To many of you, it might seem like a long, long time before we offer new products. Believe me, it's not due to a lack product ideas. Dr. Bill, Brian, and I are always investigating and studying new research and coming up with many new possibilities for products. However, before we introduce any new product to you, our clients, we make sure, and I mean ABSOLUTELY SURE, that the product meets all of our many requirements and it will benefit you. Only one in ten of all the possibilities we consider ever makes it from the concept stage to actual product.

Right now though, I'm happy to announce that two new products have met and exceeded our requirements and are now available to you. Both of these products were designed by our Research and Development head Dr. Bill Misner, and trust me, they are extraordinary.

The first one I'm excited to share with you is the long-awaited PERPETUEM. PERPETUEM is the first powdered drink mix we've introduced in over a decade, and I can tell you right now that it was well worth the wait. I was fortunate to test PERPETUEM in my training last summer, and I used it in my successful attempt to become the first cyclist in history to complete a Double Furnace Creek 508. From the first time I tried it, I was convinced that this product had earned a rightful place in the Hammer Nutrition line of superior fuels. It was an absolutely integral part of my fueling during all my long training rides and, of course, in the Double 508 itself.

PERPETUEM represents a major step forward in the evolution of state-of-the-art fuels for use during training and competition lasting two hours or longer. By no means does it replace Sustained Energy or Hammer Gel; instead, it is a perfect complement to those fuels during your longest training sessions and races. Interspersed with my own comments, I'd like to share the information Dr. Bill has provided about this fantastic product, what it contains, and how best to use it.

Why Did Hammer Nutrition Formulate a New "Concept" Drink?

Hammer Gel was designed primarily to fulfill the fuel requirements for more intense endurance events less than three hours at above 80% VO2 Max performance HR. Sustained Energy, used alone or with Hammer Gel, satisfies fuel requirements for endurance events lasting up to 6 hours at a 70-80% VO2 Max performance HR. Until now, no energy formula has been specifically formulated for endurance events lasting from 1-10 days in duration. PERPETUEM is formulated for athletes attempting events lasting longer than two hours, especially when performance rate is kept between 50-80% VO2 Max. For ultra-endurance events, especially those that extend beyond the 12-hour mark, PERPETUEM has no equal.

What's in Perpetuem and How Does it Work?

PERPETUEM contains a remarkable macronutrient profile, which reflects the fuels and substrates recruited efficiently from carbohydrates, fatty acids, and lean muscle amino acids. To complement its macronutrient profile, several micronutrients contribute lipotropic factors for enhancing fat metabolism, glucose-limiting factors to reduce blood-sugar depletion, and a modest electrolyte profile for reducing the risk of muscle cramping and gastric upset.

**Carbohydrate**
As with all our fuels, we never add simple sugars to the carbohydrate profile. Instead, we use a specific maltodextrin in PERPETUEM that provides nearly 87% of its caloric composition in long chain carbohydrates.

**Protein**
A new (Dr. Bill calls it "remarkable") calcium-enhanced soy protein isolate known as "XT" makes up nearly 10% of PERPETUEM's caloric profile, the same percentage that is cannibalized during long, slow...
our mission

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 for 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, Endurance News 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
CEO

Back issues of Endurance News are available online. Point your browser to www.e-caps.com

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.

Dear Client,

Welcome to the 38th issue of Endurance News. This is our biggest issue ever with 16 pages full of useful and interesting information. In this issue you’ll find articles explaining the features and benefits of four new products, two of which are our own proprietary formulae and two of which are from other companies that we are officially “endorsing”.

This issue also features a great little article on changing focus for the racing season by coach Nate Llerandi and a motivational article by a new contributor and long time client, Tony Schiller. You can read all about Tony in the Athlete Spotlight on page 13.

Got a suggestion? I want to remind all of you that I receive and personally respond to all e-mail sent to suggestions@e-caps.com. If you have ANY suggestions that you think would help improved our products, service, support, web site or anything else related to doing business with us, please let me know. Your suggestions and feedback help me keep my finger on the pulse of our market and it’s the best way to ensure that we continue to provide you with the best possible products and service.

Train smart, race hard and most of all, have fun this season!

Brian

iFlora
A Powerful Probiotic

After Dr. Bill’s extensive research in the overwhelming number of “healthy bacteria” supplements available to consumers, we are now proud to add the Sedona Labs product iFlora to our line. iFlora is the most powerful probiotic available, with 16 different valuable strains... a whopping 15 billion viable cells per capsule! For ultimate digestive and intestinal tract health protection, especially after a course of antibiotics, you will simply not find a more complete and powerful aid than iFlora.

Infections, poor diet, stress, overuse of anti-inflammatory medications (NSAIDs), antibiotic use, and even chlorinated water can deplete or destroy the healthy bacteria living in the human digestive system. This can allow undesirable bacteria to flourish and severely compromise digestive function, nutrient absorption, intestinal health, and immunity. Of course, undesirable microorganisms also cause other various infections with their resultant discomfort and fatigue.

Maintaining healthy intestinal flora should be a special priority for athletes. One well-known nutritionist states, “Unhealthy flora can result in the liberation of abnormally high levels of ammonia as protein-containing foods are digested. This irritates the intestinal membranes. In addition, the ammonia is absorbed into the bloodstream and must be detoxified by the liver...” As we know, high blood levels of ammonia are linked to fatigue and every step that can be taken to minimize excess ammonia production and accumulation should be taken. For many, many reasons, one of which is to help prevent excess ammonia production where it first manifests, the wise athlete will make sure the “gut is healthy” at all times.

So while the addition of this new probiotic does not mean that we are discontinuing Digest Caps, it offers even greater protection and support, particularly if you are suffering from candida, poor digestion and nausea, and especially after a course of antibiotics, which destroys both the “friendly” and harmful bacteria. A 2-4 week course of iFlora, with its “mega potent” quantities per capsule, is superb for restoring intestinal flora to optimal levels.

iFlora, which Dr. Bill calls “the ultimate pro-

(see iFlora on page 3)
REM Caps
A New Addition to the E-CAPS Family

In today's stressful world, it's often difficult to obtain adequate sleep. And training increases an athlete's susceptibility to sleep difficulties. In Endurance News #36, Dr. Bill and Nate Llerandi contributed to an article entitled "The Need For Sleep" that outlined the importance of quality sleep for both athletic performance and overall health. Nate called lack of sleep "the ultimate performance killer."

Without question, chronic sleep deficiency will ravage athletic performance and health. To ensure you don't compromise the amount and quality of your sleep, we proudly introduce Dr. Bill's latest creation, REM Caps, a powerful multi-formula that will naturally enable your body to wind down, relax, and fall asleep quickly and thoroughly.

What's In REM Caps and What Do These Nutrients Do?

Valerian Root Extract  Valerian is perhaps the most widely used herb for the treatment of nervousness, stress, anxiety, and insomnia. Valerian is also beneficial for improving circulation, treating high blood pressure, reducing mucus accumulation during colds, relieving muscle cramps, and helping to relieve the symptoms of irritable bowel syndrome.

Melatonin  Melatonin is a naturally produced hormone secreted by the pineal gland, a tiny structure in the brain. Melatonin is responsible for regulating the biological rhythms in humans and is an effective aid to alleviate insomnia. Melatonin provides other health benefits, also. Dr. James Balch has stated that melatonin is "one of the most powerful antioxidants ever discovered" with a greater range of effectiveness than vitamin C, vitamin E, or beta-carotene. Melatonin neutralizes one of the most damaging free radicals, and does so five times more effectively than the antioxidant enzyme glutathione. Due to its antioxidant benefits, melatonin has been shown to be a powerful immune system stimulator, with the potential for helping to prevent certain cancers.

Magnesium (as amino acid chelate)  Among the dozens of roles magnesium plays in the body is its function as a muscle relaxant. A long with the valerian component in REM Caps, magnesium can provide real benefits for anyone suffering from night cramping.

What's In iFlora?

The list of ingredients in iFlora is astonishingly extensive, unlike any other probiotic supplement available. So too is the extensive amount of information available on each ingredient. In fact, there is so much information that space prohibits us from including it here. Dr. Bill goes so far as to say "to include real science on each of iFlora's 16 probiotics, it would take an encyclopedia." We will include a good portion of this technical information in a soon-to-be-added link on our web site. Each capsule provides substantial amount of the following "healthy" bacteria:

- Lactobacillus casei
- Lactobacillus acidophilus
- Lactobacillus paracasei
- Lactobacillus reuteri
- Lactobacillus acidophilus DDS-1
- Lactobacillus bulgaricus
- Lactobacillus acidophilus D D S-1
- Lactobacillus sporogenes
- Lactococcus lactis

Wow! That's some ingredient list! There's no doubt that if iFlora is by far the most powerful probiotic available. iFlora is in stock right now so to order, give us a call at 1-800-336-1977 or via online at www.e-caps.com
endurance workouts. The XT-Soy has had the normally pungent taste of soy removed, but the naturally high cardiovascular-enhancing isoflavone content remains completely intact.

**Fat** A de-oiled "super lecithin" (extracted from soybeans) is ideal for consistently and reliably fueling the body by maximizing energy production from stored fatty acids.

**Flavor** We use Energy Smart™, the healthy sweetener of Hammer Gel, in PERPETUEM; it has a mellow vanilla-orange "Dreamsicle" flavor.

### Additional Nutrients

- **Tribasic sodium phosphate (TSP)**, the main ingredient of Race Day Boost, is included in a specific, hourly-effective dose. TSP is an exceptional buffering agent that neutralizes the effects of excess lactic acid during exercise and helps prolong endurance by balancing the acid/alkaline levels in the blood.

- **Chromium polynicotinate** is a trace mineral that adds a hormone-like regulation to expand efficient carbohydrate metabolism. All carbohydrates are eventually reduced in the body to simple glucose, the body's primary source of energy. Chromium helps mediate the transfer of serum glucose into muscle cells.

- **L-carnitine**, an amino acid cousin, transports fatty acids into muscle cell mitochondria where fuels are burned for energy production. Most of us carry at least 85,000-90,000 calories of energy in fatty-acid stores. If the body is depleted or low in l-carnitine, these fatty acid reserves become unavailable.

- **Choline bitartrate**, a member of the B-vitamin complex, also functions at the cellular level, helping the body access its stored fatty acids for energy conversion.

- **Carnosine**, a naturally occurring dipeptide made from the amino acids histidine and alanine, functions primarily to buffer lactate buildup in muscle structures and also scavenges an assortment of free-radicals.

We included a modest electrolyte profile in PERPETUEM to optimize digestibility of the product. You may have reduced need for Endurolytes or Endurolytes Powder when using PERPETUEM, but don't assume this has a self-contained electrolyte profile. Some, but not all, athletes using PERPETUEM who normally use only 1-2 Endurolytes per hour may be able to go without Endurolyte supplementation. The electrolyte profile in PERPETUEM is approximately equivalent to 1-2 Endurolytes per hour, depending on the individual athlete. Athletes using PERPETUEM should do a trial in training reducing usual Endurolytes dose by 1-2 capsules per hour.

### THE BOTTOM LINE

PERPETUEM represents the final link, never before available, in meeting the body's fueling requirements no matter how long or difficult the exercise session or race. Using PERPETUEM results in state-of-the-art fuel-to-energy transfer during prolonged endurance exercise. Whether your training is 2-10 hours or 2-10 days, PERPETUEM perfectly complements Hammer Gel and Sustained Energy, fulfilling every caloric requirement you could possibly have.

### THE TECHNICAL INFORMATION

I've included the technical information from Dr. Bill, which explains how the combination of specific fats (in the form of monoglycerides) reacts favorably with the specific high-dextrose-equivalent carbohydrate source used in PERPETUEM to help prevent degradation of the fuel and prolong endurance.

Carbohydrates have an affinity for protein. When they react in any kind of moisture they change structure sensitivity toward staleness or what scientists commonly call "retrogradation." The lower the maltodextrin's dextrose equivalence (D.E.), the more likely the longer chain lengths will degrade or crystallize. Greater enzyme and fluid quantity-volume becomes necessary to calorie convert staled-malted-degraded carbohydrate substrates. In the absence of enzyme or fluid availability, such as that found in the depleted endurance athlete during exercise training or events, caloric transformation may be suspended or delayed from the energy cycle. A maltodextrin-monoglyceride complex is formed when the monoglyceride's long hydrophobic fatty acid chain is inserted into the middle of a maltodextrin helix. This action delays long-chain carbohydrate retrogradation in the presence of amino acid substrates. Enzymatic hydrolysis of lecithin produces lyssolecithins in which the middle fatty acid is removed. This allows the lecithin's hydrophobic remaining fatty acid to be drawn into the helix of the carbohydrate for inhibition of retrograded staling. Scanning calorimetry demonstrates that hydrolyzed lyophilized soy lecithin effectively complexly inter-reacts favorably with certain starches. When a lipid-lyssolecithin, with its middle fatty acid removed, is agreeably adjoined or "coated" upon in a gel-formatted starch, it will actively retard the release of free amylase, which will interact with the available proteins, resulting in retrograded staling reaction in time. Such a fuel source hypothetically enhances prolonged performance in nearly 'perpetual' fashion."

Emsulifying free amylase/amylopectins interact with proteins even in a powdered format, resulting in retrogradation; this is called "Stale Bread Syndrome." This syndrome may be prevented by inserting a monoglyceride long-hydrophobic fatty-acid chain into the middle of a starch helix-complex such as amylose or amylopectin. This is why using a deoiled lecithin with its choline and phosphatidylserine(PS) properties that may generate a bigger "energy bang" from carbohydrate and protein consumption during prolonged training. There is a difference in lecithins from their effect on food breakdown during absorption in an exercising athlete's physiology. The lipid-lyssolecithin formulated in Perpetuem acts as lipid-lyssolecithin and agreeably adjoins or "coats" long-chained maltodextrins when hydrolyzed in a solution. This actively retards the release of free amylase, which will halt retrograded staling reaction in time and will delay absorption rate for slow uptake of calories. This adds stability for retrogradation at room temperatures.

### Flavor Change For Liquid Endurance

Not too long ago, our supplier provided a sample of Liquid Endurance in a new flavor for us to try. The raspberry flavor was SO AWESOME that we decided to make the change right then and there. Liquid Endurance is the same exact product as before but now comes in a delicious raspberry flavor, which we know you will love.

---

Athletes...would you like the E-Caps/Hammer Nutrition community to know what you’re up to? Send us a short email to graphic@e-caps.com (please put Race Report in the subject line) about your recent accomplishments and we’ll try to include it in our Race Report.
Come ride with us in Montana! Last August we hosted the first Highline Hammer Weekend up here in Whitefish. It was an epic weekend and all 14 athletes who rode with us were totally blown away by the riding, the food, and the fellowship. It was so much fun and so well received by the participants that we decided to do it again this year-only better.

Please consider this your invitation to join Steve, Dr. Bill, Joe and me for a weekend of long miles, beautiful scenery, good conversation, great food, and valuable class time with our endurance gurus. To ensure that everyone who comes has a terrific experience, we have set a limit of 20 riders. If you think you might be interested in joining us, read on; if you’re already sold, then make your reservation now.

**The Itinerary**

**Friday 8/1/03**
Our weekend officially begins with a 9:00 a.m. breakfast at the Sage Café in Whitefish, followed by a warm-up 40-mile spin around the spectacular Flathead Valley. We’ll return to E-CAPS headquarters for a light lunch and a feast of the best nutrition info you can get: 4+ hours of class time with our staff. We’ll teach you everything you ever wanted to know about fueling, supplementation, and diets, and then answer all of your questions. We’ll cap off the day with a gourmet barbecue/carbo party at 6:00 before retiring early to rest up for the BIG DAY tomorrow.

**Saturday 8/2/03**
We’ll return to E-CAPS HQ to load bikes and gear and take the short drive to West Glacier, the start/finish for the Highline Hammer just outside of Glacier National Park. We’ll roll at 7:00 a.m. and return between 2-4 p.m. This epic ride, a 136-mile loop with 8,800 feet of climbing, traverses Glacier National Park on the legendary Going to the Sun Highway, crosses the continental divide twice, and provides vistas beyond description (see photo). After the ride, we’ll make our way back for another amazing dinner at E-CAPS headquarters. I guarantee you’ll be ready for another early bedtime.

**Sunday 8/3/03**
After breakfast we’ll complete our ride fest weekend with a relatively easy recovery ride around either scenic Flathead Lake (87 miles, 4,500 feet of climbing) or luscious Star Meadows (60 miles out and back from Whitefish, 2,800 feet of elevation). We’ll decide Saturday night which route we’ll do. Lunch will be provided.

**The Price Tag**
We have set a nominal non-refundable fee of $150 per rider this year, due at registration. Everyone who attended last year’s event would certainly agree that $50 a day is an absolute bargain. The fee will help cover the cost of gourmet, semi-organic food prepared by Chef Sonia and the Arnone men, transportation to and from the airport, and throughout the weekend, assistance with bike assembly, sag support on all rides. Angela will again be our photographer to digitally capture the event. Each rider will receive a CD photo album of the weekend. All of the E-CAPS Hammer products you can use during the weekend, a comprehensive tour of our facility, discounts on all on-site purchases and of course no shipping charges will also add to the value of this event.

**Before signing up, here are a few items to consider:**

- We ask for a non-refundable registration to discourage “might comes” who cancel too late for someone else to make arrangements. With only 20 slots open, we need 20 firm commitments.

**To Make Reservations**
We’d love to meet you and ride together! If the Highline Hammer sounds great to you, e-mail us at the address listed below. We’ll reply with a list of hotels and other info you’ll need for the trip. You can also call our toll free number (800) 336-1977 to make your reservation.

See you in August!

highlinehammer@hammergel.com
1.800.336.1977
Dreamsicle ice cream. You’re going to love it! A unique flavor, which is best described as a mixture of orange and vanilla, similar to “Dreamsicle” ice cream. You’re going to love it!

I have been eager to complete and share this edition of Endurance News because it has so much good information and the announcement of two exciting new products, Perpetuem and REM Caps, described in detail in a separate article. I could write page after page about the benefits of these two products, but I’ll show some self-control and keep it to a manageable amount of text.

Two New Products

What can I say about Perpetuem? I was so blown away by this fuel’s effectiveness that I literally begged Dr. Bill to make more for me. I remember several years ago, long before I worked for E-CAPS, when Brian first introduced me to a new fuel called Energy Surge (now known as Sustained Energy). After the first few workouts using that fuel I remember thinking, “Where has this stuff been all my career? This product is amazing!” Well, I still feel that way about Sustained Energy (I can’t imagine doing an endurance workout or race without it) but when I started incorporating Perpetuem into my workouts I became absolutely convinced that I had the right fuel for any length workout or race. Having that fuel, along with the arsenal of other Hammer products, I’ve yet to find any product, similar or comparable. No, we don’t, and here’s why not.

While I always keep an open mind about recently promoted nutrients/products and the possibility of benefits, I’ve learned to weigh the potential benefits of the nutrients in a product versus the known benefits of the nutrients in a product before making a decision. I also learned to make sure that the product in question is worth the price being asked. I even know that I’ve dropped a lot of money over the years testing out various products (can anyone say “pyruvate?”) only to find that most of the time the results I achieved never came close to the benefits claimed. Sometimes I did notice benefits, but the price tag was too high.

After testing dozens of dozens of products over the years (I admit it, I’m a supplement addict), along with reviewing all the available information regarding the nutrients in the products, I’ve yet to find any product, Optygen included, that can compete with Race Caps and Enduro Caps. For both athletic performance and overall health benefits, you would be hard pressed to find anything comparable, and certainly nothing that comes close to the cost/benefit bargain of this foundation pair.

The primary nutrients in Race Caps and Enduro Caps are key substrates the body needs to convert the food and oxygen you consume into energy. In addition, the nutrients in Race and Enduro Caps (especially the CoQ10 in Race Caps) have been proven to have a wide variety of benefits for overall health needs as well. The literature on CoQ10 is astounding in its depth of just how many benefits it provides to the human body, especially in terms of aiding in the prevention of a variety of age-related diseases. CoQ10 alone has had a few books devoted to it and the benefits it provides. Another example is the TMG (trimethylglycine) component in Enduro Caps. TMG aids in lowering dangerous homocysteine levels, which are indicated in cardiovascular disease.

I could go on and on but to get back to the question, E-CAPS does not make anything similar to Optygen because we believe the products we make, especially Race Caps and Enduro Caps are superior to Optygen in both efficacy and value. Take Race Caps and Enduro Caps on a daily basis and you’ll cover a huge chunk athletic performance and general health needs. ‘Nuff said!

New Staff

As our business grows we continue to add to our staff, ensuring that you continue to receive the superior service and support we tirelessly strive for. Our current client support staff consists of Gail, Dennis, Karen, Autumn, and Stephan. They’re all ready to help you with your orders and answer any questions you may have regarding anything order related. Tony, and his warehouse/shipping staff of Stephen, Dave, Wes, and Jonathan are a well-oiled (well, not literally) team whose goal is to make sure your orders are packed accurately and shipped to you as swiftly as possible. You can rest assured that your order gets the “royal treatment” from the time it’s processed to the time it’s loaded on the UPS or FedEx truck. Robin has come on board to assist Joe with the athlete and team sponsorships and to assist me with the handling of event sponsorships. Angela continues to head our graphic department in addition to her role as the head of our PR department. And the newest member of our family, Casey, assists Angela with all facets of her job.

Well! It’s been quite a spring so far and, thanks to you, E-CAPS continues to flourish and grow. As has been Brian’s commitment right from the start, we remain firm in our resolve to provide you with the very best in both products and service. I hope 2003 has been good to you so far and I wish you the very best for a healthy and successful season this year!
**Organic Vegan Food Bar** by Steve Born

The newest addition to the E-CAPS & HAMMER NUTRITION line isn't even one of our products. In response to demand from many of our customers who crave something solid, we've been searching for an energy/food bar that we could feel good about endorsing. We're happy to announce that after many years of disappointing trials, we've finally found one, the Organic Vegan Food Bar.

All of us here at E-CAPS have been using this bar for many months and it was my primary source of solid food during my successful Double Furnace Creek 508 attempt last October. The bars are 100% organic and alkaline forming, with only eight grams of simple sugar (out of 30 grams of carbohydrates) per bar. We've found the taste and texture ideal.

The bar has an impressive ingredient list, especially when compared to other currently available energy or food bars. The ingredients (listed below) are 100% certified organic:

- Almond butter
- Flax seed sprouts
- Soy sprouts
- Quinoa sprouts
- Sesame seeds
- Date paste
- Rice protein
- Rice crisps
- Raisins
- Agave nectar

**Nutrition Facts:**

- Calories: 296
- Total Fat: 14 g
- Saturated Fat: 1.4 g
- Cholesterol: 0 mg
- Total Carbohydrates: 30 g
- Total Dietary Fiber: 1 g
- Sugars: 8 g
- Protein: 15 g
- Sodium: 85 mg
- Vitamin A: 10%
- Vitamin C: 2%
- Calcium: 10%
- Iron: 15%

To call the Organic Vegan Food Bar an energy bar wouldn't do it justice. It is by far the healthiest food/meal replacement bar we've found and it makes an ideal snack. During your longest workouts and races you should continue to use Hammer Gel, Sustained Energy and the soon-to-be-arriving Perpetuem as your primary fuels. However, used occasionally, the Organic Vegan Food Bar is a totally acceptable and very healthy solid food choice.

We retail the Organic Vegan Food Bar for $2.50 each, 12 or more at $2.25 each. This may seem a little high, but compared to the inferior ingredients found in most energy/food bars, the price is more than justified. This product is becoming more widely available at health food stores, where it typically sells for $2.79 - $2.99 per bar. We respectfully request that you refrain from asking any retailers to match our price. Also, please note that that we cannot offer discounts on this product to sponsored athletes or teams.

The Organic Vegan Food Bar is available now and can be ordered direct or on our web site www.e-caps.com or by calling 1.800.336.1977

---

**Nate’s Corner** by Nate Llerandi

This article is over two years old but its message is absolutely valid this spring, and every spring.

**Change of Focus**

Now that the racing season is upon us, the focus on your training should be shifting. You either have peaked in your weekly hours or will do so soon, depending on when your key races are. Also, you will be shifting to more anaerobic work and less aerobic. The majority of your training is still aerobic - 80% or more - but this should be considerably less than during the winter, when maybe 95% was aerobic. With the increase in intensity, there should be a leveling off or decrease in weekly training hours (up to 20%). This decrease in hours compensates for the increase in intensity. If you schedule deliberate recovery weeks every 4th or 5th week, you can get by with more hours and more hard training. If you still don't include rest weeks of reduced hours (around 50-60% of normal weeks) and reduced workloads (90-100% aerobic - below 75%), then you should think about it. Nothing details great fitness like over training.

Finally, it's time to start cutting back on weights. If you've been lifting 3 days a week (hopefully not more than that), then it's time for 2 days. The fall and winter was the time to make gains in your strength. With 2 sessions a week, you should still make some gains. But you need to reduce the amount of weight work you're doing now that you're increasing your intensity in your primary sport(s). Soon, it will be time to reduce your weight routine to once per week, probably in another 4-6 weeks. At that point, the goal is simply to maintain the strength gains you've made, not to build on them. Too much weight work will break you down and keep the muscles from recovering properly as the rigors of the racing season pile up.

Happy Training,

Nate Llerandi

Nate Llerandi is a former national champion class swimmer/world class triathlete. He has been coaching since 1990 and creates programs for athletes of all sports and ability levels. You can contact him at natellerandi@yahoo.com

---

**Zzz... Zzz... Zzz...**
Question: I was wondering what your thoughts are about whether or not emotional stress has a large impact on performance. Does it cause chemical imbalances?

ANSWER: In a past issue of the Journal of Endurance, we reviewed a paper, which dramatically shows how anxiety can inhibit performance outcome proportionate to how high it is permitted to go. Performance best, from a standpoint of evaluating circulatory hormones, is optimal when the subject is most relaxed. My comments on this research preceed the abstract from a paper, which though done on livestock has a remarkable application to humans. If emotions are negative, not controlled, or excessive, performance can be inhibited by up to 30%. In some rare cases, I have seen athletes who were emotionally not controlled fail to finish an event much less perform it at all. Emotional lack of control can result in behavioral reactions, neuroendocrine responses to stress (cortisol in response to an ACTH challenge, catecholamine synthesizing enzymes), health (number of medical treatments, abomasal lesions), and glycolytic depletion rate (glycogen loss in exercising muscle).

We can learn from this research on livestock going to slaughter, though perhaps I am stretching the point in terms of applying it to athletes prior to a race event. With our “Love-Hate” relationship with endurance events, it is remarkably easy to shoot ourselves in the proverbial foot by too much worry, stress, or anxiety prior to an event. If there is some sort of protocol prior to an event for “Gentling Ourselves,” the result will be enhanced glycogen stores and plausibly better performance.

If training performance is consistently better than race results, then stress and anxiety may be hindering physiological glycogen replenishment. Supplemental L-Theanine, 5-Hydroxytryptophan (5-HTP) melatonin, valerian, added to taking a warm bath or sauna, and relaxing 2 hours before sleep may reduce pre-race jitters just enough to preserve the possibility of a personal best instead of a DNF or personal worst.
Finding Inner Confidence by Tony Schiller

There’s a new golf commercial featuring several of the world’s top players boasting about what drives them to excel. It starts with the most famous among them, a left-hander, stating, “I hate losing more than I love winning.” Sound bites like that make great T.V. Our culture admires tough-guy speak. We imagine him getting whopped by that Nike guy and then spending hours at the driving range trying to whack away the awful taste of losing.

The whole ad, and that line in particular, reinforced my belief that very few of us are well served taking our competitive examples from the world’s elite athletes. It may be true that he hates losing, but when he’s focusing on losing that’s also what he’s doing.

It’s a message that often comes from our sports and business leaders. They tell us that winners are tough, losers are weak. We’re led to believe that the top performers are great because they just refuse to lose. We hear how they “sucked it up” and snatched victory from defeat, and that may influence our own approach. It can motivate us to mimic their intensity (“This is a test of my will”) or it can intimidate us to go the other way (“I just want to have fun and finish respectfully”).

In my mind, neither approach is the right model, nor is either very sophisticated. In the first case, by seeing competition as a battle we become prisoners to the outcome and it becomes an all too consuming aspect of our lives. In the second case, we play it safe and settle for lower expectations or avoid racing altogether. We all know endurance athletes who fit into both groups. Not only do they tend to underachieve, they’re also more prone to burnout.

I believe competition is meant to play an exhilarating, not threatening, role in our lives. I expect it to be a lifelong expression with the race serving as my performance art. Like the great actor in a play who seeks to become the character, I want to discover the subtle nuances of competitive mastery that have so far eluded me. The total details are still foggy, but I do know I won’t get there by gritting my teeth and focusing on beating anyone else. Mastery is definitely an internal project.

Let me share a few of the keywords in the process.

Trust
The first is trust. It’s amazing to me how universally difficult it is for us as humans to trust ourselves. It’s so much easier to doubt our readiness, question our preparation, or worry about how we’ll respond to the elements than it is to trust. At the same time, we look at others and assume they share none of our fears! We give them credit for having strengths we lack.

The first skill is practicing taking our eyes and energy off others and focusing internally.

Accept
The second keyword that ties to trust is accept. We do not earn self-acceptance, we choose it. By simply saying, “I accept that I am a gifted athlete,” you begin to believe it. At the same time you can choose to let go of your doubts. Replace your negative worries with acceptances. Accept that you have choice of equipment, the best pre-event meal, the best coach and program for you, the best race strategy, the best supplements, and that you will have your best race. Acept that when tested, you will summon the strength needed to rise to the occasion. Acept that it will all work out.

Perspective
The third keyword is perspective. I sit ever easy to lose perspective after dedicating hundreds and hundreds of hours to this racing lifestyle. Afer all, we don’t sacrifice so much of our lives in order to fail. We set huge goals, life-changing goals—to get to Kona, Boston, or Across America—and the dream becomes so powerful it takes on a life of its own. As the event nears, naturally, we become engrossed in the experience. But losing perspective is one of the greatest killers of performance. It’s a race, that’s all.

I’ve struggled with this for many of my 30 years in racing. For example, as a senior in college, after four failed attempts at winning NCAA All-America in track and cross-country, I was down to my final chance. I arrived at the national meet as a top seed. In all likelihood, a time far off my norm would have been good enough, so you would think I would trust and accept that I was one of the best, right? Wrong. My perspective was that it was a make or break day that would forever effect my life.

Suddenly, a dozen guys all seeded slower than me looked ready to break the world record and I didn’t sleep for two days. Fortunately, my coach was brilliant. He sent me on a 5-mile run away from the track just three hours before the race to burn off the nervous energy. When I returned, he laughed and said, “This is going to make a great story.” The tension lifted. He said, “Tony, forget about everyone else and just run for you. Make this your day.” It worked and I had a great race. Gaining perspective is such a key to letting go of pressure.

Receive
The final keyword that ties it all together is receive. We are so blessed to have this passion and an abundance of opportunities to share and celebrate it with others. Rather than being motivated by a hate for losing, why not receive every challenge as a gift? Without a doubt, all the pain, tears, and setbacks I’ve experienced over the years have been at least as valuable as the joys gained from breakthrough victories. It’s all good. By being ready to receive all that comes to us in racing with open arms, I really believe we prepare ourselves to receive an almost supernatural power.

Re-visit this article from time-to-time during the season. You will discover that with practice the concepts will begin to fit and apply into your own racing. Good luck. See you at the races!

Tony Schiller is the reigning master’s world champion triathlete. He won his 5th ITU age group title last year in Cancun, Mexico and was named 2002 Master of the Year by USA Triathlon. Tony is also a nationally known business speaker who has helped hundreds of organizations with his positive approach to work and life. He coaches a select few triathletes.

Contact information:
tony@breakawayresults.com
www.breakawayresults.com
952-474-3278
It’s Race Time!

2003 promises to be a banner year for H ammer N utrition event sponsorships. This year’s event total may approach or even exceed the 500 mark, our highest ever! Chances are if you’re competing in an ultra run, triathlon, ultra cycling race, adventure race, or any endurance or ultra-endurance event in the U.S. or Canada you’ll see H ammer N utrition products there.

Here’s just a sampling of this year’s H ammer N utrition event support agenda:

• Planet U ltra (www.planetultra.com). These are a series of well-organized double centuries and brevets, primarily in Southern California and surrounding areas. Event organizer C hris Kostman is also the race director for the B adwater U ltra M arathon (www.badwaterultra.com) and F urnace C reek 508 (www.the508.com), two world-class races that H ammer N utrition also sponsors. We’ll also be supporting many of the other double century rides that make up the C alifornia T riple C rown series. For details, check out www.caltriplecrown.com/schedule.html.

• E very year we increase our ultra running support in the U.S. I’m happy to announce that our support now extends into Canada. Working with our Canadian distributor, C hristian F illion, we are excited to be sponsoring several ultra running races throughout Canada, including the 2003 O ntario U ltra S eries. Their website (www.ous.kw.net) says it best: “The O ntario U ltra S eries is a demanding 12 race series involving a wide variety of running courses throughout Ontario. Each event has its own unique character with a full range of environments and distances from trails and roads to certified running tracks.”

• D on and D awn M ann head up the fantas-tic organization O dyss e y A dventure R acing. I’m excited to announce our support of their race team and their entire series of events, which can be found at www.oarevents.com/home.asp. From adventure races (including the renowned “Beast of T he E ast” and “Endorphin F ix”), to both on and off-road triathlons (including a D ouble and T riple I ron D istance race), and S eal events (“civilian versions of N avy S E A L ‘H ell-W eek’ training”), for the true masochist, O dyss e y A dventure R acing has it all!

• T he N orth C arolina T riathlon S eries and P almetto S tate S eries T riathlons (www.set-upinc.com) have so many races I’ve lost count. W hat seems apparent though, based on the numbers of participants event promoter B ill S cott has provided me, is that N orth C arolina and S outh C arolina are triathlon hotbeds. We will support every race in both series including the prestigious D uke B lue D evil T riathlon (www.set-upinc.com/dukebluedevil).

• Speaking of the C arolinas, we’re proud to support the 2003 C arolina C hallenge Sprint A dventure R ace S eries. Check them out at www.rad-advnetures.com/home.html.

• O ur support for triathlons of every distance increases yearly. O ne of the premier races we sponsor is the U ltramax T riathlon (www.ultramaxtri.com). I had the good fortune of attending the inaugural race last year and meeting race director M ark L ivesan and his wonderful staff who put on a first-class race. T his year they have added a “1/4 M ax” and “1/2 M ax” race in June, with the full I ron-distance U ltramax in September. I had such a great time last year at U ltramax and I hope to return again this year.

• L ast year, while in M issouri for the U ltramax, I also had the chance to meet race director J ohn S nikt. E arlier this year, when J ohn asked me if we’d be interested in spon-soring his races, I jumped at the chance. N eedless to say, we’re stoked to sponsor both the P igman T riathlon (www.pigmantri.com) and B ig C reek T riathlon (www.pigmantri.com/bigcrktri.html). W e’re also planning to support all of the H eart of A merica T riathlon series as well (www.pigmantri.com/hoaseries.html).

• W e’re very pleased to support every one of the H aving F un, I nc. series of adventure races and mountain bike races this year. E vent promoter C rash W illiams says, “O ur goal is to offer T exas, O klahoma, K ansas, M issouri, and A rkansas the quality and range of events that you previously had to travel long distances to enjoy.” Information about those events is waiting for you at www.havingfuninc.com.

• W e haven’t forgotten about you mountain bikers! W e are sponsoring the entire W EMS (W isconsin E ndurance M ountain-bike S eries) races again this year (www.wems-series.homestead.com), the entire W IM (W ashington, I daho, M ontana) mountain bike series (www.roundandround.com).

A nother large mountain bike series that we’re pleased to sponsor is the 13-race M idwest F at T ire C hampionship S eries (www.wes-series.homestead.com). W e will be sponsoring all 11 races in the gigantic M id-Atlantic S uper S eries M ountain B ike R aces (www.masuperseries.com).

T hese are just a fraction of the fantastic events H ammer N utrition is supporting! If you know of a race that we should consider sponsoring, please feel free to email R obin or me with the race and contact information. W e’ll be glad to take a look. R obin can be reached at robin@e-caps.com and I can be reached at steve@e-caps.com.

See you at the races!

REM Caps
For A Good Nights Sleep  Zzz... Zzz...

$19.95 ea. / $17.95 ea.
3 or more
What events do you like to compete in?

As a triathlete, I love international or Olympic distance races. They're just long enough that the ability to focus is paramount to success, and yet, they're short enough that you can recover quickly to race within a week or two. I also appreciate the ability to race well without dedicating my entire life to the sport (as tends to happen during training for an Ironman).

What long have you been competing in those events and how did you get started?

My first race was in April of 1973 so I'm starting my 31st year racing without a year off. The first 13 years were in running. I made it to the 1984 Olympic marathon trials where, at 182 pounds, I was the heaviest guy in the field. On top of that, my body was breaking down from averaging 100+ miles a week for 6 years. Triathlon was just hitting the big time and I remember being intrigued that a guy almost the size of Dave Scott was able to win the Ironman. I jumped in and was hooked. Best of all, the overuse injuries that were part of running just faded away with cross training.

What are some other things that you do when not competing?

I like variety. My wife and I love downhill skiing and I'm now getting into boarding as well. We also golf, or try to, and to unwind I spend time water gardening in the 4-level pond I built in my backyard. Every athlete should have one. There's nothing like listening to the waterfall and watching your Koi (fancy carp) grow up. I even have it heated and kept it running all winter so the fish survived another Minnesota winter.

What is a typical training day for you?

I don't have a typical day. During the main season, I do 3 key runs and 3 key bike rides every 10 days, otherwise all runs and rides are easy. That's a must. I refuse to get pulled into a fast group ride if it's not my planned key workout. I fit these 6 key workouts loosely into each 10 day cycle the best way they fit and try to stick to it. I typically swim Monday, Wednesday and Friday mornings at the pool and in the summer add some lake swims to the mix.

What is your favorite race/course?

Minnesota is the land of 10,000 lakes so, like Montana, we have hundreds of lakes and sites more beautiful than just about every host site for the nation's top event. In that way I'm spoiled by events in my home state. Beyond Minnesota, it's hard to argue with Coeur d'Alene, Idaho for the beauty, or Kona, Hawaii for the mystique. I have a special place in my heart for any race in New Zealand.

What has been the toughest race/course?

It's got to be Hawaii since I've done it 3 times and it remains troublesome. Hawaii aside, and course with cruel heat and wicked hills seems to bring out my best.

Which E-CAPS / Hammer Nutrition supplements do you use and why?

I've used virtually all of your products going back to the early days when I think it was just Enduro Caps and Race Caps. I started with those and enjoyed the best 18 month stretch of my career while racing on the pro circuit. I later added Phytopax (because of my questionable diet) and Super AO and found them helpful. I'm now taking the Premium Insurance Caps daily as well. Throughout the year I mix Whey Pro into my fruit smoothies for protein replacement after tough workouts. And finally, two products I rely on religiously are Sustained Energy and Endurolytes. The first time I used them both was at the 1998 Gulf Coast Triathlon where, at age 40, I won the race outright. Without a doubt much of that is due to how both products kept me going for 4 hours.

What is your goals for this season?

My peak race this year will be at the ITU World Championships in New Zealand in December. Other than that, several local and regional races.

What advice would you give to beginning athletes in regards to training and keeping motivated?

My best advice is to decide and declare your stake. Be bold. Whether it's finishing your first race or trying to achieve a specific qualifying status...declare it. That act of declaring begins to move support energy your way. Very little that brings great fulfillment comes without risk. If you tend to play it safe, go out on a limb for a change. It will be refreshing.

Tony Schiller

W hat events do you like to compete in?

As a triathlete, I love international or Olympic distance races. They're just long enough that the ability to focus is paramount to success, and yet, they're short enough that you can recover quickly to race within a week or two. I also appreciate the ability to race well without dedicating my entire life to the sport (as tends to happen during training for an Ironman).

A NEW BOOK ABOUT RAAM

Athletes, especially those in ultra sports, inherently know the truth of the saying, “We conquer by continuing.”

That saying is the essence of the new book that is available now by DC Born.

“THE PART-EMPTY BOX”

The Story of Steve Born and His Crew in RAAM ‘91

This is the sequel to DC Born’s first book about the Race Across America “Release the Pace Giraffe”

“T he Part-Empty Box” can be reviewed and purchased at www.xlibris.com/ThePartEmptyBox.html or phone 1.888.795.4274

12 years in the making...it has to be good!
More Hammer Clothing Arrives

If you haven't visited our website lately or received a copy of our latest soft goods catalog, you just aren't up to date on all the great new additions to our clothing line. We've added the following new items to our ever-growing list of the highest quality athletic apparel you can use:

Cold Weather Gear
Made by Voler, the manufacturer of our regular cycling gear and triathlete-specific clothing, our new cold weather clothing includes a long-sleeve jersey, a wind vest, a thermal vest, and a thermal jacket.

- The long-sleeve jersey is made with a slightly thicker and warmer material than the regular short-sleeve jersey; it's perfect for those days when a short-sleeve jersey just won't do.

- The wind vest is made with the same water and wind resistant Vortex Ripstop microfiber material used in the wind jacket.

- The thermal vest and thermal jacket are made with Windtex, a windproof and water-resistant fabric. M any athletes, including Brian and me, have used these jackets during the Nordic skiing season and we can both say they're warm, extremely flexible, and very functional.

Cycling Skinsuit - the top portion is made with a material called Nettuno, a breathable poly/lycra material. The bottom is made with Protex, a heavyweight nylon that has added lycra for extra durability. The skinsuit uses the same M onolith chamois as the cycling shorts.

Hammer Socks - the same great L IN sock but with a new color scheme and design. Available in black or white with E-CAPS logo.

Halo Headwear - After thorough research, we chose the Halo brand to produce our logo headwear. Halo quality is unsurpassed and their patent-pending technology provides a non-slip surface that directs sweat away from the eyes. We offer the following:

- Halo Headband - available in black, white, or blue, this is the original tie-in-the-back headband.

- Halo I I Headband - available in the same colors, this is a one-size-fits-all non-tying headband.

- Halo Protex - an extremely comfortable and functional bandana. It features a cool mesh fabric that fits over the head and the same Halo technology for preventing sweat from getting in the eyes. Available in black mesh/black band, white mesh/black band, and red mesh/black band.

- Halo Anti-Freeze - A winter version of the Halo I I headband that provides additional warmth. Available in black.

T-Shirts - New designs and colors for the 2003 season! We now offer three distinct designs in short sleeve Hammer Gel t-shirts, some in a couple different color options. We have two new short sleeve E-CAPS t-shirts, and a new long sleeve t-shirt for both E-CAPS and Hammer Gel. All our t-shirts are 100% heavyweight preshrunk cotton tees from Gildan.

Sweatshirts - Awesome new colors and designs for the E-CAPS and Hammer Gel sweatshirts! Made by Authentic Pigment, these are durable 80% cotton, 20% polyester, pigment dyed sweat shirts with a 1/4 zip collar.

Tri Clothing - Made by Voler, we carry both men's and women's specific clothing. All are designed to fit comfortably under a wetsuit and are quick drying and breathable.

- Women's Shimmel - a longer sport top than our sport bra. Shelf bra is lighter and provides medium support. Features three back pockets.

- Women's Tri Short - cut much shorter than typical cycling shorts. Features the 4mm-thick Seamless Bio Air II Chamois.

- Women's Tri Skinsuit - one piece top-and-short combo with lightweight, quick dry chamois (same as tri short), 3/4 hidden zipper, and wide, sleeveless arms to prevent chafing.

- Men's Tri Top - made from a lightweight poly-lycra mesh called Ventana Micro Mesh, this top has an 18" hidden zipper and wide armpits.

- Men's Tri Short - cut much shorter than typical cycling shorts. The seamless Bio Air II chamois with ventilated perforations through-out has a 4mm body-conforming pad and is extremely fast drying.

- Men's Tri Skinsuit - a one piece top-and-short combo. Features the same light-weight, quick-dry chamois as the tri-short, 3/4 hidden zipper, and wide, sleeveless arms.

Two important principles guide our softgoods offerings. The first is quality. Just like our supplements, we don't compromise a stitch when it comes to performance wear. Our suppliers must meet the highest standards for function, fit, and wearability. The second principle is pricing. Unlike other companies that charge you extra to advertise for them, we believe that if you promote us by wearing our logo clothing, we shouldn't charge you anywhere near full price. It's a true win-win that gives you the finest clothing at the absolute best prices you can find anywhere!

All of our great logo clothing is available online. If you haven't received a copy of our latest soft goods catalog, be sure to ask for a free copy with your next order!
In Endurance News #36 we introduced our fueling guide booklet, *The Endurance Athlete’s Fueling Handbook*. Contributions by Dr. Bill, Brian, Joe, and me (Steve) condensed over 60 years of combined work and experience in endurance athletics. The knowledge provided in the fueling handbook was so powerful and appropriate that if you didn’t read and apply the information, you were at a distinct disadvantage to those athletes who did!

We have revised and expanded that original booklet and have renamed it with a title that more appropriately describes and expresses the content. *The Endurance Athlete’s Guide To Success* features expanded and newly revised versions of the seven original articles, plus a terrific new article that completely covers proper hydration. The information is thorough, research based, and athlete friendly. If you are at all serious about getting the most out of your workouts and improving your potential for success in all your races, *The Endurance Athlete’s Guide To Success* is a MUST READ!

We will be happy to include a free copy of this 44-page booklet with your next order, or you may download a free copy (in PDF format) from www.e-caps.com. If you don’t have Adobe Acrobat you can download a free version of that program as well from our web site.

You simply have no excuses not to read and apply this important and performance-enhancing information. You’ll be glad you did—but your competitors might not!

---

**The Journal Of Endurance 100 CD Is Here** by: Steve Born

**The Most Comprehensive and Up-To-Date Health and Nutrition Resource Available**

If you’re a subscriber to the Endurance List, the E-CAPS/Hammer Nutrition email forum, familiar with Dr. Bill’s bi-weekly e-mail contributions known as the *Journal of Endurance*, commonly known simply as J.O.E. Dr. Bill’s extensive and time-consuming research fills each issue of J.O.E. with a goldmine of valuable information applicable for both general health and athletic performance enhancement. For athletes who don’t have time to do copious amounts of research, finding the right information can be next to impossible, which is why each and every issue of J.O.E. is such a valuable resource. Now, with the release of the *Journal of Endurance 100 CD*, a library of priceless information at their fingertips is available to you.

The J.O.E. 100 CD is a compilation of the first 100 issues of the *Journal of Endurance*, and is a current, subject-searchable, research-reference tool for all facets of endurance exercise. Comprised of published research, technical articles, and field tests, the J.O.E. 100 CD contains 753 pages of relevant articles and studies with timeless advice for athletes in all disciplines at any level. It gives us athletes the clear and concise advice on the subjects that matter to us, without having to spend countless hours scouring research studies and articles.

Dr. Bill Misner says, “The information is quite compact and extensive. So many wonderful scientists submitted excellent in-depth information, work which no doubt could be called ‘hallmark’ in light of what enhances both health and endurance exercise results.” The J.O.E. 100 CD contains 753 pages of relevant articles and studies with timeless advice for athletes in all disciplines at any level. The indexed, PDF format provides an easy way to search for topics of interest and a “comments” column is included in each article to explain the scientific data in laymen’s terms.

The J.O.E. 100 CD is available for $49.95, an absolute bargain for the amount of priceless, and easy-to-access information it contains. Past issues of J.O.E. are also available on our web site. If you’d like to receive current issues of J.O.E., it’s available free of charge simply by emailing subscribetojoe@e-caps.com.
The End

One Final Thought

Hello all, my name is Matt Seeley and I am a professional triathlete. I live in Polson, MT and we are suffering through a late blast of winter up here. I have attached a couple pictures taken at the end of a very rough 10-mile commute home from work on Friday, March 7, 2003. I teach mathematics at a Tribal College on the Flathead Indian Reservation. Anyway, despite my warm winter beard and homemade studded front tire, the 12 degree temp, 50 mph gusts, and 2 foot drifts were almost too much to overcome. I even had to decline ride offers from police officers two separate times (the only two cars I saw during the entire trip). On days like this, it is hard to believe Wildflower (my first big pro race) is less than two months away. The real question is whether this type of bizarre toughness training will somehow give me an advantage over my mostly southern California competition. Needless to say, Flathead Lake isn't quite ready for swim training yet.