



ENDURANCE NEWS

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The endurance athlete's comprehensive knowledge resource since 1992

Our biggest issue ever!

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New HEED, Recoverite, and Whey now here!

Steve Born

We're excited to announce the availability of fantastic new flavors of some of your favorite Hammer Nutrition fuels! Along with the current versions of HEED that we offer—Mandarin Orange, Lemon-Lime, and Unflavored—we've added two additional refreshing flavors, Subtle Berry and Mild Melon.



flavor-wise. Needless to say, we think you're really going to like these two new flavors! Both Subtle Berry and Mild Melon are available in single serving packets or in 32-serving/scoop containers.

Also now available are the 80-serving/scoop containers of HEED in

see *NEW* on page 6

As we always do prior to releasing any new flavor of a Hammer Nutrition fuel, we tested many flavor variations and possibilities before agreeing that we nailed it

Fructose Called Most Dangerous Sugar

Craig Weatherby

Corn syrup is Americans' major dietary source; Findings add evidence to indictment of excess intake of all forms of sugar

This isn't your usual story about the evils of high-fructose corn syrup (HFCS).

Many observers have blamed America's epidemic of diabetes and obesity on the rise in use of HFCS as a sweetener.

This sweetener-shift was driven by the rising cost of cane sugar (pure sucrose) to American manufacturers in recent decades, and the falling cost of heavily subsidized corn and corn byproducts like HFCS.

But there have always been under-reported problems with the HFCS hypothesis of obesity and diabetes.

For one thing, we're seeing the same sorts of increases in diabetes and obesity in countries where the price of cane sugar is not artificially high, and manufacturers of sweets and sodas never

switched from cane sugar to HFCS.

If HFCS is the villain, then people overseas who eat sucrose-sweetened candy and soda shouldn't be getting fat and diabetic as fast as Americans are.

Two years ago, a University of Florida team proposed an intriguing hypothesis to explain why fructose is the most unhealthy form of sugar.

And there is just as much fructose in cane sugar as in HFCS, so this would explain why people who eat too much sugar in either form - HFCS or cane sugar (sucrose) - would become more prone to obesity and diabetes at about the same rate.

Both HFCS and cane sugar are one-half glucose and one-half fructose.

see *FRUCTOSE* on page 3

Welcome

Hammer headquarters
Photo - Angela Nock

From the office of Brian Frank



Welcome to the 58th issue of Endurance News. Over the 16 years that we've been putting this publication out every 90 days, I've developed the habit of re-reading my column from

the previous issue before starting the next. I like to make sure I don't repeat myself unintentionally. However, after re-reading my January column, I won't be able to avoid it. If you missed the January issue for some reason, it's well worth the read. You can find it and download it for free, along with any or all of the previous 56 issues, by clicking on the Endurance News link on the left side navigation of our web site.

The January issue was our biggest issue at 56 pages; however, with this issue we're raising that bar to 64 pages! We just have too much good content to give you any less. At the rate this publication is growing we'll have to start calling it a magazine soon. That may not be a bad thing since our media universe is shrinking with the recent purchase of Inside Triathlon and Velo News by the same group that already owns Triathlete, Competitor, and all of the City Sports publications. Give me the good old days of Lew Kidder's Triathlon Today and Ultrarunning before it went color!

Sorry, I digressed. In issue #57 we featured aspartame as our lead story and this issue headlines again with further evidence on the fructose epidemic that we are facing. To quote myself from the previous issue, "the articles you will find in this issue of Endurance News highlighting the dangers of high fructose corn syrup and artificial sweeteners, the

safety, necessity, and efficacy of prudent supplementation and the success of athletes employing our 'less is better' fueling philosophies provide a rare alternative to what you typically read elsewhere. Endurance News, along with all of our other publications and web site, will continue to reinforce our positions on these important issues." Ditto for this issue.

Moving on, I'm sure many of you are waiting to hear the whole story on this pesky lawsuit with the three athletes alleging their positive drug tests resulted from taking a few Endurolytes. Their allegations simply are not true. Believe me, I'd love nothing more than to tell you the whole story, but that's going to have to wait for a future issue after this matter has run its legal course. In the meantime, I'll quote our official response: "We trust that the media and the public will allow due process and the courts to deal with this matter before rushing to judgment. While we empathize with the challenges that these three athletes face by virtue of their positive drug tests, they are directing the blame for their situation in the wrong direction. We are certain that when all of the facts are presented in a court of law, Hammer Nutrition will be vindicated of any wrongdoing."

Without refuting their allegations point by point, discrediting their supposed evidence, or giving this matter even more undeserved attention, I'd like to make a few general points. First, we live in the most litigious society in the world. What is true is that we have operated with the utmost integrity and transparency, while delivering the highest quality products for 21 years. These allegations do not change that and you should have no concern regarding the safety or efficacy of any products sold under my brand.

Hammer Cubes – DOA

We are constantly testing and working to develop new and innovative products. Hammer Gel is a refinement of the original energy gel called Leppin Squeezy (sorry GU, but you didn't invent the energy gel). HEED is a refinement of you-know-what, etc. A couple of years ago one of our competitors came out with a carbohydrate block (like a big cube shaped gummy bear) that many of you said you liked as an alternative to the typical sports drink or energy gel. Many more asked when we'd be developing our own version.

The challenge for us was to develop such a cube that would have a carbohydrate profile consistent with our "low/no simple sugar" ethos. The products currently on the market deliver 50-100% of their carbohydrate calories from sugar and other variations in different shapes have between 50 and 100% sugar content. Our variation would have to be around 10% sugar. Well, we worked long and hard, recruiting the best food technologists from the largest supplier of maltodextrin in the world and one of the best university labs in the country. When given the design criteria, all were confident of their success. After over one and a half years in the lab, a 90% complex carb gummy bear was declared impossible.

The bottom line is that you cannot make a jelly bean or gummy bear type product with less than 50% sugar content. Now don't get me wrong, we made raspberry, apple-cinnamon, and espresso "cubes" that were delicious. We even had to hide them so that everyone in the office didn't eat them or take them home to their kids. However, the sugar content was almost 60%. So, rather than compromise my philosophy for commercial gain, we

see BRIAN on page 37

FRUCTOSE from page 1

- Cane sugar is pure sucrose: a compound consisting of one molecule each of glucose and fructose.
- Most HFCS is 45-55 percent fructose, with the remainder being glucose.

One difference is that sucrose occurs naturally in cane syrup and most fruits, while the various forms of HFCS are synthetic combinations of fructose and glucose, none of which occur in nature.

Some argue that there is something about the structure of HFCS that makes its fructose worse than the fructose in sucrose, but so far, that hypothesis lacks evidence.

The Florida team proposes that sweets and sodas of all kinds are unhealthy because they contain high levels of either HFCS or cane sugar, hence equally large amounts of fructose.

Here's the scoop on the evidence they presented, which should make us all leery of enjoying sweets or sweetened foods and drinks in more than very small amounts.

Florida team presents strong circumstantial case against fructose
Our story starts in 2006, with publication of an article by the University of Florida researchers.

The Florida group noted that the rise in rates of obesity and metabolic syndrome over the past two decades coincided with a marked increase in American's fructose intake (Johnson RJ et al. 2007).

While suggestive, this correlation cannot prove cause and effect. But then a group led by kidney specialist Richard Johnson, M.D., built a persuasive case consisting of three logical steps (Heinig M, Johnson RJ 2006):

- 1.) Unlike other sugars, fructose causes blood levels of uric acid to rise rapidly.
- 2.) Uric acid in the blood reduces levels of nitric oxide (NO), especially in the endothelial lining of our arteries ... so-called "endothelial NO".
- 3.) NO enhances the efficiency of insulin, increases blood flow to muscle, and enhances glucose uptake.
- 4.) Animals that lack endothelial NO develop insulin resistance and other features of metabolic syndrome: a cluster

of symptoms linked to increased risk of diabetes and cardiovascular disease.

So, the Floridians proposed that the current epidemic of metabolic syndrome is due in part to fructose-induced rises in people's blood levels of uric acid, which reduce endothelial NO levels and induce insulin resistance.

Their hypothesis is supported by the fact that, as they wrote, "... changes in average uric acid levels correlate with the increasing prevalence of metabolic syndrome in the US and developing countries."

Researchers propose ranking foods on a "fructose index"

We'd not heard of the Florida team's persuasive prosecution of fructose until we caught wind of their recent proposal to replace the popular glycemic index with a "fructose index".

As you probably know, the glycemic index is used by diabetics to rank foods by the amount by which they raise blood sugar levels. (The words glycemic and glucose both come from the Greek word glukus, meaning "sweet".)

The glycemic index (GI) is a scale used to rank carbohydrates based on their ability to raise blood glucose levels.

And the GI index has been popularized in bestsellers as a way for selecting foods to reduce the risk for obesity, diabetes, and cardiovascular disease, all of which are linked to chronic high blood sugar and its evil result: the near-diabetic metabolic disorder known as "insulin resistance", which is an increasing failure of our cells to react to the signals sent by insulin.

Diabetes is always preceded by insulin resistance, which is the failure of our cells to be sensitive to insulin, and therefore fail to absorb glucose from the blood as they should, thus worsening blood sugar control.

The Florida team noted that the GI scale is better at identifying foods that stimulate release of insulin (by spiking blood glucose levels) than it is at pinpointing foods that stimulate insulin resistance (Segal MS et al. 2007).

And interestingly, low-glycemic diets have not proven particularly good at promoting weight loss, which suggests

that they may not be as helpful at preventing diabetes as has been generally presumed.

The Floridians noted that the correlations observed between high GI diets on one hand and diabetes and cardiovascular disease on the other are related to high consumption of cane sugar or HFCS, because while both are one-half fructose, both also have high GI rankings due to their high glucose content.

Dr. Johnson's research suggests that, compared with glucose content, the fructose contained in sugary foods is much more responsible for promoting diabetes and heart disease. (To be sure, excessive glucose consumption is not good, either.)

Last fall, their hypothesis led them to propose the use of a fructose index to categorize foods and to propose studies to determine the effectiveness of low fructose diets for reducing the risk of obesity, diabetes, and cardiovascular disease.

These matters are complex, and time will tell, but the folks in Florida make a pretty good case.

Key Points

- Persuasive hypothesis assigns major blame to fructose for rising obesity and diabetes rates.
- Problem seen as stemming from excess intake of either corn syrup or cane sugar.
- Corn syrup and cane sugar share equal amounts of fructose, and may share equal blame for obesity and diabetes.

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From the Saddle of Steve Born

From the office of Steve Born

Bike close-up / Photo - Matt Wingate



Welcome to the spring edition of Endurance News! We've had a great winter here in Montana (best snow in a few years) but we're definitely

jonesing for sunnier, warmer weather to arrive. Sure, we've been on the bikes for a little while, in between rain & snow showers, but it'll be nice to get out on a ride and not have to wear darn near everything I own to keep warm.

Anyway, the 2008 season is definitely upon us and we're all looking forward to a great year, especially in regards to helping you get your supplement and fueling program dialed in so you can have higher quality and more enjoyable workouts, and better race results.

Travel, travel, and more travel!

This year started off with a bang travel-wise, and the trip I took with Brian and Dr. Bill to Italy was one I'll never forget. Yeah, it was mostly work-related as we were learning about the intricacies of the Globus muscle stimulator units for several hours a day at the Globus headquarters. Still, even though we were fully immersed in these many hours of daily training, I have to admit that it was hard to call it "work"... it's going to be a long time before I lose the weight gained from ALL THAT FOOD!

A couple weeks after returning I headed down to Phoenix, Arizona for the second time to attend the Hammer Nutrition-sponsored International Christian

Triathlon Network (ICTN) spring camp. It was a great time for me in so many ways: I got to see some friends from the previous year's camp, I was able to make some wonderful new friends, I got to ride my bike (without wearing winter gear!), I gave a couple fueling clinics, and I was able to have some real quality time with God, both alone and in fellowship with other Christians. I'm already looking forward to next year's camp and want to thank everyone who attended and helped make my time there this year so enjoyable and memorable. Special thanks to Sandy & Phil Plentzas, Chris Anderson, Lincoln Murdoch, Brian Grasky, Stan Smith, and Don Campbell.

After Phoenix, I headed down to Sun Valley/Ketchum, Idaho, my stomping grounds from a few years back, for the Boulder Mountain Tour Nordic ski race. After having done the race in previous years, I really wanted to do it this year. However, with precious few kilometers under my belt, and with the knowledge of how difficult the race can be still fresh in my mind (even after all these years!), I decided to just do the expo and clinic on Friday, then watch the race on Saturday. And I'm kind of glad I went that route because the conditions—both snow and air—were very harsh on race day, making an already difficult race even more so. Thanks to my good friends Ted and Leila Angle for graciously having me at "The Angle Inn" again this year.

Two weeks later I attended the Quality Bicycle Products "Frostbike" Show in Bloomington, Minnesota. This is an annual trade show for the vendors whose products are distributed via QBP to the bicycle industry. It's significantly smaller and less hectic than the annual Interbike Show that we attend every year, which is one of the reasons I enjoy

going there annually... I enjoy having more time (and less noise!) to talk with bike shop owners/employees. Thanks to Dave Tierney at QBP for his tireless help in getting my booth arranged and set up, and for coordinating my clinic.

By the time you read this I'll have returned from an early-April trip to RallySport Health & Fitness in Boulder, Colorado, where I'll have done a couple clinics. After that (as of this writing), I don't have any travel planned until June so I think it'd be a good time to reintroduce myself to my bike!

Come June, however, it's time to hit the road again and here is my tentative schedule:

- * June 5, 6 – VikingMan Triathlon – Burley/Heyburn, Idaho
- * June 13, 14, 15 – Battle at Midway Triathlon – Soldier Hollow Legacy Park, Midway, Utah
- * June 27, 28, 29 – Pacific Crest Triathlon – Sunriver, Oregon
- * July 9, 10, 11, 12, 13 – Highline Hammer – Whitefish, Montana
- * July 18, 19, 20 (F, S, S) – ChelanMan Triathlon – Chelan, Washington
- * August 29, 30, 31 (F, S, S) – City of Portland Triathlon - Portland, Oregon
- * September 12, 13, 14 (F, S, S) – Grand Columbian Full/Half/Olympic Iron Triathlon – Grand Coulee, Washington
- * September 24, 25, 26 – Interbike Trade Show – Las Vegas, Nevada
- * October 17, 18 (F, S) – Land Rover Pumpkinman Triathlon/USAT Club Nationals/USAT Halfmax National Championship – Boulder City, Nevada
- * November 6, 7, 8, 9 (T, F, S, S) – Silverman Half & Full Iron Triathlon – Henderson, Nevada

see STEVE on page 5

STEVE from page 4

This is, of course, subject to change but for now this is where I'll be. If you happen to be attending any of these events please come by the Hammer Nutrition booth and say hi... I'd love to see you!

Why we use maltodextrin (complex carbs)

Here's a couple of great questions I received recently via email from a new client: "I understand that maltodextrin more easily absorbs because of osmolality and all of that, 15% or thereabouts as opposed to the 8-9% for simple sugars. However, I haven't quite seen whether, for an endurance athlete with long periods of time at threshold (cycling in my case, 85 - 90% of max HR), maltodextrin becomes available to muscles as quickly as simple sugars like glucose and the like. If it doesn't, then why don't so many other supplement companies use maltodextrin instead of the glucose, sucrose combination (I understand why fructose isn't great, I think)? Sure, on a 3 or 4-hour ride with most pacing from zones 2 - 3, maltodextrin makes great sense, but if I'm dropping the hammer for five minutes at a time every four minutes for an hour and a half or two and a half hours, is it still my best bet when I'm depleting those stores much more quickly and need to fill them more quickly?"

Here was my reply to him:

I can only hazard a guess as to why companies use simple sugars such as glucose and sucrose, and one of my guesses is that those types of carbohydrates are very cheap commodities. It's not that maltodextrin is a truly expensive carbohydrate source but compared to glucose and sucrose it is, especially the high quality one we use in the Hammer fuels. So one potential reason is cost. The other is that simple sugars like glucose and sucrose sweeten a product quite well, especially compared to maltodextrin, which is noticeably less sweet. Most athletes are conditioned to sweetness, at least to some degree, and expect that in a sports drink or gel. Simple sugars take care of that sufficiently so that's perhaps another reason why companies use them in their products.

However, for efficient digestion of maximal volume of calories, simple sugars come up significantly short compared to maltodextrin. That's one of the primary benefits maltodextrins offer over simple sugars, which you alluded to in your email. As far as whether maltodextrin becomes available to muscles as quickly as simple sugars do, I have no doubt that it does. The main reason is because of its high Glycemic Index (GI) rating, which as you know, measures how fast a food is likely to raise your blood sugar. The maltodextrin we use in Hammer Gel and our other



Muffy Ritz
Photo : courtesy of Muffy Ritz

fuels has a GI rating of 130+, whereas glucose and sucrose have much lower ratings, 100 and 61 respectively. So with maltodextrin you're actually going to have a faster elevation of blood sugar levels compared to glucose, sucrose, or any other simple sugar. What you don't get, however, is the quick drop in blood sugar levels, which is common with glucose or sucrose.

Some suggest that since maltodextrin is many chains of glucose "hooked" together, it takes the body longer to break those chains down for conversion to glucose (which all carb sources eventually become in the body). However, it needs to be noted that the bonds that compose maltodextrin are very weak so they are readily broken apart.

Additionally, the amylose-amylopectin content of maltodextrin is very similar in chemistry to human stored glycogen,

which is the first fuel the body recruits and uses when exercise begins. Therefore, if the body's first-used source of fuel is "complex" in nature, it can be assumed that the body can break it and endogenously supplied complex carbohydrates down with remarkable ease. If there is a difference favoring faster digestion/utilization of glucose over maltodextrin (though I don't believe this to be true), it is so minute as to not be comparable, especially given the other "plusses" attributed to maltodextrin.

Our position is that for...

- 1) Volume of calories that can be easily digested and utilized for energy
- 2) Less-to-complete-absence of stomach issues
- 3) Rapidness of blood sugar elevation
- 4) Duration of consistent energy provided

... complex carbohydrates (maltodextrin) are unquestionably a better source of carbohydrates for athletes, even when your efforts are shorter in duration and/or at higher heart rates.

Take home message: There is absolutely no reason to put refined sugar in your body, especially during exercise. There are already so many negative general health consequences associated with simple sugar consumption (see the article "113 Ways Sugar Can Ruin Your Health" on the Hammer web site). With that being the case, if refined sugar isn't good for your general health, it just doesn't make any sense to believe that it can enhance your athletic performance. Avoid simple sugars!

Special "shout out"

My "shout out" for this issue goes to my long-time friend Muffy Ritz of Ketchum, Idaho. Don't let the name fool you, Muffy is one tough athlete, perhaps the toughest and best overall athlete I've ever known, male or female. Muffy's accomplishments in a number of sports are too numerous to mention here but she's probably best known for her three runner-up finishes in the Race Across America, with one of those 2nd places coming in her first RAAM in 1993 where she set the still-standing rookie record of 9 days, 16 hours, 29 seconds. Muffy's fastest RAAM was in 1995 and her time of 9 days, 6 hours, 32 seconds is the second fastest time in RAAM history.

see STEVE on page 7

BCAA's

Branched Chained Amino Acids - Endurance Essentials!

Bill Misner, Ph.D.

The International Society of Sports Nutrition's position on protein and exercise concludes by stating, "Under certain circumstances, specific amino acid supplements, such as branched-chain amino acids (BCAAs), may improve exercise performance and recovery from exercise." In my opinion, this position stance is long overdue. Published research shows that BCAAs (leucine, isoleucine and valine), support endurance performance, improve immune system reaction, and enhance recovery.

BCAAs are naturally occurring molecules that the body uses to build proteins. The term "branched chain" refers to the molecular structure of these particular amino acids. BCAAs, particularly leucine, have anabolic effects on protein metabolism by increasing the rate of protein synthesis and decreasing the rate of protein degradation in resting human muscle. During recovery from endurance exercise, BCAAs have also been found to have anabolic effects in human muscle.

These effects are likely to be mediated through changes in signaling pathways controlling protein synthesis.

Physiologists often use BCAAs in various formulations to decrease central nervous system fatigue in athletes, and taking BCAAs during or prior to exercise may also delay exercise-induced fatigue. Consuming a BCAA-enriched energy gel or drink enhances endurance performance. BCAA administration results in enhanced endurance performance and an increase in blood ammonia during exercise. Hammer Nutrition endurance products (Hammer Gel, Sustained Energy, and Perpetuem) and recovery products (Recoverite and Hammer Whey) are BCAA-enriched. Consistent use of BCAA-enriched sources prior to, during, and after prolonged exercise may improve lean muscle mass gain, recovery, and performance.

Note: The International Society of Sports Nutrition (ISSN) is a not-for-profit academic society dedicated solely to

sports nutrition. This article is not an ISSN endorsement of a specific product.

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NEW from page 1

Mandarin Orange and Lemon-Lime. If you're like many of our clients and plow through a 32-serving/scoop container in record time, you're going to love this larger size. At \$44.95 per container, it's a really good deal and you save money because you are, in essence, "buying in bulk." Each scoop from a 32-serving/scoop container costs about 62¢, whereas each scoop from an 80-serving/scoop container is about 56¢... if you're a frequent user of HEED that'll definitely save you some money in the long haul.

As mentioned in the previous issue of EN, the 80-serving/scoop size will initially be offered in Mandarin Orange

and Lemon-Lime. Depending on popularity and demand, we may offer other flavors of HEED in this size in the future.

Our phenomenal recovery drink, Recoverite—currently offered in the Subtle Citrus flavor—is now available in an awesome Strawberry flavor (it's really good!). Both single serving packets and 32-serving/scoop containers are available in this great new flavor.

Lastly, Hammer Whey—Hammer Nutrition's 100% whey protein isolate product—is now available in two light and delicious new flavors: vanilla and

chai. The original unflavored Hammer Whey is still THE product to use when you want to make your own protein drinks/smoothies using Hammer Gel, HEED, fresh fruit, or organic fruit juices. However, if you prefer a little flavor in your protein but want to skip the step of adding a flavor component, the new vanilla and chai flavors will fit the bill nicely. As is the case with the original Hammer Whey, the new flavors will also contain 6 grams of glutamine per scoop.

STEVE from page 5

Muffy's had several injury-related setbacks but they've only been temporary and at haven't stopped her from competing at the highest level. Most recently, she competed in the Masters World Cup Nordic Championships in McCall, Idaho (February 28-March 7), skiing in the Women's 50 – 54 age group. Against top skiers from around the world (including the always-tough Russians), Muffy's results were more than outstanding:

* March 2, 2008 – 15km freestyle (a.k.a. "skating") - 2nd place out of 39 skiers in a time of 43:24.8, which was a mere 18.7 seconds out of 1st place (Tatiana Esipova – RUS), and nearly 2 full minutes ahead of 3rd place.

* March 3, 2008 – 10km classic (a.k.a. "traditional") - 2nd place out of 39 skiers in a time of 33:42.5, which was 45.3 seconds behind 1st place (Raufa Zagidulina - RUS), and over 1.5 minutes ahead of 3rd place.

* March 5, 2008 – 4 x 5km relay (second leg) – 2nd place, less than a minute behind the Russian team, and nearly 4 minutes ahead of the 3rd place Canadian team.

In 1997 Muffy founded the VAMPS Nordic program in Ketchum, where she and her coaches (one of whom is Hammer sponsored adventure racer extraordinaire Rebecca Rusch) teach women of all abilities how to cross country ski and become better skiers. She started with a handful of students, and a decade later the VAMPS has well over 150 members. Muffy not only uses many of the Hammer Nutrition products in her training and racing, she and her coaches continue to promote them to all the members of the VAMPS (thanks for that!).

So a special "shout out" and congratulations to you, Muffy, on your most recent accomplishments, and for your help in promoting the Hammer products to your athletes.

Eight years and counting

This issue of EN marks my 8th anniversary with Hammer Nutrition and it's been an incredibly fulfilling experience, one I plan on continuing for a long time to come. I'm not sure how

many people realize this but I've known company owner Brian Frank long, long before I ever started working for him in 2000, though I didn't actually meet him until I started working at the company. He is, of course, my employer and I have complete respect for him as the owner of the company. On the other hand, he and I have been such good friends for so long that it's hard for me to think of him as "The Boss," at least in the purest sense of the term. Without sounding boastful, which is absolutely not my intention, as a result of our mutual respect for each other and our rock-solid friendship, I think we make a pretty good team.

I started using Hammer products (then known as E-CAPS) in 1990 and one of the reasons I became a client was because I was so impressed by the amount of time Brian spent with me on the phone helping me (remember that this was before email). No one at any other supplement company really gave me the time of day but here was someone who was genuinely interested in my athletic career and how I could improve my performance via supplementation... I was definitely impressed and that's never changed. Brian may not have invented customer service but he's certainly made perfecting it a priority and he's definitely excelled at it. One of the reasons why I enjoy working here so much is because providing the best possible service is a priority for me as well. Treat others the same way you want to be treated – what a simple concept, yet so lacking in many businesses today. Not so with Hammer Nutrition.

Knowing Brian for as long as I have has allowed me to experience some unique things in the world of fueling. For starters, I was one of the first people to ever try Hammer Gel and I vividly remember the all-white pouches containing this new fuel (chocolate and vanilla, the first flavors of Hammer Gel) that Brian shipped to my house. I tried them; I loved them... it was as simple as that. In fact, I dug this new energy gel prototype so much that I kept calling Brian and bugging him to send me more. Needless to say, I've been a MAJOR

Hammer Gel fan ever since.

I also remember when Brian sent me a container of this new, yet-to-be-named fuel (which was eventually called Energy Surge, then Sustained Energy).

I distinctly remember him telling me on the phone that this stuff was pretty different because it was unflavored, and to give it a thorough test before discounting or rejecting it. With some reservations, as well as a couple mixed bottles of this new fuel in my bike bottle cages, I took off on a fairly lengthy training ride, which consisted of multiple loops on some pretty mountainous

terrain near my house in Topanga, California. The first couple of drinks I took I thought, "What the... what is this stuff?" because I was just not used to an unflavored fuel. However, the longer my ride went I noticed just how great this fuel was working. When it was over I realized I just completed one of the best workouts I ever had so I immediately called Brian to procure more of this bland-but-beautiful fuel. I've been a fan of the product ever since.

Several years later, after successfully completing the first (and still only) Double Furnace Creek 508, fueled primarily on a new and not-yet-released fuel called Perpetuem, Brian was the first person I called. Yeah, it was nearly 1:00 a.m. PST when I called him (2:00 a.m. Montana time) but I didn't care. I just had to tell him that (A) I had finished the record attempt successfully, and (B) "This fuel worked so friggin' well, man; it was just awesome. We've got to get it into the product line!" That was in October 2002 and we had Perpetuem in the product line by early 2003.

There are so many other stories and experiences I could share but time and space limits me from even scratching the surface of possibilities. I'll just end by saying that it's been a great and satisfying experience so far, and if the next eight years are anywhere near as rewarding as the first eight, I'm a lucky man indeed.

I hope that 2008 has been a good one for you so far!

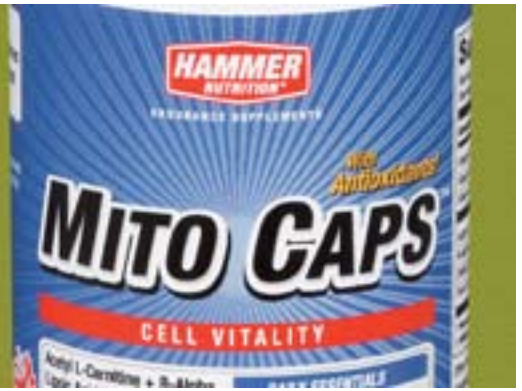


Brian and I about 2 years after I started working at Hammer Nutrition.

PRODUCT SPOTLIGHT

Mito Caps

Anti-aging formula with powerful athletic benefits



Steve Born

Of the 19 products that currently make up the Hammer Nutrition supplement line, three are designated as not only essential, but Daily Essentials: Premium Insurance Caps, Race Caps Supreme, and Mito Caps. The reason for this special designation is because we believe:

- These three products provide the widest range of benefits for both athletic performance and overall health.
- The beneficial effects of these products are cumulative, meaning the more consistently you take them (ideally daily) the more you benefit.

This month's "Spotlight" product is Mito Caps, the third (but certainly not least) in the Daily Essentials category. While all the products in the Hammer Nutrition line definitely have value, providing specific benefits and fulfilling specific needs, I personally believe Mito Caps is the most important product Hammer Nutrition has ever produced for promoting enhanced athletic performance and overall health. Here's my rationale:

Sometimes it seems as though many of science's discoveries aren't really applicable for you or me, at least in terms of offering benefits for both general health and athletic performance. Every once in a while, a tidbit of promising scientific research comes through, which creates a spark of interest. And then, every once in a blue moon (pardon the cliché) a study's results are so profound in their scope that it literally can, and should, change how athletes—all humans actually—perceive nutritional science and nutritional supplements. I can honestly say that in all the time

I've studied supplementation, nothing has ever gotten me so excited as the remarkable discoveries made by Dr. Bruce Ames and his scientific associates regarding the issue of mitochondrial aging and regeneration.

The whole amazing story of mitochondrial function could go on for pages, but let's simplify the matter to a few relevant points:

- Mitochondria, the energy producing organelles, make ATP from food molecules (sugar, fatty acids, and amino acids) and oxygen.
- Energy production also creates free radicals, which damage mitochondrial DNA.
- Mitochondrial function decreases and free radical production increases with age. This "double whammy" contributes to the aging process, an ongoing, continuous cycle of decreased mitochondrial functioning, increased free radical production, and damaged mitochondrial DNA.
- The resulting decay in mitochondrial functioning, along with increased production and accumulation of free radicals, has obvious negative effects on athletic performance. The body's ability to make energy decreases while free radicals increase.
- Even more importantly, mitochondrial aging and decreased function results in health decline and disease processes affecting the heart and brain. To quote one well-known researcher, "Oxidative mitochondrial decay is a major contributor to aging."

That's why athletes should be particularly interested in maintaining the optimal functionality of the mitochondria. We want to maintain high quality, consistent energy production, while also protecting against the deterioration of mitochondrial function. The key question is, "What can we do to make this a reality?"

Dr. Ames and the other researchers found two nutrients—acetyl l-carnitine (ALC) and r-alpha lipoic acid (r-ALA)—significantly and positively influenced mitochondrial function in mice. In fact, when Ames and his researchers fed older rats these two nutrients the results surprised even them. Not only did the older rats perform better on memory tests, they had more vigor, and the mitochondria in the cells worked better. Dr. Ames is even quoted as saying, "With the two supplements together, these old rats got up and did the Macarena." He went on to say, "The brain looks better, they are full of energy – everything we looked at looks more like a young animal." Another researcher commented, "The animals seem to have much more vigor than animals not on this diet, signaling massive improvement to these animals' health and well being."

The crux of these studies (and yes, this is in very basic terms) is that the combination of these two nutrients "tunes up" the mitochondria. Tuning up human metabolism is likely a major way to minimize DNA damage, improve health (not to mention athletic performance), and prolong a healthy lifespan. Ames' studies found that ALC and r-ALA performed this "tune up" by improving mitochondria activity and cellular metabolism.

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Dr. Bill Misner emphasizes the importance of this by stating, “So few substrate molecules function biochemically inside mitochondria cells. Endurance athletes should realize how incredibly important it is to effect mitochondria... the longer you can stimulate the lifespan or health of the mitochondria, the longer you will live and the better you will perform in endurance events. The athlete who has the most healthy/efficient active mitochondria is the athlete who performs at their best.”

That’s why Mito Caps was produced and why I consider it to arguably be the most important product in the Hammer Nutrition line.

The unique & potent Mito Caps formula

Mito Caps incorporates the same nutrients used in Ames’ studies, and more...

Acetyl l-carnitine (ALC)

L-Carnitine is a derivative of the amino acid lysine, and is synthesized in the body by five different enzymes involving the amino acids lysine and methionine, iron, vitamin C, vitamin B6, and the reduced form of niacin (NAD). Small amounts—roughly 10-50 mg—of l-carnitine are synthesized daily, which is adequate for preventing deficiency problems. However, these amounts are most likely insufficient for athletes. One nutritional scientist writes, “Although the body makes l-carnitine, it may not make an optimum amount for athletes, because muscle carnitine levels are rapidly depleted even during moderate exercise.”

This would make supplemental l-carnitine essential for endurance athletes. Acetyl l-carnitine (ALC) is arguably the premier form of this nutrient for two reasons:

- 1.) It provides l-carnitine, which is the key nutrient involved in shuttling fatty acids into the mitochondria for energy production.
- 2.) It also provides acetyl groups, which may be used in the formation of the neurotransmitter, acetylcholine, which is involved in cognitive function.

In addition to its crucial role in how the body uses fatty acids for fuels, l-carnitine directly impacts energy production and the health of the mitochondria in other ways...

It is believed that the performance of the mitochondria to produce energy is largely dependent upon the composition and functionality of the lipids that make up the mitochondrial membrane. It is also believed that the decrease in cellular energy production that comes from the aging process is at least partially due to the alteration of the lipid composition and content of the mitochondrial membranes. There are a variety of phospholipids that are biosynthesized and make up the membrane of the mitochondria; cardiolipin is one of them and when scientists studied the membrane makeup of old rats versus young rats they found no significant changes in the other phospholipids, but they did see a one-third decline in the concentration of cardiolipin.

The significance of this is that the optimal activity of cytochrome c oxidase, which is a key enzyme complex in mitochondrial energy production (via the oxidative phosphorylation, a.k.a. electron transport chain cycle), is dependent on adequate levels of cardiolipin. When researchers gave the rats doses of acetyl l-carnitine they found an increase in cardiolipin levels and that the activity of the cytochrome c oxidase enzyme system was restored to that of the younger rats.

Scientists also discovered that the activity of another enzyme – adenine nucleotide translocase (ANT) – also decreases with age. ANT is a carrier protein that exchanges Adenosine Triphosphate (ATP) for Adenosine Disphosphate (ADP) across the inner mitochondrial membrane from inside

the mitochondria to the cytosol (outside of the mitochondria, but inside the cell). When ANT activity decreases it results in reduced ATP available for cellular energy production. When the aged rats where fed acetyl l-carnitine, the activity of ANT was increased and thus energy production was increased.



Ed Strauss

Acetyl l-carnitine (ALC) also boosts the activity of the enzyme carnitine acetyltransferase, which plays a vital role in mitochondria fuel burning and energy production. ALC also boosts neurological functioning, which would support concentration and mental focus (a major benefit for ultra-endurance events). ALC is also believed to help preserve lean muscle tissue by decreasing excess levels of cortisol. Lastly, ALC seems to reduce the depletion

of ATP by forming acetyl-CoA, which one nutritional expert calls, “the most important intermediary in the generation of energy from amino acids, fats, and carbohydrates.”

R-alpha lipoic acid (r-ALA or R-ALA)

R-ALA is intimately involved in the complex process of energy production. It is an essential cofactor for several multi-enzyme complexes (primarily the dehydrogenase complexes) that catalyze (increase the speed of a chemical reaction) critical energy metabolism reactions inside the mitochondria. It’s safe to say that the combination of r-ALA and acetyl l-carnitine dynamically influences energy production.

However, energy production, especially increased energy production, comes at a cost: more free radical production. Fortunately, the body has a variety of antioxidant mechanisms that counteract and neutralize the negative effects of free radicals. Increased energy production, as well as longer-term high level energy production (think endurance athletes) increases the volume of free

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radicals that are produced, which can easily overwhelm the body's built-in antioxidant defenses. This is the reason why consumption of a variety of antioxidants is recommended and perhaps none are stronger or provide a wider range of benefits than r-alpha lipoic acid. R-ALA is commonly known as the "universal antioxidant" because it functions as both a water- and fat-soluble antioxidant with the ability to neutralize several different types of free radicals, perhaps more than any other antioxidant known to man.

In addition, a portion of r-ALA is reduced to a substance called Alpha-dihydrolipoic acid (DHLA), which functions directly as an antioxidant, helping to neutralize reactive oxygen species (ROS) and nitrogen oxygen species (NOS) free radicals.

Just as impressive as its antioxidant capabilities is DHLA's ability to help to regenerate "used up" or oxidized antioxidants such as vitamins C & E, CoQ10, and glutathione. One nutritional scientist wrote, "When an antioxidant like vitamin C neutralizes a free radical, it becomes oxidized itself, and is not able to neutralize other free radicals until it has been reduced or regenerated. DHLA is a potent reducing agent, and has the capacity to regenerate a number of oxidized antioxidants to their active antioxidant forms. DHLA can be regenerated from alpha-lipoic acid through the activity of enzymes present in cells."

So by taking r-ALA energy production is optimized (especially when combined with acetyl l-carnitine) and the enormous amounts of free radicals produced from mitochondrial energy production are effectively neutralized, via r-ALA itself and the other antioxidants it regenerates.

R-ALA also binds with excess free metal ions such as iron and copper, both of which can trigger a number of reactions that generate free radicals. R-alpha lipoic acid chelates (binds) with these ions in a way that prevents them from generating free radicals.

As mentioned earlier, r-ALA is involved in the regeneration of glutathione, which is arguably the most important

antioxidant we have in our bodies. In addition to regenerating oxidized glutathione, R-ALA has been found to increase intercellular glutathione levels by increasing the uptake of cysteine by cells.

Lastly, r-ALA is also believed to be involved in maintaining proper glucose metabolism by improving insulin sensitivity.

Note that many alpha lipoic acid supplements available today are a 50/50 mixture of two forms: the "R" form, which is the natural form, and the "S" form, which is synthetic. The "S" form of alpha lipoic acid, which is reduced in the cytoplasm, is inactive. The "R" form, the natural coenzyme, which is reduced in the mitochondria, is active. In other words, the r-lipoic isomer is the only active form in mitochondria cells. It was once thought that synthetic alpha-lipoic acid, which contains both s- & r-isomers, would work within human cellular straits, but research showed that at mitochondria cell level only the r- form made it though... if the s- form was NOT present to inhibit its transition. This means the synthetic form of alpha-lipoic acid has NO effects inside mitochondria cells (it may actually have inhibiting effects that are potentially derogatory), in spite of half of it being composed of r-alpha lipoic acid.

DMAE and PABA

Dimethylaminoethanol (DMAE) is a naturally occurring nutrient found in fish. It stimulates the production of choline, which in turn allows the brain to optimize production of acetylcholine, a neurotransmitter involved in learning and memory. DMAE has been reported to inhibit the formation of the pigment lipofuscin, which is formed by the inefficient metabolism of fatty acids. Lipofuscin accumulates with age in all body tissues; in the skin it appears as liver spots. DMAE not only prevents the formation of lipofuscin, but also has been observed to remove liver spots completely. This may be equated with internal removal of aging cells by long-term supplementation with DMAE. One study evaluated the life extension effect of DMAE on old mice. Oral DMAE administration in the drinking water resulted in a reduced mortality rate and an increase in both mean and maximum survival time in rats.

Para-amino benzoic acid (PABA) is a B-complex vitamin that acts in a structural role with folic acid and also functions in the formation of red blood cells. It is also a potent neutralizer of singlet molecular oxygen, a free radical that is a common by-product of metabolism. PABA's free radical neutralization is a most powerful effect because it retards collagen cross-linking, promotes flexibility, and promotes healthy cell structures and membranes. Glycosylation (or glycation) is a process where glucose molecules attach themselves to proteins, eventually resulting in protein binding, or cross-linking, which alters their biological and structural roles. Cross-links, also known as advanced glycosylation end products (AGEs), have been linked to the loss of flexibility and deterioration of connective tissue associated with aging.

All that said, the primary reason why DMAE and PABA exist in the product is to amplify and potentiate the ALC and r-ALA components. The amounts of the latter two used in Ames' studies are extremely high and supplementation with those amounts is not only impractical but would be unbelievably expensive. DMAE and PABA are a nutrient substitute for the anti-aging "drug" GH-3 and mimic its effects (providing substantial benefits of their own). Dr. Misner writes, "By adding essentially what is a GH-3 formula, the resulting effects of ALC and r-ALA are remarkably multiplied." In other words, thanks to the effects of DMAE and PABA less ALC and r-ALA are required to achieve noticeable benefits.

Vitamin E & Vitamin B6

Vitamin E is a well-known fat-soluble antioxidant, which is one of the reasons for its inclusion in the Mito Caps formula. However, the primary reason that both vitamin E and vitamin B6 are in the product is because, in the words of Dr. Misner, "In order for the GH-3 like effect to be secure, these two nutrients must be present and available." Put another way, for DMAE and PABA to yield their benefits, adequate amounts of both vitamin E and vitamin B6 are necessary.

Ascorbyl palmitate

We all know the antioxidant benefits of vitamin C, the most common form of this vitamin being ascorbic acid. In

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addition to its many benefits, vitamin C enhances the bioavailability of carnitine, which results in greater fat utilization capabilities. Vitamin C is also available in a variety of other forms – one is ascorbic acid chemically bonded (chelated) to specific minerals such as calcium (calcium ascorbate). Another form is the fat-soluble form known as ascorbyl palmitate.

Ascorbyl palmitate is a synthetic and non-acidic form of vitamin C that, due to its lipid (fat)-soluble nature, has the ability to reach specific areas of tissue that ascorbic acid—an acidic, water-soluble form of the vitamin—cannot. In other words, ascorbyl palmitate and ascorbic acid work in entirely separate areas of the body and only ascorbyl palmitate—the fat-soluble form of vitamin C—is beneficial for aiding in the prevention of peroxidation of the lipid areas of the body.

Summary

It would be hard, if not impossible, to find any product that contains a variety of nutrients that have so many benefits, both singularly and synergistically.

No other product, in my opinion, has so many benefits that apply to both enhanced athletic performance and overall health. That’s why I consider Mito Caps to be such an important product, one that every person—athlete and non-athlete—should take every day for life. To reiterate and expand on Dr. Misner’s earlier statement:

“Mito Caps product is a plausible and safe supplemental intervention that may reduce mitochondria substrate depletion imposed by age and endurance exercise stress. I have taken these substrates without any known side effects... except less fatigue, better endurance performance, and less required sleep. So few substrate molecules function biochemically inside mitochondria cells. Endurance athletes should realize how incredibly important it is to effect mitochondria and that everything formulated in this compound influences mitochondria cell biochemistry function synergistically and remarkably. Mito Caps is a product that I recommend taken year-round.”

Hammer Gel Now Available in 255 Flavors!

David Levin

Are you thinking that maybe Hammer added Spearmint, Parmesan, Olive Oil & Garlic, Nutmeg, and a couple hundred more flavors while you were downstairs on the trainer? No new flavors (yet), but did you know that there are 255 possible flavor combinations of Hammer Gel? That’s the number of mathematically possible combinations using anywhere from just one to all eight flavors (I’m not going into the philosophical argument of whether “unflavored” is in fact a flavor; I’m ignoring it here.) And that figure is just combinations, not counting proportions of each flavor.

Of course, only a fraction of these combinations are practical, but that still leaves plenty of new options. If you haven’t used/tested any Hammer Gel customized cuisine, you’re missing some variety, good flavors, and little fun, too. Some recommended combos include: orange/vanilla, banana/tropical, banana/orange/tropical, vanilla/raspberry, chocolate/espresso, and chocolate/raspberry.

You can mix these fully by leaving a little head space in the hammer flask and shaking vigorously. You can also layer them and have two or three flavors in one flask, at least for a while.

Powerful athletic benefits!

- Improve energy production capabilities
- Superior antioxidant support
- Potential increase in longevity
- Better fat metabolism

What have you done for your mitochondria lately? The unique Mito Caps formula helps mitochondria work more efficiently and stay healthy.

Order today!
 1.800.336.1977
 www.hammernutrition.com

“I used the Race Caps Supreme and **Mito Caps** during a long ride for the first time recently...holy cow, they worked awesome! I’m usually pretty spent at 2.5 hours but I had very little fatigue at the 3 hour mark when I hit my last two climbs. Then Sunday I did a 13 mile run 3 minutes faster than just a week previous.” - Lou O.



Rapid energy that lasts!



Order today!
 1.800.336.1977
 www.hammernutrition.com



Shopping Spree

Jim Bruskewitz

I'm shopping for some more fitness. I have some races that are getting ever closer and I don't want to wait until the last minute to get what I need to meet the challenge. I know I want to feel better while going faster and I'd like to ride that feeling out as long as I can. On my shopping list I have some specific training tools that I'm looking for, and I want to get the best I can find for the time I'm willing to spend. There's some training I'd like to avoid. In general, I'm really not interested in just throwing a bunch of miles at my body unless I know I'll get the desired results, and I certainly don't want to just replicate what others are doing if for no other reason than I see a bunch of people trying really hard and not getting what they want.

On my list I have specific training items that when assembled should give me all the parts I need to build my body into a lean mean machine. I like the sound of that. I'm planning races that last anywhere from 2 plus to 9+, well maybe 9++++ hours to finish. I think I can get a lot of utility out of the training items I'm looking for because most of them will help me with all of the distances I plan to race.

Time to check my shopping list to make sure I'm not missing anything. I'd really like a training tool to help me burn fat (fatty acids) because I know that I'll rely on this fuel source to greater degrees the longer the race that I'll be doing. I know I'll make good use of this item because it will be the primary fuel source I'll need when I'm recovering from my workouts too. I can't forget that if I pick this tool wisely, I'll be able to spare other fuel sources at paces up to my anaerobic threshold (AT) and hold a faster AT pace to boot. This tool

will also help me increase the blood perfusion to my muscles and will be great for aerobic work. I'll also increase the number and size of my mitochondria where the enzymes needed to deliver energy aerobically reside. With all these benefits, it is no wonder that this is the first item on my list of "must haves".

I want something that will push my anaerobic threshold to a higher pace. This will be an attachment to the tool I previously mentioned and will force me to rely more on glucose (stored as glycogen in the muscle) as a fuel source. I will be able to store more glycogen in my muscles after training at my anaerobic threshold. I'd like this item to be able to help me shuttle lactic acid back to something I can burn using the first item on my list. That way I won't be building up the lactic acid in my muscles, causing problems that will compromise my ability to sustain an effort. This item should get me accustomed to a pace that I will use during the 1/2 Ironman races lasting 4 to 5+ hours that I have planned.

Next, I definitely want a tool, that when used sparingly, will improve my pace at the shortest races I'll do, those lasting 2+ hours. The beauty of this item is its utility. I want to be able to improve everything, my fat burning abilities, my ability to burn fatty acids and glucose both at elevated rates. And this item will tax my cardio-pulmonary capabilities to a greater degree, improve my ability to buffer the lactic acid I am producing, and make me accustomed to both the speed and level of discomfort that comes with sustaining this effort for up to an hour in a given discipline.

I can certainly use a tool that will help me recruit more muscle when I am

training and racing. The more muscle I have available at any moment in time, the more muscle mass that can be spared at any moment when holding a steady workload. Also, for those times when I have to produce a lot of force in a short period, like hills and transitions or anytime I'm accelerating, I'd like to find a tool that will improve my ability to do these things.

The last item I'm looking for will improve my ability to work at my aerobic capacity (VO2 max). I will get quite a few extras with this item, like it or not. Everything I am looking for is being trained with this item but utility comes with a price. The high levels of lactic acid produced will require extra recovery time. I'll get practice at delivering energy anaerobically above my AT. My cardio-pulmonary system will be further taxed. Since I will never spend anything more than brief moments at this intensity while racing and the amount of recovery will keep me from training as much in its wake, I will not need much of this item.

I think I have a reasonable list. I'm headed to the fitness market to see what I can find. I'll match the label's contents with my shopping list and use the directions for use to guide me through my workouts. Here's what I'm putting in my shopping cart.

Product: Endurance – going, going, and going

Contents: Increase in the number and size of mitochondria-increase amount of capillarization (blood supply to muscles)-increased ability to burn fatty acids-increased muscle glycogen stores

see JIM on page 15

PSA Caps

The ingredients rationale



Bill Misner, Ph.D. & Steve Born

Q: I notice you have both Beta-sitosterol and Saw Palmetto Extract in PSA Caps. Isn't that redundant? Also, have you considered adding pumpkin seeds?

A: After reviewing most of the products sold commercially from reputable manufacturers, the PSA Caps formula is unique due to significant effects in both water-soluble and fatty acid-soluble entry metabolism.

Beta-sitosterol increases Interleukin 2 (IL-2) and Interferon Gamma production by stimulating the proliferation of TH1 Helper T-Cells and deactivating TH2 Helper T-Cells. One of the problems with generating potency with Beta-sitosterols is absorption, since 95% of it may be metabolized prior to productive effects upon the prostate. If Beta-sitosterol is poorly absorbed at 5%, then raising concentration levels will be effectual when in the presence of other specific ingredients such as steroidal saponins and *Urtica dioica* root extract (Stinging Nettle, a.k.a. Nettle). When Beta-sitosterol is formulated in combination with other Phytosterols or Sterolins such as the Steroidal Saponins (Beta-sitosterol & Stigmasterol) like those found in Saw Palmetto with triterpene fractions (Cycloartenol, Lupeol, Lupenone, and 24-methyl-Cycloartenol), they potentiate (increase the effectiveness of) each other. Stinging Nettle is the most effective adjunct to Saw Palmetto and Beta-sitosterol for the treatment of prostate health. Nettle and extra amounts of Beta-sitosterol concentrate, including a fractional amount in Saw Palmetto, are formulated into PSA Caps to raise these potent effects both by quality and quantity.

Oral tribulus terrestris increases plasma

testosterone levels in animal studies. But when I convert dosage necessary to human standards, you are looking at 750-1000 mg per day. That would be at least [the amount necessary to fill] a -00- capsule in addition to PSA Caps, with the string that elevating testosterone in a prostate issue may not be the best idea... normal health yes, but all persons, no. Horny Goat Weed's (Epimedium) effectual doses also raise testosterone [at about] 500-1500 mg per day. It raises the same questions that Tribulus raises and may fit into the normal healthy male prostate supplement protocol, but not in those who are experiencing growth or cancer issues in their prostate.

Pumpkin seeds are "reported" to reduce male dribble urinary incontinence. The evidence for this statement is only supported by anecdotal hearsay. When I reviewed the contents of pumpkin seeds or seed oils, I found a significant amount of Omega-6 and Omega-9 fatty acids, and a significant amount of phosphorous and potassium. The other micronutrient levels that may influence prostate health are in pumpkin seeds, but not in the concentrated amount needed to affect prostate health unless very large amounts were consumed.

Pumpkin seeds (milligram substance per 100 grams seeds)

Amino Acids: 24,540
Carbohydrates: 17,810
Fiber: 3,900
Simple Sugars: 1,000

Carotenoids:
* Beta-carotene – 228 mcg

Lignans:
* Secoisolariciresinol

* Lariciresinol

Lipids:

- * Omega-3 – 181
- * Omega-6 – 20,720
- * Linoleic Acid – 20,720

Monounsaturated:

- * Palmitoleic Acid -- 99
- * Oleic Acid -- 14,146

Saturated:

- * Lauric Acid – 44
- * Myristic Acid – 52
- * Palmitic Acid – 5,612
- * Stearic Acid – 2,811

Phytosterols:

- * Beta-Sitosterol 13

Minerals:

- * Potassium – 807
- * Phosphorus – 1,174
- * Zinc – 7.46
- * Calcium – 43
- * Iron – 14.97
- * Sodium – 18
- * Copper – 1.387
- * Manganese – 3.021
- * Selenium – 5.6 mcg

Vitamins:

- * Vitamin C – 1.9
- * Vitamin B1 – 0.21
- * Vitamin B2 – 0.32
- * Vitamin B3 – 1.745
- * Vitamin B5 – 0.339
- * Vitamin B6 – 0.224
- * Folic Acid – 58 mcg
- * Gamma-Tocopherol – 19.07
- * Vitamin K – 51.4 mcg

The PSA Caps Formula

Beta-sitosterol – This plant sterol

see PSA on page 15

Alternatives for neck and back pain

Omega-3's vs NSAID's



Steve Born

In a study involving 250 patients diagnosed by a neurosurgeon with non-surgical neck or back pain, daily supplementation with omega-3 fatty acids was found to significantly alleviate pain and reduce the need for prescription NSAID (non-steroidal anti-inflammatory) medications. At the start of the study, all subjects were taking prescription NSAID medication. Subjects were asked to take daily fish oil supplements totaling 2,400 mg/day omega-3 fatty acids (EPA and DHA) for the first two weeks. They were then asked to cut the dose in half, to 1,200 mg/day.

Results from questionnaires filled out by half of the subjects (125) after an average of 75 days on fish oil reported significant improvements in pain, as compared with prior to fish oil supplementation. Most of the subjects (78%) took 1,200 mg/

day; the remaining 22% took 2,400 mg/day. Over half (60%) of subjects reported improvements in overall pain and in joint pain; 59% reported discontinuing their NSAID medications; 80% reported satisfaction with their improvement; and 88% reported that they would continue taking the fish oil supplement. No significant side effects were reported.

Although the study was not placebo-controlled, these results suggest the safety and effectiveness of omega-3 fatty acids in the treatment of non-surgical neck or back pain. The authors point out that their findings mirror the results from other controlled trials that have showed the effectiveness of omega-3 fatty acids as compared to ibuprofen for the treatment of arthritic pain. Given the prevalence of discogenic pain, such as back and neck pain, and the side effects and complications associated

with the use of NSAIDs (such as gastric ulcers and myocardial infarction), these findings are promising, and warrant appropriately designed studies to further investigate the potential of omega-3 fatty acids in the treatment of non-surgical neck and back pain.

References

"Omega-3 fatty acids (fish oil) as an anti-inflammatory: an alternative to nonsteroidal anti-inflammatory drugs for discogenic pain," Maroon JC, Bost JW, Surg Neurol, 2006; 65(4): 326-31.

Note: Hammer Nutrition carries two sizes of the super high quality Carlson Norwegian Salmon Oil.

Real Athletes, Real Results!

"I can only report my results, but after taking motrin 800mg daily for years, my wife tried the Tissue Rejuvenator to see if it worked and it has! She is off the motrin completely, taking 2-4 Tissue Rejuvenator caps a day." - Jeff T.

Read more about Tissue Rejuvenator on page 27

HOT TIPS

Recover right and reap the benefits

Always remember that how well you recover today greatly determines how well you'll perform tomorrow, which is why athletes who attend to the recovery process as much as they do to active training have a distinct advantage over athletes who disregard or neglect it. Therefore, if you want to reap the benefits out of all the time and energy you put into your training, it's crucial for you to replenish your body with the following nutrients as soon as possible after you finish your workout (ideally within the first 30 minutes) :

- 30-60 grams of high quality, complex carbohydrates
- 10-30 grams of protein, preferably whey isolate, along with your complex carbohydrates
- Supplementary vitamins, minerals, and a wide variety of antioxidants

For more information on this important topic, read the article "Recovery - A Crucial Component For Athletic Success" in The Endurance Athlete's Guide to Success

PSA from page 13

inhibits 5-alpha reductase, the enzyme that converts testosterone to harmful dihydrotestosterone (DHT) and aromatase, an enzyme that catalyzes the conversion of testosterone to unwanted harmful estrogens (estradiol and estrone), elevated levels of which are an underlying cause of enlarged prostate. Beta-sitosterol has been reported to reduce BPH-related symptoms, including cancer growths in the prostate gland. Beta-sitosterol has been demonstrated to improve urine flow velocity in men with enlarged prostate, while also providing anti-inflammatory effects in prostate tissue, which helps reduce BPH symptoms, enlarged prostate, and potential cancer cell mutations.

Saw Palmetto Extract (Serenoa repens) – The extract from this plant (a creeping palm with a trunk that lies on or just below the ground surface) is arguably the most frequently used herbal treatment for prostate problems, with several research studies demonstrating that a 45-90 day treatment for enlarged prostate leads to a significant clinical improvement. Saw Palmetto (320 mg per day) inhibits 5-alpha reductase, the enzyme that catalyzes the conversion of testosterone to dihydrotestosterone (DHT), reducing DHT by 66% in the periurethral region of the prostate gland, and by 50% in the prostate gland. Saw Palmetto also reduces epidermal growth factor (EGF). Men using Saw Palmetto for the treatment of enlarged prostate

generally begin to notice relief from their symptoms within the first 30 days of use.

Stinging Nettle (Urtica dioica root extract 4:1) – The active ingredient in this herb-like shrub inhibits the ability of epidermal growth factor (EGF) to bind to its receptors in the prostate and to subsequently stimulate the growth of prostate tissue (a key underlying factor in the progression of enlarged prostate). Other uses for Stinging nettle include treatment for urinary tract infections, kidney stones, and hay fever.

Epilobium (small flower willow) – Epilobium contains two polyphenols (Oenothin A, Oenothin B), which inhibit the 5-alpha reductase enzyme conversion of testosterone to DHT. Epilobium also inhibits aromatase from converting testosterone to estrogens, which happens in older males as they age, helping to reduce harmful DHT, estradiol, and estrone levels, which are known to contribute to prostate-related disorders. Epilobium also inhibits two types of prostaglandin 2's (especially E-2), which have undesirable pro-inflammatory effects.

Lycopene – This member of the carotenoid family (it produces the red/reddish color in tomatoes, watermelon, pink grapefruit, guava & papaya) is a powerful antioxidant that protects the Deoxyribonucleic Acid (DNA) content of lymphocytes (cells found in the blood, lymph, and lymphoid tissues) from oxidative damage. It interferes with the

ability of Insulin-like Growth Factor-1 (IGF) to stimulate the proliferation of various types of cancers in the breast, endometrial, and prostate tissue. Research reports that endurance cyclists suffer from prostate disorders, erectile dysfunction, reduced sperm motility, and reduced sperm counts. Using 50 volunteers with low active sperm counts, researchers gave subjects 8 mg/d of lycopene during this one-year study; 35 patients experienced an improvement in sperm count, and 30 had improved functional sperm concentrations. There was a 36% pregnancy rate among the participants' partners by the end of the study.

Alanine, Glutamic Acid, Glycine – These amino acids, when taken for 14 days or more, minimized the symptoms of enlarged prostate. In order to positively affect/influence several hormonal pathways involving prostate health, these particular amino acids should be consumed 60+ minutes before other amino acids (or protein-containing foods) are consumed.

Dr. Misner's suggested use

To maximize the effect of PSA Caps, take 2 in the AM on an empty stomach then 2 on an empty stomach 1-2 hours before bedtime. After 6 weeks of taking this protocol, see your healthcare physician (urologist is recommended) for a PSA blood lab and physical prostate exam to determine BPH status.

JIM from page 12

Directions for use: Very long slow efforts at 75-80% of anaerobic threshold and long tempo efforts at 85-90% of anaerobic threshold effort or pace lasting for 30-90 minutes depending on level of fitness

Product: Muscular Endurance - a big effort over a long period

Contents: Move anaerobic threshold to a higher % of maximum effort and increase ability to buffer metabolic acid production

Directions for use:

- AT intervals: Work time 5-20min./ rest 1– 8min.
- Progressive Sets: Continuous long efforts with progressing intensity

- e.g. tempo(T)- anaerobic threshold (AT)-super AT 1 set lasts 6-15 minutes

Product: Strength

Contents: Remove neural inhibition and synchronize neural recruitment of muscle motor units

Directions for use:

- Weight training
- Hill sprints
- Individual leg training on bike
- Short sprints with lots of recovery

Product: VO2 max-aerobic capacity training

Contents: Improve ability of muscles to use oxygen, improve anaerobic threshold,

improve cardio-pulmonary function

Directions for use: Very hard training with efforts lasting 1-3 (5) minutes depending on fitness level. Rest between efforts should be equal to the effort. Do not exceed recommended dose. Use sparingly for up to six week period.

My cart is full. If I incorporate these tools in conjunction with my season plan, I'll have touched the training bases that will point me squarely toward realizing my potential. I can't think of anything better, can you? Have fun out there.

Jim Bruskevitz (ep1@charter.net) coaches triathletes online www.enduranceperformance.com, and is a Lecturer at the University of Wisconsin-Madison's Department of Kinesiology.



The Hammer Nutrition Body Care Line

Bill Misner, Ph.D. & Steve Born

In Brian's welcome letter in the last edition of Endurance News (#57), he mentioned the addition of specific body care products to the Hammer Nutrition product line. In this issue, we're excited to announce that all four of the products that currently comprise our body care line are now in stock.

As you know, for the past 21 years we've been zealous about supplying you, our valued clients, with the highest quality products you can put in your body. Now, you can count on the same high standards and unsurpassed quality when it comes to products you put on your body.

Hammer Balm

We introduced Hammer Balm in late summer last year. It's a product that many of you are already using, and one that we've received a lot of positive feedback on regarding its effectiveness. For those of you who have yet to try the product, Hammer Balm, as you might suspect from the name, is an muscle balm—a transdermal, deep penetrating, analgesic compound—designed to alleviate the pain and discomfort associated with sore muscles and inflamed joints. The difference between Hammer Balm and a vast number of products on the market is that Hammer Balm is 100% natural and completely free of camphor, menthol, petroleum, and other harsh chemicals.

One of the problems with many of the creams, lotions, and salves that are frequently used is the strong and unpleasant menthol/hot pepper odor. Another is that many of these products irritate the skin, causing a painful "burning" sensation. While many who

use these popular products feel, via the combination of strong smell and hot skin, that "something must be going on," the fact is that very little is actually happening; most topical applications fail to permeate deep through the skin barrier to capillary beds to beneficially affect inflamed muscle areas.

That's precisely why, when designing Hammer Balm, one of the goals—perhaps the primary goal—was to reproduce the superb skin permeation effects of DMSO but without the side effects associated with this compound: pungent odor, skin irritation, and halitosis (bad breath). In fact, it is the putrid, garlic-like odor in the breath, nasal passages, and



sweat commonly associated with DMSO use, that provides ample evidence of its permeation abilities. Unfortunately, that "plus" is greatly overshadowed by the aforementioned negatives associated with DMSO. That was the gist of the challenge facing us.

For over nine months, a tremendous number of topical formulations were tested—along with a select group of anti-inflammatory ingredients—in the hopes of attaining effective skin penetration without unpleasant side effects. Finally, after a long and oftentimes frustrating trial and error process of testing various compound formulations, the right combination was found. A precise mixture of distilled water, a unique alcohol/organic emulsifying agent (Isopropyl Myristate), and a number of specific liposomes (primarily

soy lecithin), was shown to effectively permeate the skin barrier. Mission accomplished!

Hammer Balm's anti-inflammatory ingredients

With the achievement of effective skin penetration, the next goal was to select ingredients that would effectively and safely provide relief for muscle pain. The following were chosen:

Arnica – Helps inflammatory conditions of the skin and helps to reduce bruising. Topically applied, Arnica also accelerates the healing of sprains due to its helenalin and dihydrohelenalin content.

Ginger – Inhibits the inflammatory eicosanoids that contribute to the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

Capsaicin – Reduces the musculoskeletal pain associated with fibromyalgia: improves the mobility and flexibility of the joints (by inhibiting the activity of Substance P and by preventing the destruction of cartilage); and alleviates the pain associated with osteoarthritis, rheumatoid arthritis, and tendonitis.

Clove oil – The primary active ingredients are known as eugenols (Eugenyl Acetate, Isoeugenol, Caryophyllene, and Isocaryophyllene), which effectively reduce pain. For example, when Eugenol is applied topically with a cotton ball to an aching tooth, it resolves the pain.

Effective ingredients + special proprietary process = positive results!

Making Hammer Balm is definitely

not an easy process. In fact, an eight-stage process that requires 28+ hours to grind, emulsify, blend, and cure all the ingredients is required to make a single batch! It's worth the effort however, as the results are impressive. In fact, prior to its introduction, Hammer Balm was tested on over 100 subjects ages 35-67. The results were overwhelmingly positive: not one subject reported negative side effects, all subjects reported positive anti-inflammation results, and the majority of the subjects asked a question to the effect of, "Why doesn't it burn my skin or have that overwhelming menthol odor like so many other products?"

Finally, you can enjoy effective muscle pain relief without the nasty smell or burning skin effects that are so common with other analgesics. Once you try Hammer Balm, you won't want (nor need) to go back to whatever product you may have been using. It's available in a 1/4 ounce trial size for \$4.95, and in a 1 ounce jar for \$19.95.

Cool Feet

The second body care product now available is Cool Feet, a super concentrated, anti-odor, anti-fungal foot powder. This product is super effective and a little goes a long way, so there is no need to fill your shoes or socks like you might with other products. It contains no petroleum products, harsh chemicals, or metals. Cool Feet helps prevent odor, burning, itching, blistering, and other foot fungus-related symptoms. On top of that, it smells nice too! Cool Feet can be used in your everyday shoes, but you'll really notice just how effective it is when you use it during hot-weather exercise.

Cool Feet's unique formula

Arrowroot is nourishing and soothes irritation internally as well as externally. It's known to have been cultivated as far back as 5000 B.C. We chose this ingredient instead of

cornstarch because many people have corn sensitivities.

Baking Soda is a deodorant and moisture absorber. It relieves itching and helps to balance pH. Baking Soda is also found in therapeutic mineral springs.

French White and French Green Clays are mined from bedrock quarries in France and then sun-dried. They absorb excess oils, impurities, and toxins from the skin. They also exfoliate, thereby improving skin circulation. French Clays contain beneficial trace minerals and improve tone and strength in connective tissue.

Peppermint oil has been used in ancient China, Egypt and Japan, and is now currently used in Europe and the Americas. It is

an antipruritic, meaning it relieves itching. Peppermint oil is also an antiseptic, antimicrobial, antiviral, and astringent.

Basil oil is native to India, and is widely used in Ayurvedic medicine. It has prophylactic properties (helps to prevent infection). It is also an antiseptic and soothes itching.

Bay oil is an antiseptic, which destroys or prevents microbes, and is an astringent. It is a bactericidal and fungicidal as well.

Sage oil reduces perspiration, and is an anti-inflammatory. It also is known for its antibiotic, antimicrobial, antiseptic, and astringent qualities.

Tea Tree oil is an antifungal, antiseptic, and antimicrobial. It helps to relieve skin irritations. Tea Tree is an immunostimulant – the more your body is exposed to harmful organisms, tea tree increases its response.

Clove oil has pronounced antiseptic, antisthetic, and antibiotic properties. Clove is also an antioxidant and an antiviral, which inhibits the growth of

viruses.

With Cool Feet you get exactly what you want out of a foot-care product without having to douse your feet with copious amounts of powders or sprays that contain chemical additives, petroleum products, or metals. In spite of the fact that Cool Feet contains none of those unwanted ingredients, it's potent and effective... so much so, in fact, that you only need to use it 3-4 times a week to achieve beneficial results.

Cool Feet is available in a 3 gram sample size packet for \$1.50 and a 2.7 ounce container for \$11.95.



Soni-Pure

You probably already know that good personal hygiene—which includes frequent hand washing—is arguably the best way to avoid illness and prevent the spread of germs. This has led to the rise and frequent use of waterless hand sanitizers or towelette-type products. However most, if not all, of these products are alcohol based and contain chemical ingredients, which is why we were compelled to produce an effective alternative.



If you are a frequent user of hand sanitizers or moist towelettes, or if you don't use them because of their composition, Soni-Pure is a product you'll definitely want to try. It's petroleum and alcohol-free so it won't dry your skin or expose you to harsh chemicals. What it will do is provide an effective defense against germs and bacteria. In fact, Soni-Pure has been shown to kill aerobic bacteria, yeast, mold, and fungi 100% for up to eight hours.

The power of Soni-Pure

Tests on the ingredients in Soni-Pure, some of which are used in Cool Feet as well, have been shown to significantly inhibit microbial proliferation on human skin.

Peppermint oil has been reported to

see BODY CARE on page 21



Angela Nock

Become a member of the ULTIMATE cycling training, nutrition, and motivation resource center in the world and earn free Hammer product!

New this year to Hammer Nutrition is the Cyclo-CORE set of DVD's, the brainchild of cyclist Graeme Street. A complete training and nutrition system for cyclists of any level, the Cyclo-CORE DVD's are a worthy addition to the library of any athlete.

Adding another level to the benefits of Cyclo-CORE is the new Cyclo-CLUB and Hammer Nutrition is pleased to be a part of it. Read an excerpt from Graeme explaining a bit more about this exciting new resource.

Dear fellow Everyday Cyclist,

This is what you've been waiting for! The ULTIMATE Cycling CLUB and Membership Resource Center for the passion of the everyday cyclist is open and we want you to join today!

The Cyclo-CLUB membership is your opportunity to become a part of the

fastest growing global cycling community and resource center in the world! This is YOUR OPPORTUNITY to be a part of cycling!

This will be your CLUB! You are the focus. No matter where you live, how old you are, how fit you are or how long you've been riding. We're ALL Everyday Cyclists and this is where we come to train, learn, share, and grow together! You will develop bonds with cyclists just like you from other clubs and areas around the world, everyday!

Cyclo-CLUB is a cycling driven community developed by cyclists, for cyclists! Our primary mission is to work together to offer you the VERY BEST cycling related training, nutrition, motivation, incentive, expert insight, exclusive features & cycling secrets, & specials to support the Passion for Why You Ride!

I look forward to riding with you here, in your Cyclo-CLUB!

*Graeme Street,
Owner and Senior Administrator*

Hammer Nutrition has partnered with Graeme and will be offering a variety of incentives to join Cyclo-CLUB. First, when you sign-up with Cyclo-CLUB through Hammer Nutrition, you'll receive product credit to use on future Hammer Nutrition orders! As a Basic annual member, you'll receive \$20.00, and \$30.00 when you join as a Platinum member. Second, as a Cyclo-CLUB member you'll have exclusive access to the live forums and round tables that feature Steve Born. We currently are not offering live seminars and forums on our site, and while Steve gives many talks each year at events, we know it's not possible that everyone can attend. Joining Cyclo-CLUB gives you the opportunity to hear Steve live!

Take a look at the facing page for a breakdown of what each membership includes and then cruise on over to www.hammernutrition.com/cyclo-club and join the club!

HOT TIPS

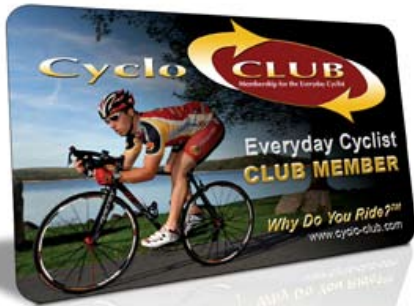
Triathletes - Change fuel & decrease calories before T2!

If you're a triathlete, you know how hard it can be on your body when transitioning from cycling to running, especially during half or full iron distance races. You probably also know that fuel consumed during a more-impactive type of exercise like running can oftentimes be a challenge to your stomach,

especially when compared to when you're on the bike. Therefore, we suggest that triathletes competing in longer distance races, especially full iron distance triathlons, change from their primary on-the-bike fuel of Perpetuem or Sustained Energy to Hammer Gel or HEED during the last hour on the bike,

while also decreasing caloric intake by up to 50% at that time. Your performance won't suffer a bit and that'll make things much easier on your stomach as you head into T2 and out on the run portion of your race.

Hammer Wants **YOU** to Become a Member of the **ULTIMATE** Cycling Training, Nutrition, and Community Membership in the World.



Basic Membership

Access to all Cyclo-CLUB weekly agenda tips, workouts, nutrition resources, expert insights, Q&A and special CLUB features

Access to CLUB LEVEL Training Plan Downloads, select iPod Downloads, Techniques, Stretching PDF's and select Cyclo-CORE Training Workouts and updates

20% off all Cyclo-CORE Training and Nutrition Programs/DVD's and Complete Training Systems

Access to all CLUB Community Forums and Blogs with moderated support, motivation, and sharing

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**Platinum memberships are limited. Act fast.*

Become part of the CLUB today!
www.hammernutrition.com/cyclo-CLUB



New Paradigm Performance Enhancement

Jeb Stewart, MS, PES



Jason Kinley
Photo - Angela Nock

Introduction

For better or for worse, an inherent element of competing in endurance athletics involves where an individual places within an event. It's that good old, inescapable outcome factor, as determined by who you finished in front of, and hopefully not behind, right? Of course it is, and rightly so, as it's hardly a competition if there isn't a way to determine a winner and where the rest of the competitors come in behind them and in what order. This sounds sensible and harmless enough so far, so what's the problem? Let me explain.

The issue

In working with countless numbers of athletes over the years, I have witnessed a growing number of them being incredibly hard on themselves. Whether it's for simply making a mistake during a race or for not performing up to their expectations, this kind of self-mental-abuse, for lack of a better description, can be an issue at any time of the season, but it tends to rear its ugly head much more so early on. Now, I understand that we all want to do our very best as often as possible and even express our subtle dismay of not achieving this outcome. However, the phenomenon I'm describing is that of an athlete hyper-focusing on the negative rather than simply acknowledging it, making note to work on it and then moving on with life, unencumbered by somewhat obsessive remorse, disappointment, and frustration.

This habit is one of the most self-destructive things that I witness athletes do. I can also speak from personal experience, because I spent many of my early years "punishing" myself in this

fashion and as the result, had a lot less fun, and I am sure, was a lot less fun to be around. Not only is it incredibly debilitating on an athlete's performance but it also tends to take away the joy of the sport. The bad news is that this is a major performance limiter in sport and in life. However, the good news is that with an open mind and a few simple action steps, you can put this behind you by simply shifting your mental approach to improving your performance in the very sport that you enjoy so much.

Stepping into the solution

The first step to overcoming this habit is to simply become aware that it is even an issue for you. If not, or if you don't feel that it is, then there's no use pursuing this matter any further, as with overcoming any issue, awareness is the first step in arriving at a solution. The next step is to shift your mental focus from the negative. While performance enhancement does require acknowledging our limiters and working on them, continuously thinking about and beating yourself up over them doesn't change anything. It only reinforces the behavior, thoughts, and beliefs and makes you feel worse. Left unexamined and unaddressed, it tends to get worse and is likely to happen even more often. It is a well known and documented fact that the very things which we choose to focus our thoughts on, not only increases the frequency and magnitude of those thoughts within our own minds, but they tend to start showing up in our lives in many forms. These can include sickness, injuries, repeated lackluster performance, and so on. By simply shifting our mental focus from what we don't want, to what we do want or would like to achieve, relief is often almost felt and experienced

immediately and the long-term result is typically an improvement in performance and the achievement of one's goals in sport and in life.

The second part of improving our performance and our experience during competition is by taking note of the mistakes that we did make, owning them completely and then either practicing them, if improving them is the answer, or doing something completely differently if we determine through personal reflection that we simply made the wrong choice. Allow yourself to be human by giving yourself the freedom to make mistakes. The only way for a mistake to be a "bad" thing is if we repeat the same one over and over again and don't learn the lesson that it's trying to teach us. Simply take note of what error you made, work on correcting it or making a different choice, and play it forward the next time around.

Easier said than done

While none of this is particularly complicated, it can be quite difficult to integrate into your life and to have the discipline to practice it on almost a daily basis. Habitual ways of thinking and our core beliefs are not easy to break once they've been formed over years of "practice". So, if you find yourself struggling to make these changes on your own, please reach out to a good coach, sport psychologist, or combination thereof, as they can really help you with this. There is also a growing body of knowledge and information in the form of books and research papers currently available on the subjects. Learning to live in the NOW takes guidance and lots of practice. However, once you are more able to do so, training, racing and even

see JEB on page 28

BODY CARE from page 17

generate antibacterial effects. Both **clove** and **basil** exhibit antimicrobial effects on the detrimental bacteria *Shigella flexneri*.

Both **Clove oil** and **Bay oil** contain Eugenol, an antiviral substance, which has virucidal (destructive to viruses) effects and has even been shown to be effective in inhibiting herpesvirus replication in vitro.

Tea Tree Oil has been shown to inhibit or kill many detrimental micro-organisms such as *Escherichia coli*, *Mycoplasma pneumoniae*, *Porphyromonas gingivalis*, *Propionibacterium acnes*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Streptococcus mutans*, *Streptococcus pyogenes*, Detrimental Fungi on the Skin, *Candida albicans*, *Pityrosporum ovale*, *Trichophyton mentagrophytes*, Detrimental Protozoa, *Trichomonas vaginalis*, Herpes Simplex Virus Type 1-2.

With a potent ingredient list like that it came as no surprise that Soni-Pure passed testing with flying colors. Soni-Pure inhibited Aerobic Bacteria proliferation, in an ideal growth-enhancing environment, by a factor of 1000 times. Soni-Pure also inhibited Yeast/Mold-Fungus proliferation in an

enclosed growth-enhancing environment a factor of 100 times. Needless to say, that's effective! Soni-Pure is powerful, yet is all natural and petroleum-free. Additionally, its alcohol-free formula won't dry out your hands.

Soni-Pure is available in two forms: a towelette (FREE SAMPLE! Just ask for one on your next order) and in a 2.7-ounce plastic pump-dispense bottle for \$7.95.

Summary

Our belief is that what you put on your body (i.e., your skin) is as important as what you put in your body. That's precisely why we designed a line of body care products that is produced using the same uncompromising standards that go into our supplements and fuels.

For over two decades, you've come to trust Hammer Nutrition to provide natural, healthy, and effective fuels and supplements, and you can apply that same trust to our line of body care products. You won't find these products anywhere else. They're completely safe, extremely effective, and they are fully guaranteed to work for you. Start giving the outside of your body the same care that you give the inside with the Hammer Nutrition Body Care products!

Keep your feet cool, your muscles pain-free and your hands clean...

Naturally!

Order today! 1.800.336.1977
www.hammernutrition.com

HOT TIPS

Homemade Recoverite

If you find yourself running low or are out of Recoverite, don't worry! You can make your own using HEED or Hammer Gel as your carbohydrate source and Hammer Whey as your protein source. Here are the important things to keep in mind:

Every 2-scoop serving of **Recoverite** contains 32.5 grams of carbohydrates (30 grams complex carbs + 2.5 grams xylitol) + 10 grams whey protein isolate + 3 grams of glutamine.

Every scoop of **Hammer Whey** contains 18 grams of whey protein isolate + 6 grams of glutamine.

Every scoop of **HEED** contains 25 grams of complex carbs.

Every 2-tablespoon serving of **Hammer Gel** contains 22-23 grams of complex carbs.

To get a fairly close replication of one, 2-scoop serving of Recoverite, you'll need 1/2 scoop of Hammer Whey + slightly over 1 scoop of HEED. Or, use 1/2 scoop of Hammer Whey + slightly more than 2 tablespoons of Hammer Gel.

1/2 scoop of Hammer Whey provides 9 grams of protein, 3 grams of glutamine.
2 1/3 tablespoons of Hammer Gel will provide approx. 25-26 grams of carbs.

Preserve your hard-earned gains!

1.800.336.1977 / www.hammernutrition.com

Why Hammer Whey?

Steve Born



Protein is a crucial component for recovery and immune system health and for both of those there is no better protein source than whey protein, ideally whey protein isolate. Here's a primary reason why:

Of all protein sources, whey protein isolate has the highest Biological Value (BV) rating. The BV is an accurate indicator of biological activity of protein, a scale used to determine the percentage of a given nutrient that the body utilizes. In other words, BV refers to how well and how quickly your body can actually use the protein that you consume... that's of major importance for enhanced recovery. Here's how some of the various proteins stack up BV-wise:

- Whey protein isolate – 154
- Whey protein concentrate – 104
- Whole eggs – 100
- Egg whites (albumin) – 88
- Casein – 77
- Soy – 49

Note: When the BV system was introduced eggs had the highest known BV and thus were given a value of 100. Whey proteins came to researchers' attention later, and they rang up even higher scores. The 154 BV of whey protein isolate and the 104 BV of whey concentrate are in comparison with the original BV benchmark, whole eggs.

Whey isolate vs. Whey concentrate

Whey concentrate is a decent whey protein but it's not the best; whey isolate is. So when you use whey protein make sure you use whey protein isolate, not whey protein concentrate. Whey isolate checks in at a sturdy 90-97+% protein, whereas whey concentrate contains only 70-80% protein so you get more

actual protein using isolate instead of concentrate. Additionally, whey protein isolate is virtually lactose and fat free. Many lactose-intolerant people can still use whey protein isolate because it contains only a minuscule amount of lactose.

The case against casein

Casein protein has generated some interest, primarily among the bodybuilding crowd, as being a quality protein source. We do not believe this to be true and the article "Casein: Quality protein choice?" from Endurance News #57 provides our rationale why it is not a source of protein we recommend. In a nutshell, aside from casein having a significantly lower BV than whey protein isolate, here are some reasons why casein is not your best choice:

- * Excess casein (in animal studies) reduces life expectancy
- * Excess casein (beta-casein a1 form) increases the risk of atherosclerosis
- * Casein is responsible for allergy onset
- * Excess casein increases cholesterol

Note: You can find the article in its entirety on the Hammer Nutrition web site.

Hammer Whey's generous glutamine donation

Glutamine is a remarkable, multi-beneficial amino acid that's essential for endurance athletes in supporting enhanced recovery and immune system function. Glutamine plays a significant role in the glycogen synthesis process, and along with the branched chain amino acids, it helps repair and rebuild muscle tissue. In addition, glutamine has also been shown to help raise

endogenous levels of glutathione, which is intimately involved in immune system health. Glutamine also contributes to growth hormone release and is a key component for intestinal health.

While many protein powders have minimal if any amounts of glutamine in them, each scoop of Hammer Whey contains a whopping six grams (6,000 mg) of this extraordinary amino acid (note: each two scoops of Recoverite contains 3 grams of glutamine).

Summary

Hammer Whey and the whey protein used in Recoverite is a pure un-denatured whey protein isolate of the highest quality. It is 97.7% pure, and virtually fat-free (0.5 g fat/100g), and carbohydrate-free (0.5 g lactose/100g). The whey protein isolate in Hammer Whey and Recoverite delivers rich immune-enhancing beta-lactoalbumins and alpha-lactalbumins. Hammer Whey has a unique profile of highly bioavailable protein with immune factors, potent branched chain amino acids (BCAAs), lactoferrin, and immunoglobulins. Independent laboratory tests show the PDCAAS (Protein Digestibility Corrected Amino Acid Score) for the whey protein isolate in Hammer Whey and Recoverite is a whopping 1.14, a score that exceeds all of those reported for egg, milk, caseinates, and soy protein.

When it comes to enhancing recovery between workouts—maximizing glycogen synthesis, supporting immune system function, and rebuilding lean muscle tissue—you simply won't find a better protein source than whey protein isolate, which is the only kind found in both Hammer Whey and Recoverite.

Hammer Whey

A nine month trial

Bill and Lito Nicolai head towards West Glacier at the 2007 Highline Hammer
Photo - Kelly Pris

Bill Nicolai

Following the publication of a tip in the *Endurance News* a year ago, I began to use the supplementation protocol suggested by Brian Frank: consuming one scoop of Hammer Whey in plain water two hours after the last meal of the day before bedtime. Here are the results I have obtained;

- I have lost 7 lbs of body weight in the last nine months. This has mostly taken place during the off season when I have been exercising only 10 to 15 hours a week versus 20 to 25 hours weekly in the summer months.
- Muscularity has increased noticeably. This off season I did two free weight sessions per week, and one strength/e-stim session per week on the major large leg muscle groups (glutes and quads). In previous years I have followed the exact same pattern without the gains I observed this winter.
- Coming into the early cycling season, I am riding stronger than ever. At the Tucson Hammer/Cycling House Camp in February, participants I had ridden with before observed better hill climbing and stronger overall riding than they had seen previously. This increase in cycling ability was confirmed at the season opener time trial in late February where I rode my second fastest time ever on the 20 K course (+20 sec) and finished in the upper third of my age group.
- From my own observations, those of my friends, and in my early season race results, it is apparent that my fitness has increased significantly this off-season and I believe that the use of Hammer Whey according to the Hammer Nutrition recommended protocol is a significant contributor to this highly

desired result.

The theory of why the daily supplementation with whey works is that it enables the natural production and utilization of human growth hormone (hGH) which is stimulated by the recent training activities. It has been found that athletes in their 60s, such as me, produce only 20%-25% of the amount of this key hormone as younger persons. This may be one reason why we older athletes fail to obtain the same training gains as our younger counterparts. This hormone, hGH, which is somewhat mysteriously produced in brief bursts by the pituitary gland during sleep, is apparently responsible for significant anabolic effects. It is hypothesized that the consumption of a pre-bedtime 20 to 28 gram dose of whey significantly increases the production of hGH during sleep. Exactly why this occurs is not known. For a more complete discussion of this subject see the articles by Dr. Bill Misner and Steve Born:

- "Hammer Whey's Glutamine—An hGh boosting nutrient" (EN#55)
- "More about Whey & hGH" (EN#56)

If the gains in hGH are occurring, as I believe they are, then at a daily cost of just over \$1 a day, consumption of Hammer Whey is a remarkably inexpensive way for athletes to enable the benefits of significantly increased hGH.

Increasing hGH does work to improve muscle development and training recovery. This fact is regrettably borne out by the widespread use of synthetic hGH by the professional cycling community and other persons wishing

to gain its benefits, such as noted actors and even wealthy lay persons who wish to look younger and lose weight. At a cost of about \$20 a day to receive injections of this hormone if prescribed by a physician, this product is within the means of many people who have a doctor willing to administer it. I strongly recommend that persons do not attempt to gain the benefits of the hormone in this way. It is noted that direct administration of hormones has a history of adverse side effects including cancer. The recent widespread breast cancer epidemic disaster caused by estrogen replacement therapy for menopausal women via oral hormone-containing drugs is ample evidence of the dangers of direct administration of such substances.

I think that the use of a concentrated natural food substance, whey protein, to stimulate my own natural endogenous production of hGH and thereby possibly raising it close to the levels of younger people, is a reasonable course to follow. This method is probably free of the potential hazards of injecting synthetic hormones. The assumption is that obtaining the hGH production as a natural secondary effect of exercise and diet, rather than directly by injection is safe because of the natural feedback mechanisms associated with such processes. This is much the same idea as why it is probably much safer to obtain increased red blood cells as a natural effect of endurance training rather than through the administration of EPO or blood transfusions. Likewise, I would never use steroids or administer testosterone, even if they were legal; there is just too much documented evidence of health hazards, particularly

see *BILL NICOLAI* on page 27



Hammer Camps

Follow-up & feedback from successful sessions!

Hammer Camper
Photo - Brian Frank

Brian Frank

Looking back at the three Hammer Camps we did at The Cycling House in Tucson causes a flood of fond memories of good times and new friends. So good, in fact, that I sometimes wonder whether I benefit more from these camps than the participants. In the final analysis however, I believe we all benefited beyond our expectations, which is why both participants and staff are eagerly looking forward—after a long summer of course—to the next round of Hammer Camps this December and February/March of 2009.

Despite (or more likely because of) the immense diversity of the athletes who came to our camps, all ended up feeling completely comfortable in their group and enjoyed the experience on a profound level, as you can see from their feedback listed on the next page. In fact, many felt that the “community” aspect of the camp was one of the best parts. Our groups consisted of bond traders, building contractors, doctors, financial planners, commercial pilots, bankers, product managers, a psychologist, and even a rocket scientist. Some were roadies, some were triathletes and duathletes, some were mountain bike racers and some were ultracyclists. However, we all shared and reveled in our passion (or, perhaps more appropriately put, obsession) for exercise in one of the most amazing winter training destinations in the world. These camps have given me the opportunity to meet and really get to know so many cool people. If you are one of them, thank you for your time; it was a hoot.

Inevitably some campers later confessed their worries about whether the extensive down time at the house

after rides would be awkward, while others worried that they were not fit or fast enough to keep up, or that the food would be questionable. These concerns and others quickly faded after a day of the laidback, familial vibe that permeates The Cycling House and all of our rides and activities. The synergy created by combining all of the positive energy of clients and the CH staff is hard to describe. Having led four of these camps now, I can only say they just keep getting better and I’m stoked to be a part of them.

I have to give a lot of credit for the unique Hammer Camp “experience” to The Cycling House owner Owen Gue and his staff. Owen, his sister Elisabeth, Andy and Sam Schultz, and Brendan Halpin are all under 25, born and raised in Montana, and about the nicest people you could ever hope to meet. While the maturity and grace under pressure—not to mention business acumen—they exhibit is rare for folks their age, it’s the humble confidence, never complain, can do attitude that really sets them apart. And these are professional athletes, well, except for Elisabeth. There’s no cocky rock star, bling-bling, living-the-life guff you see so often these days. Suffice it to say that when you’ve grown up camping, hiking, fishing, hunting, cliff jumping, running from bears, enduring sub-zero winters, and so on, in the great outdoors of Montana, it takes an awful lot to rattle them. When you meet them, you’ll know exactly what I’m talking about.

Jim Bruskewitz complements and rounds out the group perfectly. Despite being one of the top Masters age group triathletes in the world, he’s as humble and mild mannered as anyone I’ve ever

met. You have to pry his long list of accomplishments out of him because he’d rather be talking about your training, gait, or swim technique. He also has a laidback approach to training and motivation that is easy to understand and embrace. You can’t hire him as a coach because he’s booked solid and has to turn away clients every year. However, by attending a Hammer camp, you can benefit tremendously from his vast experience and knowledge. Did I mention that he teaches kinesiology at UW Madison? Needless to say, if you want to talk about biomechanics, muscle development, and an encyclopedia of endurance knowledge, Jim is the man.

For my part, we certainly talked about diet, nutrition, and fueling throughout the camp, but more powerfully, we lived it too. For so many campers, even those who’ve been using our products for years, it was not until they went through one of these camps that they really got their diet and fueling to “click”. Every evening we talked about their fueling experience from that day’s ride in terms of what was working or not. This translated into further refinements that could be applied to the next day’s upcoming ride and training. Each morning we’d eat a healthy, protein rich breakfast and allow our food to digest while we all mixed our bottles and loaded our fuels together. Then, during the course of the rides, I’d go around checking each athlete to see that they were working on changing their habits to overcome previously determined issues. Some campers did not hydrate properly, some tended to over consume calories, some tended to under consume, etc. With constant help

see *HAMMER CAMP* on page 28

I am totally changing my fueling on the bike. I tried using Perpetuem at the camp and it worked really well for me. I will also use the Hammer Bars. This is a huge change and step forward for me!
 - Liz W

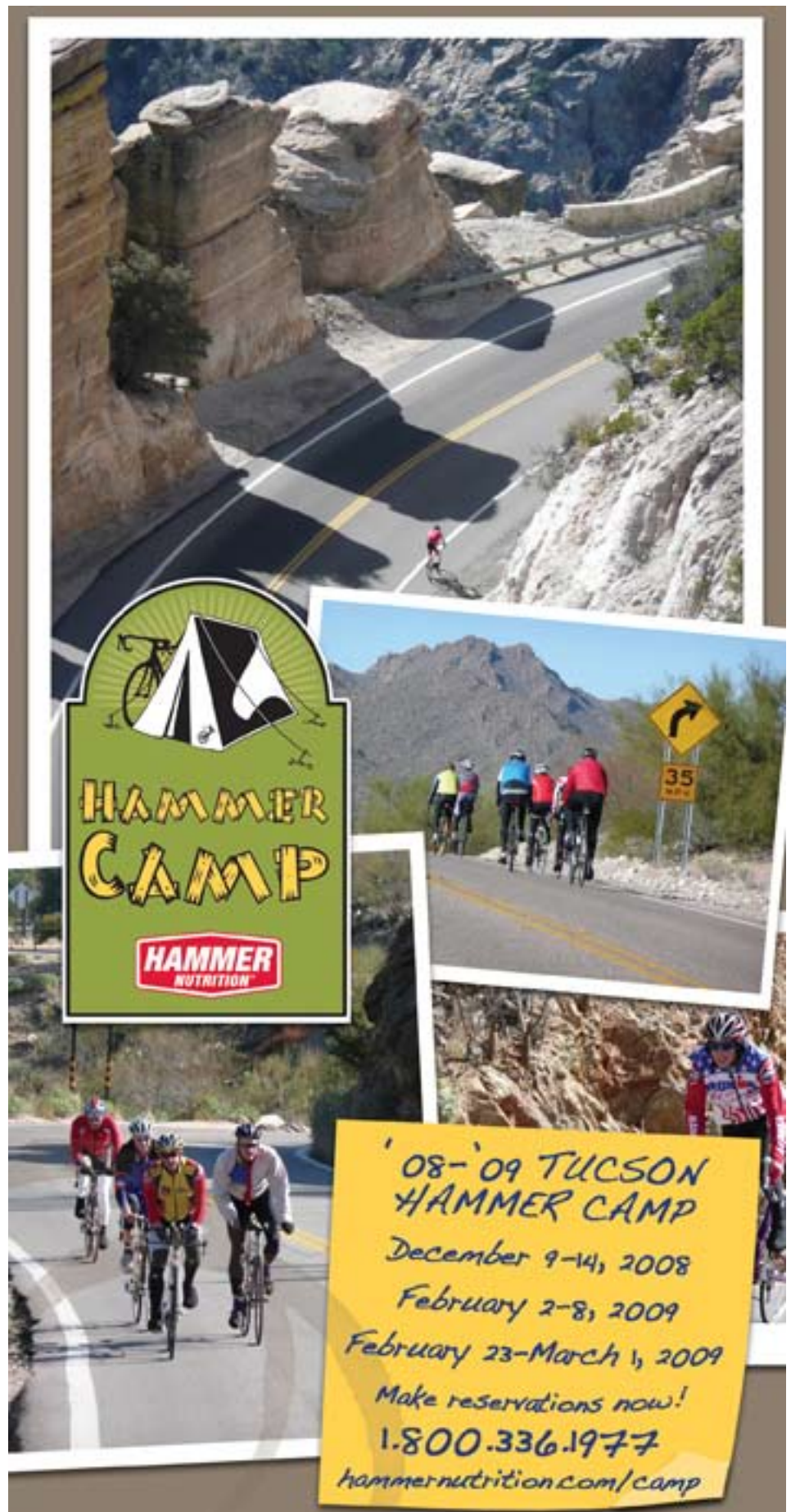
Just a note to let you know that I thoroughly enjoyed meeting you last week in Tucson. What a treat it was to spend a week riding and relaxing. The food was truly out of this world. My active recovery week is off to a great start as well. I look forward to seeing everyone at the races. I loved the energy at the Cycling House and the passion for wellness and excellence. It was an inspiration
 - Robert A

I had all the info and fuel I ever needed. Jim was awesome!! The food was outstanding. I am the guy who had the trip donated so I may be a little biased, but it was something I always wanted to do but could never afford. I had the time of my life, in fact you could read about it on mtbr and roadbike review. Everything was top notch from waking in the morning and having coffee ready to the cycling, food, and accommodations. It was a treat to meet and ride with Brian, he's got a great company.
 - Chris W

The camp was just about perfect. The housing, the people, the staffing, the coaching, the rides, the support, were all wonderful.
 - David R

You provided a first rate camp with everything and more included....thanks for a good experience. Nice friends made along the way!
 - Perry B

Going back next year and hopefully Montana this summer. Very positive experience. So refreshing and encouraging to see and to spend quality time with young people as responsible and respectful as these five young people are. They made the week very special, notwithstanding the beauty of Tucson and the wonderful riding etc.
 - Mark D





Eric Smith Photo : courtesy of Eric Smith

Bill Misner, Ph.D. & Steve Born

Both zinc and 5-HTP are found in Appestat and 5-HTP is a component in REM Caps. We recently received the following questions regarding these two nutrients:

- Have you evaluated the safety of the zinc in Appestat when combined with other zinc sources? Each capsule contains 15 mg zinc so 2 at lunch and 2 at dinner provides 60 mg. Google™ zinc and you will find excessive absorption of zinc can suppress copper and iron absorption.
- What about the 20 mg of 5-HTP? Is there a concern with up to 80 mg from Appestat combined with 25 to 50 mg from [one to two] REM Caps?

Dr Bill replies

“Thank you for these questions; they are good ones. Appestat protocols recommend 3 weeks dose then 1 week off for up to 2 applications of up to 2 x 3 weeks. There is a week “vacation” fasting between 2 courses. I do have a few comments of interest to report...”

Zinc

Most orally ingested zinc is absorbed through the Jejunum. Zinc uptake across the brush border appears to occur by both a saturable, barrier-mediated mechanism and a non-saturable, non-mediated mechanism. Once zinc is within the enterocyte, it can be used for zinc-dependent processes, become bound to metallothionein and held within the enterocyte, or pass through the cell. Zinc is transported to the liver via the portal circulation. A fraction of zinc is extracted by the liver cells, and the remaining zinc is transported to the various cells of the body via the systemic circulation. Zinc

is transported in the plasma bound to albumin (approximately 80%), alpha-2-macroglobulin (approximately 18%) and to such proteins as transferrin and ceruloplasmin (approximately 2%).

So you can see that zinc availability is stressed, at times up until 100 mg becomes a daily chronic protocol. Copper needs to be taken if zinc intake is excessive. Chronic (long-term) ingestion of 100 mg or more of zinc per day may be toxic. Dosages of 500 mg or more of zinc per day is likely to produce toxic effects in many people. The optimal daily allowance (ODA) of zinc (for adults) is 15-50 mg per day. The recommended therapeutic dosage of supplemental zinc for athletes is 30-60 mg (of elemental) zinc per day. People using supplemental zinc to increase their endogenous testosterone levels usually use 50 mg of supplemental zinc per day. Clinical trials using zinc to treat tinnitus [ringing in the ears] involved the use of 600 mg of the zinc sulfate form of zinc (= 138 mg elemental zinc).

5-HTP

Supplemental 5-HTP is available from health food stores and mail order supplement companies (usually only in the USA, Canada, and Europe) in the form of 33-100 mg capsules. Supplemental 5-Hydroxytryptophan is used by many people as an alternative to tryptophan supplementation (due to restrictions on the sale of tryptophan in many regions and also due to 5-HTP being “one-step-closer” to the desired end-product of tryptophan supplementation, i.e. serotonin). Most orthomolecular-oriented physicians recommend the use of 300-600 mg of 5-HTP per day for the treatment of Depression &

Parkinson’s Disease. Unlike tryptophan, serotonin synthesis from 5-HTP is not rate-limited by any natural feedback control for Serotonin synthesis. 5-HTP bypasses this governing mechanism. This permits 5-HTP to significantly increase serotonin production by also increasing the potential for excessive serotonin synthesis. Selective Serotonin Reuptake Inhibitors [SSRIs] “work” by counteracting deficiency in the neurotransmitter, serotonin. They increase available serotonin by preventing serotonin receptors from soaking up recently released molecules of serotonin “floating” around freely in the synapses between neurons (inhibiting reuptake). In contrast, Tryptophan is a precursor for the production of NEW serotonin. This is regarded as a superior method of treating serotonin deficiency compared to the modus operandi of SSRIs, which merely recycle OLD serotonin. I would caution any one taking 5-HTP to check with their physicians before taking it with any medications especially SSRIs.

Taken as directed without contraindicating medications, this product is safe and effective. Unfortunately, after a dietary supplement or prescription medication becomes property of the consumer, the control and judicious use of the substance is out of our jurisdiction.

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90 capsules - \$29.95

Tissue Rejuvenator

Adequate amounts of glucosamine?



Bill Misner, Ph.D. & Steve Born

Many athletes take glucosamine for joint health and injury prevention/rehabilitation. One of the questions we often receive is whether or not Tissue Rejuvenator has adequate amounts of this popular joint health nutrient, referring to sources that recommend 1000 to 1500 mg of glucosamine daily. Dr. Bill Misner responds (some of which is paraphrased) -

Four capsules (500 mg of each of the "big three" - Glucosamine Sulfate, Chondroitin Sulfate, and MSM) are generally taken as a maintenance and prevention dosage. Our development team chose this amount because we felt 500 mg would be adequate when used as a daily supplement to help healthy joints stay that way. During periods of injury or recovery, many individuals will take up to eight per day (1000 mg of each) or even more, with great success. The dosing is essentially based upon flexibility, with the option to take more if greater intake is warranted. Why there is not more in each individual capsule is really just a practical matter; because of the many other nutrients contained therein, the capsules would need to be larger than they already are to hold more.

As far as the studies often quoted are concerned, Dr. Misner says, "No argument here. They are precise noting dose efficacy @ 1500 mg/day occurred in time sequences ranging from 0.5-3.0 year duration in patients with established arthritic conditions."

Sometimes acute trauma injuries can resolve with a lower dose that one might use for an overuse injury. A post-op patient might take a minuscule dose and find effective relief, while a functioning athlete might require a huge dose of 8-12 capsules daily to manage pain and inflammation symptoms. What do we learn from these various examples? That when it comes to symptom relief, one size (of Tissue Rejuvenator) does not fit all!

The point is the Tissue Rejuvenator dose should be increased to achieve resolution of symptoms... minor acute onset taken at 500 mg level for 1-2 weeks before increasing to 1000-1500 mg/day, if effects were previously neutral.

I agree with what these studies report, but I do not agree that we can say one size that fits "Chronic" arthritic symptom resolution also fits "Acute" early onset

overuse injuries. My interpretation is start conservatively with two weeks at lower dose before increasing to the higher effectual dose demonstrated in research studies on a different subject population.

BILL NICOLAI from page 23

cancer. When it comes to taking advantage of the benefits of the vital hormones that control so much of our development, I believe it is best to let the body produce them on its own rather than try to intervene artificially.

This report is not a scientifically controlled test, but my own results do seem to me to be compelling. It should be noted that I have made other dietary and lifestyle improvements in the same time period and am always

striving to do so. My opinion after 20 years of endurance athletics is that there is no single magic bullet, but one should take advantage of all the good training dietary and recovery knowledge available. The use of Hammer Whey appears to be a significant advance in the tools we have available to improve the results of our fitness endeavors.

JEB from page 20

day to day life becomes much simpler and more fun. After all, isn't that why we started doing this to begin with?

**Please see references at the end of the article.*

Your benefits package

Below, I have listed just some of the many benefits that can be gained by participating in the early season races, particularly if our focus is on the process of getting better and having fun rather than simply on winning alone.

- Having fun competing in the sport that you love
- Reducing the nervousness felt before & during races
- Improving your technical skills at race-specific speeds
- Enjoying the social aspect of racing in a lower stress atmosphere
- Practicing racing while your expectations for yourself aren't as high
- Getting physically and mentally re-acclimated to the intensity of racing
- Dialing in your pre-race routine, nutrition strategy & warm up to perfection
- Simply getting better while having fun and learning to let go of the outcome
- Getting used to bumping elbows or having feet in your face in a mass start event

So, as you can see, there are so many beneficial elements that one can gain by simply participating in early season events that are completely independent of where one ends up in the results.

HAMMER CAMP from page 24

from Jim and the other staffers, each camper was lovingly admonished to drink more, drink less, take electrolytes, or whatever they needed to work on.

We've already set the dates for three more camps, so you can start planning early. December 9th to 14th is our "pre-Christmas, de-stress, base miles, hang out and enjoy" camp. The other two camps are in February of 2009, one from the 2nd to the 8th and the other from the 23rd to March 1st. We lengthened the February camps to six days because

However, it is completely up to the individual as to whether they decide to beat themselves up and miss the inherent opportunities for growth in any outing where every single thing outside of their control doesn't go according to plan, or to benefit maximally from each and every experience. I hope that is as much of a no-brainer proposition to you as it is to me. With simple awareness, willingness, and discipline, these self-defeating habits can be turned into performance (and life) enhancing ones for good.

Putting it all together

It is these items listed earlier that I often mention to an athlete who is upset by where they did or didn't place in an early season race after listening to their take on the experience and how they feel as the result. I empathize with them because I certainly know what it feels like to be disappointed, discouraged, aggravated and even stunned by a less than stellar performance. However, if we can just shift our focus to the process and to the positive elements that we experience during each outing, then it is much more likely that our basic human needs of acknowledgement, growth, and competence will be met, which is actually where all those feelings were coming from to begin with. In laymen's terms, we can simply get better by letting go and having fun doing what we enjoy.

So, take it easy and give yourself a break. These seasons get longer every year, which gives us even more time to create the Inner Fitness© and the outer fitness that we desire and need to accomplish our goals. By simply shifting our focus to the present moment,

five just wasn't long enough! These will be more structured, higher volume pre-season base/season launch type camps. I'll be hosting the December and late February camps, while Steve Born will be your host for the early February camp.

Sign up for one or more today... you'll have the time of your life! Click on the "camps" link at the top of our web site or call one of our friendly advisors for more details or to register now. We hope to see you in Tucson!

celebrating our successes, and allowing ourselves to make mistakes, we will have made a huge turn-around in our approach to performance and enjoying the sports we compete in. We can then go about doing things differently the next time around, thus guaranteeing us, at the very least, a more enjoyable experience and maybe even another lesson or two. And so the process goes.

Jeb has a Master's degree in Exercise Science and Health Promotion and is certified by the NASM, USA Triathlon and USA Cycling as an Elite Level Coach. He has been a Hammer Nutrition sponsored athlete for going on 7 years now. Jeb is quoted regularly in Bicycling Magazine and Runner's World and contributes articles to Active.com, Iron Man Canada, the Daily Peloton, and the Ultra-Marathon Cycling Association.

He is a continuing education provider for USA Cycling and USA Triathlon, and owns and operates Endurofit, LLC, a coaching and consulting company dedicated to the education, performance, and life enhancement of athletes and coaches. For more information about our upcoming educational events as well as our products, services, and philosophy, please pay us a visit at www.endurofit.com or contact us directly at info@endurofit.com.

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www.endurofit.com

HOT TIPS

Freeze your fish oil

If you're taking fish oil supplements, such as the Carlson Norwegian Salmon Oil sold by Hammer Nutrition, you may have experienced an unpleasant fishy aftertaste. If so, store the bottle in the freezer. This will minimize or even eliminate the fish oil taste.

Recover even faster with Salmon Oil

Did you know that fish oils have impressive anti-inflammatory benefits? The Carlson Norwegian Salmon Oil product is an ideal way to get more out of Tissue Rejuvenator.

60 capsules \$7.95 / 180 capsules \$19.95



Premium prostate protection

Read about it on page 13!

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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 Hammer Nutrition 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.

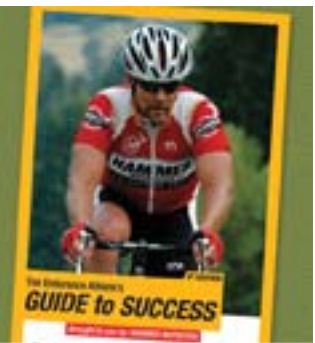
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The Endurance Athlete's Guide To Success

The 8th edition is in stock!



Steve Born

We're extremely excited to announce that the latest edition of this much-acclaimed knowledge resource is finally here. The term "labor of love" definitely comes to mind when we think about the time and energy spent writing, rewriting, editing, proofing, and compiling the articles and accompanying photos/captions for this latest edition. In fact, so much time was invested on this project that it hardly seems true that the actual books are here "in the flesh." But they are indeed here and we are convinced that this latest edition is the most comprehensive, yet easy-to-read-and-understand manual available in regards to how to properly fuel the body prior to, during, and after exercise.

The 8th edition of "The Guide" contains expanded, even more informative versions of pre-existing articles:

- Hydration—What you need to know
- Electrolyte Replenishment
- Proper Caloric Intake During Endurance Exercise
- Recovery—A crucial component for athletic success (formerly entitled Superior Recovery)
- The Pre-Race Meal
- The 10 Biggest Mistakes Endurance Athlete's Make
- The Hammer Nutrition Fuels—What they are and how to use them

In addition, we've added two new articles:

- Replacement vs. Replenishment
- Supplementation—A necessity for athletes

As a result of these two new articles, the amount of new information in the existing articles, and even more photos than before, this latest edition of "The

Guide" is the biggest ever at 134 pages long. That's six times more content than the first edition, which was a slender 22 pages when it was first published roughly six years ago.

As Brian so appropriately wrote in his letter in Endurance News #56, "While great products and friendly service are certainly key, it's the knowledge component that is most important. It's a simple fact that no matter how good the products are, if they are used incorrectly, less than optimal results or downright failure will result."

With that said, we have no doubt that the fueling-specific knowledge you need to achieve success as an endurance athlete is found in the pages that make up the 8th edition of The Endurance Athlete's Guide to Success. This is a "must read," especially for new clients, and for existing clients—even if you've read all seven previous versions—we encourage you to check out this latest edition for updated information in the existing articles and, of course, the important information contained in the two new articles.

Hard copies of The Endurance Athlete's Guide to Success are \$4.95 each. Or, you can download a copy of the 8th edition, completely free of charge, at www.hammernutrition.com/guide.

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Photo - Marcos Ferro

ATHLETE SPOTLIGHT *Amanda McIntosh*

Steve Born

Our “Spotlight” athlete for this issue is Amanda McIntosh from San Antonio, Texas, and this is the second time we’re featuring her (she was our very first “Spotlight” athlete, interviewed for EN#30 back in 2001). No, we’re certainly not running out of athletes to feature but Amanda is an extraordinary athlete, especially considering the results she’s achieved after going through a period where she was injured and unable to do much, if anything, in the way of training or racing. In addition, Amanda is a long-time client, a friend to everyone here at Hammer Nutrition, and a tremendous representative of the company, not just in her athletics, but also in her coaching services and as one of our in-the-field reps for the company. As a result of all that, we thought it’d be interesting and fun to interview her again.

Her race resume is, to say the least, impressive. Here is just a fraction of some of the highlights from her illustrious career:

- 1998 – 1st place – Rocky Raccoon 100 mile trail race
- 1999 – US 50 mile National Champion
- 1999 – 1st place – Leadville Trail 100 mile trail race
- 2000 – 1st place – Leadville Trail 100 mile trail race
- 2000 – Bronze medal – US 50 mile championships
- 2001 – 1st place – Crown King 50K, High Mountain 25K, Inks Lake 50K, Rocky Hills 50K
- 2002 – 1st place – Rocky Raccoon 50 mile, Rocky Hills 50K
- 2003 – 1st place – Palo Duro 50 mile
- 2004 – 1st place – Bandera Trails 100K, Hill Country 50K
- 2004 – 2nd Female, 8th overall – Rocky Raccoon 100 mile Trail Race
- 2005 – 1st place – Bandera Trails 50K,

- Big Bend 50 mile,
- 2005 – World Masters Association 100K Champion – Bariloche, Argentina.
- 2006 – 1st place – Bandera Trails 50K (course record), Big Bend 50K (course record), Bear Creek 100K 2007 – 1st place Q50 Patagonia (50 mile race in Traful, Argentina)

Amanda hasn’t slowed down at all in 2008, posting these outstanding results thus far:

- Bandera 100K – 2nd Female, 7th overall
- Copper Canyon 50 mile – 1st Female, 15th overall

Whew! I get tired just looking at all those races! Anyway, without further ado, here’s the interview I recently had with Amanda.

STEVE: Amanda, you’re the first and only “repeat” athlete featured in the “Athlete Spotlight” section of the newsletter, which I think is pretty cool. How does that make you feel?

AMANDA: I was incredibly honored the first time you asked me to be the featured athlete, so being asked again is incredible. I am so fortunate to have the support of Hammer; I could not have accomplished the earlier-listed goals without the products and assistance throughout the years.

STEVE: I know we asked this back in 2001 but, for the sake of our readers who weren’t with us back then, could you describe how you got started in ultra running and when you first realized that ultra distance running was the sport for you?

AMANDA: I was a competitive gymnast for most of my young life but a career

ending knee injury sent me on the road to ruin. By the time I started college I was an overweight, smoking, bartender. Believe it or not, friends at the bar got me running and I got hooked. I gave up cigarettes, changed my major to Exercise Physiology, and got in shape. I ran short races just to stay fit until I met a group of women training in Dallas. Running with them I was inspired to complete my first marathon, Pikes Peak (28 mile round trip to the top of the mountain, 14,000 ft, and back down). It was an amazing experience. I ran road marathons for several years until I decided to do a 50K that led to a 50 mile and then my first 100 in 1998 (Rocky Raccoon). I had a blast and knew I had found my niche!

STEVE: We’ve listed a handful of the races you’ve competed and excelled in. Of those races, which one (or more) would you consider your best? Describe what you were feeling during those races.

AMANDA: Believe it or not, I think the answer was my last race in Copper Canyon, Mexico. I didn’t really have any expectations; I just started at a decent pace and kept going. I felt like everything clicked and I could have run forever. The biggest thing for me was that my nutrition was right on! My combination of Perpetuem, Hammer Gel, and Endurolytes was perfect and I felt great the entire race! It wasn’t that I was running fast but I was just in a groove, the course was amazing, the people were great, the day was beautiful, and I was on top of the world. My mom said I didn’t look like I had run around the block when I finished.

STEVE: Conversely, which race would you say was the low point in your career, the

see AMANDA on page 31

AMANDA from page 30

one where “nothing went right,” so to speak? Can you describe what happened?

AMANDA: Interestingly, my “worst” race was one of my biggest victories. It was the Sunmart 50 mile. I was in the lead when I kicked a rock into my ankle. The pain was impressive and the swelling immediate. I had 12 miles to go and felt compelled to finish so as not to let down my sponsors, etc. I had no idea if I had done serious damage to the ankle and in hind sight could have done permanent damage by continuing. I won the race but it was the most difficult and miserable race of my career. I vowed that from then on to run from my heart and not for others. I haven’t had a bad race since!

STEVE: Which race or races are your favorites, the ones you perhaps want to continue to do annually? Describe why.

AMANDA: I have so many “favorites”... Here in Texas, I love Joe Prusaitis’ race series. In Colorado, I can’t wait to run in the mountains of Leadville. One of my favorites, which I can’t run anymore because I am now the race director, is the High Mountain 25 & 50K. Running with the Tarahumara Indians in Mexico was an experience I will repeat every year if I can. I would have to say, though, that my favorite races of all time are the Q50 races. I have been to one in Nicaragua and one in Patagonia and will try to go back every year. They are awesome races in amazing places.

STEVE: Let’s see...back in 2001 when we first interviewed you, your son Ryan was 11 years old and your daughter Callie was 7 years old. Obviously, they’ve grown up quite a bit in the past seven years...what are they up to now? Is either of them into ultra running like their mom, or do they have other sports interests?

AMANDA: Well, Ryan is an Ice Hockey and Lacrosse player who is off to college this year. He is the youngest person to ever finish the High Mountain 25K (he was 12 at the time), but hates to run! Callie, now 14, runs cross country, and plays basketball and soccer. She has been MVP of her cross country team two

years in a row and was 4th in the district this season. Neither of my kids shows any interest in being ultra runners but they have been unbelievable supporters of my running throughout the years. They have been understanding about my training and travel, and have even cracked the whip and sent me out for runs when I have lacked motivation. They are so proud of me and that makes me want to run harder, stronger, and longer!



Photo - Marcos Ferro

STEVE: Your career was halted rather abruptly by an injury that not only prevented you from training with any consistency (if at all), it may very well have been a career-ending injury. Can you describe what happened and how you were able to return to running?

AMANDA: In June of 2006, while training to go to the World Championships with the USATF Open 100K Team, my left knee filled with fluid. I could barely walk, let alone run. Several attempts to remove the fluid were futile. In August I was diagnosed with a rare genetic autoimmune condition called “reactive arthritis”. Basically it is an overactive immune system, which causes inflammation in the joints. The orthopedists and rheumatologists tried conservative measures to reduce the inflammation but were unsuccessful. In two months I had gone from being a

world class athlete, to not even being able to walk a mile. It was pretty devastating at the time.

Finally one of my doctors started me on a once a week injection of a drug called Enbrel. The swelling went away within 48 hours! This was great I thought, except for the side effects (it’s an immune system suppressor) and the fact that it was \$700 a dose. So the next year was spent trying to figure out how to space the doses to control the symptoms but not cause unwanted side effects and send me to the poor house. My training was erratic to say the least. I was able to start and then I would become symptomatic and have to back off for a week. This went on for a year and was very frustrating, but at least I was able to run.

Finally, by October of 2007, I was free from inflammation and on a schedule that seemed to be working with the Enbrel. A friend of mine asked me to come to the Q50 in Nicaragua. I told him no since I couldn’t run but he said I could help him out with the race. I decided to go and it was the turning point; being surrounded by runners and watching the amazing race made me want to start training and racing again. I made a commitment to attempt to train for the Q50 Patagonia. It was only 8 weeks away and I was only able to do about 25 miles/week with 10 miles being my long run. I signed

up for the 25-mile relay and knew I could get through it. Four weeks into the training I changed my event to the full 50-mile race. Training was going well and I was symptom free so decided to go for it. Four weeks later I won the women’s division of the Q50 Patagonia. A month later I was second female, first master, at the Bandera 100K, and two months after that I won the Copper Canyon Ultra 50 mile in Urique, Mexico.

STEVE: Wow, that’s a truly amazing comeback...congratulations!

AMANDA: It was a really tough road, but I feel like I have things under control with the arthritis and the medication. I am able to train at a high level but have to be super careful to eat well, sleep, recover, and listen to my body. Hammer

see AMANDA on page 32

AMANDA from page 31

Nutrition has been a huge part of my training and recovery through all of this. I have used, and continue to use, Premium Insurance Caps, Phytomax, Mito Caps, Race Caps Supreme, and Carlson Norwegian Salmon Oil daily to keep my immune system running well. Also, I love REM Caps because it helps with my sleep every night!

Tissue Rejuvenator has continued to be my answer to OTC anti-inflammatories; I use 6-12/day and more when racing. Of course during training and racing I use Hammer Gel, HEED, Perpetuem, and Endurolytes. Recoverite is always a part of my post run/ race routine.

STEVE: What's your training program look like these days and how different is it from earlier in your career and after your injury? During peak season, what's a typical week look like for you?

AMANDA: I train hard and rest hard. I typically run 5-6 days per week and put in 70-100 miles per week. I try to do this mid-day when the kids are at school, or early mornings so as not to impact our family time. My training now is about the same as it was before. I have always been good about listening to my body and taking time to recover when I need to. During peak season my short run is 15 miles and my long run can be upward of 50 on a weekend. I take one day off completely and then try to take another day off every other week to run in the water. I also do strength training, yoga and core work.

Nutrition is a huge part of my training. My nutritionist, Laurel Tierney, monitors everything I eat and helps make sure I have everything I need to train and recover. When I am putting in the high miles it is a struggle to get enough calories and make sure I am eating the right foods for optimum

performance. Laurel manages to make sure every calorie I take in is from quality food and Hammer products in order to keep me at the top of my game.

STEVE: What races do you have planned for the rest of 2008? Any specific goals in mind?



Photo - Marcos Ferro

AMANDA: So far, I am planning to run the Rocky Hill 50K in April and see how I feel. I will be training in Leadville, Colorado for a while this summer and doing some multi-day trips. I will be going back to Nicaragua in October and Patagonia in December for the Q50 races. Right now my goal is to stay healthy and run strong.

STEVE: Do you ever think about retiring or do you want to keep racing for as long as you can?

AMANDA: I don't think about retiring, I know

I can't keep winning forever, but I want to be out there running in races with all of my friends as long as I can. For me, going to races is more about meeting new people and seeing old friends than anything else. Racing is about doing something I love in a beautiful place with amazing people. Winning has been the result of all the passion.

STEVE: Tell us a little about your coaching services and web site.

AMANDA: I have an online coaching service for runners of all abilities and personal coaching for runners in the San Antonio area. I coach athletes from all over the world which is really exciting. I have runners doing everything from 5K's to Marathon De Sable to the Leadville 100 to the Boston Marathon. It's great to have a job that I love! My web site (www.amandamcintosh.com) is up but currently under construction, so athletes interested in my coaching services can contact me at coachamanda@earthlink.net. I also coach runners and young

athletes at Saint Mary's Hall (high school) where I work as a coach and PE teacher.

STEVE: Since you've personally been through a difficult situation/period regarding injuries, what advice and suggestions would you give to an athlete struggling with injuries?

AMANDA: I think the biggest issue for me was that most of my life involves running. It's my passion, my stress relief, and of course, my job. So, when I was faced with the possibility of not running again it was pretty difficult not to get down about it. I went through several months of being pretty miserable before I found some alternatives like yoga and core training. The experience taught me to live everyday and do what I love as well as explore other options.

I also have a great support system in my friends, family, and kids. I think that is key. When others continue to believe in you it helps you to get back up and keep trying!

STEVE: What advice would you give to someone just starting to do ultras?

AMANDA: Stock up on Hammer products, get a good coach, and get ready to have the time of your life. Ultras take a lot of training time and commitment but it is worth it. The best way is to start slow and work your way up to the high mileage races. Take one step at a time and enjoy the journey. It's important to build a base of mileage and nutrition. The usual rules for increasing mileage apply to ultra training and it's a lot like training for a marathon. One difference is multi day long runs. Example: Friday 15, Saturday 30, Sunday 20. This is where it gets tough and when proper nutrition and recovery is crucial.

STEVE: Thanks so much for your time, Amanda; it's very much appreciated. I know I speak for everyone here at Hammer Nutrition in telling you what an inspiration you are for us and how much we admire you.

Congratulations on all your fantastic accomplishments, and continued best wishes to you for a successful 2008 and beyond!



Hermosa Tours

Hit the dirt, white glove style

Brian Frank

As we ease out of winter and the earth around us begins to thaw, if you are like us here in Montana, your thoughts are probably turning toward fairer weather and your upcoming season. Your calendar is out and you are plotting the training blocks, long rides, and races that will delineate your spring, summer, and fall. Let me take a moment to encourage you to slot something new into this year's annual plan: a dedicated cycling camp or vacation. Over the past 12 to 24 months, through my own experience, and those of literally hundreds of Hammer Nutrition clients, I have become increasingly convinced that this immersive experience is one of the best ways to break through your normal routine, learn new skills and training techniques, and re-invigorate your passion for your sport.

Hermosa Tours

Have you ever dreamed of a fantasy cycling vacation that would allow you to ride the world's best trails, push your riding to the next level, and still return home at the end of it all, relaxed, refreshed, and rejuvenated, as if you'd spent a week poolside at a tropical resort? Have you wanted to sample mile after mile of ribbon singletrack in the deep backcountry, and still finish the day with a sports massage and a soak in the hot tub? Long-time Hammer Nutrition mountain bike athletes Nate Whitman and Matt McFee shared that same vision and are now making it a reality. We are pleased to support them in the launch of their new venture, Hermosa Tours: Expert Guided Cycling.

Operating out of the mountain biking mecca of Durango, Colorado, the company offers high-end small-group mountain bike tours and camps in

Durango and southwest Colorado, Zion and southwest Utah, and the Angeles and Cleveland National Forests in Southern California. Hammer loyalists for more than eight years, the pair have an impressive endurance background including racing The Leadville 100, Vision Quest, and the Great Divide Race. Their philosophy as entrepreneurs is the same as their approach to endurance cycling; they pursue their passion with uncompromising attention to detail.

The two saw a void in the market that they believe needed to be filled. "We loved the idea of using expert local guides to access the best trails in a given region. But the existing companies in this space focus almost exclusively on camping-based, point-to-point style touring" explains McFee. "They do a great job with it, but multi-day campsite to campsite riding and sleeping in tents, can leave you pretty beaten down at the end of a week. More importantly, the point-to-point itinerary constrains ride selection to trails that get you from A to B everyday. The absolute best stuff is often missed."

Whitman adds, "We wanted to go in the complete opposite direction. We created a model that not only brings our clients to the best mountain biking destinations, but also ensures that every single day of the trip is a true crown jewel ride. There are no throw-away days. We combine high-end accommodations, white glove

customer service, and luxurious touches like massage and healthy gourmet meals, to create mountain biking fantasy vacations. Our small group size and high staff ratio (6 to 12 clients with

a minimum of 3 guides) allows us to custom tailor the trip to your exact needs on a daily basis. From the moment you step off your plane, every detail is taken care of. You have nothing to do but focus on riding and relaxing."



Just as I did when I launched Hammer Nutrition more than 20 years ago, the two had a vision and have gone after it full speed ahead. We think they're on to something here. So much so that we have signed on as a partner. All Hermosa Tours events will feature Hammer Nutrition endurance fuels and recovery products, as

well as Globus E-Stim units. And we are busily planning our first ever Hammer Singletrack Camp for later in 2008, which I am looking forward to attending personally.

Hermosa Tours is now booking its Durango, Zion, and SoCal tours, as well as custom-designed private tours and training camps, on its website at www.hermosatours.net. Or call and speak with them directly at 1-877-ROLL-MTB. Watch their website, as well as www.hammernutrition.com, for more information and dates on the Hammer Singletrack Camp. We at Hammer wish them much success and are proud to have played a role in their cycling pursuits.

Get paid for racing in our clothes!



Local junior rider, Marshall Opel, powers through the time trial at the USA Cycling Junior Nationals in Seven Springs, Pennsylvania. Marshall would finish 28th in the time trial and 3rd in the road race. Way to go Marshall!

📷 : Tina Wrona

New! **HAMMER BUCK\$** Cash contingency program

What it is:

A cash and credit contingency program open to all age group athletes competing in eligible triathlons, mtb races, road, and running races, who use Hammer Nutrition products and wear our kit.

Eligibility:

ANY Hammer Nutrition sponsored athlete, any member of our TEAM Auto-Resupply program, or any other Hammer Nutrition client wearing our kit.

Requirements:

You must complete the entire race and awards ceremony wearing a 2007 or newer Hammer Nutrition cycling, triathlon, or running kit and should be using Hammer Nutrition fuels and supplements in training and on race day. Win or podium in your age group or overall, send us a high resolution digital photo of you on the podium and you'll get PAID in cash or Hammer products.

Eligible Events*:

- ALL U.S. Ironman™ triathlons
- USA Triathlon National Championships
- USA Cycling National Championships
- Select 100-Mile trail running events
- Race Across Oregon
- Badwater Ultramarathon
- Furnace Creek 508
- Race Across America
- Select 100 Mile MTB events
- Select 24-Hour MTB events

This is just a partial listing of eligible events. Complete list, prize payout listing, and more details can be found on our website. If an event is not listed on the website, it is not eligible.

Pay out as follows*:

- 1st place = \$1,000 in cash or \$1,500 in Hammer credit
- 2nd place = \$500 in cash or \$750 in Hammer credit
- 3rd place = \$250 in cash or \$375 in Hammer credit
- 4th place = \$150 in cash or \$225 in Hammer credit
- 5th place = \$100 in cash or \$150 in Hammer credit

**Go to [www.hammernutrition.com/buck\\$](http://www.hammernutrition.com/buck$)
for complete listing of events, prize payouts,
and more details.**

Email photo and information to hammerbucks@hammernutrition.com

*Void where prohibited. No double payments for age group and overall finishes – you get paid for the higher of the two placings.



2-time RAAM winner Cassie Lowe takes in the scenery during the 2001 race.
Photo : courtesy Cassie Lowe

Steve Born

If you're not involved in the Race Across America (RAAM) as competitor, crewmember, official, or as part of the organization team, it may be easy to think "why are we talking about a race that takes place in mid-June now? It's only April!" But if you are involved in RAAM in any of the aforementioned capacities, you've probably been thinking about the race for many, many months prior to when it actually commences on June 7th for the solo women riders, June 8th for the solo men riders, and June 11th for the riders competing in the team division.

Well, the same is true for us at Hammer Nutrition, which is why we're writing about this epic race—which celebrates its 27th year in 2008—in this issue of Endurance News. I'm excited to announce that we are once again honored to support the race that Outside Magazine referred to as "the world's toughest sporting event."

The solo field is shaping up nicely, with 24 men and 2 women already signed up. Only one of last year's Top 10 finishers, Austria's Gerhard Gulewicz, has confirmed their entry in this year's race, which would normally suggest a wide-open race. However, Gulewicz's 3rd place finish from last year arguably makes him the favorite for this year's race, with multiple RAAM finishers from previous years—Fabio Biasiolo of Italy, David Haase of Fond du Lac, Wisconsin, and Rob Morlock of New Milford, Connecticut—also in contention for victory.

Also competing this year is Hammer Nutrition-fueled David Jones of Winnetka, California. Last year David set a record in the solo 60+ age category, finishing in 12 days, 1 hour, 15 minutes, which broke the old record by more than

six hours, and he's looking to improve upon that this year.

In the women's solo division, the current favorite appears to be Janet Christiansen of Poway, California, though she'll be pressed by Canadian Caroline van den Bulk who competed in (but couldn't finish) last year's RAAM. Among Janet's many accomplishments, she, along with teammate Nicole Honda, won the two-person women's division in last year's RAAM, setting a new course record of 8 days, 18 hours, 57 minutes. Janet will be fueling with Hammer Nutrition products in this year's RAAM.

There are also various multi-rider team divisions in RAAM and there's a healthy number of the number of teams entered so far:

- 2-Person Team Men – 5 teams
- 2-Person Team Mixed – 1 team
- 4-Person Team Men – 15 teams
- 4-Person Team Women – 3 teams
- 4-Person Team Mixed – 8 teams
- 8-Person Team – 11 teams

At nearly 3015 miles, this year's RAAM route is approximately 30 miles shorter than last year's, and begins in Oceanside, California at the Oceanside Pier and finishes at the City Dock in Annapolis, Maryland. Riders will pass through 14 states across the U.S. – California, Arizona, Utah, Colorado, New Mexico, Oklahoma, Kansas, Missouri, Illinois, Indiana, Ohio, West Virginia, Pennsylvania, and Maryland – to reach the finish. As you can imagine, every type of terrain and weather condition will be confronted.

Two other events are being run concurrently with this year's RAAM: the Race Across the West and the 24 Hour Challenge. The Race Across the West is

new this year, the field will include solo, 2-person, and 4-person teams, and it covers the first 1000 miles of the RAAM course finishing in Taos, NM. The 24 Hour Challenge is a team-oriented event (2- and 4-person teams) that covers the first 500 miles of the RAAM course finish in Flagstaff, AZ.

RAAM truly is an international race with competitors hailing from Austria, Brazil, Canada, Germany, Great Britain, Ireland, Italy, Luxembourg, Norway, Portugal, Switzerland, and of course, the United States.

This year's RAAM, with a good mix of veterans and rookies, looks to be one of the most competitive and interesting races in many years. We at Hammer Nutrition are extremely excited to be involved again this year. You can find out more about RAAM, including continual updates, at www.raceacrossamerica.org

Become a world-famous athlete!

Okay, so maybe 'world-famous' is a bit of a stretch but we do want to include YOU in our 2009 catalog, other printed materials, or on our website. Round up those awesome action shots of you doing what you do and send them in. Please put PHOTO SUBMISSION in the subject line and include the name of the race and any photographer information in the body of the message. Copyright-free photos are preferable.

**Send copyright-free photos to :
anock@hammernutrition.com**

Another surprise ending comes full circle

Tony Schiller



Jerry and Tony at the end of the race and the start of their friendship

It was a brutal day to race one's first half marathon. The early morning air was already hot and sticky with record highs moving in. None of this was lost on the 350 racers. They answered the call to the start line with less urgency than grade school children being beckoned back to class by the bell on the first perfect day of spring.

While I can now better appreciate the wisdom of their slow saunter to the start, at the time I impetuously cursed them for it. "Come on. You're holding up the *%#* show." Already dripping in sweat from the warm-up, I was agitated by the late start which just meant more time on a sizzling road.

Finally, we started and I shot out like a caged lion being released. Leading from the first step and free and clear of the field by the 50th, I cruised alone through a 5 minute opening mile and onto a personal record time at 5-miles with not a single challenger in sight. It was there that I took my first aid of the race – a small Dixie cup of cherry Kool-Aid.

About a mile later I backed off on the pace a bit for no particular reason, just a general sense that it might be a good idea. That coincided with the appearance of a lone figure giving chase. This caused little concern. All systems were fine and he was still a long ways back. And thanks to the stellar first half, so much time had been banked that a steady pace the rest of the way would win this thing with time to spare.

The plan was working. The chaser was gaining ground but for him it was looking like too little too late. The lead was still huge at 9 miles where ice cold water was poured over the head and a second 4-ounce cup of red sugar water

was poured down the throat. With the needed fuel for the remaining 20 minutes consumed, it was time to focus on victory.

A disastrous 10th mile changed all that. No, you're not supposed to look back, but the fear of losing was my motivation. The gap was shrinking fast but still, hopefully, was enough. The next look broke that theory. He was charging. At 11 miles he pulled even saying, "Nice job. Hang with me," and grabbed a special water bottle someone had set out for him. My attempt to snatch one last Kool-Aid failed and left me coated in red sugar. He offered his bottle but I declined not wanting to try something new in a race (never mind that Kool-Aid wasn't in my routine).

Running on life support, I somehow stayed on his side long enough to make it to Broadway where we saw the first spectators of the day. Thousands of people, several rows deep, lined the roadway. Unbeknownst to me, we'd just become beneficiaries of a race course staged to finish at the front end of the town's 4th of July parade. As the police siren blared and people screamed for the two strangers racing side-by-side for some unknown prize, the quiet little race had morphed into one with a giant stage for one of the most memorable finish stretches of my life. I found just enough strength to keep elbow to elbow contact, and then with a block to go, found something extra to win it by 2 strides.

In the finish chute his hands came to rest on my shoulders and I collapsed under their weight. It was he who lifted and dragged me to shelter in the shade of a giant oak tree. When my eyes disappeared into my head and my body went limp, it was he who scampered for emergency help. It was he who stayed by

my side until the ambulance arrived and then throughout the ordeal. And it was his water bottle – and whatever was in it – that finally made the difference and brought me back from to life.

Most of the runners had finished and the ice bags surrounding my body had melted by the time he came back to check on me. It was the first I'd really noticed his face and to my utter dismay I realized the person who'd just raced me to the brink of death was, in fact, an old man. It was revealed to me that he was, shockingly, all of 42 years of age. He told me he just no longer possessed the speed I had used to pull out victory. I was both in disbelief at what he'd accomplished and embarrassed that at 19-years of age, and being a runner on the rise, I almost lost to the old codger.

This summer marks 31 years since that race with Jerry McNeal. I never learned the secret of what was in his bottle but have gladly stumbled on other alternatives to prevent further flirtings with ambulance rides. It would be easy to write about the race fueling lessons of that day but I'd rather reflect on the impact Jerry had on my life. I left Winona that day admiring him for his enthusiasm and courage to keep going deep and right then decided that that is what racing is all about. It hit me that while we only have a limited time to enjoy our fastest race, if we play our cards right, we have a lifetime of opportunities to have our BEST race.

I still like to think of myself as just another one of the guys at races, but having just reached the milestone of 50, it's a given that today's 19-year olds, and most 20-somethings for that matter, pretty much just see an old guy that

see TONY on page 37

BRIAN from page 2

have dropped the project.

New flavors

I'm really excited about the new Strawberry Recoverite and the Mild Melon HEED. Mixing the Strawberry Recoverite in vanilla soy milk tastes just like Strawberry Quik® and the Melon flavor is just different, refreshing, and good. The additional flavors and single serving packets that we are introducing for Hammer Whey, our 100% whey isolate, are going to be really nice in giving you more options for this superior protein.

Camps

I had so much fun doing the training camps in Tucson this past winter. If you were able to attend one of them, I'd like to thank you for coming and tell you how much I enjoyed meeting, riding, and hanging out with you. For those who will be coming to our fall 2008/2009 camps, I'm looking forward to getting to know you too. You can read more about the camps, past and future, on page 24.

New body care products

The new Hammer body care products

have been well received with many of you becoming regular consumers of the Hammer Balm transdermal pain cream. The Cool Feet product has also been getting rave reviews, especially from those with really stinky feet. If you haven't tried it yet, ask for a free sample on your next order. Both of these products are definitely here to stay.

Our last addition to the body care line for this year is the Soni-Pure hand sanitizer. While I really like this product, we are going to wait for your feedback before deciding whether to make it a permanent addition or not. We did an initial run of 5,000 samples and a few hundred of the pump bottles to see how you like this product. So, if you are a habitual user of waterless hand sanitizers, I hope you'll try our natural, alcohol free variation and let us know what you think. Likewise, if you don't use waterless hand sanitizers because of their chemical ingredients, I hope you'll try ours and let us know how it works for you. You'll find more information about all three of these products in the body care article on page 16.

EMS

While I have personally been using e-stim, or EMS (electrical muscle

stimulator) technology for nearly 10 years, I continue to be impressed by the variety of situations in which it can provide substantial benefits. If you've been intrigued by this product, read more about it on page 48.

Job Posting

In our last issue, I took the unprecedented step of advertising a job opening for our Sponsorship Guru. As expected, we received nearly 100 responses. We have culled through those to come up with a list of about a dozen candidates. Although I originally intended to announce the new person in this issue, I have not been able to make enough time to finish the process. So, thank you to everyone who applied and I appreciate your patience. I'll be announcing it here first when we fill the position.

Ok, that's all from me for this issue. Thank you for your support and encouragement. Remember, we are here to help you make this your best year ever.

Enjoy the read!
Brian Frank
Proprietor

TONY from page 36

they better not lose to. That seems fair. Maybe if I'm lucky, one of them might just think, if he can do it, so can I. That'd be pretty cool.

As for Jerry, the collective toll of too many running miles without much cross training eventually caught up to him and forced his early retirement. He misses racing dearly. It's an important reminder for all of us to never take for granted, not even for a second, how much racing adds to our life. Every single day pay attention to your body. Listen when it calls for rest. Find balance by adding more flexibility and strength training and bringing more variety to your routines. You have only one vessel. Take care of it. We'll see you at the races.

Tony Schiller is 50 – watch out young guys.

Tony Schiller is a corporate motivational speaker, race director, and coach. In 2007, he won the men's 45-49 title at the USA Triathlon nationals. He'll go after the 50+ world title this June in Vancouver.

HOT TIPS

Mixing suggestions for making concentrated Perpetuem for consumption from a flask

"Mix a strong Perpetuem mix in a water bottle, then squeeze it into a gel flask. I calculate the water/Perpetuem mixture so that I end up with about 200 cal per flask. Occasionally, I put a small amount of Hammer Gel in the flask just for a change in flavor. Yummy." - Rebecca R.

"What I do is mix a 200-300 calorie batch in a large coffee mug (put the powder in, then add a bit of warm water) and stir it all up with a small wire whisk. Once it's at a pourable consistency, I just pour it straight from the coffee mug to the flask. It pours easily and is not messy at all. For the leftover stuff in the mug, I add a tiny bit more warm water and mix it, then top up the flask." - Maryka U.

Folic Acid

Does supplementation create an increased risk for colon cancer?



Steve Born

The headline of a popular medical e-newsletter (WebMD) dated June 5, 2007 reads, “Popular Folic Acid Supplements Don’t Lower—But May Raise—Cancer Risk, Study Shows.” A news service (FoxNews.com) release covering the same study had this similar headline, “High Doses of Folic Acid May Increase Colon Cancer Risk,” and continued,

High doses of folic acid do not prevent precancerous colon polyps in people prone to them and may actually increase the risk of developing the growths, a new study finds. It’s the latest evidence that taking too many vitamins may be harmful.

The article then lists a few studies that I won’t get distracted with now, but the main point here is obvious: What supplement user wouldn’t be more than a little concerned? How many would be thinking, “Uh oh. Am I putting myself at risk by supplementing with this B vitamin?” As most of our clients know, Premium Insurance Caps contain folic acid (400 mcg per 7-capsule packet), and it’s also one of the two ingredients in Xobaline (800 mcg per sublingual tablet).

Is the headline accurate? Technically, yes, due to the word “may,” but that’s not the point. How many people will read that headline and think, “Folic acid is a risk factor for cancer!” Obviously there’s no news of great interest in inconclusive studies, so if a news source wants to get read, it has to make some newsworthy claim, even if the headline doesn’t exactly do justice to the data.

Does folic acid supplement really increase the risk for developing colon cancer, or is this just journalistic hype?

To answer that question we need to look at the study, or even just read further down in the text of the news releases to find out the whole story. A line near the bottom of the Fox story reads, “Researchers did not see any real difference in rates of colon cancer, just in the precancerous colon growths.” That wouldn’t make much of an attention-grabbing headline, would it? Here’s the essential information about folic acid and colon health, but first a little background on colon polyps is in order...

Colon polyps are not cancerous, but they can develop into tumors after many years. The term “precancerous” does not mean the polyp will become cancerous, it just means that it could become cancerous. Many people have polyps, and most will never have colon cancer. Very few polyps eventually become cancerous; however, it only takes one to go bad and deal you a case of colon cancer, so it’s a good idea to find out if you do have them, especially if you have a family history of colon cancer. Hammer clients will have few risk factors for colon polyps/cancer, which include smoking, obesity, sedentary lifestyle, and low intake of fresh fruits, vegetables, and whole grains. However, training ten or more hours a week and eating healthy won’t change your genetics. Anyone can have polyps, and they should be removed regardless of other factors. Routine colonoscopy locates and removes polyps; this should definitely be on your agenda if you’re 50 or better.

The study involved about 1000 men and women who previously had colon polyps removed during colonoscopy. The researchers wanted to find out if high-dosage folic acid would prevent regrowth of the polyps. In this study, participants

were given either 1 mg (1,000 mcg) of folic acid or a placebo. They also took aspirin (in either low-dose or regular-dose amounts) or a placebo.

The study results showed that the folic acid did not reduce the number of new polyps; in fact, there was an insignificant increase in the folic acid group. Subsequent follow-up testing over some years showed a continued increase in new polyps developed by the folic acid group over the placebo group. However, there was no increase in the actual incidence of colon cancer, at least partially due to the fact that colon cancer develops very slowly. (The researchers did find an overall cancer increase in the folic acid group, primarily prostate cancer, in men, but this also was statistically insignificant).

The data collected by the researchers certainly showed that folic acid supplementation failed to reduce the reoccurrence of polyps in this study population. And yes, there were increased polyps in the folic acid group, and yes, polyps can become cancerous; that’s true enough. But the research failed to show any statistically significant link between folic acid consumption and increased polyp recurrence, and it certainly did not establish folic acid as a risk factor for any type of cancer.

I’m not commenting on the validity of the study, but rather how the results are publicized. Headlines such as those listed earlier contribute to inappropriate fear of supplement use. They attract attention where little attention is warranted. These headlines, at least

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on the emotional level, take us beyond the data and into the realm of fear and speculation.

There is also the issue of how far to extrapolate the findings. The study subjects had a history of colon polyps already at the start. The research tells us that folic acid didn't prevent regrowth of polyps, but it doesn't tell us what it does in people without polyps, or in people who do have polyps but lead colon-healthy lifestyles.

If you do have a history of colon polyps or colon cancer, we at Hammer Nutrition suggest that you keep a cautionary, but not reactionary attitude about folic acid. That means that if you want to stay on the ultra-safe side, avoid high-dose (1000 mcg/day) folic acid supplementation. Keep in mind that this recommendation is tentative and subject to controversy until additional studies corroborate or reject high-dose folic acid as a risk factor for colon cancer, or any other pathology for that matter.

Dr. Bill Misner writes, "Folic acid has a clean reputation in terms of disease association. It is completely devoid of adverse effects up to 5,000 mcg (5 mg) per day. The Optimal Daily Allowance (ODA) of Folic Acid (adults) is 800-2,000 mcg/day. Clinical trials therapeutic

dosages (for reversal of symptoms) are:

- Depression: up to 10,000 mcg (10 mg)/day
- Neuropathy: up to 15,000 mcg (15 mg)/day
- Restless Legs Syndrome: up to 15,000 mcg (15 mg)/day
- Elevated homocysteine: up to 5,000 mcg (5 mg)/day
- Cervical Dysplasia: up to 5,000 mcg (5 mg)/day

He concludes with the precaution "Epilepsy patients should avoid high dose due to onset of seizures. Persons with low zinc levels should not take excessive doses of folic acid since each inhibits the uptake of the other."

There is an ongoing debate as to whether or not high-dose folic acid supplementation during the treatment of cancer is appropriate. A large body of research, involving both humans and animals, indicates that folic acid supplementation improves survival, while this latest study suggests that high doses of this B vitamin may proliferate the growth of specific cancers. However, what the majority of scientists believe, based on existing research, is that high-dose folic acid supplementation

significantly lowers the risk of many forms of cancer. That's the key take-away message here: For healthy people, folic acid supplementation is safe and beneficial.

When you see a scary headline about a supplement, read all the way to the bottom of the article, or study the original research before you toss your bottles in the trash. Selling supplements is indeed our business, but we guarantee you that your health is our prime concern. We keep up with ongoing research, and if we ever learn that any of our components truly turns out to be a villain, we won't use it. We don't use artificial flavors and additives for that reason. We don't use simple sugars for that reason. We don't use nasty stuff such as stimulants or steroids for that reason.

If we find convincing, appropriately applied evidence that any nutrient formulated in any of our products could compromise your health, we'll give you appropriate use cautions or we'll eliminate it altogether. We'll never compromise your health, but we also won't discontinue a nutrient that boasts a solid resume of health and performance benefits on the basis of meager, suggestive evidence.

HOT TIPS

More benefits from folic acid

More good news about folic acid, a component in Premium Insurance Caps and Xobaline. A recent study published in the journal *Circulation*, reports that high doses of folic acid given to test rats provided significant protection against the damaging effects of a heart attack. While one researcher stated that more studies are needed, there is optimism that if human studies yield positive results, high doses of folic acid may provide protection against heart attack, especially for those at high risk, while also being a potentially effective treatment for someone who is having a heart attack. Another study, this

one published in the online version of the journal *Human Reproduction*, highlighted the importance of adequate folic intake for men. The results of the study showed that men with the lowest levels of folic acid had greater rates of chromosomal abnormalities in sperm. The men in the study who consumed the highest amount of folic acid had a significantly lower rate of abnormal sperm (approximately 20% less) than those with low-to-moderate intakes.





Nate's Corner

Columbian athlete, Angela Parra, hammers to a 5th place finish at the 2007 La Ruta de los Conquistadores in Costa Rica. La Ruta is a 4-day mountain bike race that traverses Central America from the west coast town of Jaco to the caribbean beach of Playa Bonita.

Nate Llerandi



Note: Per usual, even though this "Tip of the Day" information from longtime sponsored athlete/coach Nate Llerandi is 2-3+ years old, we feel it's still quite applicable. Enjoy!

Changing 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 derails great fitness like overtraining.

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 per

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.

Go Short

Regardless of the types of races you compete in or their durations, you are constantly presented with a choice - to go short or to go long in your training. Now, realize that in the context of this post, the terms "short" and "long" are relative. For example, a short/long bike ride for an Olympic distance athlete might be 1:30/3:00 while for an Ironman athlete those rides might be 4:00/7:00. And so on.

But, when given the choice of going short or long, it is generally a smarter choice to go short. Yes, going long is important within the context of your training to ensure you can handle the various rigors your key races will demand of you. But, week in, week out, going short is the key to prolonged progress and success.

It is a common held myth that the majority of sports-related injuries occur from high-intensity training. In fact, most injuries occur from overuse syndrome... in other words, from going long too often. When we go long, biomechanically our bodies break down as we fatigue. This leads to the practice of a lot of improper form, which in turn can lead to injury. By going short, you can avoid a lot of the improper

biomechanical problems and, thus, have a better chance of avoiding injury.

The benefits of going short are many. I'll outline a few here. First, within any given HR zone you can train faster. For example, you can hold a faster pace during an hour run at 70-78% than you can during a 2-hour run at 70-78%. Or, if you shorten your track workout to a total of 2.5 miles of hard running instead of 4 miles, you'll be able to run at a faster overall pace. You will be training faster, therefore, during your workouts. This can translate directly into faster racing. Second, you recover more quickly from shorter workouts. Conceivably, you could incorporate more hard days of training into your routine by going short. Within the context of what is rational, the harder you train week in and week out, the faster you become over time. Thirdly, more of your day is freed up for other pursuits. You do not become a slave to the grind, thus allowing yourself to be a more well-rounded individual. This alone presents benefits for your overall life. The more in-balance you are, the more you will flourish in your pursuits. Fourth, as I stated above, your propensity for injuries will be greatly reduced. Sure, injuries can occur at any time in any activity. But the odds will be stacked in your favor by concentrating on doing the minimum training possible to accomplish your goals versus focusing on going long and trying to cram it all in.

Again, the context of "short" and "long" is defined by the type of racing you do. You can't expect to train 5 hours a week and set the world on fire during a marathon. But does that mean you should train 15 hours a week? I don't think so. Take a

see NATE on page 41



Determination

Sean Simonson

Sean prepares for the water at the Tinsel Triathlon
Photo : Jack Simonson

Not too long ago we received this awesome testimonial and wanted to share it. Congratulations on your race results Sean!

Sean Simonson's life changed forever during a routine training ride in April 2006. A rock hidden in the dirt caught his front wheel and flipped him over the handlebars of his mountain bike, breaking his neck and leaving him a quadriplegic. Sean was only able to move his right arm, and his doctors gave him little chance for recovery. Despite this grim prognosis, Sean worked hard in physical therapy every day for months, usually for 5-6 hours each day. Today, Sean has returned to work at the Milpitas Fire Department and is racing in triathlons and marathons, proving that anything is possible.

During the last six months, Sean took first place at the Stanford Triathlon ("Treeathlon"), second place at the Tinsel Triathlon, first place at the Surf City Half Marathon, and fifth place at the California International

Marathon. His racing schedule for this year includes competing in the California International Triathlon and San Diego Triathlon Challenge. His goal is to compete in the Paralympic Games. Sean's motto is "everyday in everyway I get a little better."

Sean has a very rigorous training schedule that demands exceptional nutrition. With his injury, the quality of the calories he consumes is especially

important. Sean exclusively uses Hammer Nutrition, specifically the Perpetuem and Recoverite products. He uses Hammer products because the complex carbohydrates digest easily while racing and provide him the energy he needs to race and recover quickly.



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good, hard look at your training schedule. Look at every workout for every day of the week. Is every workout necessary? If not, start whittling them away. Then look at the duration of each workout. Are you going to derive extra benefit by completing each workout for the durations you have outlined versus possibly shortening some/all of them? If the answer is "no", then start trimming the fat off them. You will be surprised at how "bare bones" you can get without

sacrificing performance in both training and racing.

And, by allowing yourself to be fresher day in, day out and week in, week out, you may also find that your performance gets an important booster shot in the arm.

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

HOT TIPS

The Importance of Rest

Courtesy of an Endurance List member: Rest is just as important as the intensity in your training program. Step back and evaluate whether you are doing too much and remember that it's better to be over rested than over trained.

Try Hammer Nutrition REM Caps for high quality rest

From the Archives

Bill Misner, Ph.D.

QUESTION : I've seen a lot of NO₂ supplements on the market, with lots of impressive promises attached to them... is this something I should consider taking?

ANSWER : Using a NO₂ supplement is popular among bodybuilders. A number of advertisements profess gains, gains in lean muscle mass, recovery, and increased strength. However profound their claims, NO₂ [N(2)O] exposure has been shown to raise homocysteine and lower vitamin B12. This is just the opposite of what the endurance athlete desires. We desire open, clean, homocysteine-free blood vessels, with quality and quantity Red Blood Cells somewhat dependant upon available substantive B12 that can contribute to hematocrit in the 45-50 range. Any form of exposure to NO₂ [N(2)O] is

not recommended for my nutritional training table.

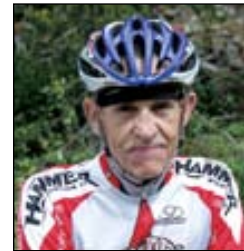
Research

In a study involving 95 operating room nurses with a history of exposure to nitrous oxide and 90 unexposed counterparts, results indicate that impaired vitamin B12 status is more prevalent among nurses occupationally exposed to nitrous oxide. Vitamin B12 and Homocysteine (Hcy) were measured in all participants. Subjects exposed to nitrous oxide showed lower vitamin B12 and higher Homocysteine (Hcy) levels than subjects without exposure to nitrous oxide. Additionally, the decrease in vitamin B12 levels was significantly greater in subjects exposed to nitrous oxide in concentrations substantially exceeding occupational exposure limit.

Thus, Krajewski W, Kucharska M, et al, of this 2007 study concluded, "Exposure to N(2)O [nitrous oxide] in healthcare workers is associated with alterations of vitamin B12 metabolic status, the extent of which depends on the level of exposure.

References

Impaired vitamin B12 metabolic status in healthcare workers occupationally exposed to nitrous oxide, Krajewski W, Kucharska M, et al, Br J Anaesth, 2007; 99(6): 812-8.



Bill Misner, Ph.D.
Director of
Research & Product
Development
Emeritus

Hammering in Alaska : Bernice Pierson



We got this 'race report' in after the pages were full but I wanted to include it just the same. Like she mentions below, she was able to take her Premium Insurance Caps with her and she told me she also strategically placed her sport top around the cabin so it would be caught on film. Thanks Bernice!

At the end of 2007, I spent three months living in the wilds of Alaska as a participant on a television show called The Alaska Experiment. It will premier on The Discovery Channel on April 22, 2008. Luckily I was able to take my Hammer Nutrition vitamins with me because my diet was very limited! I really think the vitamins are what got me through the tough months of hard work while living off the land in Alaska. Here's the website for more info...
<http://dsc.discovery.com/tv/alaska/alaska-experiment/participants.html>

HOT TIPS

Mix & match Hammer fuels

If enhancing or altering the flavor of any of the Hammer fuels is desired, make sure you use Hammer fuels only, not simple sugar fuels. When simple sugars are combined with any of the Hammer Nutrition fuels, the osmolality of the solution is elevated beyond the point at which either carb source - simple sugars or complex carbs - can be digested efficiently. All Hammer Nutrition fuels are compatible with each other, which allows you to make countless flavor varieties, without having to worry about stomach issues.



Sonia Frank

Healthy Tuna Salad

Ingredients:

- 1/2 head of lettuce, cleaned and shredded
- 8 oz. can red kidney beans, drained
- 6 oz. can solid white tuna in spring water, drained
- 1 carrot, chopped or grated
- 1/4 cup purple onion, chopped
- 1/2 cup fresh parsley
- 1 cup cooked red potatoes, diced
- 1 small tomato, sliced
- 2 tbsp. low-fat Italian salad dressing
- 1 hard-boiled egg, diced

Preparation:

Start with a large bowl. Add all ingredients, except egg, and toss well. Top with egg and fresh pepper. Add croutons or sunflower seeds if desired. Makes 2 hearty servings. Add your favorite herbs for extra flavor.

Nutritional facts per serving:
 Calories 220; Carbohydrates 45g;
 Fat 4.5g; Protein 33g

Chicken Rice Soup

Ingredients:

- 12 cups water
- 1 cup chopped onion
- 1 cup chopped celery
- 1 cup chopped carrot
- 2 bay leaves
- 2 cloves garlic
- 1 tbsp. dried basil leaves
- 1 tsp. salt
- 1/4 tsp. fresh ground pepper
- 1 chicken breast, halved & skinned
- 1/3 cup white rice
- 1 1/2 cup zucchini or summer squash, chopped
- 1/2 cup parsley

Preparation:

Combine first 9 ingredients in large sauce pan. Bring to a boil and simmer for 10 minutes. Add chicken breast and simmer covered for 20 minutes. Remove breast and set aside to cool. Add rice and cook for 15 minutes. Shred chicken meat from bone. Add chicken meat, zucchini and parsley to soup. Bring to a rapid boil for 1 minute, then remove from heat. Serve, adding salt and pepper to suit your taste. Makes about 8 servings.

Nutritional facts per serving: Calories 78;
 Carbohydrates 9g; Fat 0.6g; Protein 8g

Honey Sesame Dressing

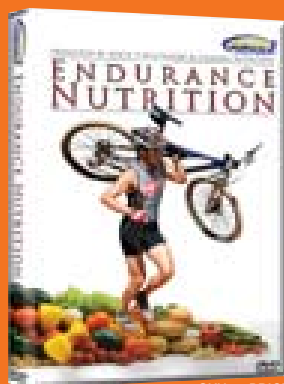
Ingredients:

- 3/4 cup seasoned rice vinegar
- 1 1/2 tbsp. honey
- 1/2 cup light vegetable oil
- 1/4 cup sesame oil
- 2 cloves garlic, minced
- 1 1/2 tsp. sesame seeds
- 1 tsp. soy sauce
- Juice from half a lemon, strained

Preparation:

Combine all ingredients in a container with a secure lid. Shake well and refrigerate overnight. Use as a salad dressing or marinade. Makes about 16 oz.

Nutritional facts per tablespoon: Calories 65.5;
 Carbohydrates 14g; Fat 1.7g; Protein 0g



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Ten steps on the endurance path

Prescription for a long life on the long road

Chris Kostman

Chris Kostman at the 1996 Iditasport
100-mile Snowshoe Race in Alaska.
Photo : Laura Melton

For twenty-five years, I have seen people get into endurance sports, quickly make the jump into ultra-distance events and training, then pile on the miles and the finish lines, only to wind up back on the couch, never to be seen again within a few short years. That's a long sentence describing a short career as an endurance athlete. Don't let this be you! Whether you are fresh out of college (or high school) or an empty-nester looking for a new challenge, developing as an endurance athlete takes several years to learn the path and a lifetime to master it.

Step One: Don't Be A Burnout

There's no better way to get sick of something than to do it too much, too hard, and too often, to the exclusion of other pursuits and activities. Yes, endurance sports require time and commitment, but they do NOT require that one take on the monastic or ascetic life. Regardless of the age at which you start in the sport, take your time and don't hurry things. There's no need to do several marathons in your first year of running, or even in the second or third year. Likewise for competing in ultras, adventure races, triathlons, endurance cycling events, and such. A few solid years of 10ks, half-marathons, training with a club, and exploring what the sport of running has to offer will serve you well in the long run. The same goes for other endurance sports. Building layer upon layer of quality training, quality rest, quality information-seeking, and quality experience is an integral part of a healthy, fulfilling, balanced lifestyle. With that approach, you'll be rolling and running across finish lines for many decades to come!

Step Two: Progress, Intelligently Planned

One of the beauties of endurance sports is that the various events are measured in specific and consistent distance or time increments. This creates a simple, logical, and smart path for progressing through a season and through a career. Thus 5Ks lead to 10Ks and half-marathons lead to marathons. Beyond that, 50Ks lead to 50-milers, 100Ks to 100-milers, and out there in terra incognita are the 24-hour races and 135-mile events like the Badwater Ultramarathon. In cycling, 50-milers lead to centuries, which lead to 24-hour and 500+ mile races. Similar distance progression exists in triathlon, adventure racing, swimming, and other endurance sports.

When I first got into long-distance cycling in the early 80s, my theory was that one can always race twice as far as one has gone before – and this proved true for me over time in cycling as well as in running, snowshoeing, and triathlon. But while it can be reasonable to jump from half- to full-marathon, or from 50 miles to 100 miles with many sound weeks or months of training in between, running requires adaptation to the pounding of the pavement. This requires, for most, training runs at 80% or more of the intended race distance (at least for up to 50-mile events). Cycling is generally less injurious than running, and requires less time to recover, so doubling one's distance is a bit safer than in running. Use the doubling rule of thumb cautiously, over time, and you'll find ever further horizons still within your reach.

Step Three: Think and Live Seasonally

It is impossible to maintain maximum fitness year-round, year after year.

That's the fallacy of the "full-time fitness professional." That's also why top endurance athletes build their seasons (years) around one or a few key events and vary their training in cycles of weeks or months to reach their peak fitness when those events happen, a system called periodization. There are many reasons such an approach is beneficial and productive: Each cycle brings new challenges, and rewards, to you. Then the next cycle builds upon the one before to make you better, faster, stronger, and hopefully happier. Importantly, at season's end, you can take a break physically, emotionally, and otherwise to recharge your batteries. (Just don't get fat in winter.)

Step Four: Don't Skip the Speedwork

One common endurance training mistake is just "putting in the miles." The mentality is that if you put enough miles in the bank in your training, you can withdraw them later as endurance, maybe even as miraculously fast endurance. But this approach is boring, a waste of time, and won't make you substantially faster.

Simply put, you only get faster by training faster! In practical terms, for cycling, running, swimming, and other endurance path sports, you need one or two days a week focused on high intensity speed training. Though solo hill repeats or intervals against the clock can be effective speed training, the best way to increase your speed is to swim, bike, or run with those who are faster than you are. For running, join a coached track workout at least once a week. (If none are available, find some fast runners to meet weekly.) The coaching you'll get on your form, posture, and

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other subtleties is another great bonus of group workouts. Ditto for joining a master's swim workout program. For cycling, join a true "racing club" on at least one smoking fast training session per week. (If you're really lucky, you live near a velodrome and can join a program there.) Be forewarned, though: it can be humbling for a while, if not for a long while. But you'll get faster, and stronger, for the long haul.

Step Five: Chill, Would Ya'?

There's no need to adopt Olympic Team training methods in order to have a fulfilling life on the endurance path.

Time and again, I see athletes taking things WAY too seriously, downloading every workout into their computer for scrutiny, stepping on the scale every day, keeping mammoth training logs, undergoing extremely detailed – and extremely expensive – fitness tests, and never missing a workout under any circumstances.

Most egregiously, most athletes do the same workout, or route, on the same day of the week, week after week, year-round. I say, "BORING!!" Where's the adventure in that? How does that develop adaptability? Where's the challenge, the taste for the unknown? Life on the endurance path should be fun, first and foremost, and should open up the world in a literally awe-inspiring way. As long as you get in the variety and intensity of necessary training, it really doesn't matter which workout you do on any given day. Remember, though: don't skip training days during the week with the intention of making up for it on the weekends. On a consistent, regular basis, use your sport for exploring the inner and outer universes, as a tool for self-discovery, for exploring all the geography of your life. Bring diversity - and a relaxed sense of fun - to the endurance path and it will bring you a wide panorama of experiences AND greater fitness.



Evan Plews
Photo : courtesy of Evan Plews

Step Six: No More SLOW Distance

In my humble opinion, "LSD" does not stand for "Long Slow Distance," it stands for "Long Steady Distance." There is a difference. LSD runs, rides, and swims will allow you to slowly, but surely, rebuild your body from the inside out. You'll increase the efficiency of your cardiovascular system and get in touch with your heart rate and breathing patterns. This is particularly important in the early season, when you're laying the foundation for the year. Most importantly, don't confuse "steady" for "slow" and just put in the long miles at an easy intensity.

This is a waste of time because the only thing accomplished physiologically by running, cycling, or swimming slowly is learning how to run, bike, or swim slowly. In reality, only a moderate amount of long-distance training is necessary to train for endurance races (mainly to test nutritional programs and to see how your body and mind

respond to long hours or big miles.) But while you're putting in those long miles, do so at a good, steady intensity with occasional bursts of power over hills or while "play-racing" your friends. Use your heart rate monitor to see how low you can keep your heart rate while maintaining a challenging average speed. Just don't waste your time going slowly!

Step Seven: Don't Dilly-Dally, but Do Smell the Roses

Life is short, so "Keep it steady and keep it moving" should be the mantra while training or racing. Don't dilly-dally while refueling, tending to blisters, or reading a map. Don't bog down your pace, cadence, or foot turnover, whether on the hills or flats. ("Lively legs" is the reminder I use.) But, most importantly, do allow yourself the "indulgence" of stopping to enjoy the view along the way.

I mean that literally: when you reach that awesome viewpoint, stop! Check it out! Breathe it in! Stretch out your body for a minute! Enjoy the moment! If you're only going to stare at the trail or road right in front of you, you might as well just run on a treadmill, ride on a trainer, or swim all alone! One of the true joys of life on the endurance path is to appreciate where it leads you, after all, and what that view provides.

Step Eight: Eat Like a Champion

Food and drink choices for the endurance path won't reveal their effectiveness until you get way "out there." Use your long training efforts to see which fuel and hydration systems work for you, rather than finding out the hard way on race day. Whatever you eat and drink, it should be portable, go down well, provide consistent energy (no highs and lows), and keep you hydrated. It should be a system that you have carefully honed and tested in training. Even if drop bag delivery is provided at your intended race, it won't usually be for all the checkpoints; find out what the event promoters will serve and plan accordingly. I once rolled into a checkpoint at a double century and they were serving hot dogs and danishes - that's it! Most likely you will need to bring and carry most or all of your own powders, gels, and pills. Don't see that as a hassle, though; it's your secret weapon! Of course, above and beyond your athletic fuel plan, even more important for a long life on the endurance path is a proper, mindful, healthy diet, 24/7/365.

Step Nine: Recover, Recover, Recover

Give it a rest! The complimentary ideas of "rest days" and "recovery workouts" are lost on far too many athletes of every kind. In training, you're either improving by pushing yourself or you're recovering so that you're ready to push yourself again. Training at a mid-level intensity is only useful during LSD sessions. Each week should include one true recovery workout and one day of light activity. (On a related note, a walk after dinner is a good habit every day.) If you're not recovered, your resting heart rate will be elevated and/or you'll feel listless during your workout. If that's you, rest another

see *ENDURANCE* on page 47



Hammer athlete
Suzy Degazon

Suzy Degazon

Here I am writing a race report which nearly did not happen, so I will begin by dedicating this 200-mile event to my mother-in-law, Virginia Wiscovitch, who passed away Friday evening.

The alarm went off at 4:00 am and I had been blessed with two hours sleep after spending Friday evening with my husband Al at the hospital paying our respects to his mom who had passed away. I felt awful, it had been quite an emotionally charged evening, and I also had a toothache. Al had prepared my bike and I was set; I traveled to Irvine with Bruce (an excellent ultra cyclist) and arrived at the La Quinta Inn at 5:15 am.

I signed in and picked up my route sheet and my race number. I saw a lot of familiar faces as this would be my 4th double century. I didn't have enough sleep and I knew it. I had prepared a six hour bottle of Perpetuem (with extra in a plastic bag) and had plenty of Endurolytes. It was freezing and I had stupidly not arrived prepared so Bruce gave me a skull cap to wear and I also borrowed an undershirt. This was going to be a long day.

At 6:15 am a huge crowd of ultra cyclists headed out of the Inn, (there was 189 registered riders and 158 who finished it!) it was a new route for 2008 and we began with what seemed like a zillion stoplights. Soon the group became divided as the faster cyclists made the green lights and the slower ones hit the red.

For the first 39 miles I felt miserable! Lack of sleep coupled with feeling guilty for doing the ride, and a toothache all seemed to haunt me. My fingers were tingling with the cold, my nose was running, my feet were numb, and

then there was Brent, who kept up the cheerful banter shouting: "Hammer, hammer Suzy, put down the hammer!!" He certainly made me smile and very soon with a few short climbs in the mix and a view of the ocean I was feeling better. At mile 39 I saw my friend Tammy who has MS and is blind in her left eye. She was also feeling the cold and her MS was not helping her today, but her determination to fight her ailment makes her a winner in my eyes everytime.

At the beginning, every cyclist received a route map. I usually try to follow a group of cyclists going at a good clip but I had missed the chance to do so by being so sluggish in the early morning. I found I needed to learn to read the route sheet alone. Thank goodness for my Polar CS600 giving me the miles and other helpful information.

The organization, Planet Ultra, had excellent aid stations. I could refuel with Endurolytes, plenty of water, Hammer Gel, and Sustained Energy. I decided to stick with Perpetuem as I like the dreamy orange creamsicle flavor! At mile 87 there were sandwiches and drinks available and it was tempting to throw in the towel and go home. I called my husband and everything was okay back home so I was good to continue.

The next 100 miles or so were when the real cycling began. A few nice hill climbs and fast descents certainly spiced things up. I managed to get lost for what seemed like 30 minutes as I mis-read the directions. Finally on the right route, with daylight quickly fading, I joined a group of cyclists who were familiar with the route.

The last aid station appeared, which

meant that I had completed 167.5 miles. I had stayed well hydrated and did not want to linger too long next to the warm heater they had going...only 30 some miles to go! I set off into Trabuco Canyon where it was pitch black and the road was a narrow uphill climb. I was a little spooked as it was like cycling in ink. I kept thinking of wild animals attacking me or a crazy person stopping their car to steal my beautiful Cannondale bike and Spinergy wheels! I had 12 miles in this canyon and I would still be there if a cyclist had not whizzed past me full of energy. I felt like the Energizer Bunny after being recharged! I immediately chased after him...forget the cold and darkness, this was fun. As I caught up he shouted "Let's get them!" He was referring to the red back-lights blinking in front of us. We began overtaking cyclists on our way to the finish and soon the La Quinta Inn was in sight.

My time will not go in the history books, 14 hours and 57 minutes, my slowest to date, but considering my lack of sleep and personal issues it was a decent time. My friend Tammy would have to wait another day to complete her second double as her MS decided it would not allow her to cycle beyond 62 miles.

I would like to thank my husband for letting me do the ride; I did raise \$1,400 for cancer through AVON of Puerto Rico for completing this double century, and Bruce for carpooling with me.

I would also like to thank Hammer Nutrition, Cannondale, Spinergy Wheels, Serfas Tires, Profile Design, Rudy Project, Fuel Belt, Polar Monitors USA, Kool n Fit & Energizer for their help and support.

Suzy Degazon Ultra WOMan!



Between 1996-2008, I reviewed both Certificates of Analysis from manufacturers of Hammer Nutrition products and independent lab analysis that confirmed manufacturer's Certificate of Analysis.

Whether the Certificates of Analysis' or independent lab analysis' level of detection limit was set at PPM parts per million or PPB parts per billion, all confirmed each product contained only the ingredients listed on the label plus 1-4% above the listed amounts described on the ingredients list. No Hammer Nutrition supplement ever tested contained any banned substance, including FDA prohibited substances.

Bill Misner, Ph.D.
AAMA Board Certified Alternative Medicine Practitioner
Certification #38272409

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day; training on tired legs is a waste of time. Make your training time count, but also make your recovery time count. The point is to keep building, ever higher!

Step Ten: Do Something Else

I harp on this all the time, but it's always worth repeating: DON'T JUST DO YOUR MAIN SPORT! Spending 90% of your time doing the sport you know and love is called training your strengths and that's no way to become a better endurance athlete. Let's say your main sport is road running: your endurance path could - should, I'd say - also include yoga, Pilates, spinning classes, the weight room, the pool, cycling, and running trails.

Frankly, I'm amazed at the number of overweight endurance athletes I see. Either the extra weight is a result of poor dietary habits (fast food for breakfast, lunch, and/or dinner) or these athletes are stuck on a plateau: no matter how many miles they train, or how many long events they finish, they never really get into shape, or better shape. They need to incorporate more intensity into their training and they need some serious

cross-training to shock their bodies into pushing itself to a higher level. (So do the rest of us!)

Think of cross-training as filling in the blanks that are left by the huge volume of sports-specific training done while doing your main sport. Cross-training will not only increase your overall health, but also your sports-specific athletic ability through increased muscular endurance and strength and elevated joint, muscle, and connective tissue health.

If you want to be running 50-milers for the next 50 years, or riding centuries until you're 100, then create and follow the endurance path that will get you there. See you along the way!

Chris Kostman has lived on the endurance path since 1982. Besides competing in races as diverse as the Race Across America, the Triple Ironman, and the 100-mile Iditasport Snowshoe Race, he also organizes endurance events such as the Badwater Ultramarathon and Furnace Creek 508. This is his third article for Endurance News. More info at www.adventurecorps.com.

The HOTTEST TIP

Elevating hGH while you sleep revisited

In previous issues of Endurance News we discussed the benefits of taking whey protein prior to bed to help elevate hGH levels by as much as 400% (*read the original Hot Tip below*). The key for this to be successful is to take Hammer Whey in water only, as carbohydrates will hinder the process. Note that Hammer Whey contains no added carbohydrates so it's going to be somewhat bland tasting. However, the benefits derived are anything but bland!

From Endurance News 54

Elevating Human Growth Hormone (hGH) levels is the surest way to enhance athletic performance and shorten recovery time. This is why some athletes resort to risky injections. To safely raise hGH levels without risk to your endocrine system, try this - just before bed, take 1 scoop of Hammer Whey protein in 4-6 ounces of water, not juice or milk as those carbs will hinder the process. This practice may safely raise hGH levels while you sleep by as much as 400% compared to the usual nightly spike. That's enough to have a noticeable effect on anabolic, muscle building/maintaining activity in the body, and that's a good thing.



Globus *Pad Placement Explained*



Giovanni Ciriani

Pad placement is very important for effective EMS training. Understanding a couple of principles will help with pad positioning for any muscle. The main points to keep in mind are:

- Position relative to the muscle anatomy;
- Direction between pads;
- Size of pads.
- Polarity in my opinion, and that of several respected researchers, is not important.

Position

One pad goes on the belly of the muscle. This is also called the active pad, and the belly of the muscle coincides with the motor point, i.e. the point where the innervation arrives into the muscle. For example, on the vastus lateralis, i.e. the outside part of the quadriceps, the belly is the bulging in your muscle, several inches away from your knee.

The other pad, called the inactive pad, goes on the proximal end of the muscle. This is the side of the muscle closer to its innervations, i.e. closer to your head. You want the pad to remain on the fleshy part of the muscle; you don't want this pad on the tendon, it's better to err on

the side of the muscle. For the outside quad, this is a couple of inches below the groin line, on the outside part of your thigh. To understand these positions flex your muscle and use an anatomy chart .

Double-Input Pads

It's up to you whether to use standard one-input pads, or double-input pads. There are pros and cons on the use of both: double-input pads are faster to apply, and may save you money; single input pads can be positioned more precisely on the muscle you want to stimulate.

Direction

The imaginary line connecting the center of one pad to the center of the other pad has to follow more or less the direction of the muscle fibers. This is, generally speaking, the direction along which a muscle does its pulling. If the current closes its circuit along many innervations and fibers, the current will encounter less resistance in its path, and you will obtain a stronger contraction.

Size

One school of thought advocates pads

as large as they can fit in a particular body area: this helps distribute current into the muscle and help obtain a higher comfort level. The other school of thought recommends a smaller pad on the belly of the muscle, to help concentrate the current and go deeper into the muscle. However, the depth improvement may be marginal and it's best to see what works for you.

Polarity

Most pad placement pictures were created for the physiotherapist community, which sometimes uses protocols that give a stronger jolt in one direction. However, the current generated by modern EMS devices like the Globus Premium Sport and Fitness is alternate and symmetrical: by definition pads become alternatively positive and negative. To convince yourself, pause your EMS session in the middle of it, switch the leads, and then resume: no difference in contraction.

A longer version of this article can be found on Globus Sport and Health Technologies site at www.globussh.com/home27 <<http://www.globussh.com/home27>> The ideas expressed in this article reflect the opinions of the author, and should not be construed as prescription of medical or therapeutic nature by Globus Sport & Health Technologies. (C) 2008 Globus Sport and Health Technologies LLC.

Real athletes, real results!

"Thank you for introducing me to the e-stim device. I had been using it to get ready for the California International Marathon. It was the best marathon I have run, thanks to my unit (and of course my Hammer Nutrition products!!). I have run much faster marathons going back 32 years, but technically this was the best ever: I kept my HR pegged at 85%, my pre-race goal, and I kept good form the entire race. My legs never felt so good. Today I can hardly feel the effects of the race; I even rode my bike to work! And I qualified for Boston again!"

Fred Goss

"I employed EMS while training for the New York City marathon and loved the device so much, I ended up buying it. It's done EVERYTHING that Hammer has said it would do. Every marathon training cycle that I had gone through before, I was plagued with injury at some point - not this time while using e-stim."

Dustin Holmes

"I have absolutely loved this thing ever since I got it... best \$600 I've ever spent since I'll save a ton on PT appointments and massages!" Amy Welty

Read what athletes just like you are saying about their e-stim devices.

“For the first 50,000 miles of my running career, I was able to run through every single cramp. So when my calves felt tight while jogging before a spring 2004 speed session, I stretched well and as always started the workout. During the first stride the left calf, then the right, seized in excruciating pain and it was all I could do to walk the mile home. Racing took a back seat to this “injury” and the rest of that year and well into the next, despite all the therapy, was largely a washout as the flare-ups became routine. Finally, I skeptically bought an E-Stim machine figuring what do I have to lose? As it turned out, only the golf-ball sized knots in my calves. Within 3 treatments, they were down to grape-sized, and within a month were virtually gone, and with regular e-stim sessions, they’ve never returned. If you are suffering from a similarly pesky condition, especially in the calves where reduced circulation is a reality for many aging athletes, I strongly urge you to give the E-Stim a try. The Active Recovery program alone is worth the price.”

Tony Schiller
 9 time Age Group National Champion
 5 time Age Group World Champion

“I bought my EMS unit from Hammer Nutrition about two years ago based solely on their recommendation and have been a very consistent, satisfied user ever since. Recently, I wasn’t able to do my normal e-stim strength and recovery sessions for several weeks.

Interestingly, NOT having access to my regular e-stim sessions allowed me to fully appreciate all of it’s benefits. Typically, I use Active Recovery daily and after just a few days of not being able to do it, my legs started feeling stale and heavy. I went and got a couple of massages and realized just how much money I’ve saved on massages alone. Over the last 2 years I would have spent over \$2,000 on massages, so the Active Recovery program alone saved me \$1,350 or more!

Since I couldn’t e-stim, I decided to start going to the gym for lower body strength training. In addition to the extra time going back and forth and the expense, I started to notice joint pain. I realize now that when using e-stim, I get much stronger muscular contractions, yet don’t expose my joints to injury. Again, amazing.

These past couple of months have proven the huge impact this product has had on getting me closer to my goals and feeling more recovered on a daily basis. In combination with intelligent sport specific training, good diet, and nutritional supplementation, I think EMS is essential equipment.”

Steve Kaplan

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Shane Eversfield

As we begin to experience a level of mastery at a particular triathlon race distance, we have two choices to further challenge ourselves within the world of swim-bike-run: We can go faster. Or, we can go farther. Ironman has long been revered as the pinnacle distance of our sport. Once an athlete finishes an Ironman, the only option is to go faster, yes?

Many Iron triathletes are just discovering that there are indeed races longer than 140.6 miles. In 2007, Ian Adamson offered the 2nd annual 24 Hours of Triathlon in Denver over Labor Day weekend. Steve Kirby produced the annual Virginia Double and Triple Iron triathlons [Steve's Note: These are Hammer Nutrition sponsored events] in Lake Anna, Virginia over Columbus Day weekend. (The Double began in Alabama in 1985, moved to Lake Anna in 1997, and was joined by the Triple in 1998.) Jane Bockus directed the 23rd Hawaii Ultraman World Championship over Thanksgiving weekend. And, if none of these events are long enough to get you warmed up, you can try your hand (and your arms and legs) at a deca-iron. (Yup, that's 10 times iron-distance.) Two formats have been used for deca's: 1) Swim 24 miles, bike 1120 miles, and run 262 miles. 2) Do one iron-distance race each day for 10 days consecutively. The Deca Iron World Championship was held in Mexico City in November 2007, using the second format. (For more information, see the sidebar "Ultra-Triathlon Race Formats").

Welcome to the "squirrel cage"! With the exception of Ultraman, most ultra-triathlons are "squirrel cage races". They consist of multiple swim, bike, and run laps, over a short, gently rolling or flat course. For instance, the Virginia

Double Iron consists of 12 out-and-back swim laps, followed by 45 out-and-back bike laps and 26 out-and-back run laps. The Triple Iron, which starts 24 hours earlier than the Double, consists of 18 swim, 67.5 bike, and 39 run laps over the same course. You might think such a short course for such long races would make a multi-day race monotonous. However, the Lake Anna course is quite beautiful, on quiet roads in a state park. The short out-and-back repetitions allow each athlete to return to the race center every 20-60 minutes, with access to his/her "pit area" for food, clothing, equipment changes, and crew support. This frequent "check-in" offers a sense of security, as the athlete endures such a daunting task. Unlike most conventional races on longer courses, ultra-triathlons allow pacers to accompany athletes. The short laps make it easy for spouses and other crew members to take turns accompanying their athletes.

Over multiple laps, the athlete gains intimate familiarity with the course, honing a perfect strategy for the greatest efficiency and economy. The age-old expression, "Practice makes perfect" really holds true for such courses, where triple-iron athletes typically spend 20-30 hours just to cover the 336 miles of the bike leg. Short lap lengths also mean the athlete has an accurate, continuous measure of progress.

Why? Why would anyone want to do an endurance event longer than an Ironman? What new discoveries or experiences are there beyond iron? What about the time commitment? If you max your weekly training at 20 hours for Iron-distance, do you max at 40 hours a week for a double-iron, or 60 hours for a triple? How can you train most effectively for ultra-tri's and still have

a life? What's the real secret behind training for longer distances?

Well? Are you ready to venture further into the intriguing landscape of physical and mental endurance?

How? In my limited experience, once the muscular, metabolic, and neurological systems are adapted to iron-distances, it is possible to sustain aerobic exercise for much longer duration, without an increase in training volume, if three criteria are met: 1) I have a simple nutrition protocol for continuous fueling. 2) I remain patient and calm enough to regulate a sustainable pace appropriate for the duration. 3) I focus relentlessly on executing each and every stroke and stride efficiently, economically, and gracefully. In reverse order, let's consider each of these criteria.

Focus: The big secret behind training and racing longer distances without devoting every waking moment to training is very simple, yet very subtle. There is a shift in emphasis from sheer volume of physical training to mindfulness training. In Buddhism, mindfulness is the first of seven factors for enlightenment. Jack Kornfield describes it very simply in "Seeking the Heart of Wisdom" as "a clear awareness of what is happening each moment". For endurance athletes, this translates to a capacity to remain present and focused in the "here and now," in order to swim, bike, and run with biomechanical efficiency and economy even under duress, for the duration of the workout or the race. Mindfulness is the foundation for every quality workout, regardless of duration. It includes our concentration

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and kinetic awareness.

With mindfulness, we swim, bike, and run more intelligently. An intelligent, mindful approach is evermore crucial as the distance increases. Each moment of training and racing becomes an intense investigation of efficiency, economy, grace, and harmony. Go faster and farther with less effort and energy. Recover faster and minimize incurrence of injury. These are primary intentions that all endurance athletes share, from sprint to ultra.

Mindfulness is simple, and it's profoundly powerful in all aspects of life. Yet, it is also intangible and hard to measure, so an athletic pursuit of mindfulness can be illusive. It's not something we can buy in a bottle and drink. However, as the hours and the miles add up over a long training session or an ultra race, the logical mind begins to soften and melt down. Unencumbered by that incessant internal commentary, it gets easier to enter the zone of clear awareness, to find the flow.

The most important guideline for combining mindfulness and endurance training is to approach each session with all the diligence and awareness you can muster – as if this will be the last time you will ever swim, bike, or run. Absorb every moment and every detail of your movement. There is no limit to your capacity for diligence and awareness, no limit to your capacity to execute each stroke and stride perfectly.

Technique – A Relentless

Pursuit: Swimming is the discipline that really shows us the precedence of perfect technique over desperate exertion. Great swimmers seem to slide through the water without much movement or effort. However, as an

illustration for using mindfulness to survive an ultra triathlon, let's consider cycling. When I began the 224-mile bike leg of the 2007 Virginia Double, I had never in my life biked more than 171 miles in a single ride, and that was at Ultraman, 11 months prior. In the preceding 2 months, since Ironman Lake Placid, I had not ridden longer than 3 hours continuously. I had to approach the Double Iron bike ride with more efficiency and economy than ever before. Do or die, this would be a relentless pursuit of perfect technique. (Nothing like high stakes to perk up the concentration).

My focal points included joint alignment (of the hip, knee, ankle, and foot) and pelvic orientation for correct biomechanics. I also focused on keeping my shoulders low and relaxed, tucking my chin, lengthening the back of my neck and leading with the crown of my head. I continually kept this focus in both aero and upright positions. I was very concerned with saddle discomfort during the 15-hour ride and knew that the best way to avoid it was through diligent saddle positioning that minimized side-to-side movement and the chaffing it causes. (I had brought an ISM saddle on a separate seatpost, in case I felt the need to change saddles. However, I stayed with my Fizik Arione Tri saddle for the duration). I opted for tri shorts with minimal padding and minimal bulk, over bike shorts, for the entire ride.

I also focused on maintaining a cadence of 80-95 rpm throughout the ride, mindful to shift gears accordingly. After the first 5 laps or so, I had determined the best gear selection, cadence, and positioning strategy for every part of the short course. I rarely rode out of the saddle except to stretch as I coasted downhill, opting to conserve my leg

strength. Overall, I maintained a harmonious and symbiotic relationship with my bike, maintaining correct biomechanics and constantly exercising my “vocabulary” of riding positions.

The most difficult element of the bike segment was navigating the stretch of road closest to the transition area after nightfall, as we were sharing this section with runners. I constantly reminded myself that these runners were doing the Triple, and were enduring their second night without sleep. Many were in a state of trance that deserved a wide berth. Each cyclist and runner had a headlight/lamp. Depth perception was difficult, so I exercised patience and caution, keeping the speed conservative throughout this section of the course.

Patient Pacing: A second precious virtue for endeavors of this length is patience. It allows the ultra-athlete to remain in the present moment, without any mental “squirring” that can cause disassociation. Patience is most essential in determining a pacing strategy that is gentle enough to prevent injuries, yet focused enough to cover the distance in the allotted time. With patience, the athlete is less anxious to “hurry up and get this thing over with!” (Maybe this is why the majority of ultra-triathletes are in their 40's and 50's). In my experience, I use a combination of mindfulness and patience to gradually and gracefully click off the laps. For setting the pace on both bike and run, I focus on minimizing the perceived strain and impact to my hip, knee, and ankle joints, as well as my feet. I really enjoy the gentleness of this pacing strategy and I'm happy to sustain it for many hours.

Simple Nutrition: For the Double,

see IRON DISTANCE on page 52

HOT TIPS

Premium Insurance Caps Dosing for Children

Dr. Bill Misner suggests a dosage of one Premium Insurance Caps capsule per 22-25 lbs body weight/day. He also suggests that “This calculated dose should be divided and taken with meals for best results.”

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I used the same nutrition strategy I've used in the past for ultra races: I refrained from eating anything on race morning until 5 or 10 minutes before I began. I consumed one Hammer Gel before the start. For the remainder of the race, I consumed 2 to 2.5 scoops of Hammer Perpetuem per hour (even during the 4.8-mile swim), along with water and Hammer Endurolytes appropriate for the climate conditions. Hammer Nutrition supplied HEED and Endurolytes that were available at the transition area and the run turnaround. On the second day, as the weather got hot on the run, I opted for Heed over Perpetuem. This simple strategy works very well for me – no fiber to process, a steady and even flow of complex carbohydrates with some soy protein, and electrolytes. It is a protocol simple enough for any crew member to anticipate and follow.

I feel that the perceived need for complicated nutrition strategies, with a wide diversity of foods, is more a psychological crutch than a physiological requirement. It is a result of mental "squirring" – the desire to disassociate and to seek out comfort. The consequence is often digestive distress and erratic energy levels. Keep in mind that stored fat is the primary source of fuel for aerobic activity. If the athlete provides an adequate and steady flow of carbohydrate (necessary for converting that stored fat to fuel), as well as electrolytes and water, the body enjoys a continuous level of energy without any gastric complications. The ultra-distance quest is demanding enough; keep the nutrition simple.

Basic Ultra Training Guidelines:

Novice athletes initially realize their greatest advances in endurance as they improve metabolic efficiency, training the body to burn fat and to conserve glycogen at higher levels of intensity and for longer durations. As the metabolic system adapts, the advances will level off, with occasional peaks through well-planned periodization. However, given consistent training and a diligent mindful approach, we can continue to improve technique indefinitely as we age. Focus on technique during every workout, whether it is a recovery session or a high-intensity interval session. Relentlessly pursue economy, efficiency,

and grace – in the water, on the bike, and on the run.

We train three physiological systems – muscular, metabolic, and neurological. It is the neurological that responds and improves the most, and the muscular that responds the least. However, don't discount strength training. Functional strength conditioning focuses on training the neuro system to recruit more muscle fibers for a given movement. Improved recruitment means greater endurance capacity with less mileage. Multi-planar exercises that cause you to stabilize joints and maintain balance, will train your neuro-based proprioception – your balance and coordination. Proprioception is a key element for that relentless pursuit of perfect technique. Finally, the pelvic core provides a stable center for all efficient movements – swim, bike, or run. Don't skimp on functional core strength.

As mentioned above, once you can maintain a training volume for iron-distance, it may not be necessary to increase that for ultra tri's. Rather, use progressively longer races every 5-8 weeks with adequate recovery in between to build up your metabolic and (more importantly) mental stamina. Alternatively, an epic workout 3-4 weeks prior to an ultra is effective. Instead of chaining yourself to the bike for 14 hours, be creative! I have used two creative approaches with success. One is a "volley" workout, alternating between two disciplines throughout the day. The second alternative works well here in the mountains surrounding Lake Placid: I go for an epic hike with lots of ascents and descents. (These approaches are detailed in the "Case Study" below.)

Finally, don't let up on the speed work. Obviously, you won't be doing much sprinting on the bike or run of an ultra-triathlon. However, speed work helps to train your muscle fiber recruitment for greater endurance and is essential in that relentless pursuit of perfect technique.

Case Study: For an illustration of the information discussed above, here's a quick 2.5-month overview of my training and racing leading up to the Virginia Double, 6-7 October. I followed Ironman Lake Placid, 23 July, with active recovery for the first week – easy swim and bike sessions. I also resumed my

combined core strength and stretching workout (including physio-ball work) three days post-IM, and resistance strength training 10 days later. For speed work, I raced High Peaks Cyclery's weekly Monday Night Mini-Tri (sprint distance), beginning eight days after.

My immediate race-focus after IM was the USMS National 2-Mile Cable Swim Championship three weeks later. Consequently, most of my high intensity workouts (with the exception of the weekly sprint tri's) were limited to swimming. Three days before the USMS race, I did an endurance bike-run "volley" in preparation for 24 Hours of Triathlon (24 HOT). The volley consisted of 90 minutes biking/30 run/90 bike/30 run/90 bike/30 run/90 bike. This format closely resembled the strategy I would use for 24 HOT. A few days after the USMS race, I did a similar swim-run "volley". While these were long sessions, the volley format kept my running legs fresh and recovery times short.

I soloed 24 Hours of Triathlon 1-2 September – five weeks after IM, and two weeks after USMS. For this race, I alternated between multiple 1-mile swim laps and a single 2.8-mile run lap throughout the day. Although the temperature peaked at 90 degrees, I was back in the water after each 30-minute run to cool off. At night, I alternated between multiple 9.4-mile bike laps and a single run lap. (I never ran more than one run lap at a time throughout the race). This strategy of short run repetitions allowed for greater recovery and minimized injury potential, even though my total run distance was 42 miles. In 24 hours, I completed 15 triathlons, with one additional swim.

I resumed swimming, biking, core strength, and stretching as soon as I returned to Lake Placid. I refrained from running due to a minor injury to my left knee from the 24 HOT. A week after 24 Hours, I signed up for the Virginia Double and I went on a 4-hour fast-hike with friends to the summit of Giant Mountain, here in the Adirondack Park. My legs were very sore for 3 days after the climb, so I ran only twice in that week, 20 minutes each time.

The very next weekend, 5 of us completed a 13.5-hour fast-hike,

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summiting nine of the Adirondack High Peaks, with over 10,200 feet of elevation, covering over 25 miles. (All five of us had completed Ironman Lake Placid, and all of us agreed this hike left our legs far more trashed). This served as my peak training event for the Virginia Double, three weeks away.

I resumed biking and swimming the next day, but did not run for four days – and then, just 20 minutes. A week after the epic hike, I ran 10 miles. It felt like 20. This was only my fourth run since the 24 Hours, (the first one longer than 30 minutes), and my longest run before the Double. As mentioned above, my longest bike was three hours. With the exception of our epic hike, my weekly volume between these two long races was moderately low, peaking at a weekly total of 13:45. Regardless, I maintained my relentless pursuit of economy, efficiency, and grace in every workout. In addition, twice a week I did my yoga-Pilates core strength and managed a few multi-planar weight lifting sessions as well.

Psychologically, it would have been easy for me to feel anxious about my low training volume as I prepared for the Double, especially running volume. However, a key component of

my endurance athletic training is to disengage from the fear I associate with uncertainty and doubt, especially as I approach a new endurance challenge. This ability to disengage from the fear and befriend the uncertainty as an “elixir of life” is helpful when we approach any new and unfamiliar experience in life. Endurance training and racing provides a great arena for honing this life-skill. Continue to venture forth and explore unfamiliar territory as an athlete and you will continue to hone this skill. I am very grateful for the health, wealth, and the family, community and cultural support that enable me to do this.

In conclusion, the most important preparation for the Double was to arrive at the starting line in a calm state, with humility, gratitude, keen awareness, and lots of patience.

What is possible? One of the greatest psychological supports for me as I “raced” the Double, was sharing the experience with those who began 24 hours earlier, racing the Triple. Their daunting endeavor made my quest look much smaller and more attainable. Most noteworthy was Arthur Puckrin, a 69-year old judge from the UK who took up triathlon at age 50. Wearing his sandals, Arthur was still able to run on Sunday, when the temperature went

over 90 degrees, while I was reduced to a staggering walk. Still smiling and breathing deeply, he gracefully finished the 78.6-mile run to complete yet another triple-iron with more than an hour to spare. A month later he would begin the Deca World Championship in Mexico City.

Vicenzo Catalano of Italy also completed the triple. He holds the record for the most iron-distance tri’s completed in one year – 40. (Of course, most were accumulated during multiple iron events).

Finally, Guy Rossi of France, age 56, holds the world’s record for the most ultra-tri total mileage. He’s done 9 singles, a 24-hour (that included 8h swim, 8h bike, 8h run), 37 doubles, 27 triples, 1 quadruple, 2 quintuples and 8 deca’s. These accomplishments include 14 podium finishes. Kinda makes an annual Ironman look like a stroll in the park, huh?

Shane Eversfield (a.k.a. “Zenman”) is author of “Zendurance, A Spiritual Fitness Guide for Endurance Athletes” as well as founder and head coach of Zendurance Cycling Technique. Please visit his website www.zendurance.net for a complete bio, more info on the book and the tech program, as well as countless essays and blogs.

ULTRA-TRIATHLON RACE FORMATS

Ultraman: Held annually in both Canada and Hawaii, this is a 3-day stage race. The format and distances for this race developed as a way for athletes to circle the entire Big Island, beginning at the pier in Kailua (which also serves as the start of Hawaii Ironman) and ending just a mile away. The first day includes a 6.2-mile point-to-point swim to Keauhou, followed by a 90-mile bike that finishes atop 4,000’ Kilauea, just a few miles from the active volcanic cauldron. Day 2 consists of a 171.4-mile bike through countless climatic zones and ecosystems, culminating with a fast descent into Hawi from the 5,000 crest of the Kohala mountains. On Day 3, athletes complete the circle back to Kailua with a double marathon along the same infamous coastal desert highway as the Hawaii Ironman bike course. (Canada Ultraman consists of the same distances.) The entire 320-mile course of both venues is open, with no traffic controls, and each athlete is required to have a support crew. Topography, wind, temperature, and road conditions are highly variable. Athletes must complete each day’s stage within 12 hours. Logistics constitute a crucial element of this race.

24 Hours of Triathlon: With a 2-year history, look for this Le Mans style

format to gain popularity. In 2007, 24HOT was held in Cherry Creek State Park on a 0.25 mile swim, 9.4-mile bike, and 2.8-mile run course, just outside of Denver. The event is open to solo athletes and teams. After the initial swim, bike, and run, athletes may complete legs of the triathlon in any order and combination. However, at the conclusion, placement is figured by the number of complete triathlons; an excess of bike laps won’t count. Swimming is allowed during daylight hours only. In 2008, the distances for each leg will be standardized to one-tenth of iron distance (0.24-mile swim, 11.2-mile bike, 2.62-mile run). This “go-as-far-as-you-can” format eliminates the distance requirement, meaning that every participant is a finisher. It’s a great way to break into the ultra-tri arena.

Multiple Iron: These classic “squirrel cage” races have been put on internationally for over 2 decades, including double, triple, quadruple, quintuple, deca., and even 15 times iron distance. In Europe, these races are usually held in well-lit urban areas on flat roads closed to traffic. Course lengths vary by location, however, all of these races consist of multiple laps of a short course. In the US, Huntsville, Alabama was host to the Double 1985-96, before the race moved to Virginia in 1997. The Triple was added in 1998. (For more info: www.usaultratri.com, www.iutasport.com.)



Al Lyman, CSCS

Spring has sprung in the northern hemisphere and with it, the time of year when many dedicated triathletes start to really get serious about their training. Whether you are extending the length of your long ride or run in preparation for a mid-season half or full Ironman, or beginning to integrate some track work into your running program to maximize your running speed off the bike for an upcoming sprint or Olympic distance event, chances are that whatever the composition of your workouts, the focus of your training is aimed at jumpstarting your endurance and power by improving two of the three most widely discussed factors for endurance performance:

1. Maximal aerobic capacity (V02 max)
2. The so-called lactate threshold (LT)

Building a loftier LT (a.k.a. Functional Threshold, Anaerobic Threshold, or OBLA) and maximizing aerobic capacity is a good thing if you want to go faster. After all, LT is often thought of as being the most important predictor of performance for endurance athletes. However, if you are going to run, ride, or swim to your potential this season, you must also have superior economy and efficiency in all of your sport specific movements. Being more efficient is critical for your overall finish and performance, and might be the most overlooked aspect of your “fitness” during daily training, especially as “race preparation” in-season training commences. To put it bluntly: if you only focus your training on producing more power without looking at ways to use less energy while you produce that power, then you are missing out on what could be the key to your strongest finish and fastest result.

Economy as it relates to endurance exercise is generally defined as “the

oxygen cost to move at a certain speed or generate a certain power output.” Think of it this way: If your movement skills are not as efficient, more energy is required for you to perform and move at a certain speed or intensity. Conversely, the more economical you are, the less oxygen and fuel is required to perform at that intensity. If you are like most athletes, your goal is to go as fast as you can during your event, and most importantly, finish strong! To do that, you’re going to have to dole out your energy carefully, conserving precious glycogen and burning FFAs predominantly as a fuel source. Every single thing you can do in training to create more efficient movement patterns should result in less energy burned, allowing you to go longer, faster, and finish strong.

Merging science, practical experience, and common sense

So much has been written in the scientific literature about economy for our sports, that when I began to do my own research as well as speak to a variety of experts and other coaches on the topic, I was overwhelmed with not only a huge amount of data, but also a wide variety of opinions!

My goal with this article is to summarize and merge some of the latest science, my own experience, and common sense together, to give you some practical tips that you can apply in your next training session and beyond. If you apply some of these tips and practice your sport smartly with a heightened awareness, patience, and persistence, you should see your speed and power increase at the same or lower effort.

Keep in mind as you read this article that in nearly every instance, human

beings tend to improve efficiency the most at speeds which they most frequently practice. It makes sense to spend as much time as possible during training at the speed at which you intend to race, so that efficiency at that speed will be optimized. The law of specificity applies!

Cycling

Improving your cycling efficiency even a little not only impacts how fast you can ride, it also could potentially have a dramatic impact on how well you can run later on. That is, every bit of energy saved on the bike will be realized, perhaps hours later, when you are on the run and hanging on for dear life trying to keep the wheels from falling off. With that in mind, when discussing cycling efficiency, the two areas that deserve the most attention here are:

1. Optimal cadence
2. Aero-positioning

Cadence: Few topics have been more widely discussed and debated in cycling forums and coaching circles than cadence. The question we all have is: what is the most economical and effective way to pedal? Is it different for “regular” road biking vs. triathlon, where we are required to run after riding?

Despite what many of us have thought, the research to date has been consistent in showing that a “relatively lower cadence is more efficient than a higher cadence. However, the most efficient cadence changes with power output.”

Specifically, as power output increases, the most efficient cadence also increases,

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'07 Inside Tri All-Americans

Hammer athletes rock!



Steve Born

The January/February edition of Inside Triathlon (Vol 23/Issue 1) included their choices for All-American in duathlon and triathlon. According to the magazine, "Triathlete selections are based on 2007 performances at the USA Triathlon Olympic-distance national championship, International Triathlon Union Olympic-distance world championship and Ford Ironman world championship. Duathlete selections are based on 2007 performances at the USAT short-course national championship and ITU short-course world championship"

We'd like to recognize Hammer Nutrition athletes who made this prestigious list. CONGRATULATIONS! (If you were on the Inside Triathlon list but we somehow forgot to mention you, please let us know and we'll recognize you in the next issue of EN!)

Note: An asterisk () before a name signifies Inside Triathlon's choice as the best in each age group.*

Duathlon - Women

- 30-34 Suzanne Huelster – New Jersey
- 35-39 Laura Wiley – Oregon
- 45-49 Sheila Power – Wisconsin

- * Kristin Villopoto – N. Carolina
- 50-54 Cheryl Hart – Kentucky
Heather Leach – Washington
- 60-64 Ellouise Morse – Washington
Virginia Poyner – Florida
- 75-79 * Margie Stahl – Maryland

Duathlon - Men

- 25-29 * Aaron Wahls – Illinois
- 35-39 Richard Bailey – North Carolina
Casey Williams – Pennsylvania
- 40-44 Brian Stern – Ohio
- 45-49 Bruce Geise – Florida
- 55-59 Jean-Pierre Bacle – Virginia
- 65-69 * Ron Lemerich – Ohio
Warren Taylor – Pennsylvania
- 70-74 Leonard Taylor – Pennsylvania

Triathlon - Women

- 20-24 April Gellatly – Georgia
Canielle Keho – Colorado
- 45-49 Pippa Michaels – New Jersey
- 50-54 * Laura Sophiea – Michigan
- 60-64 Patricia Kimper – California
Cindy Rach – Washington
- 65-69 Sharon Blount – Georgia
- 75-79 Molly Hayes – Montana

Triathlon - Men

- 20-24 Nicholas Dason – New York
Brian Monaghan – Florida
- 40-44 Brian Bich – Minnesota
Stephan Schwarze – Texas
- 45-49 Rob Chance – Oklahoma
Patrick High – Florida
Steve Pyle – Connecticut
* Tony Schiller – Minnesota
- 55-59 * Jim Bruskwewitz – Wisconsin
- 65-69 Richard Clark – Georgia
- 70-74 Jon Adamson – Georgia
- 80-84 Charley French – Idaho

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HOT TIPS

REM Caps' melatonin component - not just for sleep enhancement!

In addition to its well-known benefits as a sleep aid, melatonin - one of the primary components in REM Caps - has numerous other benefits, its primary one being one of the most potent antioxidants known. As one well-known nutritional scientist states, "Besides directly detoxifying a variety of highly reactive molecules, melatonin also stimulates antioxidative enzymes."

Melatonin is also considered an anti-aging nutrient, primarily via its ability to inhibit age-induced decline in glutathione.

So even if you don't suffer from sleep-related problems, taking a capsule of REM Caps prior to bed may provide numerous general health benefits.

Better sleep = better performance

ECONOMY from page 54

to a point. When I say “relatively” lower, I’m referring to +/- 70 rpms, compared to 80, 90, and even 100.

What many of us have learned from our own riding experience is that if we just ride and don’t worry too much about how fast we’re pedaling, our legs will tend to find the cadence that they prefer and that cadence often ends up being the most efficient for us. Think of it as the evolutionary process often referred to as “branching and pruning,” or self-selection. For example, if you are more of a novice rider, you are likely searching out what feels natural through training (branching) and if you are more experienced, you have been gradually zeroing in on your own optimal pedal stroke and naturally weeding out unnecessary muscle activation or wasted motions (pruning), learning to automatically relax the muscles you don’t need to pedal, thereby conserving energy.

Here are some tips to help you create a more efficient pedal stroke and thus become a more economical cyclist:

1. Train at a large variety of cadences (fast, medium, and slow) as this variation can help elicit even greater adaptation by challenging your coordination, forcing your neuromuscular system to adapt and find new and better ways to be more efficient. Along the same line, include at least one ride per week where you take some time during that ride to focus on “non-preferential” gearing and cadence. For example, if you prefer to pedal at 90-100rpms, include segments of 1 to 10 or 20 minutes straight, at 60-70rpms, and vice versa. Get out of your comfort zone to become more efficient!
2. Do multiple field tests for your LT or FTP using a variety of cadences to determine which cadence produces the most power output. You could potentially do three: one at your chosen cadence, one at a slower than preferred cadence, and one at a faster than preferred cadence. What worked best for you? What provided the greatest power for the least effort?
3. Repetition and frequency is absolutely KEY for developing greater efficiency. The laws of specificity definitely apply. So, be sure that when you zero in on your optimal cadence range, that you practice

that cadence during your “event specific” training rides.

Positioning: The other topic of great importance for triathletes when considering how efficient they are is aerodynamics and positioning. In a triathlon, aerodynamic drag sucks up most of your power and most of that is from the rider, so making your body more “slippery” when you are sitting on the bike will provide more free speed and improve efficiency.

While this also is a topic with widely varying opinions, there are some universally accepted concepts:

1. Improving your body’s aero position is accomplished primarily by reducing frontal area. An optimal position aero-wise has the front of the torso horizontal. Being properly set up with aero-bars is key to achieving this, versus a more traditional “road setup.” According to Todd Kenyon of TTbikeFit.com, “the rest of the bike must be set up properly to accommodate this position or the rider will be uncomfortable, will lose power, be unstable, or any combination thereof.” In general, most experts agree that a standard road frame does not have the right geometry for this – you need a steeper seat angle and a more slack head angle to balance the rider and allow him to generate power in a low position.
2. Most experts agree: It is possible to be very comfortable in a very effective “aero” position and uncomfortable in a very NON-aero position. Despite what you have heard, power, aerodynamics, and comfort are not mutually exclusive, and all can greatly effect how efficient you are. Keep working on this until you get it right. You can be powerful, aero, and comfortable!
3. If you are relatively new to the sport, the biggest potential gain in speed and efficiency can be gained by going to a tri-geometry frame, aero-bars, and a proper fit.
4. The next level or “bang for your buck”

in improving cycling efficiency is to get an aero-helmet, followed by aero wheels and then an aero frame.

5. Todd feels that while an aero frame is not necessarily a huge time saver, aero frames are now comparatively priced to conventional frames. If you are considering a purchase, why not

get something that might make you a little faster (aero tubes) vs. a round tube frame.

Based upon the above, it is important to be sure you are fit by a triathlon-specific fit person – a standard local bike shop road fit will not work as well to help you become more comfortable, powerful, AND slippery in an aerodynamic position.



One last thing: while it doesn’t apply specifically to the topic of cadence or aerodynamics, one other factor that appears to have a relatively large impact on efficiency is your foot, or ankle-joint position. During the down stroke, your feet should not be pointed down (plantar flexed), or pointed up (dorsi-flexed), they should be neutral. The research clearly states that “a neutral position (neither dorsi or plantar flexed) may reduce fatigue, preserve gross efficiency, and even maximize force.” Bottom line: check your position and keep that ankle neutral to preserve energy and pedal more powerfully.

Running

Every triathlete knows that the key to a successful race is being able to run strong off the bike and finish strong across the line. For example, there’s no such thing as a strong swim or bike leg IF it is accompanied by a poor run. Clearly, one of the goals of every triathlete’s training program has to be to decrease the energy cost of running. If you can do that, any speed you run will be a lower percentage of your maximum and will be easier to establish and sustain all the way to the finish tape.

see ECONOMY on page 57

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When we think about being more efficient runners, we need to consider the fact that nearly 50% of the energy needed to run comes from “elastic energy return” of our muscles. To summarize this important concept of “reactive” energy reuse, each time your foot hits the ground, energy is stored in the key muscles and tendons around the knee, ankle, feet, hips, and legs. All of these muscles are stretched and this stretching process stores energy. Your body and in particular, your legs, essentially act like reactive “springs.” When all of these soft tissues recoil elastically during toe-off, they return approximate 90% of the work required to stretch them. If your legs couldn’t store this energy, your heart and leg muscles would have to work a lot harder just so you could run at a fraction of the speed.

In my opinion, the two most effective ways to improve your ability to run faster while decreasing the energy cost of that speed is to improve your running-specific strength and spring-like action of your muscles (so that you can store more energy and release it more effectively during push-off), and improve your running form (so that less energy is wasted or lost with more of the kinetic energy of the stride preserved).



Chris Stanton
Photo - Angela Nock

When it comes to running form, there are many different opinions on what is the most efficient and correct foot strike, and whether or not you should try and change what you naturally do. One factor of which there is no debate is that in order to run efficiently, you must take the “brakes off” during foot strike, also known as the stance phase of the gait cycle. In order to minimize any braking action, you need to have a high degree of control, coordination and “quickness.” Owen Anderson, PhD states “Our nervous system must be highly reactive, so that muscular actions which inhibit forward propulsion can be inhibited from the moment of impact and muscular actions

which boost propulsion can be instigated without hesitation.”

In addition, when your foot hits the ground during stance, your leg muscles need to be firm and stiff enough so that your legs don’t collapse as they work to stabilize your body against ground impact forces. All of the extra work required to restore your body’s equilibrium and prepare for toe-off zaps energy and hurts efficiency.

Here are some tips to help you become a more efficient runner:

1. Reduce and minimize ground contact time. Whether you are a mid foot or heel striker, you will be more efficient and faster if you can get your feet UP off the ground quickly with each foot strike. Integrate some exercises and drills into your running routine such as hopping

movements, in-place “accelerations,” one-leg squats, and bounding, all of which force your legs to act like coil springs, compressing slightly and then recoiling quickly. When you run, see if you can run more quietly and “lightly,” both of which enhance a quick foot strike and minimize ground contact time.

2. Take off the brakes by integrating a

“pawback” action in your foot strike. Making sure your feet are moving backward (I refer to this as “pawback”) as they strike the ground under your hips, will minimize any braking action, limit deceleration, and improve your efficiency. A more effective pawback will minimize any up/down movement during your stride. This vertical “oscillation” of your body hurts efficiency.

3. To more fully integrate the above into your running, videotape yourself or get video analysis done by someone else, to see what you are actually doing in your stride. This makes any adjustments easier to execute. Sometimes a picture is

worth a thousand words!

4. Incorporate regular periods of very FAST running into your routine, regardless of your goal race distance, to enhance the quickness and explosive forward propulsion in your stride.

5. Include some running specific strength training into your routine, to improve the forcefulness of contractions and increase muscle reactivity. Exercises like step-ups, lunges, one-leg squatting, and pawback leg- swings work great if done in a progressive way and are integrated into a smart training routine.

6. Include some hill training in your training routine. In a classic study conducted in Sweden, hill training was shown to improve economy by an average of 3% in 11 well-trained runners over a 12-week period.

Remember that some of these exercises, including hill training, that do a great job of enhancing strength and efficiency carry a higher risk of injury if done too aggressively without adequate recovery, especially if you have very little history of explosive types of training. To be able to effectively train your nervous system and minimize injury risk, start small with low reps and sets and only integrate these exercises when you are fully rested and not overly fatigued. Train smart!

Swimming

The swim portion of a triathlon provides a huge opportunity to either save energy (good!), or waste energy (not so good!). Ideally, you will be able to use as little energy as possible during the swim so it feels like a warm-up to the rest of your day. If you can do that, you have more energy available in the late stages of the race when energy reserves are low, fatigue is high, and your race is ready to be made or broken during the run. Comfort level in the water, swimming skills and strength, and conditioning, all combine to either help you smartly save energy, or waste it and use it up.

To make matters more complicated, we need to acknowledge that swimming is an activity that is obviously very different from running and cycling because you are not pushing against something solid when in water the way you do with your feet locked into the pedals or pushing off against the ground.

see *ECONOMY* on page 58

ECONOMY from page 57

What's more, actually measuring the efficiency of a triathlete or any swimmer is difficult to do because most methods used are imprecise. Add the fact that all kinds of different opinions exist among swim coaches, triathlon coaches, and scientists on what are the most efficient stroke rates, stroke lengths, and approaches to training for the sport, and what you have is a major dilemma!

Many age-group triathletes spend huge amounts of time driving to and from the pool and in swimming workouts, yet do not improve their swimming efficiency. As we consider the most effective ways to train for the triathlon swim and improve our efficiency, there are three important questions I believe we all need to ask:

1. Where should the focus of our swim training be in order to maximize efficiency?
2. Are we getting maximum benefit from the time we are spending?
3. Is there a better, more effective way to do it?

In my opinion, for many, the focus is often too much on these factors:

1. Accumulating lots of yardage without regard to stroke quality. (Remember that your neuromuscular coordination and skill directly impact how much energy you use).
2. Too much focus on chasing the pace clock or making an interval, even when form is falling apart, which only reinforces poor technical habits.
3. Too little focus on developing the necessary upper body flexibility to swim correctly.
4. Too much endless focus on gliding longer and "perfecting" body position, without enough focus on increasing stroke rate, so you can take control in your open water environment, rather than the other way around.

I should note that one area where there is no debate: wearing a wetsuit when allowed to and then drafting behind a swimmer in front of you when possible are two ways to absolutely improve your efficiency in a triathlon! Do it!

Here are some basic tips that will help simplify this process so that you can use immediately to maximize your swim training time and create a more efficient stroke:

1. Being comfortable in the open water is hugely important for efficiency. If you are a novice, learn to become more comfortable in this environment by getting out there often, and by working on both skills and strength. Do what you fear the most and over time, your comfort level will improve and efficiency will increase. Along the same line, don't forget the power of your breath and the forced extended exhale to fully enhance relaxation and thus use less energy.
2. Making your body more "slippery" and improving your streamlining so that you create less drag throughout the entire stroke cycle is absolutely essential to be more efficient. For the average age-group triathlete, the secret to a more streamlined position is rooted in improving flexibility through the shoulders, arms, and upper back. Being more flexible in these areas allows you to get into those important glide positions that increase length of reach, and simultaneously eliminate drag, allowing it to be done in a relaxed way. Greater flexibility means that it does not take excess energy to create these positions with your body. Bottom line: being more flexible means that without having to swim one extra yard, you will be more efficient and thus go faster with far less effort. Commit to the stretching that is necessary so that you can be more streamlined throughout every phase of the stroke, and then practice correctly (by applying that improved flexibility more efficiently).
3. Train daily to be able to maintain a higher overall stroke rate, especially if your focus has been to glide longer and kick more. Stroking a bit faster will

allow you to put more constant effective pressure on the water so that you can reduce the intensity of your kick and spend less time decelerating during the stroke. "Swimming Golf" is a good practice drill that can be used to help you find your ideal stroke rate.



Rafael Pacheco
Photo - Brian Menz

4. Generally speaking, you will gain more in efficiency if you can shift your swim training away from a mindset of accumulating yardage without any regard for the quality of your stroke, to a stricter approach. Quality repetition (over and over, done the right way!) is what creates efficiency!

5. Stop chasing a pace clock to make an interval at the expense of the kind of correct technique that, practiced over time, will make material improvements in efficiency and strength.

6. Begin to start using various dryland training tools such as stretch cords and the Vasa Ergometer to effectively build the functional strength and flexibility that you need to be more efficient.

7. Lastly, spend a significant amount of your actual training time practicing at the speed and intensity that you plan on racing at.

There's one more element that applies to all three sports and that is relaxation. Have you ever stopped to notice how relaxed and smooth the best triathletes look when they are competing? When we swim, bike, and run, we are continually moving between a state of relaxation and tension both physically AND mentally. While we obviously need that tension at times, if you are gritting your teeth and trying to force and fight yourself through a workout or race, you may be severely lessening the potential benefit AND enjoyment you would have derived from that session, AND you are definitely hurting your efficiency. What the elite athletes who are silky-smooth and relaxed know is that:

see ECONOMY on page 59



The Cycling House

Coming to Montana this summer!

Glacier National Park
Photo - Kelly Pris

Owen Gue

The Cycling House that you've come to know and love in Tucson is opening its doors in Whitefish, Montana! The house will be open from June 20th until July 31st.

For the road and tri folks we'll be nestled among endless secondary roads that will provide hours of riding with very limited traffic. Glacier National Park, one of the most beautiful places in the world, is a short shuttle away. There you'll find an epic climb on the Going-to-the-Sun Road which peaks at Logan Pass, the 6646' high-point on the Continental Divide in Montana. Long loops around Flathead Lake and Kooicanusa Reservoir will also be offered.

For the mountain bikers, we'll have some of the most popular mountain biking destinations in the state just a short

shuttle trip away. Single track, mixed with gnarly climbs and fast descents, create the perfect dirt riding medley. The added bonus of being located near Whitefish Mountain Resort and the Tally Lake area will make it so that we are always a short spin away from sweet trails and picture perfect views.

You'll also be able to take a tour of the Hammer Nutrition headquarters and meet their staff. Brian, Steve, and other Hammer staffers will participate on rides as their schedules permit. Recreational opportunities for non-riding family members are almost unlimited.

If you're looking for a great way to see Montana, and you'd like to do some unbelievable riding while you're there, then you definitely have to check out The Cycling House.

Rates are as follows -
\$225/night for 7+ nights
\$250/night for 4-6 nights
\$275/night for 1-3 nights

Rates include gourmet, healthy food, luxurious lodging, expert guided and fully supported rides, airport pick-up and drop off, bike assembly, basic maintenance, and more!

For more information, check out the website at www.thecyclinghouse.com or email Owen at owen@thecyclinghouse.com.



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- When your body's natural rhythm and timing are altered, less fluid and less efficient movements use up precious energy reserves and increase the risk of cramping and even injury.
- The best chance for a true "breakthrough" performance can only happen if our focus is on being more relaxed, rather than trying to fight through and force more power from our legs!
- Taking at least one session each week in each sport where you practice and refine skill and technique will lead to more relaxed, more efficient sport specific movements.
- Your ability to completely relax your body AND mind, while simultaneously moving at the fastest possible speed, is a very important determinant of how

successful you will be in your most important events!

In my own practical experience as an endurance athlete, when I am able to really focus on staying task oriented and being "in the moment," emptying my mind of anxious thoughts and judgments, I instantly feel a mental and physical response that allows me to relax more fully and I know when that happens, I am more efficient. I am able to breathe more deeply from my lower abdomen, which in turn lowers my heart rate and any additional tension I might be feeling. This makes it easier to move through a greater range of motion and helps me pick up my pace even further without an increase in heart rate or in my perceived exertion. I know that with nothing more than my enhanced focus and breathing, I am able to immediately change the way I feel and the way I perform!

To summarize, whether its cycling, running, or swimming, your neuromuscular coordination (skill), specificity of training speed and intensity (specificity), and relaxation, are clearly the most important elements when considering how to best improve your efficiency. Think of it this way: Through correct and frequent practice, your nervous system learns and develops the ability to recruit the most efficient muscles at just the right time for a particular speed or intensity while being relaxed, while also inhibiting any unnecessary wasted movements. And, practices done at speeds that reflect exactly how you want to perform are much more effective at improving efficiency. Once again, the law of specificity applies! Best of luck!

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Race Report

Hammer Athletes



Photo - Timothy Carlson

Kathleen Allen

OK, actually it is a “crash and recovery report.” My name is Kathleen Allen and I live in Evergreen, Colorado. I am a triathlete and Hammer product user. You listed me as a Hammer Product user who qualified for ITU World Championships in Hamburg, Germany by placing ninth in the 35-39 female division at USAT Age Group National Championships 2007.

Well...on Aug 24 (5 days before I was scheduled to depart for Germany) a trash truck turned directly in front of me during a training ride. We collided. I broke my neck, 2 bones in my back, 1 rib and both wrists. I had a concussion and damage to my carotid artery so they put me on blood thinner. I had a massive hematoma in my right thigh that bled out and required 6



surgeries. They were able to save my leg, though! I had to have 2 angiograms and a stint placed in my damaged left carotid artery. Not fun! During the week I was in ICU, my sister kept trying to get some kind of nutrition in me. Ironically, she got a package of Recoverite at Wild Oats.

She bought it because the description made it sound so good for recovery and she wanted me to recover (my sister is not an athlete...she's a chef).

on a long road of recovery. Three weeks in the hospital left me about 12 pounds lighter than my original 100 lbs. I lost all my muscle. Rehab has been hard but I have found Hammer Whey really great

for helping me put muscle back on and support all of the work I am trying to do. I hope to start training enough to need Hammer Gel soon!

I have attached a photo of me on Christmas Eve...exactly 4 months after the crash. I thank you for all of your great products but mostly for all of the wonderful information you send out about good nutrition. My doctors are all amazed at how I am recovering from this near fatal crash. They have never seen anything like it. You guys helped me learn about how important nutrition is for performance. I have made nutrition a priority in my recovery. I am also putting forth the same effort that I used for training and competing into going to physical therapy and doing the exercises. I am taking my recovery very seriously. It is a full time job that I did not have time for! I hope to see you on the road some day soon but until then, I'm in the basement on my trainer!

Kathleen Allen

Jamie and Wendi Dial

My wife and I traveled down to Alabama a few weeks ago for the Mt. Cheaha 50k. The race course was beautiful and the terrain was pretty rough. I can easily say that it's the hardest 50k around these parts. Anyhow, I managed to win the Men's race and set a new course record by about 20 minutes. I owe a great deal of that to my bombproof nutrition plan. I've been following the guidelines for Pre Race Meals and doing everything right during the event. In my bottles, I mixed 1 scoop Perpetuem, 1 scoop Heed, and 2 scoops of Endurolytes Powder for the Perfect RACE BLEND. Also, to make the day even sweeter, my wife Wendi won the Women's race!

Annie Creighton

I've been nordic racing exclusively on Hammer Nutrition products for about three years now. Knowing I could basically rely on the efficacy of your products during the grueling Coureur des Bois last week made the difference for me (1st place female in the 90K Skate). Thank you for stepping up this year and being such a major sponsor. As a fellow Montanan, I tell everyone about the virtues of your products and am always blown away at how many events

you sponsor.

At this event, all 5 aid stations did an incredible job providing racers with Hammer Gel, HEED (which was mixed to perfection), and an assortment of fruits, hot drinks, etc. I was able to do the whole 90K on 5 Hammer Gels, 4 cups of HEED, and 1 gluten free rice bar.

Thanks again, and I hope to see your sponsorship continue for this unique and tough event.

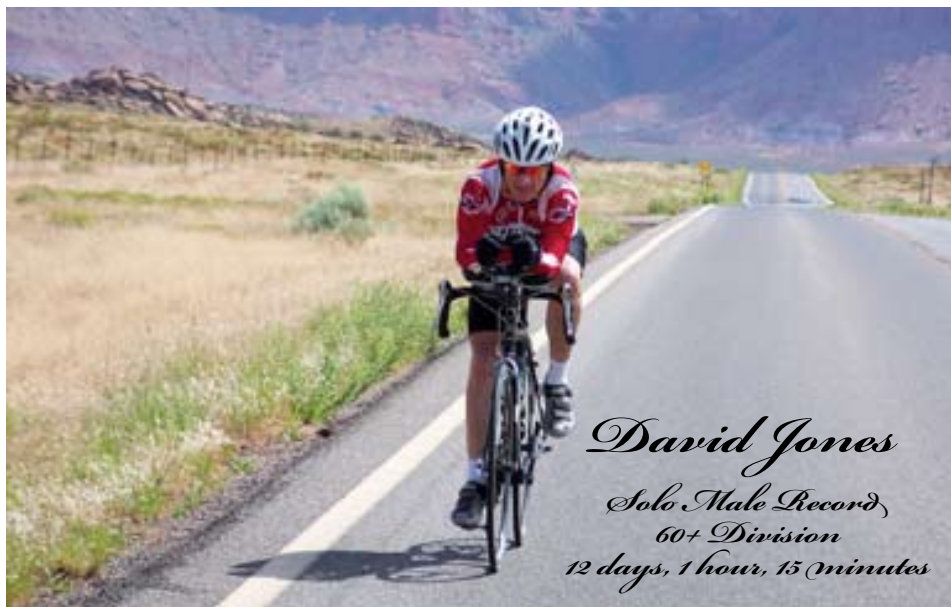
David Jones

Thanks for your long and continuing support of ultra cycling. Your fine products were a major contributor to my success in RAAM 2007, which I successfully completed, setting a new record for the solo male 60+ division. My elapsed time of 12 days, 1 hr, and 15 minutes broke the old record by nearly 6 hours. I used a variety of your products including Endurolytes, Race Caps Supreme, Anti-Fatigue Caps, Mito Caps, Premium Insurance Caps, Race Day Boost, Recoverite, and of course, Hammer Gel. Based on advice from Steve Born, I had the crew make sure I took an hourly dose of Race Caps Supreme, Anti-Fatigue Caps, Mito Caps, and Endurolytes. I took the Premium Insurance Caps and Recoverite just before going down for daily sleep breaks. I took Hammer Gel anytime I was having a tough period but found it especially useful as a pick-me-up during those difficult pre-dawn hours. My favorite Hammer Gel flavors had been Vanilla and Raspberry, standbys from

thousands of miles of training and ultra-racing miles since I got into the sport in 2003. However, I started using the Tropical flavor just before RAAM and it became my favorite.

For the 2008 season I plan to race solo RAAM again with the objective of bettering my time from 2007 and to complete a fifth solo Furnace Creek 508.

Yours truly, David 'Donkey' Jones



David Jones
Solo Male Record,
60+ Division
12 days, 1 hour, 15 minutes

Derrek Nazelrod



Thank you so much in taking interest in the Missoula cycling club. I love the uniform, and all of the Hammer stuff.
Sincerely,
Derrek

2007
Downhill + XC State Champ
Derrek Nazelrod
Just a note...

Roberta Gonzales

I am a Weather Anchor for CBS 5 TV in San Francisco on the 5, 6, and 11pm newscast.

This photo is from the Charity Media Challenge portion of the Tour Of California this past Sunday in Palo Alto, California. Before the Pros took off, we had our challenge (5 media competitors and

35 people who bought into the race to compete against us). There was a total of 40 racers.

No podium for me, but we raised a ton of money for charity, my heart is filled and it was the thrill of a lifetime racing on the same course with the Pros! I am attaching a link to my journal at CBS 5 for your reading pleasure!
<http://cbs5.com/roberta>



Photo: Kevin Magna



Race Report

Hammer Athletes

The Randle Kids

Dear Hammer Nutrition,

I am a mom of three very active young athletes. Competitive soccer teams, basketball teams, tennis tournaments... Like many athletic families today, our weeks are spent at practice and our weekends at games and tournaments. My kids play their sports hard. And during our hot summer months in Sacramento, I felt I was losing the battle against Gatorade and flavored sports drinks...until I discovered Hammer Nutrition.

I was introduced to your products by a friend who suggested I check out your website. I was continuously complaining to her about how hard it was to keep my kids away from Gatorade! I knew it was full of sugar and couldn't be good for them. I tried to get them to drink only water. I tried to get my friend's husband, Randy Work (an ironman athlete) to tell my kids the horrors of Gatorade and sugared sports drinks and that water should be their only "sport" drink.

Well he set me straight!!! He taught me that they really do need the electrolytes and the chromium polynicotinate to be replenished during and after long workouts. He told us about your great company and it has changed our lives! I began to research the products and what would work for my kids. We ordered samples and they did taste tests to see what flavors they liked. We began reading labels and realized that commercial sports drinks DID give you some of the things you need, but they also give you so much added sugar and preservatives. The sugar gives kids a lift-

and then drops them down.

Now they mix up their own bottles of HEED. They drink the HEED during a regular soccer game or tennis match INSTEAD of the sugar sports drinks their friends drink. During a longer tournament, or during a workout that lasts over an hour and half, they switch to Sustained Energy. And they finish with Recoverite.

Though it was hard at first to get them to make the switch, (one daughter still doesn't like the taste) they have noticed the change in their performance. They feel like HEED is their secret weapon. No one knows what they are drinking in their Hammer Nutrition bottle! They watch their opponent guzzling their red or blue colored sugary sport drink and secretly know that they are going to crash, while my little Hammer Nutrition athletes will be able to keep on going!!!

We are so thankful to have found a healthy alternative that boosts their performance and gives them the competitive edge. Proper nutrition has always been important to our family, and now with Hammer Nutrition, I can continue to know I am helping my family make healthy choices- even with their "sports drinks."

Thank you,
Kellie Randle

Annie 11 - tennis, soccer, basketball, snowboarding

Jake 9 - soccer, basketball, baseball, tennis, golf, snowboarding

Jillie Kate 7 - soccer, basketball, tennis, ballet, clogging, skiing



Randy Profeta

Last weekend I did an early season warm-up with the season's first 24-hour solo at the 24-Hours at the Old Pueblo. Hammer is one of the sponsors. If any of you MTB racers are looking for a great early-season race or a place to do your first solo 24, this is it. And it's a bargain as far as the entry fees go.

After over-nighting in Tucson, I headed out to the venue Friday morning to set up our pit area and maybe pre-ride the course. As we headed north to Oracle, we were greeted with snow showers and 30 degree temps. When we turned off the highway, we had 12 miles of sloppy dirt road and mud driving ahead of us. It was snowing when we got to the venue so we set up our EZ-Up and headed back to our hotel to warm up.

It did not stop raining until about 4 AM Saturday morning. Fortunately, the course dried out really well and there was only one mud hole that we had to navigate during Lap 1.

The course was just over 16 miles with

1,200 feet of climbing and trillions of cacti to contend with. If you fell here, there would be blood. And pain. And embarrassment as you ride with a Cholla cactus dangling from your arm, leg, or other extremity. But this is a great course for solos and single-speeders as there are really no steep or prolonged climbs.

There were over 125 soloists and thousands of team riders. The first lap was a real Los Angeles traffic jam, but it settled into a nice rhythm on Lap 2 and beyond.

I fueled almost exclusively with Perpetuem and Hammer Gel. I had some fruit chunks and a PBJ but other than that stayed with an all liquid diet. Midday Saturday I was sitting at 35th out of 92 racers and was hoping to move up over night.

I was feeling great and had zero stomach or nutritional issues. I was taking Mito Caps, Race Caps Supreme, Anti-Fatigue Caps, Endurolytes, and had some Tissue

Rejuvenator and Energy Surge on hand. What I did not have was warm shoes or shoe covers.

I was doing fine until it started getting cold in the evening. I never expected the wet weather which had not been predicted. There was a water crossing as you came back into the transition area and my feet got wet every lap as I splashed across it. My feet started getting painfully cold and I was having problem clipping into my pedals. I came off the course for a while to get some warmth back in my body and change my socks. I resumed racing at about midnight and kept on going non-stop til the end of the race on Sunday.

The results: I finished 15th out of an open field of 92.

I hope you'll continue to support these guys as it is desert racing at its best! I'll be back again, now that I know how to remove Cholla quills.

Rebecca Johns

Hammer Nutrition went with Rebecca on a recent trip to Ladakh in northern India. While there to do a service project, Rebecca had the opportunity to spend a day trekking with a guide. Here she is at 16,000' on a pass in the Himalayas with the nutrition that helped get her there.



Sandra Foskey

MY first 70.3! MiamiMan 70.3, Miami, Florida November 11, 2007. Used only Hammer products during training and competition...will NEVER use anything else again!



Athletes...do you want the Hammer Nutrition community to know what you're up to? Have a great, copyright free photo you want to share? Send a short email to anock@hammernutrition.com (please put Race Report in the subject line) about your recent accomplishments and we'll try to include it in our Race Report.

ENDURANCE NEWS



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