



HAMMER
NUTRITION®

ENDURANCE NEWS

February 2007 : Issue 053

The endurance athlete's comprehensive knowledge resource since 1992

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Happy 20th Anniversary Hammer Nutrition!!

Steve Born

As we mentioned in the last edition of **Endurance News**, 2007 is a momentous year for us for many reasons. After many years of excellent service, we have retired the E-CAPS brand, consolidating all of our products under the Hammer Nutrition brand. You'll see new labels on the packaging, but the product quality remains what you've come to know and trust over the years-you have our promise on that.



2007 also marks our 20th anniversary. From its humble beginnings back in a San Francisco apartment to our ever-expanding facilities here in Whitefish, Montana, Hammer Nutrition has enjoyed an incredible

measure of growth and respect in the world of endurance sports. Since Day One we've never wavered from our goal of providing endurance athletes with the best possible products, service, and knowledge resources. This commitment has led us on the way so far, and in 2007 we promise to continue delivering those same things - the highest quality products and unsurpassed customer service and technical support - to you. We'd have it no other way.

To all our valued clients we want to thank you for being with us for some, most, or all of our first 20 years, and we look forward to serving you for many, many more years to come.

Hammer Gel & Fructose

Bill Misner, Ph.D.

Q: I have fructose intolerance and wonder whether I can take Hammer Gel. I know that Hammer Gel does not contain any added fructose, but it contains fruit juices; thus, there should be some natural fructose in it. Any experience with this condition?

A: This is not a new question, but it is one I am pleased to hear.

Fructose is a real and present dietary danger known and shown to compromise health. Unprocessed natural fruit juice is associated

with health-enhancing effects, but the processed form is highly toxic even in relatively small amounts.

This question is important, requiring a few paragraphs to explain.

HAMMER GEL - Fructose Question

A typical 36-gram serving Hammer Gel contains 0.72 gram from a natural sweetener, called "Energy Smart" made from 50% fruit juice and 50% grain dextrins via proprietary process. Fruit juice contains natural fructose of 3-10% by weight. For every serving of Hammer Gel consumed (at most) 1-2 grams of natural fructose is consumed.



(see HAMMER GEL on page 2)



From the office of Brian Frank



Welcome to Endurance News #53!

This issue of **Endurance News** marks the 15th year of this publication and the 20th anniversary for my company. I've probably said this before, so forgive me if you've heard it already, but it seems like it was both yesterday and also another lifetime ago when we began in San Francisco or when I wrote the first issue of **Endurance News** from Pleasant Hill. It's been an amazing journey so far and we are all excited about what the future has in store for Hammer Nutrition as we continue our relentless pursuit of meeting all of your fueling and nutrition needs.

I would be remiss if I did not extend my sincere thanks and gratitude to you for making it all possible. So, thank you for helping to make 2006 another record-breaking year for us in terms of growth and sales. I am fond of reminding my staff that the client is always right and you vote your preference daily with your pocket book. We are honored to have your vote and consider it the ultimate indicator that we

are on the right path.

However, being the perfectionist that I am, I believe that there is always room for improvement, and I look to you at all times for guidance. That is why I provide a direct link for you to voice your suggestions, criticisms, and ideas for further improvement in our products and service. Feel free, actually empowered, to contribute by sending an e-mail to suggestions@hammernutrition.com

One of the many improvements we are making for 2007 is printing **Endurance News** in full color and expanding it to 32 pages or more. With almost 30,000 copies of each issue going into the mail and several thousand more going out electronically, **Endurance News** is one of the highest circulation and longest running publications serving the endurance community. Steve and I are working continuously to improve the quality of the content we offer, and we welcome your feedback and suggestions for topics and articles you'd like to see on these pages. Send your comments and suggestions to endurancenews@hammernutrition.com

Some of the topics I guarantee that

you will continue to see covered in these pages are the "replace what you can assimilate" fueling philosophy, the benefits of a low sodium, whole foods diet, intelligent electrolyte replacement, fueling with complex carbs instead of sugar, avoiding artificial sweeteners, colors and flavors at all times, especially in your fuels, and exploding the myth that eating a "balanced diet" can provide you with all of the nutrients your body needs. If you're a new reader, you should know that this has been our platform from the beginning, and it is what we truly believe with all of our heart and soul.

I hope that 2007 is your best year yet in terms of athletic success, health, and happiness. We are here to help make it happen.

Enjoy the read!
Brian

Endurance News Staff

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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.

Back issues of **Endurance News** are available online at:
www.hammernutrition.com

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

The FDA has evaluated none of the statements in this newsletter.



(HAMMER GEL from page 1)

The natural fructose content in Hammer Gel for a 9-serving/3-hour workout is no higher than 18-20 grams, well under half of the 50 grams necessary to induce fructose intolerance symptoms. When compared to natural organic whole foods, Hammer Gel generates very small amounts of natural fructose.

Naturally occurring, plant-source total dietary fructose ingested from whole non-processed fruits or vegetables is around 15 grams per day with NO reported association with compromised health disorders.

Each 3.5 ounces from whole fruits contain small gram amounts of fructose:

FRUIT	PER 100 GRAMS
Prunes	12.5
Grapes	8.2
Bananas	4.9
Kiwi Fruit	4.3
Apples	6.0
Cherries	6.0
Pears	6.2
Blueberry	5.0
Strawberry	2.5
Blackberry	2.4
Orange	2.2
Grapefruit	2.5
Watermelon	3.3
Plums	3.0
Raspberry	2.3
Melon	2.9
Pineapple	2.0
Cantaloupe	1.8
Peach	1.5
Nectarine	1.3

HAMMER GEL 1.0-2.0 *

*Per single serving

How Much Fructose Is Harmful?

Most dietary fructose intake is ingested as processed High-Fructose Corn Syrup (HFCS), used to sweeten

various packaged foods. Processed Food manufacturers prefer HFCS as a sweetening agent because it is cheap and mixes well in many foods. Dietary fructose intake is increasing. From 1970-1997, annual per capita intake of HFCS in the USA increased from 0.23 kg to 28.3 kg. During the same period, total Fructose + Sucrose intake increased from 64 grams per day to 81 grams per day. Fifty-five percent (55%) of the dietary fructose Americans consume comes from commercially produced high-fructose corn syrup (HFCS) which is added to many processed foods (e.g. Most soft drinks contain approximately 11% HFCS), to sweeten baked goods, canned fruits, dairy products, ketchup and jams. Soft Drinks account for 33% of the total content of Simple Sugars (Fructose + Sucrose + Glucose) in the USA.

Fructose is absorbed primarily via the jejunum; however, one out of every three persons cannot completely absorb fructose. Fructose is slowly absorbed by the human digestive system. Peak serum fructose concentrations occur 30-60 minutes after fructose ingestion. The concentration of fructose in fasting blood of healthy humans is typically 1 mg/dL or less. The fructose portion of sucrose is absorbed more slowly than fructose ingested in its pure monosaccharide form. This is because the fructose portion of sucrose is not available for absorption until sucrose is hydrolyzed by intestinal digestive enzymes. The cell structures of animals fed fructose age more rapidly and accelerated aging of the collagen content of the skin also occurred (Journal of Nutrition. September 28, 1998:1442-1449.) Chronic or excessive use of processed

fructose (apart from fruit fibers, vitamins, and other plant-sourced minerals) is associated with abnormal blood clotting ailments, increased cardiovascular disease risk, hypertension, colic, diarrhea, irritable bowel syndrome, breast cancer, colon cancer, calcium oxalate kidney stones & gallstones, increased total serum cholesterol levels, increased LDL cholesterol, cross-linking (glycosylation), increased risk diabetes mellitus type II, fatigue, fatty liver, insulin resistance, obesity, elevated serum triglycerides, gout, depression, tooth decay, and accelerated skin wrinkling. Two out of three otherwise normal/healthy persons experience fructose intolerance (fructose malabsorption form) when 50 grams of processed fructose or more is consumed. Choi's research associates the 50-gram fructose dose with fructose intolerance (Am J Gastroenterol 98(6):1348-1353, 2003). An average 600 ml of soft drink contains a whopping 32.6 grams of fructose!



Summary

A few grams natural fructose wrapped in its original cellulose fiber and fluid-like container always includes the enzymes, vitamins, and minerals making this substance well tolerated in up to 50 grams +/- 10 grams. However, the more processed and stripped of its original fiber, fluid, vitamin, and mineral content, the more likely a 50 grams +/- 10 grams will do more harm than good for healthy cellular metabolic function.



The ultra energy bar

Almond Raisin : Chocolate Chip

\$2.49

Why You Had A Lousy Year

And what you can do about it

Tony Schiller



(Note from author: Don't be offended by that title. It was just a cheap ploy to get your attention. And it worked, right? We all know you had a kick-ass year, maybe even your best ever, so clearly this article isn't intended for you. Instead, let me encourage you to hand it off - as a gesture of kindness - to a competitor you suspect had a hard time putting it all together in 2006. After all, isn't it always better to give than to receive?)

It's a sure sign an athlete is getting up there in years when a good portion of his writings start falling into the "overcoming" category. Or maybe it's just a sign of being really experienced. With 2007 marking my 35th consecutive year in racing, maybe the best lesson I've learned is, don't ever stop being a learner. The second best lesson is, be willing to change.

For instance, the gonzo mentality and training approach that delivered hotshot results in one decade will produce disastrous results in another. But at the same time, some of the ingredients from that earlier decade were pure gold then and still can be now. The challenge for every veteran racer is choosing the proportions of old and new to create your magical mix for today.

Below are some of the traps I've gotten stuck in over the years and what's worked to help get free to find that right blending of old and new:

The Mileage Trap - this nasty trap has altered the course of many a life. Even people smart enough to realize the negative impact it's having on their work, family and personal life often can't avoid its steely grasp. There's just something so hypnotic about hitting those weekly, monthly and annual milestones that we're compelled to for-

get they're not a more important measure of a good or bad year than the performance itself.

Freeing Yourself - try breaking a streak or mileage marker that haunts you as much as it helps you. Much has been said about Cal Ripken's streak of 2632 consecutive games, and amazing as it was, by far his most productive season during the latter part of his career came in 1999, the year after breaking the streak when he hit .340 as a part-time player. As hard as it may be to imagine, perhaps a breakthrough change-up for you in '07 might be giving a streak or an arbitrary number goal a break. You might just find that old friend was actually a nemesis.

The Un-Mileage Trap - yes, you read that right. Breaking free from the clutches of daily minimums can lead some to another trap - going the other way and floating aimlessly through life with no defined and measurable training goals. It's a sneaky trap because for awhile we get by just fine on our years of tremendous training base and falsely begin to believe we can do it forever. Then suddenly the hourglass runs empty and we discover how painful it is to race - and lose - to people more fit than us.

Freeing Yourself - if you've become a slacker, admit it, and stop pretending you're close to being really fit - you aren't - and that you're going to turn on the jets when it counts - you won't. It doesn't matter that you're in this place because you chose to prioritize career and family over racing, that's admirable, but the fact is you miss the lifestyle of being a highly structured athlete and still want to compete at a high level. So be more sophisticated about it this time with a refined approach that really fits your life and

is measured in ways that go beyond miles. Are you having fun? Are you making progress? Do you feel in control? Is training and racing the invigorating force that makes you better in the other areas of your life?

Denial Trap - by definition this is a trap that most athletes won't admit to being caught in until there's a bloody mess. It's engrained into our heads that it's all mind-over-matter. We're never in a slump. We're never over trained. We're never injured. We're never too obsessed about racing. And there's never a goal that can't be reached with just a few more miles of harder training. That's what gave us our competitive edge in the first place and going against is unnatural.

Freeing Yourself - if you don't know you're caught, how can you know you need to be freed? That's the athlete's paradox - can I will myself through this or is it a problem that needs special attention (i.e. Lance riding the tour with enlarged testicles)? If reading about this trap conjures up an uneasy feeling in your gut, maybe it's time to break your own genetic code by asking for help. Turn to an advisor or confidante, someone you can trust who has the courage to tell you the truth. Then listen. Doing so is a sign of strength, not weakness. Freeing yourself from this trap is heady stuff that usually takes a lot of weight off your shoulders. That brings immediate relief and often leads to a fresh start on a new course.

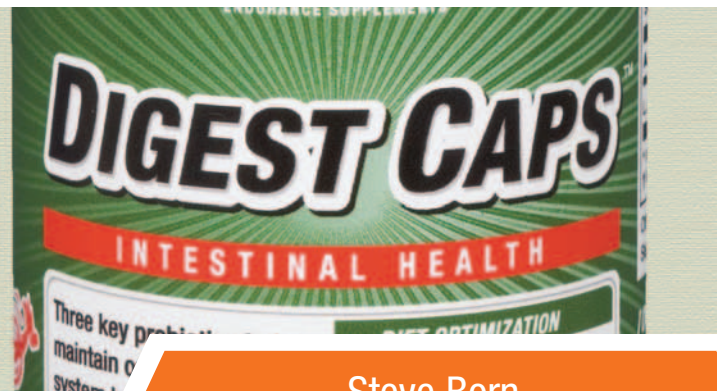
Viral Trap - could you be caught in this trap's infectious hold? A lot of people don't realize they're breathing in this airborne disease until it's too late and they're contaminated. Some carriers go a lifetime undiagnosed, blindly

(see LOUSY on page 5)



Digest Caps

Now more potent & beneficial



Steve Born

Digest Caps, a long-time staple in our supplement line, has a new, improved formulation. Each capsule now contains two billion intestinal health promoting bacteria, a 33% increase over the previous already potent version. You'll still find the "friendly three," *L. acidophilus*, *B. bifidum*, and *B. longum*, but we've added *L. plantarum* OM, an extraordinarily powerful, patented strain with wide-ranging benefits. According to U.S. Patent # 5,895,758, *L. plantarum* OM "has proteolytic [the breaking down of proteins into simpler compounds], antiviral, anti-retroviral, anti-bacterial, anti-microbial, and anti-tumoral characteristics and uses." This impressive résumé is over and above the standard duties of any probiotic strain, so it's no wonder that many have labeled *L. plan-*

tarum OM a "Super Probiotic."

When stress, illness, or antibiotic use knock out the beneficial bacteria in your alimentary system, infectious bacteria can take over and cause digestive health complications. A probiotic supplement is your ticket back to digestive stability after any bout of intestinal distress. For even better protection, regular daily use of Digest Caps will help maintain high populations of beneficial bacteria to keep the intestines healthy and working properly. If you're not digesting,

you're not absorbing nutrients to fuel and replenish your body. I don't need to say more about that, do I?

Here's another bonus-we've kept the price steady! That's right, an already fine product gets a major upgrade and you pay the same low price. A bottle of 60 vegetable-based capsules still costs

only \$12.95. Even if you don't take Digest Caps regularly, I suggest you include this product in your next order so you'll have some immediately available when the need arises to set your gut right . . . a small investment for such

substantial benefits.

Supplement Facts

Serving Size 1 Capsule
Servings Per Container 60

Amount Per Serving	%DV
<i>L. acidophilus</i> , <i>B. bifidum</i> , <i>B. longum</i> , <i>L. plantarum</i> OM	2 billion cells †

* Percent Daily Values are based on a 2,000 calorie diet
† Daily Value not established.

(LOUSY from page 4)

infecting thousands in their wake. Its origin is microscopic, starting as a thought, then words and then spreading into an entire persona and life-defining belief system. I'm too old. I don't have time to train. I just do it for fun. I'm always banged up. I enjoy training more than racing. Blah, Blah, Blah.

Freeing Yourself - do you recall an era when this was no trap at all? You and your training partners were immune to the disease. Your impenetrable shields formed of dreams, goals and purpose were enough to block all attacks. But one day you let your shields down for an instant and the pathogen snuck in, spreading like wildfire as each in your inner circle became carriers too. If you're stuck in this trap, decide to break free. Be the leader that steers your friends back to being hopeful athletes. Make that the contagious energy of your group. And if that's impossible to achieve with your current group, maybe it's time to BreakAway

and find a new group.

Rut Trap - here we go again, doing the same workouts over the same routes with the same people at the same time listening to the same music and preparing to do the same races all over again. The only thing likely to change is being a little slower this time around, again, before doing it all over, slower, once again next year. Are you stuck in the rut trap? Good News: this is one of the easiest traps to break free from.

Freeing Yourself - believe it or not, the answer to your rut could be as easy as finding a theme. All of your best years were built around a theme (whether you were conscious of it or not) which gave life and energy to your pursuit. There's no limit to the theme possibilities you might choose. For young and still improving athletes, themes tend to be more competitively focused around results. For maturing athletes, while we still have the goals to win, our themes tend to be more global in nature. For instance, this

could be the year for doing new races and giving back as you try 5 new races while volunteering at 5 you've always done. It could be a year wrapped around mentoring a young athlete and you might just find that you end up learning more than you teach. It could be a year where each month you invite a non-racing colleague or friend to go for a run or ride - this person will probably be thrilled to join even though they're too intimidated to ever ask. And maybe it's just a year of switching gears where Eddie Endurance gets fast or Fast Freddie goes long. If so, really change things up by finding a new club, group or persons who currently are kicking tail in your new focus. They're bound to give you a new perspective that helps this be a year unlike any other.

Tony Schiller has won 5 age group world triathlon titles. His theme this year, his last before turning 50, is Back to Basics as he's dedicating '07 to improving his technical skills while increasing strength and flexibility to be fast at 50. Tony is a coach and corporate motivator and the race director of the MiracleKids Triathlon which in 2006 raised over \$136,000 for children with cancer.



Bill Misner, Ph.D.

Due to space limitations, we're only able to publish a portion of this article by Dr. Bill. It is, however, an extremely valuable article, loaded with a lot of good information on a very important topic, and we highly recommend you visit the Hammer Nutrition web site to read it in its entirety. The full-length article, complete with charts and references, can be found in two locations in the Endurance Library section of the web site: "Dietary Interventions For Performance And Health" and "Eating Healthy".

Athletes are attracted to the Hammer Nutrition all-natural stance¹ against the dietary use of harmful preservatives, additives, refined simple sugars, pro-hormones, saturated fats, and now the worst of the worst, Trans Fatty Acids. Each Endurance Sports competitor is motivated, concerned, and carefully calculates their muscle mass gain including fat loss for moving through time and space in the least amount of time. A friend favoring fastest movement speed through time and space is lean muscle mass supported by a powerful cardiovascular blood flow to service working muscles. Most athletes are well aware that 97% of dietary fat is deposited in adipose tissue sites as dead weight. We must be made aware that dietary saturated fats and trans fat elevate harmful blood lipid levels that (clog) initiate impairment of maximum blood flow from the heart to working muscles.

Science especially those published by Cardiovascular medicine has been emphatically warning Americans for 2 decades to reduce their intake of foods high in saturated fats and trans fats, but the warnings have gone unheeded. Americans have instead increased these harmful fats as evidenced by the onset of a processed-fast food obesity

epidemic. We need to reduce dietary saturated fats and to absolutely avoid all trans fats for which there is zero-tolerance. The new FDA requirement that trans fats be included in the Nutrition Facts panel has created a need for the routine determination of the total trans fat content of edible oils and fats and for the monitoring of the formation of trans isomers during processing of vegetable oils.

The National Academy of Sciences (NAS) advises: "Trans fatty acids are not essential and provide no known benefit to human health, whether of animal or plant origin (NAT 2005)." Second, while both saturated and trans fats increase levels of LDL cholesterol ("BAD" cholesterol), trans fats also lower levels of HDL cholesterol ("GOOD" cholesterol) (NAT 2005); this increases the risk of coronary heart disease (CHD). The NAS is concerned "that dietary trans fatty acids are more deleterious with respect to CHD than saturated fatty acids". (NAT 2005) This analysis is supported by a 2006 New England Journal of Medicine (NEJM) scientific review that states "from a nutritional standpoint, the consumption of trans fatty acids results in considerable potential harm but no apparent benefit." (Mozaffarian et al., 2006) Because of these facts and concerns, the National Academy of Science has concluded there is NO safe level of trans fat consumption. There is NO adequate level, recommended daily amount or tolerable upper limit for trans fats. This is because any incremental increase in trans fat intake increases the risk of coronary heart disease. (NAT 2005)

The primary health risk identified for trans fat consumption is an elevated risk of coronary heart disease (CHD). A comprehensive review of

studies of trans fats was published in 2006 in the New England Journal of Medicine that concludes that there is a strong and reliable connection between trans fats and CHD (Mozaffarian et al. 2006). The major evidence for the effect of trans fat on CHD comes from the Nurses' Health Study (NHS) - a cohort study that has been following 120,000 female nurses since its inception in 1976. Hu and colleagues analyzed data from 900 coronary events from the NHS population during 14 years of followup. He determined that a nurse's CHD risk roughly doubled (relative risk of 1.94) for each 2% increase in trans fat calories consumed (instead of carbohydrate calories). By contrast, it takes more than a 15% increase in saturated fat calories (instead of carbohydrate calories) to produce a similar increase in risk. Eating non-trans unsaturated fats instead of carbohydrates reduces the risk of CHD rather than increasing it. (Hu et al., 1997). Hu also reports on the benefits of reducing trans fat consumption. Replacing 2% of food energy from trans fat with non-trans unsaturated fats more than halves the risk of CHD (53%). By comparison, replacing a larger 5% of food energy from saturated fat with non-trans unsaturated fats reduces the risk of CHD by 43%.

There are two accepted measures of risk for coronary heart disease, both blood tests. The first considers ratios of two types of cholesterol, the other the amount a cell-signaling cytokine called C-reactive protein. The ratio test is more accepted, while the cytokine test may be more powerful but is still being studied (Wikipedia). The effect of trans fat consumption has been documented on each as follows:

- **Cholesterol ratio:** This ratio compares the levels of LDL (so-called



“bad” cholesterol) to HDL (so-called “good” cholesterol). Trans fat behaves like saturated fat by raising the level of LDL, but unlike saturated fat it has the additional effect of decreasing levels of HDL. The net increase in LDL/HDL ratio with trans fat is approximately double that due to saturated fat. (Ascherio 1999) (Higher ratios are worse.)

• **C-reactive protein (CRP):** A study of over 700 nurses showed that those in the highest quartile of trans fat consumption had blood levels of CRP that was 73% higher than those in the lowest quartile. (Lopez-Garcia 2005)

Another study considered deaths due to CHD, with consumption of trans fats being linked to an increase in mortality, and consumption of polyunsaturated fats being linked to a decrease in mortality. (Oh et al., 2005)

Other Harmful Effects

There has been suggestion that the negative consequences of trans fat consumption go beyond the cardiovascular risk. In general, there is much less scientific consensus that eating trans fat specifically increases the risk of other chronic health problems:

• **Cancer:** There is no scientific consensus that consumption of trans fats significantly increases cancer risks across the board. The American Cancer Society states that a relationship between trans fats and cancer “has not been determined.” Yet one study has found connections between trans fat and prostate cancer! (Chavarro et al., 2006)

• **Diabetes:** There is a growing concern that the risk of type 2 diabetes increases with trans fat consumption. However, consensus has not been reached. (Mozaffarian et al. 2006) For example, one study found that risk is higher for those in the highest quartile of trans fat consumption. (Hu et al.,

2001) Another study has found no diabetes risk once other factors such as total fat intake and BMI were accounted for. (van Dam et al., 2002)

• **Obesity:** Research with monkeys indicates that trans fat may increase weight gain and abdominal fat, despite a similar caloric intake (Gosline 2006). A 6-year experiment revealed that monkeys fed a trans-fat diet gained 7.2% of their body weight, as compared to 1.8% for monkeys on a mono-unsaturated fat diet. Although obesity is frequently linked to trans fat in the popular media (Thompson 2003), this is generally in the context of eating too many calories; there is no scientific consensus connecting trans fat and obesity.

• **Liver Dysfunction:** Trans fats are metabolized differently by the liver than other fats and interfere with delta 6 desaturase. Delta 6 desaturase is an enzyme involved in converting essential fatty acids to arachidonic acid and prostaglandins, both of which are important to the functioning of cells (Mahfouz 1981).

Practical Applications

Zero-Tolerance Trans Fats



Current estimates of trans-fatty acid intake in developed countries range from 0.5 to 2.6% of energy. The new science tells us there is a ZERO-tolerance for trans fats. What else has a ZERO-tolerance? How about the ZERO-tolerance asbestos insulation and lead water pipes?

A number of studies have been conducted to evalu-

ate the effects of trans-fatty acids on plasma lipids. Results from the various studies are similar. In general, it is agreed that the consumption of trans-fatty acids or hydrogenated fats instead of cis-fatty acids or natural oils led to increases in total blood cholesterol levels but not as much as the consumption of saturated fatty acids.

However, unlike saturated fat, trans-fatty acids also led to an increase in LDL cholesterol and a decrease in HDL cholesterol when used. As a result, the net effect of trans-fatty acids on the LDL/HDL cholesterol ratio is approximately double that of saturated fat. Furthermore, the consumption of trans-fatty acids also led to increased plasma triglyceride levels. These changes may increase the risk of coronary diseases. Apparently, replacing butter with margarine high in trans-fatty acids may obtain no benefit; instead, the consumption of trans-fatty acids may even increase the risk of having coronary heart diseases. Though soft margarine is slightly better than hard margarine, or reducing the overall consumption of fat will maintain heart health. Avoid the use of processed solid at room temperature fats, heart health and athletic performance will benefit immediately.

Trans-Fatty Acid Content In Common Foods

Food	Trans-Fatty Acids %
Hard Margarine	12.4%
Soft Margarine, Low in PUFA	9.1%
Chocolate Cake with Icing	7.1%
Soft Margarine, High in PUFA	5.2 %
Butter	3.6%
Hamburger	0.8%
Fried Meats	0.8%
Grilled Meats	0.8%
Safflower Oil	None
Sunflower Oil	None
Soy Oil	None
Olive Oil	None
Flax Oil	None
Salmon Oil	None
Seeds	None
Nuts	None

Avoid Foods High In Saturated Fats

AVOID foods high in saturated fat: fatty beef, veal, lamb, pork, lard, poultry fat, butter, cream, milk, cheese and other dairy products made from whole milk. These foods also contain dietary cholesterol. Foods from plants high in saturated fat include coconut oil, palm oil and palm kernel oil (often called tropical oils), and cocoa butter.

Avoid Butter & Margarine

I recommend avoiding both because any fat that is solid at room tempera-

(see TRANS FATTY ACIDS on page 14)



Tipping the Scales Back to Balance

Lowell Greib

If you are reading this article while on your trainer, treadmill or elliptical, get off and sit still for a few minutes. Your current training may be futile or even disadvantageous to your overall performance. You might be focused on your body at the expense of overall balance.

Now that you are comfortable and relaxed, ask yourself the following question: "What do I do for myself?" My emphasis is on the whole self. Take a few moments, lean back, close your eyes and think seriously about what you do for you. Let's see how we can tip the scales back to balance, attending to all aspects of life.

If you are like most athletes, the first thing that comes to mind is physical exercise. This is also usually where the brain stops! Athletic prowess gained through exercise is a noble achievement, but life is much more than pushing ourselves physically. Instead, we want to ask ourselves what we do to balance life. What do we include in our everyday life to achieve balance? Are we nursing our mind and our spirit as well as our body?

Our mood is a good way to measure our ability to achieve balance in life. Athletes commonly experience periods of irritability, anxiety, and depression. These feelings may be especially compounded after working out. Is this normal? What do these negative emotions tell us about our balance in life?

Ancient wisdom has always purported balance in life, both physiological and psychological. Asian philosophy has yin/yang. East Indian mantra endorses balancing of chakras. North

American society has... zippo! So it takes a little more effort and attention for us to see a broader, holistic picture of life.

We return to the question of normality. Are feelings of irritability something that we may experience from time to time, especially after training? Absolutely! Let us work through this in a systematic approach, and find out what these feelings can teach us about ourselves.

Body

It is important for each one of us to evaluate our environment and envision our body as a microcosm within that environment. Our bodies are composed of somewhere between 10-100 trillion cells, each of which contains millions of molecules. These micro-components compose an organism, a dynamic system of immense complexity. I like to refer to it as the human slurry. It is the physical basis of the body, which is the physical aspect of the self.

This dynamic system contains untold numbers of chemical, electrical, and mechanical actions going on continually, and even moreso when under the stress of physical exercise. Muscle cells adapt to physiological stress (physical activity) by hypertrophying (increasing in mass). The intracellular components will also change, increasing the amount of mitochondria, cytoplasm, ATPase, and other enzymes. These biochemical adaptations, however, will only occur given the appropriate biochemical environment. Each cellular modification depends on enzymatic reactions, which, in turn, depend on co-factors.

Many of the co-factors that the body depends on are nutrients (vitamins, minerals, etc.). If they are not present, the cellular change will not occur. This is just a technical way of explaining how important diet and supplementation are to the vigorously exercising athlete.

Irritability, anxiety, and depression can also have a biochemical basis, if certain neuropeptides are not secreted due to nutritional deficiencies. Dopamine depends on the amino acid tyrosine, serotonin derives from tryptophan, and nitric oxide requires arginine. Each of these biochemical conversions also requires vitamins and minerals for proper enzymatic function. If your body lacks any of the amino acids, vitamins, or minerals, you will fail to synthesize vital neurotransmitters. When might an athlete experience this deficiency? You got it—after exercise.

Endurance athletes must fulfill significant nutritional needs in order to benefit from the stress of exercise. That's a good start, but let's go further.

Mind

Rest, or recovery, is vital for cellular regeneration and adaptation. The science behind rest is an emerging field, however, we do know that it plays a massive role in how the body functions as a whole. Rest needs to occur in two different forms to achieve balance: (1) sleep, and (2) what I will refer to as active relaxation.

Sleep is obvious. We need to get to bed and have a good restful night of sleep to allow for positive biochemical

(continued on next page)



changes (hormonal and other) to occur. Less obvious is what I call "active relaxation," that is, awake states wherein we achieve profound muscular relaxation. These relaxed states promote an introspective mental state ideal for performance imagery, meditation, prayer, etc. There are many avenues to active relaxation, including ancient Eastern practices such as yoga, tai chi, or chi gong. Western techniques, such as certain forms of meditation, progressive relaxation, or self-reflection may also be useful. Regardless of the technique, it is vital that you practice. You need to develop the yin components to balance the yang of exercise and the hustle bustle of every day life.

Overtraining is a leading cause of irritability and depression, but it's not just a physical matter. Generally, those that experience these emotions have stressed their bodies and minds beyond their personal threshold. A restful state will help restore balance and therefore also help you achieve your performance goals. I hope this perspective will put new light on "rest days." So now we've added proper nutrition and adequate rest to our exercise program. One more component remains.

Spirit

This is probably the most complex and difficult component to develop in your microcosm. Spirit is the unseen, the abstract. Spirit is what makes you who you are. Your personality is part of your spirit, as are your moral and ethical bases. Your commitment to

yourself, family, friends, and society as a whole builds your individual spirit. Individual goal-setting is a useful tool to build spirit. What can you do to make your home, village, region, country, or continent a better place to live? Just remember, your goals need to be tangible and achievable.

Do you approach your training with spirit? Do you want to do what you are doing, or is it because somebody is telling you that you need to do it? Do you enjoy training and/or racing? Do you control your training, or does it control you? Do your experiences in athletics help build you as an individual? An answer of "no" to any of these questions may cause anxiety and/or irritability. Rethink your purpose in sport as a whole, how it affects you as an individual, and how can it be used to build your personal spirit.

By attending to all the aspects of personhood you will achieve more as a person and an athlete. We need to start thinking of ourselves not only as physical bodies, but as mental and spiritual beings as well. We need to evaluate cause and effect from three different perspectives: our body, our mind and, our spirit.

Lowell Greib is a naturopathic doctor and biochemist with an interest and expertise in sport medicine, injury prevention and athletic nutrition. He is the chief medical officer for Mahigan Medicine (www.mahiganmedicine.com) and operates private clinics in Huntsville and Orillia, Ontario, Canada. Lowell has competed in endurance sport for much of his life and now lends this expertise, clinically, to all athletes from weekend warriors to national team members. To contact Lowell, you can reach him at info@mahiganmedicine.com or toll-free at 1-877-624-4633.

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

Dr. Bill's Words of Wisdom

"Moderate exercise is shown to slow the progress of aging while enhancing quality of life, especially health. Beyond moderate strenuous exercise, it is not known if exercise is excessive whether it would be better than no exercise at all. Conclusively, we agree that moderation in all things is rational regardless of what the lifestyle chosen. Based on research these past nine years, I hypothesize that compensatory antioxidants neutralize the harmful effects of excessive exercise when consumed before, during, or after exercise. This enables the extreme endurance athlete to equal the quality of life standard enjoyed by the moderate exercising counterpart. Our position is that overtraining results in suboptimal performance, but periodized rest, recovery, and antioxidant supplementation prevent overtraining fatigue symptomatology.

We recommend that antioxidant supplementation accompany prolonged training, otherwise performance and health may be suboptimal. We have never advised athletes to give up prolonged endurance exercise, but we have advised periodic rest periods with antioxidant supplementation to those who are over-training in addictive fashion."

Our new labels, and our 2007 catalog, feature a special call-out on products that are rich in antioxidants.

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Located in the beautiful foothills of Tucson, The Cycling House is THE place for cycling enthusiasts who'd rather ride the road than the trainer come winter. Guided, and fully supported, training rides, gourmet food, and superb accommodations are just part of what you'll experience during your stay at The Cycling House.

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Athlete Spotlight

Laura Sophia

An interview with Steve Born

Our spotlight for this issue falls on veteran triathlete Laura Sophia of Birmingham, Michigan, a client of ours since 1999. Laura's career accomplishments are nothing short of outstanding and certainly worthy of sponsorship, but she never even requested to be sponsored. Point is that not only is Laura a tremendously gifted athlete, but she's a very humble person as well.

Laura's stellar career reached its zenith in 2006, highlighted by the F50-54 age group title at the Ironman World Triathlon Championship in Kona, Hawaii and being named Triathlete Magazine's as well as USAT's Masters Triathlete of the Year. Prior to that she won her age group (and placed high overall) in many other races, including the USAT Halfmax National Championship Triathlon (USA Triathlon 2006 Age Group Triathlon National Championships) and the Whirlpool Steelhead 70.3 Triathlon. Perhaps most impressive of all is her age group win in the Ford Ironman World Championship 70.3 Triathlon, which came but a few weeks after her Kona victory. In Laura's words, "I won my age group, which was so amazing to me as I had not trained since Kona. I did three rides and three runs in three weeks and they never felt great. But in those three weeks, I religiously took my Tissue Rejuvenator and Recoverite and went to the race in great shape. I won my age group by 6 minutes."

Steve: Laura, it's great to have you as our Spotlight Athlete this issue and congratulations on an epic 2006 season... surely, you have to be pleased with your racing efforts this year, yes?

Laura: I am very pleased with my season this year. The training and the miles that I put in are all worth the time and effort. It is never easy, and it

has been satisfying to know that hard work, positive thoughts, and Hammer products enabled me to race and have an epic season.

Steve: Looking back on 2006, was there a race that you're most pleased with? What made that race so special to you?

Laura: The race I was most pleased with was the USAT Short Course National Championships in Smithville Lake, Missouri this past July. It was the Olympic distance Nationals and I went to that race knowing I would be racing at my anaerobic threshold for the entire race. I always think of myself as an endurance athlete and not a short course racer. When I won my age group I was totally surprised as I was in my Ironman buildup mode. It is also a special race as race director Mark Livesay puts on an incredible race for all athletes and thinks of their needs first. It is all about the athlete with his races.

Steve: Could you give us a rundown of your season? How many races did you do? Do you do road races and duathlons as well as triathlons?

Laura: I began my season with a local duathlon, winning the title by a mere three seconds. During Memorial Weekend I went to watch my Team Mongo teammates compete in the Triple T triathlon, and I raced the Little Smokies Half Ironman on Sunday. That was one of the toughest courses I have ever competed in and I won the overall female title at that race. After that I went to Colorado and did Ride The Rockies. That is a 6-day ride covering close to 500 miles in the mountains of Colorado. I loved that! It was incredible scenery with beauti-

ful vistas and I have never ridden any mountains, being from Michigan. I just loved the different rides we did each day and it gave me a chance to really use the Hammer products in hot conditions with great hill climbing. I believe that is one of the reasons I did so well this past October at the Ironman. From that I did USAT short course Nationals. Then it was off to do the Whirlpool 70.3 race. I finished 5th female overall and qualified for the Ford 70.3 World Championships. I then went back to Missouri and competed in the USAT Long Course Nationals, which is a half Ironman distance. I finished second overall female at that race. Then it was off to Hawaii Ironman and then Clearwater for the 70.3 World Championships.

Steve: Obviously, you've had a fantastic season, one that any athlete would be envious of. Still, I know how we endurance athletes can often be critical of ourselves, thinking, "If I had done this differently or trained differently or passed on this race instead of competing in it, I would have had an even better season." Did these thoughts ever enter your mind and, if so, could you detail them for us?

Laura: I think the only thing I would change is my run training. I had a pretty slow run in Hawaii and believe it had to do with how I trained. I was hoping to run a sub four-hour marathon and it just did not happen this year. Other than that, I would not change anything I did this year!

Steve: What was your most difficult race this season? What made it so difficult?

Laura: I would have to say the marathon of Ironman. Everything else went well and I loved each race for dif-



ferent reasons and never felt they were difficult.

Steve: Conversely, of the major races you did this season, which one was the easiest? Which of the races you competed in did you have that feeling, "Wow, this feels effortless; I'm firing on all cylinders today"?

Laura: I felt the best at USAT Long Course Nationals. It is a very challenging bike ride but the run is the best part. There is one hill after another, the course is mostly dirt roads and again, Mark puts on a great race and awesome course for a National Championships. I ran well and finished second, catching the second place woman at the beginning of the grass running to the finishing chute. That race felt effortless and I thought it was a great tune up for the Ironman. It gave me quite a bit of confidence going into Hawaii.

Steve: In the introduction, I brought up your major races in 2006. You've had a long career; can you give us a rundown of your top career results and honors?

Laura: Oh gosh, I have been in the sport for 20 years! Let me think... I guess the highlights were my first big win in 1995 at the USAT Championships in Cleveland. I won my age group that year. I also took first and ITU Long Course World Championships at Muncie Indiana (maybe 1996?), winning my age group there. But the best for me was in 2001 when I won my age group in the Hawaii Ironman; I was in second place after the bike, 25 minutes down and passed the leader in my age group at the top of Palani Hill and went on to win by 1:15. I was selected by the WTC as their Age Group Ironman Athlete of the year. Winning back-to-back Ironman titles in 2005 and 2006 is also at the top of my list. In the late 90's I won my age group at the USAT National Championships three years in a row. I was selected by the USAT in 2001 as the Master Age Group Athlete of the year. I have been an All-American many years as well.

Steve: If you could pick out your "top three" races in your career, which ones would they be, and why?

Laura: 1. 2001 Ironman World Championship. Why? I was so far down on top age grouper Missy LeStrange and to be able to race the marathon and finish that in a 3:42 was incredible. Also, that was the first year I had used Sustained Energy and my results proved to me that your products work!! 2. My first USAT age



group Championship wins in 1995. I had learned so much about racing and I began to believe that I could accomplish anything I set my mind to doing. 3. 2005 Ironman World Championship/ Setting the course record was a dream come true. I finally figured out what I needed nutritionally and used Hammer products exclusively in all of my training and racing. What a huge difference in how I felt. That race still amazes me. That was the perfect race for me.

Steve: How would you compare this season to previous seasons?

Laura: It is hard to compare to others as I have never raced like this before! To be 51 and be able to compete with younger women continues to be a pleasant surprise. I love to race as I have in other seasons but this year was special and I still love the sport.

Steve: Can you give us a little "non-athletic" background about you? Where

you're from? Academics? Family? Career? Basically, a little bio about you...

Laura: Let's see... I am a Library Media Specialist with the Rochester Community Schools and have been teaching for 30 years! (I often wonder where the time has gone). I have two master's degrees, both in education. I have three daughters, ages 25, 22, and almost 16. They were all competitive swimmers throughout high school (one still is) and my oldest swam for Michigan State. Two of my girls have real jobs now! The girls all did triathlons when they were younger but so far they are too busy to pick it up, and they hate running! I still hold out hope that someday I will race an Ironman with one of the girls. I have had incredible support from my family through the years, which has enabled me to continue what I love to do. I am part of a 13-member triathlon team called Team Mongo. Our focus has been to give back to our community by raising funds for the Boys and Girls Club of Southeast Michigan. We work with the boys and girls on Saturdays in the spring and run with them in a local 2-mile fun run in June. We also put on a Bike Ride for the Kids, again raising money for the Club. It is great way to give back to the kids and support our community. It also makes all of us feel that we make a difference in these kids' lives.

Steve: What does a peak season week look like for you? What would a typical workout entail?

Laura: A peak week in August - September involves about 20 hours of training. I swim 3 times a week with two of those days being about 4000 meters. I will bike about 200 miles with a 5-6 hour ride on the weekend following that up with a 30-45 minute run. I run about 35 miles a week. I do a long run in the middle of the week... very early. When I'm working I do my long runs about 3:30 A.M. I have found that I do not have time after work. Most days I train one-two hours before work. I start work at 7:00 A.M. I also work on core muscles but do not lift weights... really I do not have time to lift or I probably would.

(see ATHLETE SPOTLIGHT on page 13)

From the Archives

Bill Misner, Ph.D.

QUESTION : Does fermented soy protein powder offer superior absorption or other benefits when compared to standard soy protein powder?

ANSWER : Fermented soy is an excellent nutritive profile choice though it does not generate the protein volume without excess calories from carbohydrate and fat. Why is fermented soy digested so well?

Soy contains trypsin or enzyme inhibitors, which are deactivated during the lengthy process of fermentation. Anabolic muscle growth factors are lost if soy contains its original anabolic inhibitor substances limiting the protein available via digestion. Add phytate concentrates from uncooked or unprocessed or unfermented soy, a resultant mineral deficiency may result. Fermented soy foods such as Haelan, Miso, Natto, Soy Sauce, Tempeh, Touchi, are healthy to consume since both

enzyme inhibitors and phytates are deactivated during fermentation.

However, the same is true of Hammer Nutrition's highly processed pure Soy Protein Isolates (Hammer Soy). The advantage to consuming pure Hammer's Soy Protein Isolate powder is 93% pure protein, generating negligible carbohydrate calories and a very low fat calorie content. Fermented Soy products reviewed are typically higher in fat and lower in protein per serving. While they are healthy, with a highly digestible protein fraction, the trade off is that other calories from fat and carbohydrate are in these fermented soy products. Hammer Nutrition's Soy Protein Isolates measure of protein digestibility to support muscle growth is a perfect 1.0 PDCAAS value. Only powdered egg white and whey protein isolates are rated with a perfect score. Based on digestibility Hammer Soy Protein Isolates are equal to Fermented Soy Powders, but based on

anabolic volume protein, Hammer Soy contains 3 times the amount of protein per unit measure as shown below:

Product	Pro.	Carb.	Fat
Hammer Soy	93%	-/-	7%
Fermented Soy	29%	32%	40%
Miso	38%	26%	36%
Natto	22%	52%	26%
Soy Sauce	37%	61%	1%
Tempeh	40%	17%	43%

Not all soy protein powders are the same. Hammer Nutrition was highly selective in the Soy Protein Isolate chosen for their product line.



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

What's In A Name? : New names for a couple of our great products

We've updated some products with easier to use or more appropriate names. Get to know these old friends by their new names:

ATP 100 has become Energy Surge. This great-sounding and oh-so-appropriate name is actually part of the original name of the sublingual adenosine triphosphate ("instant energy in a pill") supplement we rolled out over a decade ago. In addition to its new title, Energy Surge now contains the patented Peak ATP® brand of adenosine triphosphate, "a proprietary nutraceutical ingredient

which provides the exact molecule the human body needs to create energy, making it effective for a variety of clinical indications, such as energy, athletic performance and anti-aging," according to TSI Health Sciences, the manufacturers of Peak ATP®.

Mito-R-Caps will no longer have the "R" in the name and will be known simply as Mito Caps. The original name stood for Mitochondrial Regeneration Caps, but there was much confusion surrounding the name; sometimes we got orders for "Mitro Caps" or "Motor Caps." It's still

the same great product, just now with a simpler sounding name.

Super AO will now be known as Super Antioxidant to ensure that there is no confusion as to what the "AO" portion of the original name stood for. As with Mito Caps, the potent product formula hasn't changed, just the name.



(ATHLETE SPOTLIGHT from page 11)

Steve: What do you do training-wise during the off-season?

Laura: I love the off-season!!! I ride a mountain bike beginning after my last race. I will ride in the parks or on trails. When the snow comes, I ride on the main roads... but I believe the mountain bike helps to build strength in my off season and it is a great break from a road bike because you do not have to ride fast! I have a hard time riding my trainer inside; in fact, I dislike it tremendously! So I have learned how to dress warm and even have friends that ride with me all winter long! I still run and swim, just less intensity and miles. I also will snowshoe and cross country ski if we ever have snow.

Steve: How do you balance your training with your family and career?

Laura: I learned many years ago that to do that I had to work out early. I am up and out the door to run and swim most days before work. It has worked well for me through the years. When my kids were young we all went to bed at the same time. Now they all stay up later than I do. My long rides were done on the weekend and my husband and I would switch days so he could golf one day and I would ride the other day when the kids were young. I also began my bike rides in the dark so I would be home shortly after they were up. I have had great training partners though the years and they have run many of those early morning workouts.

Steve: Which of the Hammer Nutrition fuels and supplements do you use?

Laura: I use Perpetuum, HEED, Hammer Gel (Espresso), Endurolytes, Tissue Rejuvenator, Anti-Fatigue Caps Liquid Endurance, and Recoverite. The Recoverite is the best product I have ever used and I have used plenty through the years. My ability to recover and train day after day at 51 years old continues to amaze me and this product has made the difference in my training for 2006. I love Recoverite!

Steve: Could you give us a description

of your supplement/fueling plan for a half or full iron distance race?

Laura: Here is my plan for 2006 Ironman: For breakfast I had a bagel, a banana, 16 oz of HEED, and then 15 minutes before I entered the water I used a gel. On the bike, I ate one of the new chocolate Hammer Bars about 30 miles into the bike. I spoke with your owner Brian prior to the race and I did change my mixture in my bottles



Laura (right) and a teammate

on the bike. I used 4 scoops of Perpetuum in a 24 oz water bottle. I began drinking the mixture after 20 minutes on the bike. At the special needs stop, I had another bottle just like that and it was still cold! I also used 5 Hammer Gels during the ride. I need about 1500 calories on the bike and this year I had my fastest bike split in 16 Hawaii Ironman races. On the run I filled a couple of bottles in my fuel belt with a concentration of HEED. I also used gels every 3 miles through about mile 16. I could not stomach anything after that but water and a sip of Coke. I also took two Endurolytes every hour on the bike, actually 8 total. I also took 4 on the run, until I lost my tablets! With the help of you and Brian I can now say I have my nutrition pretty much dialed in. I would never change products in the future. I used the products in 2001 and changed to other products in 2002-2004 then came back to Hammer products in 2005 and the results show!

Steve: What are your goals in 2007?

Laura: 2007 Hawaii Ironman!! (Can't wait), I am doing Blackwater

EagleMan 70.3 in June. I hope to race USAT Nationals in Portland, Oregon June 30th. Also, USAT Long Course National, Whirlpool Steelhead 70.3, and a couple of local races. I am not sure yet where I will race in July.

Steve: What advice would you give a newbie triathlete?

Laura: Stick with it! Never give up, try races, and know that through the years it is a sport where you can grow and achieve great things. I have made incredible friends through the years who share my passion, and you will also. It is a great way of life. If a race seems hard, remember that there is always another race on the horizon, and it takes five years to develop good bike legs! I have gone from a back-of-the-back racer to racing well. Learn what works for you, use your Hammer Nutrition products, train smart, ask questions, and race with passion.

Steve: As a masters athlete, is there any "masters specific" advice you'd give to other masters athletes?

Laura: I would say use Recoverite after your workouts; it works! Other than that I know that I have to train smarter, stretch more (I am working on that one), get a good night's sleep, keep your core strong, and ride at least one day a week with faster riders. Train with people you like and respect, take a day off when you feel tired, love what you do.

Steve: Laura, it's been great chatting with you today, thanks for sharing your insights with our readers. Congratulations again on a superb 2006 season, and best wishes from all of us at Hammer for another great year in '07!

Laura: Thank you, Steve. In closing, I wanted to say once again that I strongly believe that these past two years, I am where I am because of your products. I honestly would not be racing at this level without Hammer Nutrition.

Hammer Fuel Kits : A super way to sample products

When you purchase large containers of Hammer Nutrition fuels you save money compared to the per-serving cost of single-serving packets. However, if you're new to Hammer Nutrition you might be experimenting with the various products, and not yet sure what flavors or fuels will fit your particular preferences. You might want to sample many different items rather than order bulk quantities of a few items. If that's the case, try one of the kits below to get acquainted with our many fine fuels.

The **Short Course Starter Kit** retails for \$69.95 and contains:

- 1 jug of Raspberry Hammer Gel
- 8 pouches of Hammer Gel
- 6 packets of lemon lime HEED
- 6 packets of mandarin orange HEED
- 3 packets of Recoverite
- 1 bottle of Endurolytes
- 1 quick coin
- 1 Hammer Gel flask
- 1 water bottle

- 1 Fueling Handbook (when available)

The **Long Course Starter Kit** (\$79.95) is similar to the Short Course kit with the addition of:

- 6 packets of Sustained Energy
- 6 packets of Perpetuem

If you're not into gels and prefer powder fuels, The **Hammer Powder Sampler Kit** is what you're looking for. It's \$9.95 and contains the following:

- 1 packet of lemon lime HEED
- 1 packet of mandarin orange HEED
- 1 packet of Sustained Energy
- 1 packet of Perpetuem
- 1 packet of Recoverite
- 1 sample packet of Endurolytes

We also have the **Hammer Gel Sampler Kit** which contains one pouch of each of our nine flavors for \$9.95. Give us a call or log on to our web site to order any of our Hammer Nutrition fuel kits.



(TRANS FATTY ACIDS from page 7)

ture is the same way deposited in adipose tissue "Fat" on the walls of arteries, veins, around vital organs, and it is harmful to human health. Saturated fats and trans fatty acids inhibit health-enhancing effects from good foods and increase the risk of cardiopathology as early as conception and extend through adult life. Margarine made from vegetable oils, contains no cholesterol, and is higher in "good" fats (polyunsaturated & monounsaturated) than butter. "Good" types of fat reduce "bad" cholesterol low-density lipoprotein (LDL). However, margarine is processed using a method called hydrogenation, inducing unhealthy trans fat content. The more solid the margarine, the more trans fats it contains; stick margarine usually have slightly more trans fats than do tub margarines. Butter is made from animal fat, and therefore very high in cholesterol and saturated fat. Margarine is only slightly better than butter, but both can coat the inside of the human body in the exact same manner that they spread a coat on bread or pastries. Saturated fats and trans fats increase blood cholesterol and the risk of heart disease. Trans fats lower high-density lipoprotein (HDL), or "good," cholesterol

levels. Manufacturers are now required to list saturated and trans fats separately on food labels; Read the labels carefully.

Fat Tips

Here are some practical tips you can use every day to keep your consumption of saturated fat, trans fat, and cholesterol low while consuming a nutritionally adequate diet.

- Check the Nutrition Facts panel to compare foods because the serving sizes are generally consistent in similar types of foods. Choose foods lower in saturated fat, trans fat, and cholesterol. For saturated fat and cholesterol, keep in mind that 5 percent of the Daily Value (%DV) or less is low and 20 percent or more is high. (There is no %DV for trans fat.)

- Choose alternative fats. Replace saturated and trans fats in your diet with monounsaturated and polyunsaturated fats. These fats do not raise LDL cholesterol levels and have health benefits when eaten in moderation. Sources of monounsaturated fats include olive and canola oils. Sources of polyunsaturated fats include soybean oil, corn oil, sunflower oil and foods like nuts.

- Choose vegetable oils (except coconut and palm kernel oils) and soft margarines (liquid, tub, or spray) more often because the combined amount of saturated fat and trans fat is lower than the amount in solid shortenings, hard margarines, and animal fats, including butter.

- Consider fish. Most fish are lower in saturated fat than meat. Some fish, such as mackerel, sardines, and salmon, contain omega-3 fatty acids, which are being studied to determine if they offer protection against heart disease.

- Choose lean meats, such as poultry without the skin and not fried and lean beef and pork, not fried, with visible fat trimmed.

- Ask before you order when eating out. A good tip to remember is to ask which fats are being used in the preparation of your food when eating or ordering out.

- Limit foods high in cholesterol such as liver and other organ meats, egg yolks, and full-fat dairy products, like whole milk.

References available upon request



Reducing Holiday Weight Gain

Bill Misner, Ph.D.

As many of us have experienced, the 6-week period prior to the New Year (and oftentimes for several weeks after the New Year) is a time when body mass index experiences a 1.5-7.5 lbs fat weight gain. This is an interesting antithesis opposing both efforts + expenditure \$\$\$ to improve endurance performance. Runners often pay an extra \$90.00-\$120.00 for 5-10 ounces lighter weight racing flats or lightweight training shoes. Cyclists and triathletes do not hesitate to spend thousands of dollars to lighten a pound or two off their bicycle. Yet the holiday sirens are poorly resisted, resulting in a significant performance-inhibiting weight gain. The culprit is the appetite stimulated by the scent of home cooking, habit, and cuisine meant for royalty.

There is a method - besides using p.o. (orally dosed) appetite-suppressing Appetat - to harness our calorie-excessive drive. The appetite is driven by a number of mechanisms stimulated by the stomach, hypothalamus, pituitary, and kidneys. The appetite is strongly linked to the amount of the

blood sugar and the accompanying hormone Ghrelin in the circulation. Ghrelin is a polypeptide containing 28 amino acids linked together manufactured primarily in the stomach, with lesser amounts produced in the kidneys, pituitary and the hypothalamus. Blood levels of Ghrelin are lowest shortly after the consumption of a meal, then rise during the fast just prior to the next meal. Excess production of Ghrelin is associated with binge eating. When the stomach is physically extended by volume of fluid or food, Ghrelin release is inhibited. Interestingly, dietary protein alone during amino acid digestion inhibits release of Ghrelin.

Here is an application suggestion to reduce calorie intake but produce the same satiety level as an excess-calorie meal.

Ghrelin & Appetite-Inhibition Application

1. Drink 10-fluid ounces water 30 minutes prior to meal.

2. Chew each individual mouthful of food until ready to swallow then chew it 10 more times.

3. Eat protein first and separate from carbohydrates, fats.

4. Swallow ONE mouthful of water between each mouthful.

5. Repeat 1-2-3 until appetite is completely satisfied.

6. The longer it takes to consume a meal the more effective will be this Ghrelin-inhibiting appetite suppressing application.

7. Application of 1-5 results in 300-750 fewer calories consumed per meal with equicalorie satiation.

While this application appears simple, most of us find it difficult to practice, but of those who do, the reward is being satisfied not only after a meal but even more so after a difficult endurance event.

Athlete Sponsorship Update

Sponsorship consideration is closed for 2007. We are currently going through the thousands of requests that we received. If you applied for sponsorship, and have not heard back from us, please be patient. We will be contacting every applicant once all decisions are made.

Plain HEED & Perpetuem : Single serve packets

Based on our sales figures, the popularity of the Hammer Nutrition products in convenient single-serving packets is undeniable, but you asked for even more products packaged this way. So we're happy to announce that the plain versions of both HEED and Perpetuem are now available in single-serving packaging. In addition to our larger-sized containers, you'll now be able to purchase Hammer Gel (in all nine flavors), HEED (in all three flavors), Sustained Energy, Perpetuem (in both flavor options), and Recoverite

in convenient single-serving packets. We know these new options will add flexibility to your fueling regimens.





Stephen Brown

On February 24th, 2006, my life changed. On that date, I was diagnosed with Chronic Lymphocytic Leukemia. Me, the endurance athlete, the 7-time Ironman. The one who is very careful to do all of the right things in taking care of his body. Yep, a routine blood test revealed an extremely elevated white blood count. A bone marrow biopsy, extensive blood testing, a CT scan, and a PET scan all unanimously agreed on my diagnosis.

After a very brief pity party, lasting about 12 hours, I knuckled down and did what I needed to do. Which in this situation was to saddle up for 4 week-long rounds of chemotherapy treatment. I handled the treatments well. On many days, I was strong and energetic enough to run home from the treatment. This not only helped keep me sane, but it allowed me to maintain some sort of a baseline fitness level. When I needed to rest, I rested. But when I was able to run, I ran. And my nutrition plan consisted of extra helpings of fruits and vegetables with additional doses of Hammer Premium Insurance Caps.

By the end of June, treatments were done and I had hit remission. In mid July, I raced my first post diagnosis sprint triathlon. The remainder of the summer consisted of a few shorter races, and longer training with the hope of completing career iron distance race number 8 on September 27. Below is my race report from that race, The ChesapeakeMan Ultra Distance Triathlon, in Cambridge Maryland.

ChesapeakeMan 2006 is now in the books but it's the one race that I think I will remember the most out of all others. As many of you know, earlier this

year, I was diagnosed with Chronic Lymphocytic Leukemia. Although treatments went well and I quickly hit remission, I wasn't 100 % sure how all that would relate to racing an ultra distance triathlon just 7 months and 6 days after diagnosis.

I cruised into Cambridge Thursday afternoon, checked into the hotel and immediately went over to registration where I ended up helping out Vigo (race director Rob Vigorito) and his staff for a few hours before connecting with old Great Floridian Triathlon buddy Rob Weitzel and his Reston buddy Kevin Kunkel for the carbo dinner. Post dinner, we made our way back to the hotel and threw down a beer to better contemplate life, the weather, ironman, and why we do it all. Rob and I also found ourselves "calming" Kevin's nerves since this was his first ultra race. The irony in that is that we did such a good job, that Kevin ripped off a 10:23 and finished 7th overall and 2nd in 35-39. One hell of a maiden voyage. After all those issues were addressed and resolved we parted ways for the evening.

Friday brought more camaraderie, banter, and pre-race organization and jitters. Hooked up with Jeff Candyman Gura. We packed bags, dropped off bikes, stared at the Choptank River - again contemplating life, the weather, ironman, and why we do it all. Then soon enough it was time to hit the rack and wake up to IRONMAN DAY.

I popped out of bed Saturday at about 4:30 AM and threw down some food and a Hammer Perpetuem with a shot of Hammer Gel cocktail and made my way to the start. The water LOOKED pristine. But we all know the

saying that still waters run... ugly with strong head currents and lots of jelly-fish. And that's what we got. BUT, no worries, I made it out of the water. All swim times were off. The leaders were off by 10 minutes and the farther back you were, the more current you faced. After exiting the water, race director Rob Vigorito made his first reference to "RemissionMan". It was something like "And RemissionMan Steve IronToe Brown from Philly emerges!" That was the first of several such references made throughout the day over the PA system. And it was very cool.

There are two good points to being slow in a 2.4-mile swim. 1) - It's easy to find your bike in transition. 2). There are plenty of people to catch on the ride. And I did end up having a pretty decent ride. The winds were pretty squirrely and much of it was head on. But the final 12 miles or so of each loop had a sweet tail wind. All in all, I felt good on the bike. I ate well, and all systems seemed good. Vigo made two other "RemissionMan" references during the bike. Once after loop one, and once when I finished.

T2 was as sweet as it always is. By now, you are typically just DONE riding. This is where you start addressing some serious issues, like should I try to sell my bike on eBay or Craig's List, or ... - no I'm kidding. I felt good and ran well for the first 4 miles or so. Saw Kevin Kunkel practically skipping and doing cartwheels on his way to a great finish. Saw Rob with some IT problems, but he pushed on as Rob does. And saw CandyMan with his typical fixed and focused IRONMAN glazed over glare that says - "I'm going to get this done." The ironman camaraderie

(continued on next page)



is never more evident for the middle and back of the packers than on the run course. That is where the bond is really felt.

The finish was as sweet as it's ever been. Vigo again made a big deal out of "RemissionMan" and made the entire thing that much more special. I finished in 14:50 something with a daughter on each side and a smile on my face. My support crew was in full force and it was awesome.

At the awards brunch, Vigo again made a big deal out of RemissionMan, this time telling the whole story, then had me get up to a standing ovation. He smiled and we all had to choke back some emotion. Rob Vigorito - Class guy, class organization, class race. I was proud to finish and even prouder to finish as a survivor.

Life is good. And I'm truly thankful for everyone that is in mine.

Steve's Note: *Stephen Brown is not only a great athlete and a tremendous inspiration, he's a friend of mine and a longtime client of Hammer Nutrition's.*

After his success he emailed us and said: "Dear friends at Hammer - For several years now I have enjoyed a great relationship with Hammer and in particular with Steve Born. His vast amount of knowledge and support is unparalleled. Earlier this year I was diagnosed with Chronic Lymphocytic Leukemia, and as Steve knows, I never skipped a beat. I continued to train through chemo treatments and there is

no doubt in my mind that the baseline health that I had established helped me hit remission very fast. For me, Hammer nutritional products have become far more than performance supplements. They have become critical, if not life saving, nutritional support.

I am also happy to report that on 9/30, just 7 months after diagnosis - and 5 months since remission, I finished another ironman triathlon. (Fueled by Hammer Perpetuem and Hammer Gel of course) - Ironman number 8. Steve Born knows how much I value his friendship and support. But I just wanted to take a minute and tell others how happy I am with Steve, Hammer, and your entire staff. Keep up the great work."

Stephen Brown is a Philadelphia area age group triathlete. He is the triathlon features writer for Philly FIT Magazine (www.philly-fitmagazine.com), he serves as Editor in Chief of the triathlon publication TransitionTimes.com, and in November 2006, was appointed to a board of directors position of (Mid Atlantic Region) USA Triathlon. In a racing career spanning nearly 20 years, Brown has racked up countless races of all distances from sprint to ironman. He also often uses his racing as a platform to raise funds and awareness for significant charitable causes. Brown is a survivor of Chronic Lymphocytic Leukemia and a triathlon coach for TEAM in Training. He can be reached at tribikealot@aol.com

Photo : Stephen (center) and friends at the finish line of the Chesapeake Man



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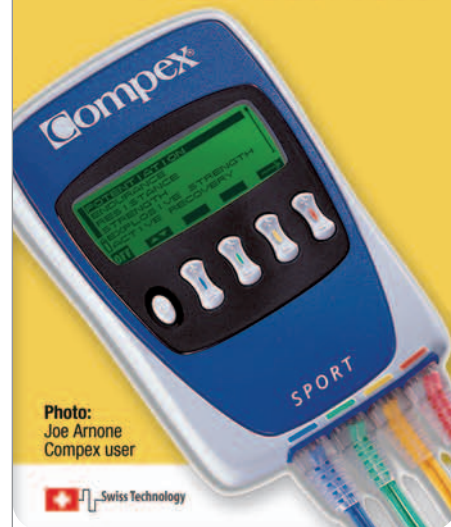


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From the Saddle of Steve Born

Steve Born



Welcome to the first edition of Endurance News for 2007!

It seems like we've barely caught our breath after a hugely successful 2006, and

our 20th anniversary year, 2007, is already upon us. We've got lots of special offerings and events planned to celebrate this milestone, so stay tuned and watch your mailbox and the Hammer website as the year unfolds.

As for me, I've been with Hammer Nutrition almost seven years now, but I've been part of the family much longer than that (my client number is a "lowly" 2971). I'll never forget that first call to E-CAPS (Hammer Nutrition hadn't been "invented" yet) back in 1989, at the beginning of my athletic career. I'd just completed my first Race Across America (RAAM) in 1988, and I had plans for an encore RAAM as well as many other ultra cycling events. Also, I had become keenly interested in the potential benefits that a quality supplement program could have on my athletic performance and overall health. I had heard about a product called "Race Caps," and I wanted more information about it in the hopes that it might be the supplement I'd been looking for.

I called the 800 number. Because it was a fairly new company and without a client service staff, Brian answered the phone. Back then, Brian and his wife, Sonja, did pretty much everything-technical support, order taking, inventory control, shipping and receiving, etc. Anyway, I remember how

impressed I was with the amount of time and energy, as well as genuine enthusiasm for my athletic endeavors, that Brian showed. I mean, the guy talked with me (and listened to me babble!) for nearly an hour! It was, by a long shot, the most outstanding customer service that I had ever experienced, and it's left an impression on me even to this day.

I've seen the company grow enormously since then, both as a customer and as an employee, but that type of customer service remains the very core of Brian's company. My point is that in addition to the great products we produce, you can absolutely count on courteous service and high quality technical support from Hammer Nutrition. Our position is that all three facets-superior products, customer service, and technical support-must exist together. A company can have the best products in the world, but if there's lousy customer service or inadequate technical resources and support to back them up, they lose value. As we celebrate our 20th anniversary, you can be assured that what Brian first initiated is still very much intact.

Hammer Nutrition Product Usage Manual - updated and better than ever!

One of our knowledge resources is our product usage manual, formerly known as the "Little Red Book" (for all the Hammer fuels) and the "Little Blue Book" (for all the E-CAPS supplements). With the retirement of the E-CAPS name and the introduction of new products since the first printing, we felt it was time to do some updates and incorporate both product lines-fuels and supplements-into one

resource. The result is much improved: a more comprehensive and easy-to-read product usage manual. We know that you'll find this resource, along with The Endurance Athlete's Guide to Success, to be quite helpful and beneficial. You can download a free copy of The Hammer Nutrition Product Usage Manual from our website or ask for a complimentary hard copy with your next order.

The Endurance Athlete's Guide To Success - an overwhelming success; 8th edition now in progress
As most of you know, back in 2002 we distilled our fueling knowledge into a small handbook we called The Endurance Athlete's Guide to Success. In its first incarnation, "The Guide" was a mere 22 pages long. We've edited, revised, and expanded the handbook several times since 2002, and the current version (#7) tallies over 70 pages. As I write this column (December, 2006) I am now working on the 8th edition of this booklet, which made me reflect on the impact it's had on so many athletes. How much of an impact? Well, when I asked for the numbers of website downloads and hard copies distributed in 2006, the data really staggered me. Check this out:

Downloads		Books
JAN.	7,902	3,465
FEB.	8,122	2,732
MAR.	9,338	2,978
APR.	11,616	2,150
MAY	10,919	1,688
JUN.	16,803	2,933
JUL.	12,104	1,652
AUG.	11,434	3,148
SEP.	12,000	958

(see STEVE on page 19)



(STEVE from page 18)

OCT.	7,329	801
NOV.	5,453	576
DEC.	2,948*	434*

TOTAL 115,968 23,515

* - Through 12/18/06

When the first edition of The Endurance Athlete's Guide to Success was printed back in 2002, Brian and I were both hoping that it would have some sort of impact with endurance athletes. Well, based on the numbers from 2006 (not even taking into account the total since it was first published), as well as the tremendous feedback we've received over the years, I can honestly say that it's had an undeniably positive impact on the performance of thousands and thousands of endurance athletes. We never dreamed of 140,000 copies in one year!

By the time you read this, the newest edition will be completed and available, or nearly so. There's a lot of great information in this resource, and if you haven't read it yet, I'd encourage you to do so. Hard copies of The Endurance Athlete's Guide to Success are available at \$1.99 each. If you want to print out a free copy, go to www.hammernutrition.com/guide (remember, it's over 70 pages).

I hope that all of you had a wonderful Holiday season. On behalf of all of us at Hammer Nutrition, I want to wish you the very best for a most successful 2007, with our genuine thanks for your loyalty and business.

Sincerely,
Steve

Share Your NEWS!

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

USSSA Partnership : Snowshoe Association

By the time you read this some of the qualifying races will have already been completed, but I want to mention how thrilled we are to be supporting all the races in the 2007 U.S. National Snowshoe Championship Series. Moreover, Hammer Nutrition is listed as "The Official Energy Product of the 2007 U.S. National Snowshoe Championships." This race is scheduled for March 9-10 at Elm Creek Park Preserve in Maple Grove, MN (near Minneapolis).

Nordic skiing has been our main win-



ter sport, in terms of sponsorship, with just a handful of snowshoe events on board. However, with the huge increase in participation in snowshoe racing, it only made sense for us to become involved in this high-energy output sport as well. We're very excited to be partnering with the USSSA, and we look forward to supporting their races in 2007 and beyond.

You can find more information on this year's National Championships at www.2007snowshoe-nationals.com. For a full listing of all the qualifying races, go to www.snowshoeracing.com/events

WIN FREE PRODUCT!

Have our products made a difference for you? Tell us how, and if we choose your story to print in our next newsletter, we'll send you a one month supply of one of the products you write about. To enter, e-mail us at: support@hammernutrition.com

Hammer Nutrition/USA Triathlon - Partnership update

Last September Hammer Nutrition signed an official sponsorship agreement with USA Triathlon (USAT) to supply fuels and nutritional supplements for many of the up and coming developmental and elite level triathletes they serve. While we've been sponsoring USAT sanctioned events for many years prior to the signing, the announcement of the firm alliance immediately evoked much positive comment from USAT coaches. "We had eleven coaches contact us to say how pleased they were about the choice of sponsor. That hasn't happened before," remarked Tim Yount, USAT Senior Vice-President of Marketing and Communications.

These kudos come as no surprise to us, but we're nonetheless gratified to hear such ringing endorsement. Combined with our already high level of involvement in the sport of triathlon, Hammer Nutrition's partnership with USAT fits hand-in-glove and comple-

ments their mission perfectly. What is USAT all about? They sanction some 2,000 multi-sport events nationally each year. Per their website, USA Triathlon's mission is "... to provide excellence in leadership, structure, and education for the growth and development of the sport. USA Triathlon's vision is to set the standard of excellence as a world leader in the sport by promoting a healthy lifestyle and encouraging participation and achievement."

Clearly, nutrition is a key element in any endurance event, and a proper fueling plan (the right products in the right amounts) can make a huge difference in an athlete's performance. With our ever-increasing involvement in the sport of triathlon, along with our partnership with USAT, we're razor-sharp focused on being the arm that educates triathletes about fueling for success.

Watch for more updates on our partnership with USAT as they come in!





Steve Born

Speaking on behalf of Carole Arthur, who works with me in managing our event sponsorships, and the whole staff of Hammer Nutrition, I'm excited to announce that our 2006 season set a new record of 1820 domestic events sponsored. Add in Canadian competitions and a couple of auxiliary race bag programs, and we topped at over 2000, an increase of some 25% over our previous record set in 2005.

Not only did we achieve our "number goal" for 2006, but we also racked up a geographical first: Hammer Nutrition sponsorship in all 50 states. No surprise that California led the list with 167, followed by Florida at 137 events. Third place went to Michigan at 95. Finishing out the Top 20 were New York (77), Colorado (70), Texas (68), Arizona (64), North Carolina and Virginia (tied at 60), Georgia (56), Minnesota (54), Montana (52), Tennessee (46) Wisconsin (44), Pennsylvania and Idaho (tied at 42), Missouri (39), Massachusetts (38), Illinois (34), and South Carolina (32).

As for types of events we sponsored, multisport races (triathlon/duathlon)

again led the list, with a whopping total of 642 races. Mountain biking races came next with nearly 300 events sponsored. We're still a major player in adventure racing as well, with over 200 sponsored events, followed by running with 149 events (there's only so many ultra running events to sponsor). Road cycling races totaled 132, and ultra cycling races added another 72 events. Nordic skiing, snowshoe races, and other winter various winter combined for another 50 events. The biggest increase came in our support of various camps and clinics; the 150 sponsorships in this category nearly tripled the 2005 total.

We sponsored events in every month of the year, with the summer months, of course, leading the list. The top five months were:

- #1 - June - 293 events
- #2 - July - 265 events
- #3 - May - 236 events
- #4 - August - 234 events
- #5 - September - 222 events

It would have taken too much time to come up with a total figure of how

many hundreds of containers of HEED that were provided to various events this year (to make several thousand gallons of drink mix!) and how many thousands of HEED cups were also supplied... let's just say it was a tremendous amount! I can, however, tell you that we provided over half a million samples of Hammer Nutrition products (primarily Hammer Gel and Endurolytes samples, but also other Hammer products as well), brochures, and race bags to our 2006 sponsored events. That's right, over 500,000 samples, brochures, and race bags were provided to our sponsored events this year; a staggering number if you ask me! Yes, that's a big chunk of budget, but events sponsorship is actually a cost-effective way of generating new customers, in addition to making Hammer Nutrition part of the endurance competition landscape.

Needless to say, we're very excited about achieving this new standard in event support and we look forward to even higher sponsorship numbers 2007. As I'm fond of saying, "If you're going to an endurance race, chances are you'll see Hammer Nutrition there!"

53x11 Coffee : The positive feedback is pouring in

In issue #51 we introduced you to 53x11 Coffee; the organic, fair-trade coffee made by our friends Evan and Owen. Since then the response has been overwhelming! Read some of these testimonials...

Your coffee is the best! - Lisa

In a nut shell, this is the best coffee I have ever had in my life! Keep up the great work. - S.B.

Can't get enough of this stuff, all of my cycling friends love it! - Bennett

I recently received your coffee and tried "The Early Break" this morning and it is awesome, I loved it, best cup I have had in a long time! - Diane

New for 2007 53x11 will debut a new blend (it's in the final stages now), called The Chain Breaker. It's a bold

espresso blend with a smooth finish.

They've also got new cycling clothes and waterbottles available via their website at 53x11coffee.com.



Ride ready.



Jacob Thompson

Three cyclists from Santa Cruz, California on their way from Alaska to South America, Jacob Thompson, Sean Monterastelli, and Goat, stopped by Hammer Nutrition in Whitefish one afternoon. After listening to the story of their epic adventure, and knowing how big a difference our fuels would make, we loaded them up with a complementary supply of several products to help them along the way. Below are their comments on our products. For a full account of their journey, visit www.ridingthespine.com/main

I have trained and raced in a few marathons, and have had enough experience using/or not using endurance supplements to know that when used properly they are nothing short of miraculous. Effectively integrating these products into a training routine is not an easy task, and requires a fair amount of experimentation coupled with a healthy knowledge of sports nutrition. When you devote 6 months of your life to train for an event, you want to be confident that what you are putting in your body does not jeopardize your performance. Ultimately, using endurance supplements correctly really is the most important thing to think about when dabbling with the various bars/gels/powders out there.

When traveling across two continents with 60 pounds of gear, you can't exactly tackle each day like you are in a race. Nonetheless, we still ride hard for about 6 hours a day, up hills, through mud, snow, etc. Living on my bike gives me a unique means to test a few of Hammer Nutrition's products.

Perpetuem

The first thing I thought when I tried

Perpetuem was how delicious it was. It didn't taste good or bad, just a benign and subtle orange-ish flavor. I have tried plenty of new "scientifically advanced" endurance drinks, and found that science and taste rarely mix well.

The second thing I noticed about it was that it really did "quench my thirst." The Perpetuem-infused water felt nourishing, it did not throw my body out of whack, but seemed to reinforce a stable level of hydration and energy.

I didn't have the biggest meal that day, and after about two hours of riding, I began drinking Perpetuem. I nursed it for about 45 minutes. Usually after about five hours of riding I feel very hungry, no matter how many candy bars I eat. We rode for almost six hours and I felt satisfied and enjoyed my ride the whole time.

I have tried it a few times since and feel that a dose offers a reliable store of energy for about two hours. I never experienced any stomach discomfort from it, nor did I resent the taste of it. It is important for someone training for an endurance event to enjoy their longer rides/runs and not cringe at the thought of them. Having the proper energy available makes a big difference, and Perpetuem is an excellent way to achieve that.

Hammer Gel

This product has commanded quite an audience in the mountain biking world. It has received the Mountain Bike Review (MTBR) Choice award from 2003-2005. We were given three flavors to try: Raspberry, Espresso (w/ caffeine), and Orange. I would imagine that the taste and preference is rela-

tive to the individual. With nine different flavors, you are bound to find one that will work for you.

The Hammer Gel is intended to give you energy for workouts lasting less than two hours. It is extremely easy to digest and process into useable energy. For the most part I've just eaten candy bars for that quick fix, but inevitably discover that it is too quick a fix and leaves me feeling hollowed out within 40 minutes: because the simple sugars break down too quickly. Hammer Nutrition is very conscious of providing wholesome, healthy ingredients in their products that offer lasting energy from complex carbohydrates.

The product is designed to give you energy for up to two hours. Our rides last at least six, and I always begin fueled by a large meal. To get a better sense of what the gel offered, I had to ride until I bonked and then tried the orange Hammer Gel. It felt like it took about 10-15 minutes before I could feel any noticeable effects. It did not restore me to my pre-bonk state, but it came pretty close, and I think that is about all I could ask from an energy gel at the end of a long ride.

Overall, Hammer Gel is a very convenient way to get energy quickly without upsetting your stomach during a rigorous workout/race. At just over a dollar for a single serving packet, it would be worth having around to help you finish that long workout a bit stronger.

Recoverite

I waited to try this out after I had a good workout, one that would surely

(see RIDING THE SPINE on page 23)

Why Take Supplements?

Bill Misner, Ph.D.



I confess, I take a lot of supplements, perhaps second only to Steve Born! I have the best fingernails and hair growth around to prove it from all the vegicap capsule materials alone.

I am not alone in suggesting that diet alone does not provide adequate disease-preventative micronutrients at the current RDI-level. Ames' research also presents an interesting hypothesis that implies micronutrient deficiency may eventually deteriorate the quality of whole human cell health. Professor Bruce Ames discusses the important role that multivitamin and mineral supplementation may play in ensuring the Recommended Dietary Allowances of vitamins and minerals and helping to prevent mitochondrial decay, oxidant leakage, cellular aging, and the onset of various degenerative diseases of aging, such as cancer.

The Ames abstract reads as follows:

Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food. Inadequate intakes may result in chronic metabolic disruption, including mitochondrial decay. Deficiencies in many micronutrients cause DNA damage, such as chromosome breaks, in cultured human cells or in vivo. Some of these deficiencies also cause mitochondrial decay with oxidant leakage and cellular aging and are associated with late onset diseases such as cancer.

I propose DNA damage and late onset disease are consequences of a triage allocation response to micronutrient scarcity. Episodic shortages of

micronutrients were common during evolution. Natural selection favors short-term survival at the expense of long-term health. I hypothesize that short-term survival was achieved by allocating scarce micronutrients by triage, in part through an adjustment of the binding affinity of proteins for required micronutrients. If this hypothesis is correct, micronutrient deficiencies that trigger the triage response would accelerate cancer, aging, and neural decay but would leave critical metabolic functions, such as ATP production, intact. Evidence that micronutrient malnutrition increases late onset diseases, such as cancer, is discussed.

A multivitamin-mineral supplement is one low-cost way to ensure intake of the Recommended Dietary Allowance of micronutrients throughout life.

Conflict of interest statements A & B:

A.) Bruce N. Ames is a founder of Juvenon, a company that has licensed the University of California patent (Bruce N. Ames and T. Hagen, inventors) on acetyl carnitine plus lipoic acid for rejuvenating old mitochondria. Juvenon sells acetyl carnitine plus lipoic acid supplements and does clinical trials on them. Bruce N. Ames' founder's stock was put in a nonprofit foundation at the founding in 1999. He is director of Juvenon's Scientific Advisory Board, but he has no stock in the company and does not receive any remuneration from them.

B.) I (Bill Misner) was employed to formulate micronutrients for Hammer Nutrition from 1996-2006. I continue to take dietary supplements by the handful as a preventative slowing down the

onset of age-induced micronutrient deficiencies that present degenerative disorders as a property of time...

References

1. Ames B.N., Low micronutrient intake may accelerate the degenerative diseases of aging through allocation of scarce micronutrients by triage, Proc Natl Acad Sci USA, 2006; 103 (47): 17589-94. (Address: Nutrition and Metabolism Center, Children's Hospital of Oakland Research Institute, Oakland, CA 94609, USA). http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17101959&query_hl=1&itool=pubmed_docsum
2. Misner B., Food alone may not provide sufficient micronutrients for preventing deficiency. Journal of the International Society of Sports Nutrition. 3(1):51-55, 2006. [http://www.sportsnutritionistsociety.org/site/journal/journal1.php?journal_id=21&name=Volume%203\(1\),%202006](http://www.sportsnutritionistsociety.org/site/journal/journal1.php?journal_id=21&name=Volume%203(1),%202006)

"I used Race Caps Supreme and Mito Caps during a long ride for the first time this past weekend...holy cow, they worked awesome! I'm usually pretty spent at 2.5 hrs but I had very little fatigue at the 3 hr mark when I hit my last two climbs. Then on Sunday I did a 13 mile run 3 minutes faster then the previous weekend (that's approx 15 sec/mile)!"

Lou O.



Hammer Nutrition & Total Health Events : 2007 Events Partnership

Of the many aspects that make up my job, perhaps my favorite responsibility is helping support so many great events and having the opportunity to know and work with many wonderful race directors. We're looking at another banner year for Hammer Nutrition in regards to event sponsorship, and I'm excited to announce our newest partnership for 2007: Total Health Events.



Based out of the great state of Washington, Jonathan and Lynne Hoskins produce some outstanding events that we're very enthused to be supporting. Occupying the top rung on their roster of events is the Grand Columbian Triathlon, which consists of

half and full iron distance races, scheduled for September 15. See www.thegrandcolumbian.com for more information.

Also on the 2007 schedule is the ChelanMan Multisport Weekend (July 21-22 chelanman.com). This great weekend of racing includes a "Try-

A-Tri" distance triathlon (400-yard swim, 13-mile bike, 5k run) and a sprint distance triathlon (800-yard swim, 13-mile bike, 5k run) on Saturday. The Sunday races will be an Olympic distance, which has been honored with the distinction of being the Washington state race in the presti-

gious "Best of the US Championship" series, and the ClelanMan Half Iron Triathlon, which is a USAT Halfmax National Championship qualifier. Check out www.chelanman.com for more details.

We're very excited to be partnering with Jonathan & Lynne/Total Health Events and we are tentatively planning on having a booth at both of the above-mentioned races. For more information about Total Health Events and all their terrific races, go to www.totalhealthevents.com

(RIDING THE SPINE from page 21)

leave me lying stiff the next morning. After a 7-hour day off-road with a good 4,000-foot difference in elevation, I knew that I would be "hurtin' for certain." I mixed the appropriate dose with a bottle full of water, shook it up and drank.

Another miracle of Hammer Nutrition is that it tasted pleasant enough, not strong or overly powdery. It mixed easily with water and was not too thick. Recoverite is an athlete's version of one of those meal-replacement shakes, and if you've ever forced one of those down your throat, you will appreciate what Hammer has created.

I awoke the next day without the expected stiffness or lack of will to get up. It still felt like I had a hard-work-out the day before, but in a good way. Usually on these recovery days I have to ride slowly for thirty or so minutes and stretch for another thirty. Post Recoverite, I could just get on my bike and go. It felt blissfully weird.

Is it for you?

With the average marathon training schedule lasting about six months, it could get quite costly to supplement every single workout with Hammer Products. Nor is it possible to afford to ride for the next two years with

wanting to budget your workouts as efficiently as possible, Hammer Nutrition can really help. You might be able to find products comparable to Hammer, but I doubt you will find comparable customer service.



Hammer Gel, Perpetuem and Recoverite every day. It would be nice, but not practical given the casual nature of our riding.

Customer Service

Having knowledgeable athletes to correspond with over the phone/email makes all the difference. Whether you're a week from race-day and nervous about pre-race nutrition, or

Conclusion

If you are currently training for an endurance event, you should absolutely check out Hammer Nutrition. At the very least, give them a call and see how they can help you. They can set you up with a nutritional regimen that matches your athletic aspirations and budget.

Editors Note : *At press time these three adventurers were headed towards the Arizona Trail. To track their journey, check out their website at www.ridingthespine.com*

The guys also wrote to say that they have recently joined up with a non-profit in New Orleans to create a public greenway in Lafitte Corridor. More info about that is also available on their website.

Nate's Corner

A new year's smorgasbord

Nate Llerandi

Paul Moir



Consistency is Key

When devising a training plan for the upcoming year - whether you do it yourself or if you have a coach outline it for you - consistency in your training is key.

Skipping workouts, however infrequent it might seem, will hamper your progress and instill a sense of guilt. How many times do we think, "I should have _____ today." Even if we don't have the time, the thought of a missed workout eats us until our next opportunity to sweat.

And if you do find yourself skipping workouts rather frequently, then it might be time to rethink your plan. Maybe your scheduling too many hours or workouts during your week. When I ask my athletes to figure out how many hours a week they have to train as a maximum, I tell them to subtract 20-25% from that figure to come up with a realistic training budget. That 20-25% allows for those "unforseens" that take up our time but we can't really put our fingers on. For example, I didn't work out today because I spent a lot of time taking down holiday decorations and putting them away. I decided to keep the day low stress than add another "to do" to the list.

Now the holidays are behind us and it's time to start focusing on the [upcoming] season. The more consistent you can be, and the more stress you can remove from your training schedule, the more progress you'll make and the more fun you'll have.

Stay Motivated

Coming into the new year, it is easy

to start out motivated. New years bring with them renewed vitality, determination and drive. However, the renewed energy will eventually wane. When this happens, how can we stay motivated when it's hard to get excited for another hard or long workout?

One trick I find particularly useful is this. The night before a challenging workout, I'll read up on what I'm about to do and think about why I'm doing it and what I'll get out of it. How will it ultimately affect my reaching for my goals?

Essentially, I add purpose to what I'm doing. This helps me stay focused on the task at hand and also on the season ahead. Makes it a lot easier to get out the door on the tough days and reminds me that I'm enduring the challenges for a reason.

We're not always going to want to go out the door or train during our lunch hours. And sometimes we shouldn't. But, by keeping in the forefront of our minds exactly why we're doing what we're doing, we'll add consistency to our training and progress.

Focus On the Task at Hand

I walked out the door this morning for a run at 5:40am. It was dark, pretty cold (I live in Colorado) and yet I was excited. I thought, "Today, my prep begins for the season." And off I went.

Now, truly my preparation for the upcoming season didn't just begin. Any training I've done in the past is setting me up for where I'm going. But, today marked the beginning of my "focused" attention to this year's racing season.

It's a definite switching of gears. Workouts take on more meaning, and more structure needs to be instituted to maximize the effects of the training I do

without wasting time - no more junk miles. The fact that I have a limited training budget of 8-10 hours per week for triathlons, I'm going to have to be pretty creative to get the most out of a restricted training volume. I'm going to have to squeeze the most out of every minute of every workout so I can hit the starting line and be as competitive as I hope to be.

Is this to say that I need to kill myself until I crater every workout? Does this mean I need to train more? Absolutely not. But by staying focused on my season goals - gains in training, racing at a specific level, etc. - I will get more out of my training and, thus, more out of my racing.

Before your workouts, remind yourself of why you're doing what you're doing. Hopefully, it's primarily because you're having fun. Then, remember what your upcoming goals are. Try to get the most out of your hard workouts. Remind yourself that recovery workouts are just as important so you can be ready for the next challenging test. Each workout brings you closer to your first race. Workouts also either bring you closer to achieving your goals or push you farther away from achieving them.

Staying focused doesn't mean training more or training harder more often. It means cutting out the wasted time and the junk miles, and getting the most out of the training process. This is how your workouts will bring you closer to achieving your goals. You'll hit the starting line knowing you're prepared and with more confidence.

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

2007 PRICE LIST & ORDER FORM

Endurance Fuels

Hammer Gel Jug	\$18.95	3 @ \$16.95
Hammer Gel Single Serving	\$1.15	
Hammer Gel Pouch Sampler	\$9.95	
Hammer Gel 12 Pouch Box	\$12.95	
Hammer Gel Flasks	\$1.50	

Flavors : Apple-Cinnamon, Banana, Chocolate,
Espresso, Orange, Unflavored, Raspberry, Tropical, Vanilla

Hammer Bar	\$2.49	
Hammer Bar 12 Count Box	\$29.88	

Flavors : Almond-Raisin, Chocolate Chip

HEED - Single Serving	\$1.49	
HEED - 32 Serving	\$18.95	

Flavors : Lemon-Lime, Mandarin, Unflavored

Endurolytes	\$18.95	3 @ \$16.95
Endurolytes Powder	\$18.95	3 @ \$16.95

Sustained Energy - Single Serving	\$2.49	
Sustained Energy - 8 Serving	\$15.95	
Sustained Energy - 30 Serving	\$49.95	4 @ \$44.95

Perpetuem - Single Serving	\$2.29	
Perpetuem - 16 Serving	\$21.95	
Perpetuem - 32 Serving	\$39.95	

Flavors : Orange-Vanilla, Unflavored

Recoverite - Single Serving	\$2.29	
Recoverite - 32 Serving	\$44.95	
Recoverite Shaker	\$4.95	
Hammer Whey - 24 Serving	\$24.95	4 @ \$21.95
Hammer Soy - 24 Serving	\$21.95	4 @ \$18.95
Liquid Endurance	\$22.95	3 @ \$19.95

Endurance Supplements

Anti-Fatigue	\$17.95	3 @ \$14.95
Appestat	\$29.95	
Boron	\$14.95	
Chromemate	\$9.95	
Digest Caps	\$12.95	
Energy Surge (ATP100)	\$19.95	2 @ \$17.95
Mito Caps	\$24.95	
Phytomax	\$24.95	3 @ \$22.95
Premium Insurance Caps	\$29.95	
PSA Caps	\$24.95	3 @ \$22.95
Race Caps Supreme	\$54.95	3 @ \$51.65
Race Day Boost	\$14.95	
REM Caps	\$19.95	3 @ \$17.95
Super Antioxidant	\$39.95	3 @ \$34.95
Tissue Rejuvenator	\$24.95	
Xobaline 30	\$12.95	
Xobaline 90	\$29.95	

Carlson's Salmon Oil 60 Count	\$7.95
Carlson's Salmon Oil 180 Count	\$19.95
i-Flora	\$24.95

Kits

Short Course Starter Kit

\$69.95 You save \$8.64

1 jug of Raspberry Hammer Gel, 8 pouches of Hammer Gel, 6 Lemon-Lime HEED packets, 6 Mandarin Orange HEED packets, 3 Recoverite packets, 1 bottle of Endurolytes, 1 Quick Coin, 1 Flask, 1 Waterbottle and a Fueling Handbook

Long Course Starter Kit

\$79.95 You save \$9.44

1 jug of Raspberry Hammer Gel, 8 pouches of Hammer Gel, 6 Sustained Energy packets, 6 Perpetuem packets, 3 Recoverite packets, 1 bottle of Endurolytes, 1 Quick Coin, 1 Flask, 1 Waterbottle and a Fueling Handbook

Hammer Gel Sampler Kit

\$9.95

One pouch of each flavor. Nine total.

Hammer Powder Sampler Kit

\$9.95

One packet each of Recoverite, Sustained Energy, Perpetuem, HEED Lemon-Lime, HEED Mandarin Orange, and an Endurolyte trial packet (6 capsules)

Daily Essentials Kit

\$99.95 You save \$9.90

1 PIC, 1 Race Caps Supreme, 1 Mito Caps

3 Month Daily Essentials Kit

\$289.95 You save \$49.60

3 each PIC, Race Caps Supreme, Mito Caps

Technical Innovations

E-Motion Roller System	\$795.00
------------------------	----------

Basic Power Cranks	\$899.00
X-Lite Power Cranks	\$1049.00

Compex Sport*	\$899.00
Compex Fitness Trainer*	\$499.00

Compex Replacement Electrode Pads	
Small Pads (2" x 2" - 4 per pack)	\$9.95
Large Pads (2" x 4" - 4 per pack) While supplies last	\$9.95
12 packs for \$99.95	

You save \$19.45. Mix & match sizes as needed

24 packs for \$179.95

You save \$58.85. Mix & match sizes as needed

Replacement Parts

Leadwire (Set of 4)	\$19.95
---------------------	---------

Battery pack	\$39.95
--------------	---------

*Each Compex unit comes complete with 1 set of 2"x2" electrodes, 1 set of 2"x4" electrodes, leadwires, user manual, training planner CD, the electrode placement booklet, battery charger, and a carrying case. Pricing subject to change, please call or go online for best pricing.

Name: _____ Client #: _____

Address: _____

City, State, Zip: _____

Phone: _____ E-Mail: _____

Method of Payment: Circle One Check/MO Visa MC Discover AmEx Exp. Date: _____

Card#: _____ Verification #: _____ Signature: _____

Description (Indicate flavor choices)	Size	Qty.	Price	Amount

Call: 1.800.336.1977	Log on to: www.hammernutrition.com	Fax order to: 406.862.4543	Subtotal _____
Mail order to: 4952 Whitefish Stage Rd. Whitefish, MT 59937			Shipping _____
			TOTAL _____

Order Today! 1.800.336.1977 / www.hammernutrition.com More products on reverse

2007 PRICE LIST & ORDER FORM

Voler Cycling Clothing

Short Sleeve Jersey w/pocket	\$34.95	xs-2xl
Womens Short Sleeve Jersey w/pocket	\$34.95	s-xl
Sleeveless Jersey w/pocket	\$34.95	s-2xl
Long Sleeve Jersey w/pocket	\$49.95	xs-2xl
Long Sleeve Summer Weight Jersey	\$49.95	s-2xl
Wind Vest	\$44.95	s-xl
Wind Jacket	\$59.95	s-xl
Thermal Vest w/pocket	\$59.95	s-xl
Thermal Jacket w/pocket	\$89.95	s-xl
Cycling Shorts	\$39.95	xs-2xl
Womens Cycling Shorts	\$39.95	s-xl
Cycling Bibs	\$44.95	s-xl
Cycling Skinsuit w/pocket	\$79.95	s-xl
Arm Warmers	\$29.95	s-xl
Giordana Winter Cycling Gloves	\$34.95	s-2xl
Giordana Cycling Gloves	\$19.95	s-2xl
Hammer Socks	\$4.95	White/Black s-xl

Pretty in Pink Cycling Clothing

Short Sleeve Jersey w/pocket	\$34.95	s-xl
Wind Jacket	\$59.95	s-xl
Cycling Shorts	\$39.95	s-xl
Arm Warmers	\$29.95	s-l
Socks	\$4.95	s-xl
Giordana Cycling Gloves	\$19.95	s-xl

Voler Tri Clothing

Mens Tri Top w/pocket	\$39.95	s-xl
Mens Tri Short	\$34.95	s-xl
Mens Tri Skinsuit w/pocket	\$69.95	s-xl
Womens Tri Shimmel w/pocket	\$29.95	s-xl
Womens Tri Short	\$34.95	s-xl
Womens Tri Skinsuit w/pocket	\$69.95	s-xl
Womens Sport Top	\$19.95	s-l

Multi Sport/Running Gear

Singlet	\$19.95	White	s-xl
Trail Shirt w/pocket	\$19.95	White	s-xl
Cool-T	\$19.95	White	xs-xl
Mens Running Shorts w/pocket	\$29.95	Grey	s-xl
Mens Running Shorts w/pocket	\$29.95	Red	s-xl
Womens Running Shorts w/pocket	\$29.95	Grey	s-l
Womens Running Shorts w/pocket	\$29.95	Red	s-l

Patagonia

Mens Capilene 1 T-Shirt	\$36.00	White	s-xl
Mens Capilene 1 Crew	\$38.00	White	s-xl
Mens Capilene 2 Tank	\$30.00	White	s-xl
Mens Strider T-Shirt	\$40.00	White	s-xl
Mens Vitaliti Pique Polo	\$55.00	Blackberry	s-xl
Womens Capilene 1 T-Shirt	\$36.00	White	s-xl
Womens Capilene 1 Tank	\$32.00	White	s-xl
Womens Strider T-Shirt	\$40.00	White	s-l

Headwear

Euro Style Cycling Cap	\$8.95	Red	os
Mesh Race Ready Cap	\$12.50	White	os
Ventilator Hat	\$14.95	Red	os
Winter Beanie	\$17.95	Black	os
Halo Headband	\$12.95	Black/White/Blue	os
Halo Headband II	\$12.95	Black/White/Blue	os
Halo Protex	\$21.95	Black/White/Red	os
Halo Anti-Freeze	\$16.95	Black	os
Flex-Fit Baseball Caps	\$14.95	Black	s/m-l/xl
Watch Cap	\$8.95	Black	os

Casual Wear

Short Sleeve Tee	\$9.95	Red/Chestnut	s-2xl
Youth Short Sleeve Tee	\$9.95	Red	xs-m
Long Sleeve Tee	\$12.95	Red	s-2xl
20th Anniversary Tee	\$12.95	Slate	s-2xl
Organic Cotton Retro Tee	\$12.95	Natural	s-2xl
Women's Tee	\$12.95	White/Blue	s-xl
Hooded Sweatshirt	\$29.95	Grey	s-xl

Accessories

Hammer Gel Flask	\$1.50	
Double Clip Flask Holder	\$7.50	
Bike Mount Flask Holder	\$12.95	
Large Water Bottle	\$2.50	24oz.
Small Water Bottle	\$2.50	21oz.
Pink Water Bottle	\$2.50	24oz.
Recoverite Shaker	\$4.95	25oz.
Gel-Bot Fuel System	\$15.95	24oz.
Gel-Bot Soft Flask	\$10.95	5.5oz.
Quick Coin	\$0.75	
Tattoo	\$0.25	
Hammer Gel Decal	\$0.50	
30x60 Hammer Gel Banner	\$20.00	
5-Gallon HEED Cooler	\$29.95	
Hammer Pint Glass	\$4.50	16oz.

53x11 Coffee

The Big Ring	\$11.95		12oz.
The Early Break	\$11.95		12oz.
The Chain Breaker	\$11.95		12oz.
53x11 T-Shirt	\$18.00	Natural	s-xl
Coffee Mug	\$9.95	Black/Yellow	15oz.

Bookstore

Guide To Success Handbook	\$1.99
Treat Your Own Neck	\$9.95
Treat Your Own Back	\$10.95
Sugar Blues	\$6.99
Food Is Your Best Medicine	\$6.99
Water : The Shocking Truth	\$8.95
Healing Back Pain	\$13.99
Endurance Nutrition DVD	\$29.95

Order Today! 1.800.336.1977 / www.hammernutrition.com More products on reverse



Effective Training Aids for Cyclists



Jason Kinley

I'd like to take a moment to introduce two new products that Hammer Nutrition will be carrying: PowerCranks™ and E-Motion Rollers. These innovative products will make a huge impact on your training and racing.

PowerCranks™, a revolutionary crankset, allows each crank arm to rotate independently of the other. Of course, on any regular bike the cranks stay fixed at 180 to each other. This can give maximum continuous power, but it takes years of diligent, coached training to learn to fire your various leg, hip, and buttock muscles in an efficient sequence. Most fitness riders and amateur racers “cheat” by pushing down, but failing to complete the full cycle, because the other leg is pushing down. This means lost power and efficiency.

Enter PowerCranks™! By forcing you to complete each pedal stroke independently, it makes you more efficient, more powerful, and in the end, faster. PowerCranks™ train the hip flexors and hamstrings more fully than conventional pedaling, making it an ideal training tool for any athlete, not just cyclists. Runners and skiers can benefit as well.

A study in the Journal of Strength and Conditioning Research demonstrated the increased training effect of using PowerCranks™. The study showed that training on them for only six weeks reduced the amount of energy expenditure required for a one-hour effort.

You can ride PowerCranks™ indoors and even race on them. There are two

different models available, basic and extra-lite. An array of bottom bracket compatibilities assures that you can readily install PowerCranks™ on your current ride, Campy included.



I tested PowerCranks™, and I could not believe how fatigued I became. It really showed me how many muscles I haven't been using.

We've also added E-Motion Rollers to our offerings. Rollers, in general, allow you to take your bike to the basement or rec room and drill out the miles, regardless how miserable the weather might be outside, a fact not lost on us residents of Northwest Montana! Rollers also allow you to enjoy riding inside more than a trainer because it requires more focus; this is

real cycling on your bike, so you're training your balance, focus, and in your exact riding position. A stationary bike lacks all of these “realities,” but it's a safer option, especially when you're out of the saddle.

Again, innovation steps in. Unlike traditional rollers that have only a fixed frame, E-Motion Rollers features a “floating” frame inside of a fixed frame. This allows the rider to be more stable on the rollers, as the device will help to correct small movements and adjustments, and allow a full out-of-the-saddle sprint. Bumper guards in the front and rear help prevent the wheels from coming off of the rollers, contributing to the overall effect of giving you a much more confident indoor ride.

E-Motion Rollers also gives you a better sense of your inefficient motions and allows you to further streamline your ride. You'll improve your balance, pedaling smoothness, and posture, which are critical to improving your sprinting, paceline riding, and cornering. Rollers are the way to go for off-season improvement, and E-Motion Rollers are surely the top choice in this category.

Combine the PowerCranks™ with the E-motion Rollers and you'll have a challenging workout that will give you a huge boost in your efficient energy output.

New Clothing in 2007

We're growing and with that growth we've expanded our clothing line to better serve you.

Among our new offerings for 2007 are a women's specific pink cycling kit, an expanded line of Patagonia performance shirts, new t-shirts, a Patagonia polo shirt, and a new winter cap. Here's a brief rundown of each of these items.

Pretty In Pink Cycling Clothing

Perhaps the biggest addition to our clothing line is the women's-specific pink cycling kit from Voler. The complete kit contains a short-sleeve jersey, wind jacket, arm warmers, and custom-cut shorts that feature a lower rise and a shorter inseam. We've also added coordinating socks by Lin, a pink water bottle from Specialized, and gloves from Giordana.

Patagonia Shirts

We've expanded the number of Patagonia shirts we carry from 2 in previous years to 6 this year! Here's what we've got that's new...

Mens Strider - this is a warm weather, active mesh tee that dries fast. Soft and light it offers built-in stretch and 30+UPF sun protection.

Mens Capilene 2 Tank - Slightly heavier than our Capilene short and long sleeve t-shirts, this tank is fast drying and highly breathable.

Mens Vitaliti Pique Polo - An organic cotton polo with our logo embroidered on the left front pocket.



Womens Capilene 1 Tee and Tank - The womens version of our popular Capilene t-shirt and tank.

Womens Strider - The warm weather, active mesh tee that dries fast. Also gives 30+ UPF sun protection.

Tee-Shirts

We've freshened up our designs for 2007 and added a few new ones. We've still got our red and chestnut tees with slightly different designs than 2006 as well as our retro surfer design printed on an organic cotton tee. New for 2007 we have a womens tee available in two colors (blue and white), a youth version of our red short sleeve tee and a new 20th Anniversary tee available this year only.

Watch Cap

New this year is our fine gauge, super stretch fit acrylic knit watch cap. Available in black with an embroidered logo, this cap is sure to keep your head warm on the coldest of days.

For more information, bigger pictures, or to order any of our clothing check out the website at www.hammernutrition.com!



THE GEAR JUNKIE ANNOUNCES
TOP GEAR OF 2006 10 Field-Tested
Outdoors/Fitness Product Picks

MINNEAPOLIS, MINN.,
December 6, 2006

Nationally-syndicated newspaper columnist Stephen Regenold - aka The Gear Junkie - has announced The Gear Junkie's Gear of the Year Awards.

After competing in a dozen ultra-endurance adventures around the country over the past 12 months, Regenold chose 10 products that stood out. "In events like the Primal Quest Adventure Race and the Arrowhead 135 Ultra-Marathon, the value of top-notch outdoors equipment continually hit home for me this year," Regenold said.

Regenold chose products that helped him battle heat, freezing temps, fatigue and disorientation in locales as far flung as northern Ontario, West Virginia, Sweden, Quintana Roo, and San Luis Obispo, Calif.

"Of all my years of whacko ultra-endurance adventure, 2006 might just prove itself to be my magnum opus," he continued. "These 10 gear picks were instrumental in making my adventures a success."

Here's a full list of Regenold's picks:

The Gear Junkie's Gear Of The Year Awards 2006

1. OR Sun Runner Cap
2. Hammer Nutrition Perpetuem
3. Surefire U2 Ultra flashlight
4. Smith Reactor Max glasses

5. Co-Motion Streaker bike
6. Suunto t6 watch
7. Camelbak 100-ounce Omega Reservoir
8. Macpac 35 Amp backpack
9. Smartwool Boxer Brief
10. Light & Motion Arc Li-ion Ultra bike light

For the complete story go to :
www.thegearjunkie.com

ABOUT THEGEARJUNKIE.com:

TheGearJunkie.com is a site devoted to the outdoors, health, fitness, adventure travel, and all the gear and equipment associated with those pursuits. It is based off a nationally-syndicated newspaper column of the same name written by freelance journalist Stephen Regenold, a world-traveling adventurer/journalist with a home base in Minneapolis, Minn.

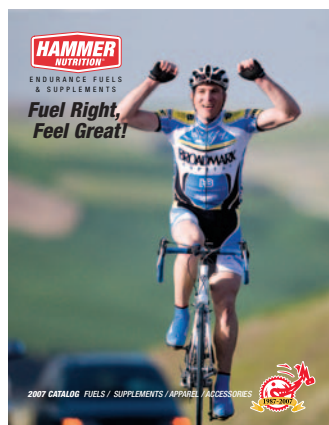
2007 Hammer Catalog : New year, new products!

The 2007 catalog is printed and on its way to you in the mail. When you read it, you'll see not only all of the supplements, fuels, and accessories you expect, but several new and exciting items. Included in our new line-up you'll find:

- two cycling training aids, PowerCranks and e-Motion Rollers
- an expanded line of Patagonia shirts
- women's specific pink cycling clothing.

Other articles in this newsletter provide in-depth information about each of these. We've also increased the size

and number of great athlete photos, most of them contributed by you, our loyal customers.



The print run is also worth mentioning, because it's a sure sign of positive growth when a company more than doubles its catalog volume. In 2006 we printed and distributed 150,000 catalogs; this year's number is 375,000. If you don't get your copy in the mail soon, please call us and we'll get one out to you directly.





Ultracentric 24-Hour Run / American Ultrarunning Assoc. 24-Hr Nat'l Championships

On November 17-19, 2006 the ultra run known simply as Ultracentric took place in Grapevine, TX. Hammer Nutrition has been a long-time sponsor of this event, which consists of 6, 12, 24, and 48-hour races. The 2006 edition of this race was given the honorable distinction of being named the American Ultrarunning Association (AUA) 24-Hour National Championships and offered a \$12,000 prize purse, the largest in U.S. ultramarathon national championship history.

This year's Ultracentric also served as the selection race for the National

Team to the 2007 World 24-Hour, which will be held in Drummondville, Quebec, Canada in July 2007.

Hammer Nutrition was well represented at this year's race and we'd like to congratulate the following clients who competed in the 24-Hour National Championship event:

MEN'S DIVISION

Alex Swenson (Vashon, WA) -
1st place and overall champion -
146.40 miles
Scott Eppelman (Coppell, TX) -
5th place with 135.36 miles
Rudy Afanador (Medford, NY) -

10th place with 116.38 miles

WOMEN'S DIVISION

Rebecca Johnson (Lafayette, CO) -
2nd place with 134.4 miles
Connie Gardner (Medina, OH) -
3rd place with 132.72 miles
Laura Nelson (Woodstock, VA) -
4th place with 123.12 miles
Carilyn Johnson (El Paso, TX) -
9th place with 102.95 miles

Race director Robert Tavernini wrote us after the race to say, "Wow, what a weekend! Thank you very much for the overwhelmingly generous support from yourself, and the fine team you represent."

2006 Ultraman World Championships Hammer Nutrition Athletes Dominate!

Since 1983, the Ultraman World Championships (contested on the Big Island of Hawaii) has proven itself to be one of the toughest events in the world. Over the course of three days, race participants (limited to 35, by invitation only) cover a total distance of 320 miles (515 kilometers). How about spending three days doing this...

• **Day One/Stage I** - 6.2-mile (10 km) ocean swim followed by a 90-mile (145 km) bike ride.

• **Day Two/Stage II** - 171.4-mi (276 km) bike ride

• **Day Three/Stage III** - 52.4-mile (84 km) double-marathon run

Can you say "extreme"? The 2006 edi-

tion of this epic race took place on November 24-26 and Hammer Nutrition was well represented by the following outstanding athletes:

Jeff Landauer - 1st place overall in a time of 24:30:47. This was Jeff's first attempt at Ultraman and he obviously made the most of it. Jeff has a most impressive race resume (check out www.landsharkonline.com/RESULTS), which includes 2nd, 3rd, and 6th place finishes in the always-difficult Furnace Creek 508.

Shane Eversfield - 12th place overall in a time of 29:19:37. Check out Shane's post-race correspondence to us on the next page.

Shanna Armstrong - 1st place



women's division, 9th place overall in a time of 28:13:11. Shanna completed what could be considered one of the most difficult "triple crowns" in endurance sports history, with wins in the 2006 Race Across America and Furnace Creek 508 to go along with her repeat victory at Ultraman.

Suzy Degazon - 2nd place women's division, 16th overall in a time of 31:37:43. Among her many other races, this was Suzy's ninth (that's right, 9th!) Ultraman.

What a great way to wrap up a year of outstanding performances by Hammer Nutrition athletes...congratulations Jeff, Shane, Shanna, and Suzy!



Shane Eversfield

Zendurance at UltraMan

I credit a big part of my speedy recovery after UltraMan to good nutrition during the race stages. I fueled exclusively on Hammer Nutrition's Perpetuem and Endurolytes. I did not eat anything before the start of each day, and – after drinking Hammer's Recoverite with two Super Antioxidant caps – had a healthy meal of whole foods at the conclusion of each day. I did not experience any kind of energy deficit during or after the race, and very little weight fluctuation. I am very grateful to Brian and Kadidja, my o'hana at Hammer Nutrition, for sponsoring me with these precious products. Hammer products work, with no fluctuations in energy level. They work really well.



ULTRAMAN

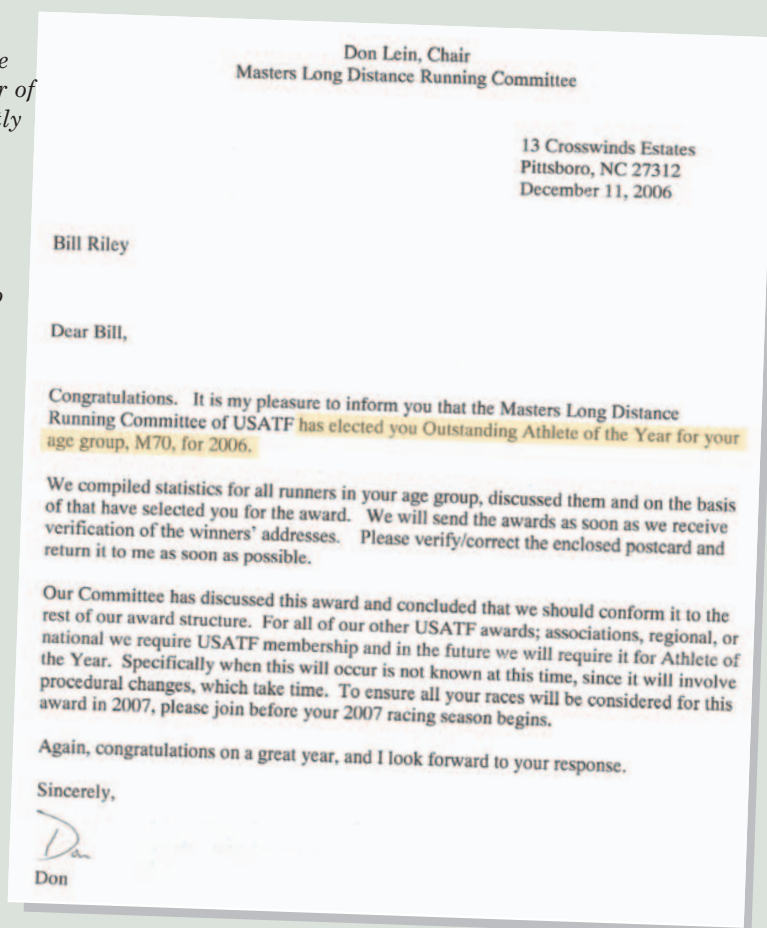
Bill Riley

Just keeps getting better

Editors note : Bill Riley has been a client of ours since 1989. In that time he has amassed an amazing number of victories and awards. To the right is a letter Bill recently received informing him of yet another award, The Outstanding Athlete of the Year for his age group from the USATF! This past November Bill competed in the World Half Ironman Championships (Clearwater, FL) and won his age group, and if that weren't enough, at press time, Bill is ranked #1 triathlete in his age group by USATF!



Bill and Debbie Riley



Congratulations Bill!
from all of us here at Hammer Nutrition



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Inside the first issue of 2007!

- Hammer Gel & Fructose
- Trans Fatty Acids
A nutrition nightmare
- Why You Had A Lousy Year
And what you can do about it
- Athlete Spotlight
Get to know Laura Sophiea
- Reducing Holiday Weight Gain
Getting rid of unwanted pounds
- Effective Training Aids For Cyclists
PowerCrank & e-Motion Rollers
- Product Spotlight
Digest Caps
- ...and so much more

The Back Page

Sometimes More Is Better! : Quantity discounts

You've heard us preach time and again: limit your nutritional intake to what your body can actually assimilate during exercise. More is not better when it comes to fueling and supplementation. There is a time, however, when more is better, and that's when you're purchasing your most-used Hammer Nutrition products. All of these items have adequately long shelf life, so you can purchase in bulk and save two ways: you get a multiple unit discount (about 10%), and also your shipping charges in the long run will also be lower. If you have room for storage, it makes sense to purchase multiple units at a time.

	PRICE	DISCOUNT
Hammer Gel	\$18.95	3 @ \$16.95
Endurolytes	\$18.95	3 @ \$16.95
Endurolytes Powder	\$18.95	3 @ \$16.95
Sustained Energy (30-serving)	\$49.95	4 @ \$44.95
Hammer Whey	\$24.95	4 @ \$21.95
Hammer Soy	\$21.95	4 @ \$18.95
Liquid Endurance	\$22.95	3 @ \$19.95
Anti-Fatigue Caps	\$17.95	3 @ \$14.95
Energy Surge (formerly ATP 100)	\$19.95	2 @ \$17.95
Phytomax	\$24.95	3 @ \$22.95
PSA Caps	\$24.95	3 @ \$22.95
Race Caps Supreme	\$54.95	3 @ \$51.65
REM Caps	\$19.95	3 @ \$17.95
Super Antioxidant (formerly Super AO)	\$39.95	3 @ \$34.95



Free Shipping

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