putrefy, causing gas, sluggishness, "fogheadedness," and bad breath.

One should not eat immediately prior to or during: exercise, during intense emotional states, but only while reclining, sitting, and in a mellow-relaxed state. Aerobic exercise between meals, however, will elevate digestive efficiency.

RESOLVING DIGESTION DISORDERS
(less-than-optimal gastric support for endurance performance)

PROBLEM #3
Gastric diseases may be the result of the Systemic ratio of good gastric bacteria vs. bad bacteria. Chronic diseases such as chronic fatigue syndrome, lupus, irritable bowel syndrome, food allergies, flatulence, arthritis, leaky gut syndrome, yeast infections, bloating, skin reactions, and candida overgrowth may result from an improper balanced ratio between good bacteria and unfriendly bacteria growths in the gastric channels.

Candida Albicans is the yeast microbe that lives in all human gastric channels. When Candida overgrows its relationship with our gastric "Friendly Bacteria," several health disorders (listed above) develop. If given time, Candida will develop into a fungus that sends down roots (rhizoids) into our intestinal walls. The 25 foot-long intestinal wall is made up of billions of villi (protrusions lined with capillaries), made to absorb food into the bloodstream. When this forest of mucosal filters becomes irritated with candida and parasitic overgrowths, it begins to breakdown, allowing bacteria and larger proteins into the bloodstream, further causing the immune system alarms to sound, resulting in allergic reactions, premature fatigue, and the systemic response, sickness. Candida and harmful gastric parasites thrive on simple sugars. Eliminating sucrose, fructose, maltose, and all types of "syrups" from the diet tend to "starve" active reproductive mechanics of harmful bacteria. Elimination of harmful bacteria and cholesterol increases when bowel transit time is increased by adding dietary fiber such as psyllium, flax, or chia seeds. These gelatinous seeds will swell up in the presence of fluids, sweeping the bowel walls like a broom. bran, wheat, rice, and oats also make an excellent "Roto-Rooter Cocktail" for a necessary daily cleansing of bowel walls.

Increasing water intake volume further potentiates bowel transit time and the cleansing effectiveness of fiber. Most of us do not drink enough fluids (8-10 glasses/day).

Adding a "Green Product" with high content Chlorophyll (such as Phytomax), wheat grass, algae, or alfalfa has been reported to enhance the healing of irritable bowel syndrome, diverticulitis, colitis, and the dreaded Crohn's Disease.

"Good bacteria" in ratio of "bad bacteria" may

(continued on page 4)
This year more than a few athletes using E-caps and Hammer nutrition products have had some impressive performances and won many championships. Below is a partial list of their results. If we have neglected to include your results, please let us know so that we may include them in the next issue of Endurance News. We would like to extend a sincere congratulations to everyone mentioned in this article as well as to those of you reading this article who had superior performances of your own.

**JULIE KAPLAN** for her brilliant performance in the National Masters Cycling Championships held in Arkansas! 3rd in the tandem road race (with E-Caps sponsored MARGARET THOMPSON from New York...we actually rode as Team E-Caps), and 3rd in the crit.

**MIKE FREEMAN**: 1999 National Critérium Champion and USCF district 5 crit champ too!

**KERRY MAXWELL**: Bronze medal in CA state championship individual time trial in the master 50-54 category.

**DAVE PATTEN**: Florida State Olympic Sprint Championships. A teammate, who is also his coach and Dave (total age 165 years) took the Silver medal in the 135+ age group, missing the Gold by only .06 seconds. He also won two Golds, one in the 500 Time Trial (50-54 age group) and one in the Match Sprints in the Florida State Championships. In the 500 he set another PR at 37.92.

**CINDY GOODMAN** of Landis Cyclery/Toyota, placed 2nd “SILVER” in the road race. At the Masters U.S. Nationals Track Championships in Frisco, TX, Cindy took four Gold medals and set two national time records. At the Masters California State Track Championships in Carson, California, she also took first with the Gold medal in the 500 and 2000 meter. At the Masters UCI Road World Championships in St. Johann, Austria she took the Silver with 2nd place. Her other two Silvers were for the Olympic sprints at the Masters U.S. Nationals in Frisco, Texas and the criterium at the Masters U.S. National Championships in Fort Smith, Arkansas.

**RICK SORENSON** won Gold at Masters Nationals in the 40-44 Road Race and finished 2nd in the 40-44 TT.

Newly crowned 24 Hour Solo World champion **RISHI GREWAL** continued his winning ways just six days later by winning Montezuma's Revenge. The Revenge is a 24-hour endurance odyssey that is likely the world's toughest single day event. Rishi covered 160 miles, climbed 24,980 feet, setting a new Revenge record in the process. After extremely brutal conditions, including the scaling of 14,270 foot Gray's Peak with his bike strapped to his back, and descending in the wrong direction, through harrowing cliffs, Rishi continued to increase his lead all the way to the finish.

**WOODY COX** is doing extraordinary for the 1999 Track Season. He is currently 1st Overall in the season points for the 1-2 Pro at Maymoor Velodrome. He won 5 Gold medals and one Silver medal at the Masters Track National Championships. His Golds were in the Kilo, Sprints, 3000-Meter Time Trial, 4000-Meter Time Trial and the Silver was in the Olympic Sprints.

**TRENT KLASSNA** of the Navigators Cycling Team won all three stages at the Killington Stage Race in Killington, Vermont in solo fashion. It is said that Trent and his Navigator teammates controlled all three events from the starting whistle on day one. Never before has “The Beast of the East,” as the race is known, seen such dominance by an individual rider.

Again, if we have missed your results, please let us know so that they can be included in the next issue.

---

**ENDURANCE NEWS LIST FLOURISHES**

An internet free “chat” group that is sponsored for our customers may be one of the best “free” offers on the internet. Over 149 E-CAPS and HAMMER NUTRITION customers are presently active in discussing health, nutrition, equipment, travel expenses, and all the what-to-do-when scenarios that may contribute to a better endurance performance. Several professional panel experts from multiple backgrounds are available to discuss with you. at no cost. your every concern or question. You may also get the articles that are printed in Endurance News through the chat line. This is an up-to-date method of getting the news right away instead of waiting a month or two for the newsletter to be printed.

To join this list of endurance athletes, e-mail: endurance-request@mailinglist.net. Leave the subject line blank and in the body write “subscribe” without quotation marks.

(DIGESTION continued from page 3)

be supplemented in one's daily diet for balancing the bacterial ratio. Lactic acid “good bacteria” as called by some, “Probiotics,” may come in foods such as yogurt, kefir, sour-krat, or it may be purchased as an encapsulated supplement. Fructo-oligosaccharides (FOS) and whey enhance the growth of the “Good Bacteria.”

Regular routine waste-elimination, solid light-to-medium brown feces and a high-energy state are the outward signs of efficient, healthy digestion in progress.

**REFERENCES**


**My special appreciation to Steve “The Sproutman” Meyerowitz for his assistance with this article.**
There are other HGH benefits realized from oral or nasal supplements that elevate Human Growth Hormone (HGH). HGH precursors, elevated prohormone secretagogues, and HGH itself are in these suspect supplements available from health food stores, gyms, MLM sales meetings, and on the internet. Real rHGH-IV is dangerous to all athletes with an active pituitary gland. “rHGH” is available only by prescription (injection).

HGH is classified as a pharmaceutical drug, strictly controlled by the FDA under state and federal laws and regulations. It is illegal to sell, prescribe, or dispense HGH except through a licensed pharmacy or clinic, and only by a doctor’s prescription. Research studies showing the benefit and safety freeze-dried powdered-form of rHGH have been published, is only given by injection soon after it is dissolved in solution.

**HGH METABOLIC ACTIVITIES**

HGH or Somatotropin has widespread physiological activity, promoting cell proliferation throughout the body. Protein synthesis is increased by elevating amino acid transport through plasma membranes, stimulating RNA formation, activating cellular ribosomes, which increases protein synthesis. HGH decreases carbohydrate breakdown while increasing fuel fats for energy metabolism. Bone, cartilage, and other soft tissues are rebuilt and restructured as a result of HGH activities.

There are other HGH benefits realized which will be named from measured, observed data recorded from research listed below.

FOOTNOTE: Do not confuse anterior Pituitary HGH with steroids, testosterone, or estrogen activities, though there are significant relationships when any hormonal activities occur.

Hypothalamic hormones activate pituitary release of HGH. The pituitary gland then releases HGH into the bloodstream. (This is a complex physiological hormonal mechanism that is not totally understood by science.) HGH has trillions of cell receptors sites throughout the body. HGH is a very large molecule, over double the size of the insulin molecule, supporting its need to be injected for a positive receptor-attaching effect. Like Insulin, but larger by a factor of “2,” HGH is too big to enter gastrically, through the cheek, or under the skin. If this were not so, millions of people suffering from diabetes would no longer need to take insulin by injection! The 1/2 life of HGH is a few seconds after its release into the blood stream by either IV or normal pituitary secretion. It dilutes in solution, rapidly attaching to receptor cells throughout the body in a matter of seconds.

If your body does not require HGH, it produces other brain hormones to block HGH production. The typical 20-year old produces around 500,000 nanograms per day, while a 75-year old may produce only 100,000 nanograms per day. Females, as a group, have higher resting HGH levels, but during prolonged exercise, this difference disappears! Not-so-typical genetically-advantaged athletes (male or female) may produce up to 1,000,000 nanograms per day. The release of HGH occurs in response to exercise intensity. The more duration of exercise or intensity of exercise, the more HGH is released. Certain free-form (by themselves) amino acids increased HGH by crossing the blood-brain barrier, increasing brain neurotransmitters that release somatocrinin, which releases HGH. Those amino acids are Glycine, Tryptophan, Ornithine, Arginine, and a composite product called L-Ornithine Alpha-Ketoglutarate. Use of these amino acids must be applied 3-hours separate or alone, since amino acids in the same class compete for entry across the blood-brain barrier. Taking an amino acid is a natural way to raise the growth hormone response, but taking other proteins reduces the hormone response significantly.

So-called HGH-oral sprays promise to elevate HGH production +50 nanograms, while oral tablet high doses claim +100 nanograms, or between 1/5,000th and 1/10,000th of a beneficial HGH-dose. The justification for such a miniscule dose is nil, neither would it have a measurable effect; little, if any, of the tiny oral spray and oral HGH reaches the blood stream, therefore it has NO effect, good or bad.

**WHO BENEFITS BY HGH PRESCRIPTION DRUGS? ISN'T IT DANGEROUS?**

Replacement HGH is generally prescribed for anti-aging symptomology when the pituitary gland has been determined to have shut down. If the pituitary is still productive, the application of HGH replacement is not warranted. Giving more than that which is needed may be very harmful to the individual. CAUTION: HGH can be very dangerous if not used in safe proper replacement doses. However, if a patient has been diagnostically screened for replacement HGH prescription treatment, several tabulated objective benefits were measured in a clinical study.

The following objective measurements from Scientific Studies published in peer-reviewed scientific Journals were reported only from the application of IV-HGH.*

- 15% average decrease in fat.
- 8% average increase in muscle and lean body structures.
- Improved skin texture resulting in a more youthful appearance.
- Skin 7% thicker.
- Fewer skin wrinkles.
- Increased bone density, reversal of osteoporosis.
- Faster healing of any type of injury, fracture, or wound.
- Greatly enhanced immunity and resistance to infection.
- Enhanced brain function, retention of intellect with aging.
- Improved sex drive.
- Improvement in overall physical and mental well being.
- Improvement in sleep disorders, better quality of sleep.
- Improved exercise tolerance.
- Improved mineral balance.
- Improved mood, with less depression and fatigue.


(continued on page 7)
The only mistake we made was getting a wake up call while still in Mountain Standard Time. We were so focused on Texas that we thought we were on Central Standard Time. "Well," I thought, "if that's the only mistake I make, I'll be really happy...and amazed." At about 4:30 AM on Saturday, July 10th, we departed from the hotel where we stayed at in Hobbs, New Mexico. My crew of my father D.C. and my brother Dave, the UMCA officials Ed Fleming and Lanie Smith and I drove up to the border. At 4:55 AM Central time, I headed east. The weather was unusually and thankfully cool but the winds were not what I expected. I wasn't to know it then, but they would be with me for nearly 320 miles. Still, I had a goal in mind and the toughness of Tom Seabourne's Texas record wouldn't allow for any mistakes or much time off the bike, no matter what the weather was like.

I chose Texas because I felt the distance was a good one for me. Besides, every time I've ridden through the state, it's been after 3-4 sleepless days of RAAM. I thought that perhaps the Texas experience would be a lot better riding it fresh.

The wind didn't seem to let up and the rain was off and on. Still my crew was doing a great job; I felt pretty good, was eating and drinking at regular intervals, so I kept up a good pace. My plan was to ride a strong first 200 miles in order to allow myself a little bit of a buffer, so if I started slowing later on, I'd have that to fall back on. In order to break the record I had to ride a bit over 17 mph. That, in and of itself, would be difficult, but with this wind, I was constantly concerned about maintaining that speed. Since I was pushing hard to get as close to a sub-11 hour double, I was worried that I would sap my energy reserves too soon.

My first 100 went by quickly in 5:04. The winds seemed to pick up and I started to slow slightly. I hit the 200 mile mark in 10:40, still well under my desired goal, but not fast enough, I told myself. I was sure that the next 100 miles, since it was quite hilly, would be a lot slower. However, I managed to reach that 300 mile mark in 16:30. I was averaging almost 18.2 mph and would have to average a bit over 16 mph the rest of the way to break the record. To be honest, I wanted to go a lot faster so that I would have to only average 14 or 15 mph, but I decided that this would be good enough.

When I finally got off of Hwy 180 at the 317 mile mark out of Weatherford, Lanie leaned out of the window and shouted, "it's going to be a great night for riding, and the winds have stopped." Well, they had died down a bit but hadn't stopped. I was so happy to finally be off 180 and was in a good mood but still had to kiddingly reply, "Lanie, look at those flags up there. They're still flapping around a lot. The wind hasn't stopped!" Without missing a beat, he replied, "It's not really windy, Steve. The town folk in all Texas towns stanch the flags on purpose to make it look like the wind's still blowing!" I laughed so hard I nearly rolled off the road.

The night was great, the roads were awesome to ride on, there were small towns every hour or so up the road to focus on, and I made excellent time through the night, rarely dipping below 18 mph. My crew of two must have been getting tired but they never faltered once in their efforts to keep me fed, motivated, and on the right route. I reached 400 miles in 22:23, and at the 24 hour mark I was at 430 miles, a 17.91 mph average. If I could maintain a 15.15 mph hour average the remaining 144 miles, I would just go under the record. I wasn't sleepy but was definitely feeling the effects of my efforts. When the police stopped us in the middle of a deluge, I was a little annoyed, but it wasn't too long before they decided we weren't all on drugs. One of them couldn't resist and looked at me saying, "Boy, I'm sure glad I ain't you!" Yeah, no kidding.

The rain was intense, a real mother of a downpour but it lasted less than an hour. The sky became noticeably brighter by the time I reached the city of Athens. From here on in, I would be on the exact same route I rode in RAAM '91. I'm usually pretty good at remembering a lot of the roads from RAAM but none of this looked at all familiar. Soon the sun came out and it got hot and humid. Really humid. That stuff just drains me and I could feel the heat radiating off the pavement. I reached the 500 mile mark in 27:55 and had to keep telling myself, "Don't think about the end, you've still got a few hours to go. Keep on the same path you've been doing all along. Stay focused, keep the momentum." With only 74 miles to go I finally felt that I could ease up just a little bit, at least mentally, as I only needed to average 13.45 mph to go under the record. However, I felt I owed it to myself and my crew to put out my best effort. This was certainly proving to be my fastest ride ever over this sort of distance and since I wanted to set a record that would be really tough to break, I forced myself to keep up my pace.

Eastern Texas is littered with lots of tough rollers; that much I remember from RAAM. The heat was increasing as was the humidity. My crew made sure I was still eating enough but they pounded the fluids on me. I drank so much those last few hours...

After the last couple tough rollers were crested, I could see the "Welcome to Louisiana" sign ahead. All of a sudden a wave of relief poured over me and I felt all the skin on my body tingle. A goal which seemed so hard to attain and seemingly took a long time to arrive at, was finally here. At 1:14 PM, Central time on Sunday, July 11th, I crossed into Louisiana and set a new record of 32 hours 19 minutes for a distance of 574 miles. To this date, I feel this is the best I've ever ridden and is perhaps the most satisfying ride I've ever done. I would like to thank my crew, the officials, and my sponsors again and again. Without them, this would never have been possible.

And as it turned out, our botched wake up call was the only mistake we made the whole way! ■
HAMMER GEL DEALERS NEAR YOU

Numerous bike shops across the country have gotten wise and started selling Hammer Gel. You now have the option of buying your favorite flavor of Hammer Gel through your local dealer to avoid all shipping and handling fees. Feel free to frequent these shops to purchase your Hammer Gel. Although you may still order gel through us directly, please be sure to support your local bike shop.

(HAMMER GEL DEALERS NEAR YOU cont.)

Speedway Cycle
3013 East Speedway
Tucson, AZ 85716

Renaissance Fitness
4460 La Jolla Village Dr.
San Diego, CA 92122

CyceSport
222 West 2nd Street
Chico, CA

Martinez Cycles
4950 Pacheco Blvd.
Martinez, CA 94553

North Rim Adventure Sport
346 Broadway
Chico, CA

S & J Sports
13624 Norris Ave.
Sylmar, CA 91342

Bill's Bike Shop
225 Harrison Ave.
Leadville, CO 80461

Mid-Valley Athletic Club
1629 Dolores Way
Carbondale, CO 81623

Moo Cycles
117 1/2 North 13th
Boise, ID 83702

Sun Summit South
P.O. Box 3547
Hayley, ID 83702

Bicycle Station
1005 25th Street
Columbus, IN 47201

The Bicycle Shop
3315 Highland Road
Baton Rouge, LA 70802

Peak Performance Sports
59 Middle Street
Portland, ME 04101

Striders
4045 Chicago Drive S.W.
Grandville, MI 49418

Finn Sisu
1841 University Ave.
St. Paul, MN 55104

Great Divide Cyclery
336 North Jackson
Helena, MT 59601

Rocky Mountain Outfitter
135 Main Street
Kalispell, MT 59901

Open Road Bicycles
517 South Orange
Missoula, MT 59808

True Wheel
1628 1st Street
Lincoln, NE 68502

S & W Sports
238 South Main St.
Concord, NH 03301

Sport Loft
141 Root 101-A
Amherst, NH 03031

Health and Fitness
2500 West Albany
Broken Arrow, OK 74012

Fitness Factory
671 Castle Creek Dr. Ext.
Seven Fields, PA 16046

Bicycle Therapy
2208 South Street
Philadelphia, PA 19146

Mountain Cyclery
5 Laemer Square
Ludlow, VT 05149

Tacoma Bicycle
1934 Pacific Avenue
Tacoma, WA 98402

The Radical Edge
386 Queens Street
Fredericton
New Brunswick, Canada

If you work at a bike shop or even own one and you have interest in retailing Hammer Gel out of your store, then please feel free to give us a call (800) 336-1977 and ask for your "dealer sample packet."

HGH IS A PRESCRIPTION DRUG, REGULATED BY THE FDA

If it contains HGH, then the FDA regulates its prescriptive dispersion by law. If it is not FDA-regulated, then it does not contain HGH. After a Physician determines a patient's need for injectable HGH, the minimal dose effects are given in single units of at least 300,000 nanograms or more per day; 350,000 nanograms or 0.375 milligrams equals a single 1-unit of prescription unit of HGH. A 4-unit vial has 1.52 mg. HGH MG or 1,520,000 nanograms.

WHAT 2 MEDICAL DOCTORS SAY ABOUT HGH ORAL-NASAL DOSE PRODUCTS

I don't believe that any product claiming it contains real HGH does in fact contain any growth hormone at all... at least, not any that is going to do you any good... except, of course, recombinant human growth hormone, the kind taken by subcutaneous injection. Your question reads as if you expected that perhaps they are bad... HGH certainly is NOT bad, it is all good and only good, if taken in the proper doses and not abused.

REFERENCES
Ron Kennedy, M.D.'s comment at www.medical-library.net and Dr. G. Browning M.D.'s comment at www.medical-library.net/
Date: July 25, 1999 at 12:52:31
Subject: All HGH Products Aren't Bad, Are They?

Reply: Anyone interested in HGH should read Dr. Cranton's statements, as he is, in my opinion, 100% accurate. There is NO oral or nasal formula of HGH known at this time; there is NO oral or nasal HGH in ANY product. If one wants HGH it is ONLY available in injectable form as an Rx drug.

I have had many patients tell me about HGH products in both oral (sublingual) drop and nasal spray forms for about $90.00/month compared to injectable HGH for $100.00/week. Their "knowledge" comes from a bulk-rate flyer, or unfortunately, from a chiropractor who is selling the product. It's the old story of people believing a Yugo can do the exact same thing as a Rolls Royce at a fraction of the price... IT AIN'T SO. If people want the real thing it's available through an M.D.'s Rx after evaluation, which would include lab work with IGF-1 levels prior to and during therapy.

Rather than listing all the reasons why it's unlikely that a pill or spray that says it contains HGH will help you, please see Dr. Cranton's article at the link below.

REFERENCES
Special thanks to Dr. Ron Kennedy, M.D.
Medical Doctors quotes Reprinted by permission www.medical-library.net/
Reprinted by Permission: Dr. E. M. Cranton, M.D.
Last modified: April 19, 1999.
Send questions or comments to mec@drcranton.com
Dr. E. M. Cranton, M.D Copyright (c) 1999 by Dr. Elmer M. Cranton, MD All Rights Reserved.
Article at www.medical-library.net/
SUGGESTED DOSE FOR E-CAPS & HAMMER NUTRITION PRODUCTS

The dose use for the following products is included below; please keep me informed if you have any problems or negatives with these suggested applications. This dose protocol is positive in 99.9% of the athletes using these products. Let us hope you are not in the 1/10th of a percent or less of those who do not experience positive results. The differential range due to fitness level, gender, age, height, weight, and genetics is +/- 4-7%.

HAMMER GEL (HG)
Take 3-4 servings per hour, “chased” by 1-2 mouthfuls or 4-5 ounces fluid intake. (1 mouthful equals 4-5 ounces fluid)

SUSTAINED ENERGY (SE)
Take 3 scoops SE for each 12-20 ounces distilled water. The more hot-humid weather requires a 20-ounce solution, while the cooler weather may tolerate the 12-ounce solution.

ENDUROLYTES
Take 2-6 Endurolytes every hour with fuel source and fluids. Larger athletes or those who are predisposed to electrolyte depletion or dilutional hyponatremia may want to take 6 capsules mixed with water per hour, while those less predisposed may do well on lower intake. CAUTION: Always shake container vigorously when premixing endurolytes with energy drinks or water because heavier electrolytes tend to settle to the bottom of the container while lighter electrolytes tend to suspend. It is always wise to give trial to dose use during hyperthermic conditions of at least 60% of the race distance at race pace 3-6 weeks prior to a peaked-performance event competition.

PREMIUM INSURANCE CAPS (PIC)
Take 1 packet with evening meal for less intense workout sessions (under 2 hours or less than 75% VO2 Max Rate). Take 1 packet with AM meal and 1 packet with PM meal on those days when doing interval sessions or longer than 2 hour duration.

SUPER AO
During first month take only 1 capsule with post-workout meal; after first 30 days use, take 1 capsule with AM meal and 1 capsule with PM post-workout meal.

TISSUE REJUVENATOR (TR)
Take 2 capsules with each of 3 meals per day during symptomatic stress, then take for 7-10 days post asymptomatic stress (after pain is gone), then discontinue unless pain or symptoms return. Save them for when you need them.

ENDURO CAPS (EC)
Take 4 each 90 minutes prior to workout and again every 2 hours during workout (2 per hour).

RACE CAPS (RC)
Take 2 each 90 minutes prior to workout and again every 2 hours during workout (1 per hour).

LIQUID ENDURANCE
For hyperthermic events only in a 3-day loading format during “Taper” prior to the event. Take 2-3 tablespoons then sip 24 ounces water for 3 hours, then repeat this process 3 more times each day for 3 consecutive days prior to the event. If you workout to stay loose, fine, but do not go beyond an easy stretching and/or a mild workout as it will cancel the extracellular water stores from glycerol ingestion. LE is not that good for during an event, stick with the fuel and fluid intake that have worked so well for you in the past. It is a good idea to weigh during the 3-day load in hopes of monitoring a 2-5 lb. water weight gain. If you do not gain weight (water) with this product, it is not working in you for the ergogenic advantage from extra water stores and DHA (fuel metabolite from glycerol metabolism during exercise).

The DOSE-variance (+ or -) is between 4-7%, so do not be too shy about varying your dose that amount. Some, if not most, of the above may be preconfirmed-predetermined during training protocols of up to 70% of the race distance at race pace. Larger athletes may need more, while smaller athletes need less.

JOE #2 - BIOCHEMISTRY IN ULTRAMARATHONERS
In the August issue of the British Journal of Sports Medicine, Dr. K. E. Fallon, Australian Institute of Sport in Canberra, and colleagues presented data on seven male and two female ultramarathoners. “Four of them completed 1,600 km, three completed shorter distances in the 16 day period of the event, and one completed over 1,000 km in almost 15 days of running,” according to the report.

Dr. Fallon’s team measured biochemical variables before the run, after 4 and 11 days of running, and at the conclusion of the event.

“Serum sodium remained within normal limits throughout the event, except for one runner in whom it reached a level of 130 mmol/L on day 11,” the researchers report. They find it likely that “...intake of solid food, utilization of glucose-electrolyte drinks, and avoidance of large weight increases are protective factors.”

Other levels of potassium, chloride, bicarbonate, and creatinine stayed within the normal range in the runners. The urea concentration was elevated at days 4 and 11 and at the end of the event.

The research team found all serum enzymes tested were significantly higher than pre-event blood values by day 4. These included alkaline phosphatase, gamma-glutamyltransferase, alanine aminotransferase, aspartate aminotransferase, lactate dehydrogenase, and creatine kinase. Values of alanine aminotransferase, aspartate aminotransferase and lactate dehydrogenase were persistently above normal.
Although it is just making its way to the market, Sucralose is not a new sweetener in the USA. It has been researched for over 20 years, and is approved for "safe" use by CSPI (Center for Science in Public Interest). But is this new generation of artificial sweetener really safer than all of the supposedly "safe" artificial sweeteners that have preceded it? To answer this question, let's review some of the facts collectively on the dietary sweetener, sucralose.

Sucralose is supposed to be less harmful than Aspartame, Saccharin, Cyclamates, and Acesulfame-K. The problem with this supposition is that the massive data collected on the former have not been collected on the latter. We may need more research on sucralose based on the number of studies listed below. (BioMedNet)

Sucralose, 2374 studies; Aspartame, 598 studies; Cyclamates, 459 studies; *Acesulfame-K, 28 studies and Sucralose 19 studies.

*(Acesulfame-K was found to cause clastogenic activity [may cause chromosomal damage] in one of its earlier studies, which is why it was reviewed conclusively by only a small amount of research to be a harmful if consumed as a dietary substance.)

Should a dietary sweetener be approved without its being completely tested for long-term toxic side effects in human metabolism? The 19 studies listed in my sucralose search were broken down into the following categories: general analysis-review (9 each), tooth decay (5 each), taste (2 each), clastogenic (1 each)*, diabetes (1 each)* and renal mineralization (1 each).* Only 3* of these studies directly addressed the question of relative health safety of sucralose.

Perhaps the "Scheme" is not to "poison" us, but rather sales of dietary sucralose may be to achieve corporate profits, producing diet drinks, solid foods, or gels from a combination of taste-enhancing qualities and caloric restriction, with less concern for the absolute safety to the general public.

SPLENDA, also known as SUCRALOSE, an artificial chlorinated sucrose derivative sweetener, was first approved in Canada in 1991, then in the USA in mid-1998. Sucralose is 600 times sweeter than table sugar; therefore you use much less than some of the other synthetic low-calorie sweeteners.

Natural health advocates suggest avoiding most synthetic, man-made additives, tainted by unproven, unanswered questions regarding their safety for long-term human use. Earl Mindell, Mark Gold, and myself do not subscribe to the entire "SAFE" additive list published by CSPI, Vol. 26, No. 2, March 1999.

Internationally, millions of consumers have been using sucralose since 1991 in hundreds of reduced-calorie and reduced-sugar products such as carbonated soft drinks, shelf-stable fruit drinks, jams, processed fruit products (e.g. apple sauce), yogurt, and baked goods. U.S. consumers can expect to see more products sweetened with sucralose appearing on supermarket shelves during the next 1 to 2 years. Diet RC was the first USA product with a sucralose sweetening-additive in May of 1998.

Lord & Newberne (1990) were the first scientists to question the safety of sucralose from their published animal research. Specifically they stated, "Renal mineralization is a commonly encountered lesion in old rats and its presence at times complicates the interpretation of data derived from chronic rat studies. The feeding of sucralose, a new and high-intensity sweetener under regulatory review, resulted in caecal enlargement and an increase in the incidences of renal mineralization and pelvic epithelial hyperplasia. These responses prompted a review of the literature focusing on the relationships, if any, between the caecal and renal changes. The literature supports the contention that caecal and renal changes occur frequently in response to feeding poorly absorbed osmotically active substances to rats." If a substrate is poorly or slowly metabolized, consequences may result in living organisms.

Summarized warnings published on the internet on this artificial chemical were first authored by holistic health advocate, Mark Gold, from his website listed at the bottom of this article.

PRE-APPROVAL RESEARCH
Pre-approval research showed that sucralose caused shrunken thymus glands (up to 40% shrinkage) and enlarged liver and kidneys.

RECENT RESEARCH
A possible problem with caecal enlargement and renal mineralization has been seen in post approval animal research. (Lord & Newberne 1990)

SUCRALOSE BREAKS DOWN
Despite the manufacturer's misstatements, sucralose does break down into small amounts of 1,6-dichlorofructose, a chemical that has not been adequately tested in humans. More importantly, sucralose must break down in the digestive system. If it didn't break down and react at all (as the manufacturer claims), it would not chemically-react on the tongue to provide a sweet taste. The truth is that sucralose does break down to some extent in the digestive system.

INDEPENDENT LONG-TERM HUMAN RESEARCH
NONE. Manufacturer's "100's of studies" (some of which show hazards) were clearly inadequate and do not demonstrate safety in long-term use.

CHLORINATED PESTICIDES
The manufacturer claims that the chlorine added to sucralose is similar to the chlorine atom in the salt (NaCl) molecule. That is not the case. Sucralose may be more like ingesting tiny amounts of chlorinated pesticides, but we will never know without long-term, independent human research.

MARK GOLD'S CONCLUSION
While it is unlikely that sucralose is as toxic as the poisoning people are experiencing from Monsanato's aspartame, it is clear from the hazards seen in pre-approval research and from its chemical structure that years or decades of use may contribute to serious chronic immunological or neurological disorders.
It is very important that people who have any interest in their health stay away from the highly toxic sweetener, aspartame and other dangerous sweeteners such as sucralose (Splenda), and acesulfame-K (Sunette, Sweet & Safe, Sweet One).

SPECIFIC SWEETENERS RECOMMENDED TO AVOID:
Gradually reduce or eliminate:
- White Sugar
- Brown Sugar: Brown sugar is usually white sugar mixed with molasses or sprayed with caramel coloring.
- Raw Sugar: Raw sugar is often white sugar with coloring.
- Fructose: Beware the “natural” products with fructose. It’s not much better than white sugar (IMO).
- D-tagatose: Far safer than neotame/aspartame, sucralose, etc., but best used as a transitional sweetener to healthier ones listed above.
- Corn Syrup
- Dextrose
- Artificial Sweeteners (NutraSweet [aspartame], Equal, (Sucralose), Sweetener 2000 / NutraSweet 2000): Avoid these like the plague. Please don’t become a guinea pig for another poorly tested toxic sweetener only to find out years from now that it contributed to the destruction of your health.

Important Note: MSG (Monosodium Glutamate) has some of the same toxicity mechanisms as the toxic sweetener aspartame. In order to cut out MSG, you need to remove foods with the following ingredients:
- Monosodium glutamate
- hydrolyzed proteins (any type of hydrolyzed protein)
- autolyzed yeast
- yeast extract
- caseinate (in many cases)
- “Natural Flavors”

MSG that occurs naturally in tomatoes, cheese, etc. is absorbed and metabolized differently (safely) due to other factors in the food.” Reference is below; I have asked Holistic Health “expert,” Mark Gold, author of the above, to update us on the sucralose safety issue this week. More research is needed to confirm safety issues for general consumption by children, gender, race, disease and the aged.

It is also interesting to note the observed metabolic route of sucralose the environment as described by Labare & Alexander (1994): “During the rapid mineralization in soil of sucralose (4-chloro-4-deoxy-alpha, D-Galactopyranosyl-1, 6-dichloro-1, 6-

(Continued from page 9)

dideoxy-beta, D-fructofuranoside), a metabolic product was formed. That formed product appears to be the corresponding unsaturated aldehyde. During the slow and incomplete mineralization of sucralose in lake water, which was not increased by the addition of nitrogen and phosphorus, the same compound was produced. Bacteria in culture did not use sucralose as a carbon source but did convert it to the presumed unsaturated aldehyde, 1, 6-dichloro-1, 6-dideoxy-D-fructose and possibly the uronic acid of sucralose. Sucralose carbon was not incorporated into cells of two sucralose-metabolizing bacteria or the microbial biomass of sewage or lake water. The chlorinated disaccharide was slowly metabolized by a galactose oxidase preparation.

It is concluded that the chlorinated sugar is acted on microbiologically by metabolism.”

REFERENCES

See the following web pages for more information.
www.sucralose.com/whats.html
www.holisticmed.com/msg/
www.holisticmed.com/splenda/

COMMENTARY
“The chlorinated disaccharide was slowly metabolized by a galactose oxidase preparation, Labare’s conclusion (1994), that the chlorinated sugar is acted on microbiologically by metabolism,” leads me to think the similarity to Saccharin, Aspartame, Cyclamates, and Acesulfame-K of slow or incomplete metabolism may be a warning sign that we need more study of a long term metabolic use applications before concluding it to be a completely safe sweet-tasting substrate for humans.

There now exists some debate over the absolute safety of certain synthetic dietary sweeteners, specifically their accumulative effects in the body, which may contribute to a degenerative disease, premature aging, or eventual death. A relevant question for this query is: Do a few single atoms in a minute compound make that much difference to either ergogenic performance or optimal health?

Oxygen is a necessary element and when we breathe it, 2-5% of it produces cellular free radicals, contributing to lipid peroxidation or deteriorative damages in cell-wall structures. Over the space and time of 30 years or so of inhalation of life-essential O2, the fast 35-minute 10k at age 25 may deteriorate into a slow, labored 50-minute 10,000 meters. (I am not suggesting breathing is also something we need to stop.) Since accumulative negative effects accrue from the natural life-essentials, what effects may result from unnatural synthetic nonessentials?

When 2 atoms of inhaled oxygen are added to one atom of sulfur, sulfur dioxide (SO2) may form. SO2 can be detected by taste at 1 ppm and by smell at 3 parts per million. When SO2 levels increase to 50 ppm, maximum exposure capacity is 30 minutes. When SO2 is increased to 400 ppm, a toxic gas effect occurs, resulting in edema of the lungs, glottis, and death from only limited exposure.* This translates into a minute->4/100th percent of SO2 in typical room air. (*Irving Sax, “Dangerous Properties of Industrial Materials”)

Free chlorine does not occur in nature, but its compounds make it the 20th most abundant element in the earth’s crust. When electrolysis is applied to harmless salt, chlorine and sodium hydroxide result. Dietary sodium chloride (table salt) is necessary for electrolyte requirements (in micro doses). Too much salt in a diet may cause high blood pressure in some predisposed individuals. Too little salt results in electrolyte shortage and systemic imbalances that may turn an event into a “DNF.”

Long term use of a compound containing 3 chlorine atoms adjoined to 3 select positions in a sucrose disaccharide where 2 natural hydroxyl radicals and 1 hydrogen atom once existed is definitively not known. The jury decision on this dietary “chlorinated-compound” safety will tell in time from our use of “human guinea pigs” volunteered by the recent approval (April 1998) by the FDA of “Sucralose” in spite of what I say, or what we know. If this compound is slowly or poorly metabolized in “old rats,” resulting in systemic multiple renal lesions, it may not be the best choice for either old or the young human athletes whose hopes pivot on both optimal metabolic reactions for optimal performance.

One atom in a compound may effect the differences between a slow-normal aging processes, resulting in slight performance degeneration and/or an accelerated aging and rapid performance loss from a premature catabolism from a compromised health disorder. We need to be cognizant and watchful of what we eat, drink, and breathe.
bin, calcium and phosphate were persistently elevated. “Only serum bilirubin on day 4 and serum calcium on days 4 and 11 were above the normal range,” the investigators add. “The significance of a number of the findings such as increases in serum calcium and phosphate is currently not known and warrants further investigation.”

“The most important message for physicians is to understand just what is ‘normal’ in the biochemistry of runners undergoing such exercise,” Dr. Fallon told Reuters Health. “If they are not aware of these changes, the results could perhaps lead them to suspect incorrect diagnoses.”

REFERENCE

COMMENTARY
This article exemplifies the following:
1. Physiological adaptations occur when training stress and preparation is applied to racing ultra endurance events.
2. Some factors that occur in the body cannot be explained at present.
3. Individual differences account for significant variables, suggesting the need for athletes to apply “trial-and-error” science during training in terms of fluid volume, electrolytes, and caloric choices in order to find out “what works best.”

FOODS THAT HEAL
Garlic is a potent antibiotic; broccoli fights cancer. Some of your favorite foods have rebound-response. May resolve this issue in favor of a healthy life. According to researchers at the Chronobiology and Sleep Laboratory in Basel, Switzerland, warm extremities mean that blood vessels in the hands and feet are dilated, releasing excess heat that is redistributed from the body’s core when we lie flat.

The study’s senior author, neurophysiology professor Anna Wirz-Justice, has been doing research in this field for the last five years. In this study, eight young men were given small snacks at one-hour intervals while awake, then given a dose of melatonin, bright lights, or both, just prior to lights out at midnight local time. In another group of 10 men, the subjects got a large, carbohydrate-laden meal in the morning or evening.

By measuring heart rate, core temperature, and temperatures of different body areas, the scientists determined which men fell asleep fastest. They found that the men who received either melatonin (a pineal hormone associated with sleep) or a late, large meal experienced a rapid decline in core body temperature and fell asleep very quickly. However, those who were exposed to bright lights did not experience natural melatonin secretion, and their core body temperature fell very slowly. It took a long time for them to fall asleep.

PREPARATION FOR SOUND SLEEP
In our day-to-day lives, we give our bodies many clues that we’re preparing for bed, such as having a big dinner, taking a warm bath, and turning out the lights. These behaviors trigger melatonin production and dilation of blood vessels in the extremities, preparing us for sleep. And although no one in the study actually donned socks or mittens, the researchers say that heating the extremities will give your body the message that you’re ready for bed.

The trick is that you don’t want your feet to remain warm once your core has cooled off. So if you go to bed with socks on or a hot water bottle, you’ll want to get rid of them once your feet are warm and your blood vessels are dilated.

“The most important message for physicians is to understand just what is ‘normal’ in the biochemistry of runners undergoing such exercise,” Dr. Fallon told Reuters Health. “If they are not aware of these changes, the results could perhaps lead them to suspect incorrect diagnoses.”

REFERENCES
“Sleeping Well” at Stanford University @ www.stanford.edu/-dement/sleep.net website. @ www.sleepnet.com/

COMMENTARY
During sleep, human growth hormone (HGH) is produced in nearly as high quantities as during intense anaerobic intervals. During deep sleep, the body obtains repair, rebuilding, and recovery. Major organs slow down accordingly; hormones are set in balance, free radicals are reduced, and general homeostatic balances are set in preparation for whatever physical or mental stress demands from the day are imposed. Sleep is an absolutely essential ergogenic when induced in quantity and quality during intense training protocols. I rank quality and quantity of sleep 2nd only to sound nutritional protocols, which include timing fluids, fuels, and micro-supplements. The key day of sleep prior to a competition is 2 days before…If you lose some sleep the night before an event, the effects are minimal if any.

PROBIOTICS
(good bacteria activity in your colon)
We have discussed this somewhat; here is a link from someone else showing the benefits of supplementing probiotics. If you’ve haven’t, you almost definitely will. These ‘live microbial food supplements’ are the buzz in nutrition circles. Although probiotics aren’t new - their time in the spotlight has arrived. Lactobacillas Acidophilus are typically better initialized than is the Acidophilus Bifidi. Start dose at 1/2 for the first week then go to full dose thereafter, allowing for colonic balanced adaptation.

For more see: www.nutrition.about.com/library/weekly/a071799.htm
of alertness, but it also produces cramps, dehydration, and excessive fatigue response especially during prolonged exercise in the heat.

According to David Schardt (1999), when referring to performance, Ginseng has the worst track record of any popular supplement on the market today. It does not increase energy performance; it does not enhance memory; it does not enhance sexual impotence; it does not relieve menopause symptoms; nor is it shown conclusively to enhance the immune system response. In 1982, the Colgan Institutes found that 95% of all Ginseng supplements were composed of sucrose, not Ginseng at all! Ginseng suppliers have improved since then. Schardt (1999) reported, "Industry Insiders estimate that 15% of all Ginseng ingredient-labeled products contain NO Ginseng at all."

The question of whether or not the product contains Ginseng may be inconsequential, since what one gets from a "real" dose of Panax Ginseng may be NONE of the effects for which it is purchased.

*RESEARCH REFERENCES*


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 health care specialist.