



Angela Nock

The endurance athlete's comprehensive knowledge resource since 1992

High Fructose Corn Syrup

The news just gets worse and worse!

Words : Steve Born

When you visit the Hammer Nutrition web site you'll be able to find a number of articles decrying the consumption of High Fructose Corn Syrup (HFCS). My personal favorite is "Fructose (corn syrup) is No Answer For a Sweetener" by Dr. Nancy Appleton, Ph.D. If you haven't read that article, or Dr. Bill's article, "Dietary Fructose or Fructose Containing Sweeteners Negatively Impact Health," which is also on the Hammer site, please take some time to check them out. You'll be glad you did. From the home page, type "fructose" in the search engine and you'll find the links for these two articles.

Now there's yet another reason why HFCS consumption should be avoided: mercury. That's right, mercury! Thanks to one of our clients, who posted the following on the Endurance List:

A new study has also been published by the Institute for Agricultural and Trade Policy called "Not So Sweet: Missing Mercury and High Fructose Corn Syrup." Use this link to go directly to the report:

<http://www.healthobservatory.org/library.cfm?refid=105026>

As if we needed more motivation to watch where we shop for food and what that food contains. Hats off

to Hammer for its commitment to providing supplements and fuels that are safe and healthy.

I've only read a portion of the 24-page article but it's one I'm definitely going to finish, and I highly encourage you to read it in its entirety as well... it's a real eye-opener.

There is a lot of information and studies regarding the dangers of HFCS consumption; here are just a couple that should make you want to steer clear of this highly processed substance:

- Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity. *Am J Clin Nutr.* 2004 Apr;79(4):537-43
- Fructose ingestion enhances atherosclerosis and deposition of advanced glycated end-products in cholesterol-fed rabbits. *J Atheroscler Thromb.* 2005;12(5):260-7
- Potential role of sugar (fructose) in the epidemic of hypertension, obesity and the metabolic syndrome, diabetes, kidney disease, and cardiovascular disease. *Am J Clin Nutr.* 2007 Oct;86(4):899-906

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HOT TIP: Elevate hGH while sleeping



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

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

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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



Brian Frank and Randy Profeta
ride by St. Mary's Lake.
Photo - Greg Elizondo

Welcome

Words : Brian Frank

Welcome to issue #62

I know it's been barely sixty days since you got your last issue, but expect that you are ready for another. Despite these tough economic times, or perhaps because of them, there seems to be a whole new focus on training, racing, and improving your health. Race directors are reporting record numbers of entries and much earlier than usual. That's why we are optimistic about 2009 and looking forward to helping you in every way we can. Personally, I'm excited about our new products, new clothing, and our new junior development team - Hammer/CMG Racing. I'm also excited about some of our "oldies but goodies" that so many of you have yet to discover. You can read all about these and much more on the following pages.

Here's what I'm excited about and think you should be too:

Boron - Before we had to deal with daily spam and TV commercials touting

male enhancement products, there was Boron. For almost 20 years now, this inexpensive little trace mineral has been the best and safest method for counteracting the downward trend in hormone levels caused by aging and endurance training. It is effective at restoring optimal hormone levels in both men and women. I recommend this product to every endurance athlete over the age of 40. 1 capsule (5 mg) per day is all it takes to notice significant improvements while training and in the bedroom.

Race Day Boost capsules - This is another one of those "why didn't I think of it sooner" product updates. The powder form that we have offered up until this year is a bit of a hassle to mix up and drink down. We've completely remedied convenience and taste issues by putting this potent ergogenic aid in capsule form. Simply take 2 capsules 4 times per day for 4 days prior to your "A" races and you'll be ready to uncork a PR. This product provides a boost in aerobic capacity and anaerobic threshold that you can feel and see. Each 64-capsule bottle is enough for two full loading cycles. So, for \$7.50 per race, you can boost your performance by up to 10%... I'd say that's a pretty good bargain.

Energy Surge - When we introduced our sublingual (absorbed orally/under the tongue) Adenosine Triphosphate (ATP) supplement we were ridiculed for selling "snake oil" by exercise physiologists, biochemists, and nutritionists alike. Since ATP is literally the energy source that our body runs on, being able to add to what the body makes by taking a pill would be a very significant innovation. However, our detractors claimed that orally ingested

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 are available at www.hammernutrition.com

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see **WELCOME** on page 3

WELCOME from page 2

ATP could never reach the cellular level because it would be broken down in the stomach and turned into relatively mundane phosphate particles. Fast forward 20 years and we now have a patented form of orally administered ATP with research to back it up. More importantly, our clients who use Energy Surge consistently report increases in energy and less fatigue. Try adding some pure ATP to speed, intensity, and interval training as well as during races for an extra kick any time you need it.

Caff  Latte Perpetuem - For several years now, clients have been asking, sometimes even begging, for another flavor of our popular ultra fuel, Perpetuem. We've wanted to accommodate this request for almost as long, but have been stymied with each attempt; none of the usual flavors worked – lemon/lime, strawberry, black cherry, melon, and many others were all failures. Then, we hit on the coffee idea and it ended up being a huge winner because it tastes good when chilled or when warm/hot, as often happens to your fuel bottle on long, hot days. The bit of caffeine, 25 mg, in each 2-scoop serving was added for an extra kick, but is not enough to cause concerns, even for ultra applications. Whether you are already a Perpetuem fan or not, you've got to give this new flavor a try. It's really good.

Endurance Amino - Finally, a pure, concentrated amino acid formula without the hype or the high price. 2-4 capsules before and/or after workouts—and 1-2 capsules hourly during extended workouts—will help reduce muscle fatigue and breakdown, accelerate muscular recovery, help with mental acuity, and support proper immune function. Ample levels of the three branched chain amino acids (leucine, isoleucine, valine), alanine, and glutathione can do all of this and more. Oh yes, on long workouts it's an absolutely perfect complement to Anti-Fatigue Caps.

AO Booster – This product complements Super Antioxidant wonderfully as it contains nutrients that help neutralize fat-soluble-produced free radicals and the damage they cause.

Take this product regularly and your immune system will thank you on a constant basis. Plus, with AO Booster you'll enjoy reduced muscle soreness and inflammation after your workouts and races, with additional eye- and skin-specific benefits as well.

Voler long sleeve summer weight jerseys – This is easily my favorite piece of cycling clothing. I always wear this top on long, sunny days because I don't like to get too much sun on my arms and I don't like trying to rub in sun block through the forest of hair either. Even in the hottest temperatures, I now prefer to wear this jersey instead of my short sleeve jersey anytime I'm going to ride for more than an hour or so.

Bergamo bibs – I've been wearing these now for a couple of years because they are so comfortable and I had to add them to our clothing offerings. Now, don't get me wrong, we still use Voler USA-made clothing for all of our cycling and triathlon clothing; we've just added another option for bibs. The Voler shorts/bibs are a great value and I wear them for my shorter rides (2 hours or less). However, when I plan to be in the saddle for 3-6-8 hours or more, the Bergamo bibs are a must. From the premium Lycra, European fit and finish, to the Cytech quad density chamois, these bibs are top of the line. I've compared them to all of the other European bibs out there and these are the most comfortable, period. They just cost 1/2 to 1/5 of what the others go for. With matching graphics, they are interchangeable with the Voler shorts/bibs and will match all of your Hammer tops.

Seat Saver - To go along with our Hammer Balm and Cool Feet, we now offer a chamois cream that is unmatched in it's natural ingredients and effectiveness. If you use chamois creams, you've got to give this a try. If you don't use chamois cream but have problems with chafing on your longer rides, this is the answer. Also works well for runners and can be used as a post trauma salve anywhere you have damaged, irritated, chafed, or wind burned skin.

Have a great spring!
Brian Frank

We want you!

We are always looking for photos of our athletes to use in catalogs, mailers, newsletters, on our website, and elsewhere. Are you interested in being included? Send copyright-free photos to athleteupdates@hammernutrition.com with the name and date of the event, as well as the photographer's name, and you just might see yourself in print!

The image displays three stacked covers of Hammer Nutrition magazine. The top cover features a triathlete and highlights '7 Secrets To A Successful Race' (page 11), 'Get Paid To Race' (page 35), and a 'New Product' section. The middle cover shows two athletes in wetsuits and highlights 'Optimal Fueling' (page 10), 'Beat The Heat' (page 6), and 'New Product' (page 20). The bottom cover features a runner and highlights '7 Secrets To A Successful Race' (page 11), 'Get Paid To Race' (page 35), 'Rebound Prices' (page 35), and 'Ultimate Recovery Secrets'. At the bottom of the stack, the contact information '1.800.336.1977' and 'www.hammernutrition.com' is provided, along with the Hammer Nutrition logo.



Photo - Angela Nock

From the Saddle of Steve Born

Words : Steve Born

Welcome to the 62nd edition of Endurance News! Now that we're producing the newsletter six times annually instead of four, I'm sometimes reminded of the planning that goes on for an event like the Tournament of Roses parade, which is held every New Year's Day in Southern California. What I mean is that as soon as that year's parade is over they almost immediately start planning for next year's parade! OK, doing the newsletter is nothing compared to that but now that we're producing more newsletters on an annual basis it kind of feels that way... as soon as we finish an issue the next one's already being started!

Still, as frantic as I can sometimes get in trying to get everything together for the next issue (I call it "newsletter-itis" and my co-workers know when I have it!), there's no doubt that we made the right decision to produce an issue every other month versus every four months. Doing so allows us to provide specific information in a much more timely fashion, which we think you'll benefit from. There's no question that putting the newsletter together is a "labor of love" but the key word, I think, is "love" not "labor," meaning that we really enjoy being able to provide what we feel is very beneficial information for you. This issue is no different and it's one we know you'll enjoy.

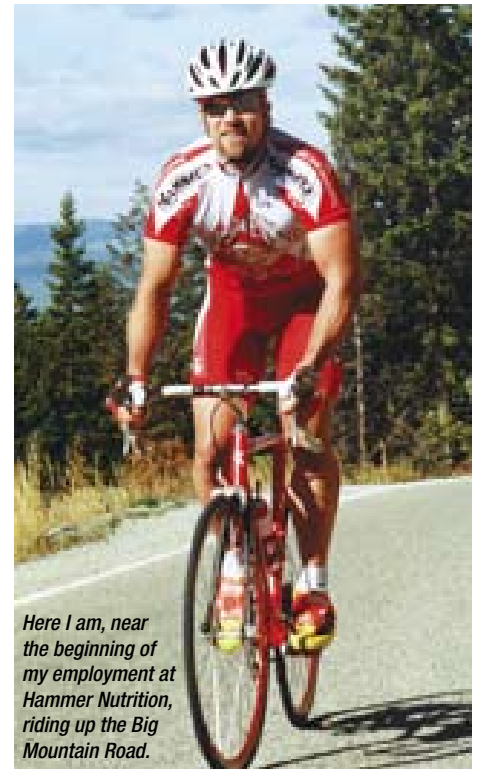
This issue marks the beginning of my 10th year here at Hammer Nutrition, and if you'll indulge me for just a bit, I

want to re-share some things I wrote in an earlier edition of Endurance News regarding my employer, company owner Brian Frank. I've known Brian long before I ever started working for him in 2000, though I didn't actually meet him until I started working at the company. He is, of course, my employer and I have complete respect for him as the owner of the company. On the other hand, he and I have been such good friends for so long that it's hard for me to think of him as "The Boss," at least in the purest sense of the term.

I started using Hammer products (then known as E-CAPS) in 1990, perhaps a year prior to that, and one of the reasons I became a client was because I was so impressed by the amount of time Brian spent with me on the phone helping me (remember that this was before email came into being). At that time my ultra cycling career was still somewhat in its infancy and I was enthralled by the possibilities that certain nutrients/supplements could not only enhance my athletic performance (and I needed all the help I could get!), but also my overall health as well. The problem was that no one at any other supplement company really gave me the time of day; it got to be downright discouraging. That all changed the first time I got in contact with Brian. Here was someone who was genuinely interested in my athletic career and how I could improve my performance via supplementation... I was definitely impressed and that's never changed. Brian may not have invented customer service but he's certainly made perfecting it a priority and he's definitely

excelled at it. One of the reasons why I enjoy working here so much is because providing the best possible service is a priority for me as well. Treat others the same way you want to be treated – what a simple concept, yet so lacking in many businesses today. Not so with Hammer Nutrition.

Anyway, it's been a great nine years being a part of this great company and as I start my 10th year I'm just as psyched as ever!



Here I am, near the beginning of my employment at Hammer Nutrition, riding up the Big Mountain Road.

Upcoming events

2008 was a record year in terms of the number of events we sponsored, and the way things are going now 2009 looks like it may be an even bigger year for

see STEVE on page 5

HFCS from page 1

- Fructose consumption as a risk factor for non-alcoholic fatty liver disease. *J Hepatol.* 2008 Jun;48(6):993-9
- Adverse effects of dietary fructose. *Altern Med Rev.* 2005 Dec;10(4):294-306

Here's a portion of this particular study's findings: "... fructose has potentially harmful effects on other aspects of metabolism. In particular, fructose is a potent reducing sugar that promotes the formation of toxic advanced glycation end-products, which appear to play a role in the aging process; in the pathogenesis of the vascular, renal, and ocular complications of diabetes; and in the development of atherosclerosis.

Fructose has also been implicated as the main cause of symptoms in some patients with chronic diarrhea or other functional bowel disturbances. In addition, excessive fructose consumption may be responsible in part for the increasing prevalence of obesity, diabetes mellitus, and non-alcoholic fatty liver disease."

- Fructose, weight gain, and the insulin resistance syndrome. *Am J Clin Nutr.* 2002 Nov;76(5):911-22
- Fructose intake at current levels in the United States may cause gastrointestinal distress in normal adults. *J Am Diet Assoc.* 2005 Oct;105(10):1559-66

We at Hammer Nutrition have always advocated a "zero tolerance" position when it comes to fructose/HFCS and

we hope that these studies—including this newest one regarding mercury in HFCS—will cause you to adopt that same position.

Note: The impetus for this article first appeared as a post on the Endurance List forum. If you're not yet a member of the Endurance List you're not only getting this information months later than list members do, you're also missing out on a wealth of other useful information. It's easy to join the Endurance List, and there's no cost whatsoever. Click on the "HAMMER FORUM" link—found in the left column on the home page of the Hammer Nutrition web site—for information on how to become a member.

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us. I have found it most interesting that despite the current situation with the economy, the overwhelming majority of the race directors I've communicated with have told me that their participant numbers have increased... some races have already sold out in fact! I'm admittedly not very knowledgeable about economic matters but, simplified as this may sound, what this makes me think is that when things are good—and even when they're not so good (and perhaps even more so)—people want to stay active and healthy, and that usually means they've got at least one athletic goal (race) they're focusing on.

At any rate, we're sponsoring a ton of events again this year and some of the key ones coming up in the next couple months are:

- **March 7** – Steamboat Springs Pentathlon – Colorado – www.steamboatsprings.net
- **March 7** – Red Rock Canyon Marathon – Nevada – www.calicoracing.com
- **March 8** – Great Bear Chase Nordic Ski Race – Michigan – www.bearchase.org
- **March 14** – North Routt Coureur des Bois 45K & 90K Cross Country Ski Marathon

and Ultramarathon – Colorado – www.steamboatxcski.org/racedetail.php?id=16

- **March 14** – Gardner Grind MTB Race – Arizona – www.mbaa.net
- **March 16-22** – Solvang Spring Tour – California – www.planetultra.com
- **March 22** – Hinte Anderson Trail Run (HAT) – Maryland – www.hatrunk.com
- **March 29** – Catalina Challenge Paddling Race – California – web.mac.com/chrisok/iWeb/OceanOhana/CatalinaChallenge.html
- **April 4** – March Triathlon Series #1 – California – www.marchtriathlonseries.com
- **April 11** – Mulholland Challenge and Mulholland Double Century – California – www.planetultra.com
- **April 12** – Hopbrook Dam MTB Race – Connecticut – www.root66raceseries.com
- **April 18** – Leona Divide 50 Mile Run – California – www.leonadivide.com
- **April 18** – GrizzlyMan Adventure Race – Montana – www.grizzlymanrace.com
- **April 18** – Beaverdam Olympic

Triathlon – North Carolina – www.fsseries.com

- **April 18** – Spring Fury 8-Hour Adventure Race – Michigan – www.infiterasports.com
- **April 18** – Chain of Lakes Cycling Classic – Florida – www.cyclingclassicsinc.com
- **April 19** – Rocky Hill Ranch 50K Ultra Run – Texas – www.tejatrails.com
- **April 19** – Cohutta 100 MTB Race – Georgia – www.newleafadventures.com

As you can see, this is a pretty diverse set of events... and that's just a portion of the ones we're sponsoring. We're continually updating our web site to include all the races we sponsor annually so be sure to check it out.

In closing, I want to wish you all the best for a great 2009 season and to thank you for continuing to choose Hammer Nutrition for your supplement and fueling needs.



Brendan Halpin
at the Montana
Cyclocross
Championships.
Photo -
Angela Nock

Product Spotlight : Chromemate®

"Trace" by classification only!

Words : Steve Born

It's rarely (if ever) a topic for debate, but if a discussion did occur as to what mineral or trace mineral is the most important and/or provides the most benefits to the body, it'd make for interesting conversation. Of course, all minerals are important for human health, but when it comes to importance—how many actions it performs in, and how many benefits it provides for, the human body—chromium has to be in the upper echelon, for sure.

Chromium may be listed as a trace mineral but its importance for general health and athletic performance is anything but miniscule. In a nutshell, chromium is arguably the essential nutrient for the proper metabolism of dietary carbohydrates.

Check out the list of just some of the benefits attributed to chromium:

- Chromium may improve the uptake of glucose into the body's cells so that it can be metabolized to produce energy via adenosine triphosphate (ATP).
- Chromium regulates the body's blood sugar levels – chromium supplementation may decrease blood sugar in people with high blood sugar levels and raises blood sugar in people with low

blood sugar levels.

- Chromium may improve the health of people who undertake intensive exercise (as intensive exercise may accelerate the excretion of the body's chromium reserves).
- Chromium may be useful for the treatment of diabetes mellitus and chromium deficiency may be an underlying cause of some cases of diabetes mellitus.
- Chromium may help to prevent diabetic nephropathy.
- Hypoglycemia may occur as a result of chromium deficiency and supplemental chromium may alleviate the symptoms of hypoglycemia.
- Chromium may help to prevent obesity (by improving the body's utilization of glucose) and may stimulate weight loss in people afflicted with obesity.
- Chromium normalizes the body's production of insulin and increases the number of insulin receptors.
- Chromium may reduce the body's levels of triglycerides.
- Some cardiovascular diseases may occur as a result of chromium deficiency due to chromium's ability to increase HDL (good) cholesterol.
- Chromium may lower LDL (bad) cholesterol levels.
- Chromium may reduce appetite, anxiety, depression,

carbohydrate cravings, and acne.

- Chromium concentrates in the adrenal glands and may exert (presently unknown) protective effects in the adrenal glands.
- Chromium may help to reverse atherosclerosis damage and atherosclerosis may occur as a result of chromium deficiency.
- Chromium may help to regulate blood pressure and may inhibit the ability of excessive sucrose consumption to cause hypertension.
- Chromium may improve blood circulation.
- Chromium may be beneficial for the treatment of congestive heart failure.
- Chromium may help to prevent heart attack.

Still, with all those benefits attributed to this trace mineral, perhaps the most exciting news regarding chromium came courtesy of a study presented at the 46th Annual Meeting of the American College of Nutrition in September 2005. In this study ChromeMate® brand chromium polynicotinate demonstrated its ability to prolong the life span of test animals by more than 22%. According to the study, conducted by researchers at Georgetown University Medical Center (Washington, DC) and Creighton University Medical Center (Omaha, NE), rats prone to aging were fed diets containing ChromeMate®, which increased their average life span by +22% compared to rats fed the same diet without ChromeMate®.

Rats fed ChromeMate® also experienced:

1. Lower systolic blood pressure
2. Lower circulating glucose levels
3. Lower, normalized hemoglobin levels,

see CHROMEMATE on page 7

CHROMEMATE from page 6

a long-term indicator of blood sugar status

4. No abnormalities in blood chemistry, kidney or liver function

So on top of all the benefits

ChromeMate® already provides, it may very well prove to be a potentially key nutrient for life extension as well!

Chromium polynicotinate (ChromeMate®) versus other forms

ChromeMate® brand chromium polynicotinate (also called nicotinate) is a patented, biologically active oxygen-coordinated niacin-bound chromium complex. According to the information on the web site for InterHealth (the company that makes ChromeMate®), "Studies have shown that ChromeMate® is 18-times more bioactive than other forms of niacin-bound chromium and, in animal models used to evaluate bioavailability in humans, is absorbed and retained more than 600% greater than chromium chloride and 300% greater than chromium picolinate."

ChromeMate® is the only form of chromium we use in a number of Hammer Nutrition supplements and fuels, and, of course, in the stand-alone ChromeMate® product.

The safety of ChromeMate®

To determine the safety of ChromeMate®, a wide range of standard toxicity studies were conducted. In acute oral testing, the LD50 of ChromeMate® in male and female rats was found to be greater than 5,000 milligrams per kilogram (mg/kg) of body weight. (Note: The term "LD50" refers to the amount of an agent that is sufficient to kill 50 percent of the rats). The acute dermal LD50, determined by exposing the test animal's skin to ChromeMate®, was higher than 2,000 mg/kg. Both acute oral and skin LD50 values are relatively high, indicating that the ability of ChromeMate® to cause harm when exposed to a single high dose is relatively low.

Additionally, ChromeMate® was only slightly irritating to the skin and practically non-irritating to the eye. ChromeMate® did not cause any genetic changes when tested for mutagenic effects in five bacterial strains and in

mouse lymphoma cells. Blood, clinical chemistry and microscopic tissue evaluations did not show any adverse effects in organs after a 90 day sub-chronic toxicity study of ChromeMate® administered in increasing doses. ChromeMate® did not damage lipids in the liver or cause fragmentation of DNA over the course of the sub-acute study. These results from a wide array of toxicity testing demonstrate and support the broad spectrum safety of ChromeMate®.

Source: M. Shara, T. Yasmin, A.E. Kincaid, A.L. Limpach, J. Bartz, K.A. Brennen, A. Chatterjee, M. Bagchi, S.J. Stohs and D. Bagchi. Safety and toxicological evaluation of a novel niacin-bound chromium (III) complex. *Journal of Inorganic Biochemistry* 99: 2161-2183 (2005). Available at: www.interhealthusa.com

Translating that data to a 165 lb/75 kg person, the oral LD50 would be in the range of 375,000 mcg (375 grams), an astronomical amount.

The need for supplementation with ChromeMate®

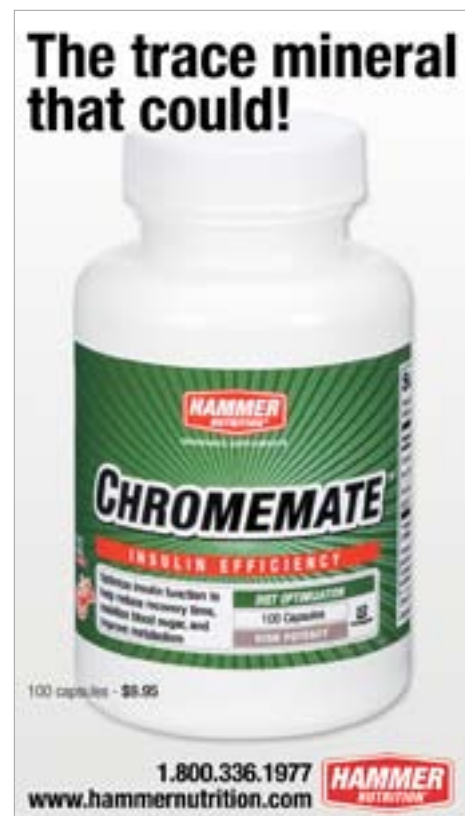
Unfortunately, approximately 50% of the world's population (including Americans) is deficient in chromium. Some experts believe that Americans ingest less than half the recommended daily amount of chromium. The reason may be due, at least in part, to increased consumption of processed foods, which are generally calorie-rich but nutrient-poor. Food grown in nutrient-depleted soil is another culprit for widespread chromium deficiency. A sobering fact, according to the 1992 Earth Summit report, is that in the past 100 years North American soils have been depleted of 85% of their mineral content. That's why it's not surprising that the foods we consume are deficient in a number of minerals, chromium included. This, along with a nutrient-poor diet, may account for the ever-increasing rate of diabetes in the US.

Dr. Bill writes, "Phosphorus-rich foods or diet soda binds with chromium in the digestive tract to form chromium phosphate that travels through the intestines and is excreted without being absorbed. Some speculate vanadium interferes with the function of chromium. Excess table sugar, zinc, and iron tend to reduce chromium levels. Endurance exercise and stress also rapidly deplete

your reserves through sweat, urine, and fecal excretion. The average daily loss (excretion) of chromium from the body is 9 mcg chromium is excreted from the body primarily via the urine. However, I have read sweat loss can increase losses by a whopping 600%+!"

Needless to say, with the food supply and average dietary practices yielding inadequate amounts of chromium, it's vital to supplement with this trace mineral in order to obtain acceptable amounts and reap maximal benefits. Typical daily dosages for chromium range from 200-600 mcg in divided doses. However, higher doses of up to 1,000 mcg or more have oftentimes been suggested as being ideal for obtaining the best benefits for improved blood sugar control, cholesterol levels, and blood pressure.

So in addition to the 200 mcg of ChromeMate® that comes in every 7 capsules of Premium Insurance Caps, taking an additional capsule of ChromeMate® with post-workout fuel and at a meal or two, is a very sound strategy for providing a wealth of benefits. At \$9.95 for a bottle of 100 capsules of Hammer Nutrition's ChromeMate® product, it's a wise, yet inexpensive investment for your athletic performance and overall health.



The trace mineral that could!

CHROMEMATE

INSULIN EFFICIENCY

100 capsules - \$9.95

1.800.336.1977 **HAMMER NUTRITION**

www.hammernutrition.com



More Sodium....

Add more sodium to your diet? Don't buy into it!

Words : Steve Born

I am disturbed by an article written by a registered dietician, with additional text/information supplied by a professional triathlete, which recently appeared in a well-known triathlete-specific magazine. The title states, "Athletes, Research Support Increased Salt Intake During Races." OK, the title is pretty blunt as it is, but it's also confusing because a good portion of the article doesn't discuss increased sodium intake during a race, but rather in the day leading up to a race... "preloading," if you will.

The subject of how much sodium is sufficient for an athlete is a topic that has generated and will continue to generate much debate. Before we delve into that, and before we buy into the suggestions that we should, according to the article...

- "... increase sodium in the diet by preloading three to four grams of sodium about 12 to 24 hours before the race."
- "... be generous with your sodium intake during the race... consuming 800 to 1500 milligrams or more of sodium per hour."
- "... not be afraid to experiment with more sodium. It is hard to take too much, but the consequences are dire."

... let's first take a look at what we know regarding sodium:

- 1.) The average American

consumes about 12 to 15 grams of salt daily, equaling 4800 to 6000 mg of elemental sodium.

- 2.) The amount of sodium required to maintain health in a sedentary subject is 200-500 mg per day.
- 3.) Research supports that chronic consumption of more than 2300 mg of sodium daily per day may contribute to Congestive Heart Failure (CHF), Hypertension, Muscle Stiffness, Edema, Irritability, Osteoarthritis, Osteoporosis, Pre-Menstrual Syndrome (PMS), Liver disorders, Ulcers, and Cataracts. The American Heart Association (AHA) says that healthy American adults should eat no more than 2,300 milligrams of sodium a day.

What disturbs me about this article is that the author, a registered dietician who ought to be well versed on the health consequences of a high-sodium diet (which the overwhelming majority of Americans consume), advocates additional sodium in the diet prior to a race. Additionally, the athlete profiled in the article suggests that it's "hard to take too much [sodium]," which is simply incorrect. The consequences of too much sodium are as dire, if not more so,

than not enough sodium. Interestingly, the symptoms that this particular athlete experienced—including nausea, vomiting, swollen hands, and bloated stomach—are usually the result of too much sodium, not too little. Now, this particular athlete may very well need "X" amount of sodium, but to suggest that this is appropriate for some/most/all athletes is ludicrous.

Comments on the "Further Reading" suggestions in the article

Three references, entitled "Further Reading," are found at the end of this particular article, arguably to solidify the author's recommendations.

The first is: Eichner, E.R. "Genetic and Other Determinants of Sweat Sodium." *Current Sports Medicine Reports* 7.4 Supp 1(2008): 236-S40. Eichner concluded, quoting studies, to demonstrate how high sodium diets or a low sodium diets suppress aldosterone. This accounts for higher sweat sodium levels seen on diets higher in sodium.

Comment: Our interpretation of Eichner's statements is that the more sodium in the pre-event diet the more plasma aldosterone level is suppressed, resulting in higher rate of sodium loss in sweat during the event. Our position is that suppression of aldosterone prior to events by increasing sodium intake is counterproductive to keeping natural body homeostatic controls in the healthy norm range, which means consuming a low sodium diet of under 2300 mg daily.

The second is: Murray, R. and L. Kenney, "Sodium Balance and Exercise." *Current Sports Medicine Reports* 7.4 Supp. 1 (2008): S1-S2. Murray and Kenney discuss the importance of sodium in anticipation for deficit losses but do not recommend a specific loading

see SODIUM on page 9

SODIUM from page 8

dose, rather they responsibly state the,

“...upper limit sodium intake of 5800 mg/d, based upon the suggestion that high sodium intakes are associated with hypertension in some individuals.”

Comment: Our position is that over 2300 mg/day results in harmful consequences to health proportionate to predisposed individual sensitivity, while a large majority of human populations react negatively to >5800 mg/day. In our opinion, keeping sodium intake levels between 1500-2300 will support sodium requirements without taxing the aldosterone pathway or the kidney organs role in homeostasis.

The third is: Stachenfeld, N.S. “Acute Effects of Sodium Ingestion on Thirst and Cardiovascular Function.” *Current Sports Medicine Reports* 7.4 Supp. 1(2008): S7-S13. The purpose of this paper’s review is to:

“... provide evidence that acute increases in sodium are an intrinsic part of the thirst response during and after exercise, and that blood pressure increases associated with hypertonicity appear to be short lived. Thirst is highly sensitive to increases in plasma sodium concentration and osmolality, requiring only a 2%-3% increase to induce feelings of thirst. A larger change in plasma volume (10%) is required to induce thirst if there is no concomitant change in plasma sodium concentration. If plain water is used to replenish body water, plasma volume is preferentially restored over the interstitial and intracellular fluid space, suppressing plasma sodium concentration and removing the dipsogenic drive long before total body fluid has been restored. During or after dehydrating exercise, sodium ingestion helps to maintain and restore plasma volume and osmolality by continuing thirst sensation (thus drinking) and also by increasing body fluid retention. A high sodium meal or intravascular hypertonic saline infusion may cause transient osmotically mediated blood pressure increases, but in healthy people, acute sodium ingestion does not cause sustained hypertension.”

Comment: The human body is constructed to be sensitive to monitor homeostatic electrolyte balance,

suggesting consistent intake of small amounts of fluid and electrolyte volume prevent severe deficits of fluid and electrolyte loss.

How the body controls serum sodium

Aldosterone is a hormone that controls the rate of sodium circulated in the human body. When sodium levels dip too low, via loss in perspiration or urine, aldosterone is released, stimulating the kidney tubule cells to increase re-absorption of sodium back into the blood. Basically, the body has a very complex and effective way of monitoring, recirculating, and conserving its stores of sodium.

High sodium intake will suppress serum aldosterone, whereas low sodium intake will elevate serum aldosterone. In other words, too much sodium—be it via diet and/or during exercise—will

(namely aldosterone) help prevent those losses from continuing down the same path. Now, the body does need sodium replenishment but it has to be an amount that works in cooperation with aldosterone’s “sodium recirculation/conservation” effects. A high sodium diet and/or too-high sodium intake during a workout or race effectively negates aldosterone’s desired effects, which means greater sodium losses.

More than any other aspect of fueling—fluid, calories, and electrolytes—it is the latter that requires the most individualized testing and fine-tuning. What works for one athlete in regards to sodium intake will be vastly different for another. Additionally, the very same athlete’s requirements will vary, depending—among other variables—on their fitness and acclimatization to specific weather conditions. Research reports that fit and acclimatized athletes need only 50% of the sodium required to

The average American consumes about 12 to 15 grams of salt daily, equaling 4800 to 6000 mg of elemental sodium...the amount of sodium required to maintain health in a sedentary subject is 200-500 mg per day.

suppress and neutralize aldosterone’s sodium recirculation (and thus sparing) effects, causing more sodium to be lost. Conversely, a low-sodium diet and a more conservative sodium intake—in tandem with other depleting electrolytes—during a workout or race creates an environment where lower amounts of sodium are lost in sweat and urine.

This is also why “sweat rate” figures can be deceiving. In the article, the author states that he has “seen athletes lose up to 5.5 grams of sodium during a one-hour training session.” That may very well be true for some athletes during such a short-duration bout of exercise, especially if it’s under a controlled environment (such as riding a stationary bike in a warm room with no circulating air). However, that doesn’t mean that those losses are sustainable hour after hour; again, the body’s built-in chemical messengers and hormones

maintain serum sodium levels as do unfit and/or un-acclimatized athletes. In other words, what you need during the early season (when you’re less fit) and/or what you need in weather conditions you may not be acclimated to (think: hot weather), will be completely different when you are fitter and/or more acclimated.

Instead of recommending that more and more sodium be added to the already too-high and unhealthy amounts in the diet, athletes should focus more on lowering their daily sodium intake. It is almost virtually guaranteed that each and every one of us consumes far more sodium than we need on a daily basis, and the harmful effect of oversupplying the body with sodium above its daily needs is a real and present danger to compromise optimal health. Lowering your sodium intake in the diet is not only a more appropriate recommendation/protocol

see *SODIUM* on page 10

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for general health purposes, it will also benefit athletic performance as well.

In addition, while sodium is a vital electrolyte, it alone cannot do the whole job of satisfying electrolyte requirements. Why so much emphasis is placed solely on this particular mineral is confusing and disturbing; other minerals are just as important, primarily because they all work synergistically. As Dr. Bill Misner writes, "The electrolyte profile of Endurolytes balances cations (positively charged ions) and anions (negatively charged ions) responsibly without emphasizing one electrolyte over others. When a balance of electrolytes of cations to anions are managed in the energy producing cell—assuming the cell has adequate fuel and fluid—such a cell will produce energy at a higher rate than one overdosed by a single cation mixed with an irrational list of anions." In other words, your body will perform better with a balanced intake of electrolytes, not just a dose (especially a large one) of sodium.

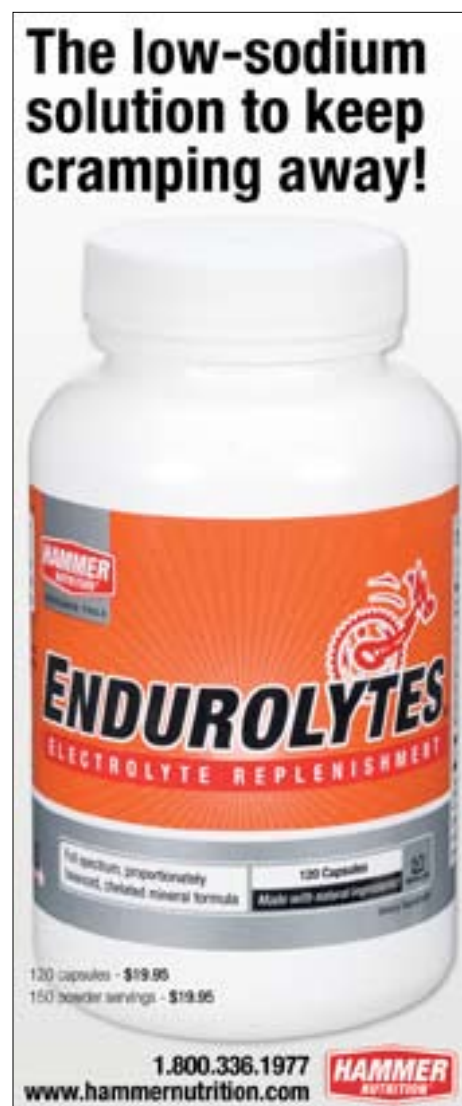
What is important to remember is that the body is not equipped to replace what it loses in amounts that approach those losses. Fortunately, the body knows this, which is why it has so many built-in mechanisms to help "bridge the gap" between what it's losing and what it can accept in return from your fuel donation. Yes, the body does need your assistance so that it can continue to do what you want it to do. However, I would argue that it's better to err on the conservative side than to try to replace "X" amounts out with "X" (or "near-X") amounts in. The goal of fueling is not to see how much fluid, calories, and sodium you can consume before you get sick; the goal is to provide the appropriate amount of fluids, calories, and electrolytes, amounts that cooperate, not interfere, with normal body mechanisms. And if you err on the "too-low" side? That's an easy problem to resolve: you simply increase your consumption. However, if once you've over-supplied the body with too much fuel, that's a much harder problem to resolve.

Our recommendations regarding sodium remain the same:

- 1) Adopt a low-sodium diet, keeping it in the range of 2300 mg or less.

- 2) Don't pre-load sodium in the days leading up to a race.
- 3) Employ the "less is best" fueling philosophy during exercise, especially when it comes to sodium intake.
- 4) Use Endurolytes, a full-spectrum electrolyte supplement; don't rely solely on salt (sodium chloride).

After 20 years of working with athletes—noting the problems they've experienced from improper sodium intake, as well as the success (and better health) they've experienced as a result of following a healthier, "body cooperative" sodium intake—we have no doubt that these guidelines are correct. Adopt and apply them, don't fall victim to this latest bit of "sodium sensationalism," and you too will see improvements in your workouts and races, and in your overall health.



Green Smoothie

A reader recipe

Words : Ricky Denis

Had it not been for Hammer and the Endurance List, I would have never thought of trying a green smoothie... not in a thousand years! In appreciation, here is one that I came up with and have adopted as my "standard breakfast." I call it my "morning me jungle" (pronounced may-hoon-gay). Thanks to all for the inspiration.

- 8 oz soy milk
- 1 tbsp flax seeds
- 1 tbsp almond butter
- 1 tbsp Hershey's natural unsweetened cocoa
- 1/2 cup rolled oats
- 1/2 cup of some kind of berries
- "some" alfalfa sprouts
- "some" romaine lettuce leaves
- "some" raw spinach
- 1 thin slice pineapple
- 1 serving Hammer Soy
- cinnamon to taste
- "some" water, thin out to taste

Along with Hammer's Daily Essentials supplements, you can't go wrong!

STEVE'S NOTE:

This was originally posted on the Hammer Nutrition "Endurance List" forum. If you're not yet a member of the Endurance List, you're missing out on a lot of great information and discussion! It's easy to join. Just go to the Hammer Nutrition web site and click on the "HAMMER FORUM" link on the left side of the Home page. Then, click on the link that says, "Click to join The Endurance List" and follow the instructions for joining.

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http://www.flickr.com/photos/hammer_nutrition



Sustained Energy

15-serving container now available!

Words : Steve Born

We determined that the size gap between the original 8-serving/24-scoop containers of Sustained Energy and the 30-serving/90-scoop containers was simply too large and less convenient for our clients. Therefore, the decision was made to phase out the smaller size and replace it with a 15-serving/45-scoop container, one-half the size of the large container.

Now you have three sizes of this great, time-tested fuel available: Single serving packets, 15-serving/45-scoop containers, and 30-serving/90-scoop containers. The reason I mention both the serving and scoop amounts in each of the container sizes is because we have, pretty much since day one, considered one serving of Sustained Energy to be three scoops. However, that's certainly not going to be the same serving size for all athletes. So depending on your weight you may obtain more servings than what is listed on the container.

Each level scoop of Sustained Energy contains a fraction over 114 calories, and this is our dosage suggestions based on various body weights:

- Up to 120 lbs (approx 54.5 kg) - up to 1.5 scoops/hr
- 120-155 lbs (approx 54.5-70 kg) - up to 2 scoops/hr
- 155-190 lbs (approx 70-86 kg) - up to 2.5 scoops/hr
- 190+ lbs (86+ kg) - up to 3 scoops/hr

Please remember that these are estimated doses, and that each athlete should determine in training, under a variety of conditions, their personal optimum.

The new 15-serving/45-scoop containers of Sustained Energy are now available and retail for \$29.95.

The original ultra fuel

Now available in 15 servings



Single serve - \$2.89
15 servings - \$29.95
30 servings - \$52.95

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Potassium Sorbate in Hammer Gel

Words : Steve Born & Bill Misner, Ph.D.

Over the past 20+ years, we at Hammer Nutrition have been and continue to be quite vigilant about putting only the finest and healthiest ingredients in all our products. One of those ingredients is one we use in miniscule amounts in Hammer Gel: potassium sorbate. However, we received the following email...

“Please tell me WHY you went and put potassium sorbate in your Hammer Gel? Potassium sorbate SUCKS. Do you put it in Perpetuem?”

Needless to say, we felt compelled to reply in the hopes of convincing this client that this substance is, in fact, quite safe and naturally derived. I (Steve) provided the following information:

As you probably already know, potassium sorbate is the potassium salt of sorbic acid. According to information culled from various web sites, “Sorbic acid, or 2,4-hexadienoic acid, is a natural organic compound used as a food preservative. Sorbic acid is a non-toxic unsaturated fatty acid, which occurs naturally in fruit. Potassium sorbate is used to inhibit molds and yeasts in many foods, such as cheese, wine, yogurt, dried meats, apple cider and baked goods. It can also be found in the ingredients list of many dried fruit products. In addition, many products contain potassium sorbate, which acts to prevent mold and

microbes and to increase shelf life, and is used in quantities at which there are no known adverse health effects.”

Potassium sorbate is considered to be extremely safe because of its long-term safety record and non-toxic profile. To give you an idea of its safety, the LD50 (the amount of an agent that is sufficient to kill 50 percent of the test rats) of potassium sorbate is 4340 mg/kg, which is a remarkably high number. For a 75 kg/165 lb athlete, that would mean a dose of nearly 325.5 grams (325,500 mg), an astronomically high amount, one that no one would even conceive of trying to take. Interestingly, and by comparison, the LD50 for rats consuming acetic acid (vinegar is a dilute aqueous solution of acetic acid) is 3310 mg/kg, and the LD50 for rats for sodium chloride (table salt), which is 3000 mg/kg.

Dr. Bill followed with:

Potassium Sorbate is called “potassium (/E/ , /E/) -hexa-2,4-dienoate.” Sorbic acid comes with a more soluble potassium salt, preservative potassium sorbate. As Steve pointed out, the LD50 of potassium sorbate is 31% less dangerous than common table salt. What would be the effect, IF a miniscule derivative preservative safer than table salt is removed from Hammer Gel, an electrolyte-enhanced carbohydrate energy gel? Mold spores, fungi, harmful yeasts, and bacteria would colonize within the containers harmfully within 90-days after receiving

this product. The preservative-free gel would increase the risk of microbial infection, gastrointestinal side effects, and performance inhibition during the second half of an endurance event when the immune system cannot retard the microbial proliferation in the gut.

Potassium is found in most plant foods and is a required essential mineral element. Chemically Sorbate-hexadienoic acid is linked with either potassium or calcium salts to inhibit growth of microbes in wine, cheese, soft drinks, low-sugar jams, flour, confectioneries, candy, etc. Sorbic acid is commonly used in the United States to preserve wines, cheeses, baked goods, fresh fruits and vegetables, refrigerated meat, pharmaceuticals, and cosmetic products. Sorbates are commonly used to extend the life of fish and shellfish. Sorbate inhibits the development of yeast and mold in the fish product. Sorbates are applied as a fungistat for prunes, pickles, relishes, maraschino cherries, olives, and figs and are used to extend the shelf life of prepared salads. Sorbates also preserve meat and poultry. For example, country-cured hams sprayed with sorbate solution result in no mold growth for 30 days. Potassium sorbate is found naturally occurring in the rowan berry and mountain ash. When dissolved in water, potassium sorbate ionizes to form sorbic acid which is effective against yeasts, molds, and select bacteria, and is widely used at 250 ppm to 1000 ppm levels in cheeses, wines, dips, yogurt, sour cream, bread, cakes, pies and fillings, baking mixes, doughs, icings, fudges, toppings, beverages, margarine, salads, fermented and acidified vegetables, olives, fruit products, dressings, smoked and salted fish, confections and mayonnaise.

see HAMMER GEL on page 15



From the Archives

Ask Dr. Bill about the Beta-carotene/Vitamin A content in Premium Insurance Caps

Words : Bill Misner, Ph.D.

Q: During my last annual doctor's appointment, I brought in all my supplements for him to check out, including Premium Insurance Caps (PIC), Tissue Rejuvenator, Salmon Oil, and others. He checked them all line by line. One of his concerns was the high level of vitamin A in the PIC. His concern was that these high levels (from a daily dose) could cause liver problems over time.

I love the PIC, but don't want to jeopardize my liver with high levels of vitamin A to get all the other stuff in the PIC. Can you comment on the high levels of vitamin A in the PIC and its benefit/risk profile for athletes?

A: Premium Insurance Caps do not contain vitamin A. However, vitamin A's precursor micronutrient, beta-carotene, is formulated in this product. The safety of beta-carotene dosage formulated in Premium Insurance Caps is well defended in the literature and by reliable, responsible nutrition research practitioners. If your body requires vitamin A, it will absorb and metabolize what it needs from available beta-carotene. If beta-carotene dose is excessive, the body will discard excess. If too much beta-carotene results, the first toxicity symptom that appears is yellow-color skin; however this is harmless with skin returning to normal upon cessation of or lowering dose.

I recommend endurance athletes consume an optimum daily allowance

(ODA – a.k.a. optimal daily intake/ODI) for replacing micronutrients loss relative to the rate of their aerobic energy expense. Hence, the optimal daily intake for beta-carotene (adults) ranges from 15-60 mg (25,000-100,000 IU) per day.

How beta-carotene is absorbed--mechanism

Beta-carotene is converted to the retinal form of vitamin A within the body. This conversion occurs primarily in the intestinal mucosa and also in the liver. As your body needs vitamin A, it splits carotene molecules to make active vitamin A. The proportion of beta-carotene that is converted into vitamin A is determined by the body's vitamin A status; 6 units of beta-carotene are required to produce 1 unit of vitamin A. Beta-carotene converts to vitamin A more efficiently than any other carotenoid; its nearest competitor in vitamin A conversion activity is alpha-carotene (which converts at about half the efficiency of beta-carotene). Roughly 50% of either natural or synthetic beta-carotene is absorbed by the body; however the percentage decreases with intake increase.

Hammer Nutrition's PIC product directions call for 7 capsules per day (12,500 IU beta-carotene) during routine endurance training and 14 capsules (25,000 IU beta-carotene) during intensive training. A 15 milligrams beta-carotene dose per day yielding 25,000 IU is the bare minimum ODA level recommendation. That is not much when one considers the amounts research has

determined safe for consumption. Please keep in mind that the beta-carotene excess, if any, of 7.5 mg (7 capsules) or 15 mg (14 capsules) of PIC is not metabolized into the system if it is not needed. If you are a healthy endurance exercising athlete, you are likely utilizing all the 15 mg or 25,000 units during workout days.

Beta-carotene contraindications

People who smoke or are diabetics should not supplement beta-carotene. In the presence of tobacco smoke in the lungs, beta-carotene is oxidized to an epoxide, which increase the binding of polynuclear aromatic hydrocarbon diolepoxides to the deoxyribonucleic acid (DNA) of the lungs, causing mutations that increase the risk of cancer. Diabetic patients are unable to convert beta-carotene to vitamin A.

Your performance foundation

30 packets of 7 - \$29.95
210 capsules - \$27.95
120 capsules - \$17.95

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www.hammernutrition.com



Natural Flavors in Hammer Products

Words : Steve Born & Bill Misner, Ph.D.

We've recently received a couple questions regarding what constitutes the "natural flavors" that are listed on the labels of the Hammer Nutrition fuels. Andrea Knaack, the Director of Food Safety at our manufacturing facility, provides the answer:

All Hammer Nutrition Products are made with natural flavors, and derived from non-allergenic

chemical sources unless stated otherwise on the label. The chemicals are naturally occurring in natural foods. For example, a natural orange flavor may be actually derived from several different citrus fruits. The chemicals can be used from other foods to make the orange flavor, as long as the chemical does in fact naturally occur in an orange as well. The chemicals used to make up the flavors in Hammer Nutrition

products are in accordance with the FDA definition for natural flavor found in 21 Code of Federal Regulations 101.22 (3):

(3) The term natural flavor or natural flavoring means the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose significant function in food is flavoring rather than nutritional. Natural flavors include the natural essence or extractives obtained from plants listed in 182.10, 182.20, 182.40, and 182.50 and part 184 of this chapter, and the substances listed in 172.510 of this chapter.

International Cycling Classic Pro Tour 2009

The International Cycling Classic / SuperWeek Pro Tour will celebrate its 41st year with 17 consecutive days of the highest caliber bicycle racing from July 9th – 26th, 2009. The event series, also known around the world as "SUPERWEEK", features races in fourteen city centers throughout Wisconsin and Illinois, including great races in the Greater Milwaukee and Chicago area. Host cities to the International Cycling Classic have used the races as centerpieces for popular and successful community events.

In 2008, nearly 300,000 spectators lined the streets and country roads to cheer on over 7,000 race entrants representing 42 states and more than 20 foreign countries all battling for their share of a \$120,000.00 prize purse, plus awesome primes which included the largest ever recorded single prime in the world of \$10,000.00.

Superweek offers riders 17 days of riding and a variety of criterium and road courses as well as the opportunity for great experiences, training, fun, and camaraderie.

For further information:
www.internationalcycling.com

2009 Schedule

July 9th	Volkswagon media day	Milwaukee, WI
July 10th	Beverly Hills Cycling Classic	Chicago, IL
July 11th	Blue Island Pro Am	Blue Island, IL
July 12th	Elgin Cycling Classic	Elgin, IL
July 13th	Richton Park Criterium	Richton Park, IL
July 14th	Arlington Heights Criterium	Arlington Heights, IL
July 15th	Bensenville Criterium	Bensenville, IL
July 16th	Shorewood Criterium	Shorewood, WI
July 17th	Lake Front Road Race	Milwaukee, WI
July 18th	Schlitz Park Challenge	Milwaukee, WI
July 19th	Evanston Grand Prix	Evanston, IL
July 20th	Tour of Holy Hill	Hartford, WI
July 21st	Cedarburg Cycling Classic	Cedarburg, WI
July 22nd	Whitnall Park Road Race	Hales Corners, WI
July 23rd	Racine.org Criterium	Racine, WI
July 24th	Food Folks & Spokes	Kenosha, WI
July 25th	The Great Downer Bike Race	Milwaukee, WI
July 26th	Whitefish Bay Classic	Whitefish Bay, WI

USA CYCLING SANTIONED EVENT Cat A Race

HAMMER GEL from page 12

Potassium sorbate is a naturally occurring unsaturated fatty acid and is completely safe with regard to health and has the lowest allergenic potential of all food preservatives.

There is no need for a preservative to be added to the powdered energy mix, Perpetuem. However, fluid-based gels require a compound to safely inhibit microbial contamination once original ingredients have been changed from a powder to a gel. That's why potassium sorbate exists in Hammer Gel.

**Rapid energy
that lasts**
In 9 delicious flavors



Single serve - \$1.25
12 count box - \$14.95
26 serving jug - \$19.95
Gel sample - \$7.95
Hammer flask - \$1.50

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Hammer Nutrition Products - Gluten Free!

Words : Steve Born

One of the questions we're receiving with ever-increasing frequency is "Which Hammer products are gluten free?"

We've noted that we're receiving this question more than ever, most likely because an increasing number of people in this country are becoming more aware of this common allergy.

We're happy to report that our products are, in fact, gluten free (note the one possible exception below). However, to make this information more noticeable to our clients and potential clients, we're taking action—if we haven't already done so—to include a gluten-free statement (and/or perhaps a logo of some sort) on our product labels, packaging wherever ingredients are shown, in our printed collateral, and throughout our web site.

During Dr. Bill's tenure here at Hammer Nutrition, he noted, "I have no record of any Celiac patient reporting allergenic reaction to Hammer Nutrition products

between 1995-2008. I have advised several Celiac patients and GI allergy-sensitive athletes during these years both and as an employee and currently a retired nutrition scientist Ph.D."

"Hammer Nutrition products are essentially gluten-free, and should be well-tolerated. There is one exception, (though not always). One ingredient in Super AO (now called Super Antioxidant), Superoxide Dismutase (SOD), is an endogenous antioxidant enzyme in formula, typically processed before the gluten effectively forms. But, if even the slightest error in the premature timing of harvest occurs, it could potentially generate a miniscule gluten fraction. At this date, we have not received any report of any of our products inducing a gluten-sensitivity reaction."

So with the remote possibility of the SOD component in Super Antioxidant, you can rest assured knowing that all Hammer products are gluten free.

Recover right with Recoverite!

- Minimize post-exercise soreness
- Rebuild muscle tissue
- Restore muscle glycogen
- Gluten free

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Single serve - \$2.89
32 servings - \$49.95



Flouride/Flouridated Water

Controversial substance and topic

Words : Brian Frank and Bill Misner, Ph.D.

A recent thread on the Endurance List regarding fluoride/fluoridated water sparked a lot of debate and made for some lively, thought-provoking conversation. I (Brian) consider this issue to be one of the biggest of many news stories the media won't cover or does so from a completely biased, pro-chemical spin.

Luckily in Montana they are not fluoridating the water, yet. Of course there's a big push to get it done, but in the mean time the schools, both public and private, offer free "swish-swash" (a.k.a. "mouth-rinse") programs so our children can be given steady doses of fluoride until the necessary laws are in place to put it in our water supply. After listening to the sales pitch from well-meaning school administrators, we sign a form to have our children abstain from the program.

This is what we know: Most of northern and Western Europe have now banned the use of fluoride in water supplies. US statistics show rises in tooth decay and cancer after fluoride is introduced into the water supply. The evidence is overwhelming, so why is the US still moving towards 100% fluorination of our water supply?

This is a very important issue that is not talked about and there's no point holding our breath waiting for the media to make this a big issue. Why should you care? Because drinking water with fluoride inhibits metabolism in general, and

carbohydrate metabolism specifically. That's right, besides exponentially increasing your risk of developing cancer and thyroid and metabolism disorders, it's also hindering your athletic performance.

Let's be clear – we're talking about adding a toxic chemical to municipal water supplies, not whether it should be in toothpaste or not. This is not urban legend or an Internet hoax. Data originally posted by one of our list members includes the following eye-opening information:

- 14 Nobel Prize winners in chemistry and medicine now oppose the fluoridation of our drinking water.
- As a poison, fluoride is in the same class as the deadly arsenic and cyanide.
- Sweden's Nobel Institute recommended against fluoridation and the practice has been banned in Sweden.
- The Netherlands banned fluoridation in 1976.
- On the advice of the Pasteur Institute, France chose not to fluoridate its water.
- Germany outlawed the process because the 1ppm (part per million) was dangerously "close to the dose at which long term damage to the human body is to be expected."
- The American Medical Association has not carried out any research work, either long-term or short-term, regarding the

possibility of any side effects.

- The American Medical Association is not prepared to state "no harm will be done to any person by water fluoridation."
- World Health Organization (WHO) – "Public health administrators should be aware of the total fluoride exposure before introducing any additional fluoride."
- US Food & Drug Administration (FDA) – Fluoride is an "unapproved drug" - "no research done on fluoride safety."
- US Environmental Protection Agency (EPA) - call fluoride "a drinking water contaminant."
- Finland banned fluoridation altogether when a study in the 1980s revealed that osteoporosis sufferers had extremely high levels of fluoride in their bones.
- State of Nevada law calls Sodium Fluoride a pesticide.
- State of California law regulates fluorides, classifying them as "hazardous waste."
- California Board of Dental Examiners – "Dentists cannot provide a medical opinion regarding the safety of ingested fluoride."
- In the 1970s, Dr. Albert Schatz, the scientist who invented the antibiotic Streptomycin, found that water fluoridation in Latin America was linked to higher rates of infant mortality and deaths resulting from congenital malformation. His findings convinced the Chilean government to abandon fluoridation for good.

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FLOURIDE from page 16

- Newsweek Article - "Fluoride may be linked to cancer."

- Segments of the population are unusually susceptible to the toxic effects of fluoride. They include "postmenopausal women and elderly men, pregnant women and their fetuses, people with deficiencies of calcium, magnesium and/or vitamin C, and people with cardiovascular and kidney problems." (United States Public Health Service Report)

- After the first full year of fluoridation, Kansas City, Missouri's infant mortality increased 13%. (The Kansas City Star, November 21, 1982). After the fifth year of fluoridation in Kansas City, infant mortality increased 36%. (The Kansas City Star, February 26, 1987)

- Proctor and Gamble, the toothpaste makers, acknowledge that a family-sized tube "theoretically contains enough fluoride to kill a small child." Following a ruling by the US FDA, American toothpaste now comes with a warning which states that if more than a pea-sized amount is swallowed, a Poison Control Center must be contacted immediately.

This information is real, and a lot more damning evidence can easily be verified in your local library and by gathering statistics from government agencies. The statistics also are very clear – cancer rates skyrocket after fluoride is introduced into the water supply. Dying of cancer with a great set of teeth is not a tradeoff I'm willing to make. A whole host of other serious maladies rise scarily, and can also be demonstrated with 3rd party statistics, when fluoride is put into the water supply.

It's amazing to me that those advocating dumping toxic chemicals in our water supply can ignore the negative data that exists. There is no evidence of benefit, no safety studies, nothing, zero! Sure, there is data that shows brushing with fluoridated toothpaste causes less tooth decay than brushing with none, but that doesn't have anything to do with drinking water. I would suggest that anyone wishing to argue the pro-fluoride side, do so using facts. Show data that demonstrates the safety of fluorinating the water supply or

refute the statements listed below with contradictory scientific data.

Brian's comments – What you should do:

1) Determine if your water supply is fluorinated by contacting your water department. If it is, stop drinking it immediately, any is too much, especially if you are trying to adequately hydrate your body on a daily basis by drinking 60-80 oz or more (up to 1/2 ounce per pound of body weight, etc.). The cumulative exposure an athlete faces when consuming all of their water for life and exercise bouts from a fluorinated source is a huge health risk and is surely having a negative effect on performance and recovery. Find another source for your water - spring water or distilled (at home or store bought).

2) Try to avoid these foods/beverages: cornsilk, tea, bananas, processed foods/beverages prepared with fluoridated water, cabbage. NOTE: I'd be far less concerned about bananas and cabbage and mostly about processed foods and beverages. Organic teas made with non-fluorinated water should also be fine.

Let's be clear - we're talking about adding a toxic chemical to municipal water supplies, not whether it should be in toothpaste or not.

3) Write a letter to your water department, city council, congressman and senator asking them to stop poisoning your water supply and to reply with safety studies and other supporting data if they will not stop.

Dr. Bill's comments on the subject

FLUORIDE DOSE HARMFUL EFFECT ON HORMONES

The current general consensus from Alternative and Integrative Medicine Practitioners is that Fluoride's only health benefits occur when it is applied topically to the teeth. Oral supplementation is never recommended. No human disease has ever been linked with a Fluoride deficiency. Several negative disorders are associated

with fluoride excess. Fluoride inhibits melatonin by the pineal gland, the release of thyrotrophin from the pituitary gland, the production and action of thyroid hormones, and the absorption of calcium and magnesium. Excess fluoride originate from cornsilk, tea, bananas, processed foods and beverages prepared with fluoridated water, cabbage, fluoride-fortified drinking water, pesticide residues, fluoridated dental products, mechanically de-boned meat, and air pollution. Some observations cast doubt on how fluoride inhibits normal healthy metabolism. There is no doubt that excess levels of fluoride inhibit metabolism.

FLUORIDE MECHANISMS UPON THE GLYCOLYTIC PATHWAY

"Fluoride acts primarily by inhibiting enolase in the glycolytic pathway. Fluoride strongly inhibits the enzyme in the presence of inorganic phosphate. The inhibitory species is the fluorophosphates ion, which when bound to magnesium forms a complex with enolase and inactivates the enzyme. The delay in fluoride's prevention of glucose loss in blood samples is sometimes attributed

to a postulated delay in the entry of fluoride ion into the blood cells in which the glycolytic enzymes reside. Several observations cast doubt on this explanation, however."

Reference: Leann M. Mikes and David E. Bruns, Letters to the Editor, Stabilization of Glucose in Blood Specimens: Mechanism of Delay in Fluoride Inhibition of Glycolysis, *Clinical Chemistry* 54: 930-932, 2008.

Grucka-Mamczar E et al., 2004 "found a statistically significant increase in the concentration of fluoride in rat blood serum in both the acute and the long-term version of the experiment (Tables 1 and 3 in the studies). This, however, is a direct result of the fact that NaF is almost completely absorbed by the intestine. It is well confirmed that increased fluoride concentration

see *FLOURIDE* on page 19



New Product Recap

Words : Steve Born

All the details of our exciting new products were mentioned in the last issue of Endurance News, but I wanted to give you a recap on those products now that they're here. First, as you may already know, all the clothing has been redesigned and it looks awesome; I believe the graphics/design/style on both the men's and women's clothing is the best yet. Bottom line? Wear a Hammer kit and you will get noticed because you're absolutely styling!

There are some new additions to our active wear, which include:

- Men's Downhill/Freeride/BMX Jersey
- Italian-made Bergamo bib shorts, leg warmers, and knee warmers
- Two new styles of running tops
- Nordic Tights & Jersey, made by Louis Garneau®
- Reversible Knit Beanie

We've also redesigned our casual wear as well so be sure to check that out online or in the 2009 Hammer Nutrition catalog.

Fuels, Supplements, Body Care products, and Accessories

It took quite awhile but it was definitely worth the wait... the new Caff  Latte flavor of Perpetuem is sensational; I mean, it really, really tastes good! It has all the components of the other versions of Perpetuem with the addition of 25 mg of caffeine per 2-scoop serving. If you're a Perpetuem fan you have got to try this

new flavor... superb!

It's been a long time since we've introduced any new supplements into the Hammer line (it seems that way anyway), and there's a good reason for that. You see, we actually review a lot of product possibilities annually but we rarely "green light" any of them. It's only after a lengthy process of research and testing that a supplement goes from the design stage to being an actual product in the Hammer line. Needless to say, a product only becomes an "official" Hammer Nutrition product after it's passed our stringent requirements and only after it's been determined to produce positive, effective, and noticeable benefits. We'd have it no other way.

With that said, I am really excited about our two new supplement offerings: Endurance Amino and AO Booster. Here's a recap (in my own words) on both of these products:

- Endurance Amino – "What's so great about Endurance Amino is that it contains specifically selected amino acids that provide a number of powerful benefits to you... and not just after your workouts and races, but during them as well. You get the positive effects you're looking for, without having to pay a lot of money for unnecessary 'everything and the kitchen sink' amino acid tablets."
- AO Booster – "AO Booster's nutrients help fulfill the all-important

need for support against fat-soluble-produced free radicals and the damage they cause. There are numerous general health benefits you'll receive; your immune system will thank you in so many ways. Plus, you'll enjoy reduced muscle soreness and inflammation after your workouts and races, with additional eye- and skin-specific benefits as well."

I can't wait for you to try these new products! As I mentioned earlier in talking about the Caff  Latte Perpetuem, it took awhile before these two new supplements went from the drawing board to becoming actual products, but I have no doubt the wait will be worth it.

The latest addition to our body care line is Seat Saver, a chamois and anti-chafing cream. Having spent an awful lot of time on a bike, I've been using these types of product—and a wide variety of them—for many, many years. Now, because we had just a very small amount of the Seat Saver prototype available, I was only able to use it a couple times... but oh, what a difference! I think you too will notice a real difference in the "comfort quotient" when you use Seat Saver, and when you take a look at the list of ingredients in this product, you'll know why – it's highly unlikely you'll find any other similar product that has an ingredient list that comes even remotely close to what Seat Saver contains.

Last, but definitely not least, we've added two new bottles to our accessory line. One is a 16-ounce blender bottle, which replaces the old Recoverite shaker bottle. The blender bottle is such a simple concept but it really does make a difference in terms of saving time and ensuring thorough mixing when you're

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in serum is dependent on the dose of F⁻.16-18. As found here, prolonged administration of sodium fluoride to rats at 100 mg F⁻/L in their drinking water causes disturbances in their lipid balance, which finds expression in hypertriacylglycerolemia, while the explanation for how it occurs calls for further studies, e.g., assessment of leptin concentration in the serum of these animals."

Reference: Grucka-Mameczar E ET AL., LIPID BALANCE IN RATS WITH

FLUORIDE-INDUCED HYPERGLYCEMIA
Fluoride 2004;37(3):195-200

Research report 195 Fluoride 2004;37(3).

McGown & Suttie reported, "Acute fluoride toxicity in the rat is accompanied by a marked hyperglycemia, the magnitude of which is dose-dependent. Muscle and liver glycogen contribute to the increased blood glucose, but no direct effect of fluoride on liver glycogen phosphorylase was detected. Adrenalectomy prevented the fluoride response and plasma epinephrine assays (intact animals) revealed a four to fivefold rise after fluoride treatment. Fluoride-induced hyperglycemia thus appears to be mediated by epinephrine secreted by the adrenal medulla."

Reference: McGown EL., Suttie JW., Mechanism of fluoride-induced hyperglycemia in the rat, Toxicology and Applied Pharmacology, Volume 40, Issue 1, April 1977, Pages 83-90.

McGown & Suttie later confirmed, "The hyperglycemia which accompanies acute fluoride toxicity in the rat is mediated by epinephrine released from the adrenal medulla. Bilateral splanchnicotomy prevented this response to fluoride. Ganglionic blockade diminished the hyperglycemic response in un-anesthetized animals but not in pentobarbital-anesthetized animals. Microinjections of fluoride into the lateral ventricle elicited a rapid hyperglycemia in un-anesthetized animals which again was blocked partially by ganglionic blockade. The response to fluoride appears to be mediated primarily by splanchnic impulses arising in the central nervous system."

Reference: McGown EL., Suttie JW., Central nervous system mediation of fluoride hyperglycemia in the rat, Toxicology and Applied Pharmacology Volume 48, Issue 2, April 1979, Pages 205-211.

Dr Bill's comments and suggestions

I lean toward McGown & Suttie's explanation of fluoride toxicity mechanism. It could be very difficult to debate the mechanism, though I do not debate that fluoride excess is toxic and some of us are over exposed. My point is too much fluoride is not good for optimal energy metabolism. In my opinion, endurance athletes should avoid excess fluoride exposure from cornsilk, tea, bananas, processed foods, beverages prepared with fluoridated water, cabbage, consuming fluoride-fortified drinking water, eating/breathing or

drinking pesticide residues, fluoridated-enhanced dental products, mechanically de-boned meat, and inhaling air pollution sources.

Note: The impetus for this article first appeared from posts originating on the Endurance List forum. If you're not yet a member of the Endurance List you're not only getting this information months later than list members do, you're also missing out on a wealth of other interesting discussion topics and useful information. It's easy to join the Endurance List, and there's no cost whatsoever. Click on the "HAMMER FORUM" link—found in the left column on the home page of the Hammer Nutrition web site—for information on how to become a member.

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making a serving or two of Recoverite (or Sustained Energy or Perpetuem for that matter).

We've also added 24-ounce Polar® insulated water bottles to our accessory line, which will definitely come in handy during those hot-weather workouts and races. As is the case with all the Hammer Nutrition logo bottles and flasks, the new Polar® bottle is BPA (bisphenol A)-free.

More information about these new additions to the Hammer Nutrition line can be found in the 2009 catalog, the Hammer Nutrition web site, and in Endurance News #61.



Craig Bryan
Photo - Jim Jurcevic

Basic Plyometrics for Runners and Triathletes

HOP your way to improved efficiency and speed!

Words : Al Lyman, CSCS

If you want to be able to run faster or longer more easily, there are a number of things that you can do in your training to help make that happen. For example, every runner regardless of experience can benefit from a well-designed strength training program that helps them to deliver more force to the ground with each step, which will create a naturally longer stride, resulting in faster running at the same effort level.

It also stands to reason that one of the key goals of your run training program should be to help decrease the energy cost of running, or to put it in somewhat scientific terms, to increase your efficiency and economy of movement. If you can do that successfully, any given running speed will feel easier, and will require less energy to maintain at that particular speed or intensity. Before I share some ideas on how to easily and quickly improve your running efficiency and speed, I want to tell you a little bit about what is actually going on during the run stride that directly effects how efficient you are.

You may know that a significant (perhaps as much as 50%) portion of the energy that propels you forward during the run stride comes directly from elastic and reactive “energy-return” of your muscles and soft tissues.¹ Your

legs are essentially acting like springs when you run. When your foot hits the ground, various muscles and soft tissue tense and are stretched, and this pre-stretching process stores energy. When the muscles and other soft tissue recoil as you toe-off, that energy is returned to help propel you forward. If you didn’t have this “energy return,” then your heart and leg muscles would have to work a LOT harder for you to be able to run at any given speed.

One of the keys to improving efficiency and decreasing the energy cost of running is to train to enhance the energy return, springiness, and reactivity of your legs. An important element in this training process is training in such a way that you are able to shorten ground contact time (GCT). The principal way that we shorten GCT isn’t to make arbitrary changes to our running form, but rather, to improve the strength of our core musculature and to train to be able to apply more force to the ground. A stronger core leads to more “stiffness” throughout our body when your feet hit the ground, and results in less lost energy. Higher force producing ability results directly in shorter GCT. If that doesn’t seem to make sense to you, think of it as a bouncing ball. The harder you throw it to the ground, the faster it comes back up at you.

If your legs can store more energy, and

release it more fully and more quickly during toe-off, your energy cost to run at that speed will decrease, and you’ll be able to run faster. This is the principal reason why those runners and triathletes who use my program Runner-CORE (<http://runner-core.com>) hear me say that one key to improved running form and speed is to get your feet UP and OFF the ground as quickly as possible. Short GCT is an indisputable element of better running form and essential for fast, powerful running.

One of the reasons why I created Runner-CORE was to help runners improve basic stability, functional strength and neuro-muscular coordination, so that their legs can become more elastic, resilient and “springy.” We know that the function of our core, besides being a “continually active relay center - is to accelerate, decelerate, and dynamically stabilize the body during functional movements like running.”² To get even more benefit from basic core and functional strength exercises and take this concept to the next level however, anyone who would like to run faster and easier should begin to augment their training with some fun and challenging plyometric drills, all of which if done correctly and progressively, will do a great job of enhancing this springiness, reactive quickness, and thus efficiency.

The definition of “plyometrics” is to “train the stretch shortening cycle of muscle action to enhance the subsequent concentric action.”³ If you have never done any plyometric training before, you should proceed carefully and conservatively as the ballistic nature of even fairly simple exercises, can be very

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stressful to your body. To help you learn and integrate some basic plyometric exercises that will enhance your nervous system functioning and improve your speed and power, I uploaded a video to my website with some basic exercises and descriptions for you to try. You can find that video here:

www.coach-al.com/videos/basicplyoseries.com

For those of you who are using Runner-CORE, you can take your ability to the next level by incorporating the 3 drills below into your running and strength routine. The first drill takes an existing exercise from Circuit #3 and enhances it. The 2nd and 3rd drills you can integrate into any run you do.

I highly recommend you try these as a part of your Runner-CORE workouts (as outlined below), or integrated right into your “quality” run workouts, AFTER your warm-up but prior to the “quality” portion of your run. Use caution as you progress – if you’ve never done hopping or bounding for any length of time, you may well be sore in the 26-48 hrs afterward. Have fun, train smart!

1) One-Leg Split Squats with Lateral Hops:

In circuit #3, one of the most challenging exercises are the 1-Leg Split Squats. You can progress with these by incorporating lateral hops on each leg. To do these, stand with one leg forward and one leg back up on a bench or block. As you lower the front leg to the point where there is about a 90degree bend in your front leg, explode UP and hop laterally about 10-12 inches, hop back to center, and then immediately hop to the other side about the same distance of 10-12 inches, before coming back to the center one last time. Maintain good upright posture at all times and keep the back leg in position. Explode upward and to the side and really feel the enhanced SPRING in this action!

2) One-Leg Hopping:

Integrated into your run workouts or as part of a Runner-CORE session, these

rapid “hops” (done in place or while you’re moving gradually forward) can get challenging! Begin with one foot up and the other in contact with the ground, with support right over your mid-foot. Begin hopping on one foot as fast as you can, as though your feet are in contact with a hot stove or hot coals! Your hips should remain nearly motionless and NOT move up or down. The action is at your feet! After hopping for 30 seconds on one leg, switch to the other side. Begin with 1 or 2 sets of 30-seconds on each side, and progress up to as much as 3-5 sets of 1-minute or more.

3) Skipping!

Occasionally integrate 2-3 sets of 20 to 30 seconds of skipping into a run. Try to keep ground contact time as short as possible and explode forward, bounding farther and farther with each stride. Start with short segments until your body has time to adapt and build both

Coach Al Lyman, CSCS, is a nationally recognized full time professional coach, author, columnist, and motivational speaker, who has truly “been there and done that” in the world of endurance sports and is passionate about helping others get there too. As an athlete, besides being a 25-time marathon finisher with a PB of 2:39 at the Boston Marathon, Coach Al is 9-time Ironman Triathlon finisher and has qualified for and finished 3-times at the World Championships in Kona, Hawaii. As a coach, his mission and passion is to “help people from every walk of life and ability level to achieve their dreams and goals through their participation in endurance sports.” To read his “story,” or to learn more about his program Runner-CORE, or his coaching programs or training plans, go to his website here: <http://coach-al.com/bio.html>

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1. Bosch and Klomp, Running: Biomechanics and Physiology Applied In Practice, (2001), Elsevier Limited, pgs 28-32.
2. Gambetta, Vern, Building and Rebuilding the Athlete, (2002), Optimum Sports Training Inc., pg 26
3. Ibid, pg. 62

One of the keys to improving efficiency and decreasing the energy cost of running is to train to enhance the energy return, springiness, and reactivity of your legs.

duration and sets over time. Have fun with it!

To summarize, I like to integrate these “hopping” segments right into my runs, by mixing in short fast segments of running in between the hopping sets. Mix it up, challenge yourself, and have fun! When you do these, as well as many other similar exercises, you’ll soon discover that they can tire you out quickly, and that as you fatigue, it becomes harder and harder to get your feet UP off the ground quickly!

As always, you should use caution and start conservatively as you implement these drills into your routine. They are challenging and will result in some soreness if you’re doing them for the first time. Train smart, be progressive, and have fun!

Happy Trails!





*The author during the
2008 Race Across Oregon.
Photo - Michael Frommlet*

In Praise of Junk Miles

Words : Bill Nicolai

So often in reading the training literature, we hear of the necessity of concentrating on quality over quantity. Athletes are often urged to adjust their training to incorporate a carefully sequenced series of very hard intervals and tempo sessions and counseled to avoid training at lower levels of effort. Some derisively call long workouts, “junk miles” and believe that such training is counter-productive. I think this trend has gone too far.

This fall, an acquaintance of mine, a superior athlete in the 60 to 64 year old age group, had a poor result at Ironman Hawaii. He qualified at a half Ironman competition and was preparing under the guidance of a professional coach. On hearing of his training plan, I was astonished to hear that it included no rides over 80 miles and no training days over 5 hours. I think his coach did him a great disservice in emphasizing interval runs at very fast pace, and lots of short hard bike rides. When race day came he had a good swim, a solid first half of the bike at 18 MPH and from there his pace fell off drastically and he only managed 14 MPH on the last half of the bike and 12 & 13 minute miles on the run. He ended up finishing in over 15 hours, about 5 hours behind the age group winner. This elite senior athlete had previously won many half Ironman events and finished in the top 10 in national championships at that distance, but here he was near the bottom of the finish list at Ironman Hawaii, far below his potential. To me, his experience was

perfectly predictable. His coach and his experience had trained him to go fast for five hours and that is what he did. Once he got past the duration he had actually trained for, his body did not know what to do and he slowed to a depleted survival pace.

To go long you must train long. This simple maxim is not understood by at least two thirds of ultra-endurance athletes. What this means in practice is that your training for ultra events like Ironman should include several sessions at least 80% of the length of the event. So, if you are a first time Ironman competitor who intends to finish in under 13 hours, you should do at least three training sessions of over 10 hours duration in the two months prior to the event. In my own case, following this rule, I have always finished in the top half of my age group in four Ironman events. The effect of this approach will become evident in the last half of your race. Keep in mind that a slow run at 11 minute miles is a lot faster than a fast walk at 15 minute pace. This difference makes about two hours difference in your Ironman time. The key is too train for endurance and then to pace yourself so that you can actually run rather than walk like so many do at the end of an Ironman. There is little point in training to run 8 minute miles in preparation for an Ironman unless you are a young elite athlete. Only one third of the competitors will go under 10 minute pace. My suggestion is to do the bulk of your run training at no more than one minute per mile faster than your goal pace. No only will this be a lot

more pleasant, but you will be practicing efficient running at the gait you will actually be using in the race, rather than a speed that is of no use. Sure, earlier in the season you can and should drive up your AT with hard workouts, but in the final two months you should concentrate on building the endurance you will need on race day.

One thing that long training will not do is satisfy the semi-masochistic need that some athletes seem to have. I'm talking about the old no-pain, no-gain syndrome that has been adopted by many who seem to prefer suffering to success. Why not do training that works rather than deliberately make yourself feel bad? After all, the greatest long-term benefit of endurance athletics is the effect it can have on the quality of our lives as we grow older. Speaking for myself, I don't like to hurt while I exercise, and I make it a point to work out at levels that bring pleasure rather than pain. Perhaps that is why I've been able to persist in these activities, uninjured, well into my seventh decade of life. I've never been accused of being a great athlete, but these days I am finishing ahead of all those other guys who no longer show up. For me, and a few other well-aged ultra fanatics I know, there is a sort of addiction to the very long days we spend out riding and running. So, the suggestion here is to not get so caught up in the lust of competitive urges that you forget to back off and enjoy the experience itself. From my perspective, the ultimate achievement of the endurance lifestyle is to stay in the game, like Robert McKeague, who finished Hawaii at age 80 a few years back.

Another related principle of ultra training that many are not aware of is the benefit of training while fatigued.

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Many athletes train hard and then do a deep recovery maybe taking a day or two off before another hard session. My experience has been that it is important to build endurance with successive long training days without complete recovery. This sort of training seems to really increase endurance for an ultra race. One of my favorite weekend workout sets is back to back 120 mile rides for cycling. For triathlon you might consider 150 miler one day followed by an 80 mile ride and a slow 10 mile run the second. You should not do such workouts at high effort levels and totally wear yourself out; you can save that for the race day. Another good technique is to stack a series of long days in a row. This seems to be really effective in building ultra endurance capacity. After the fourth

show up to win events like the Leadville 100. In their daily lives they run a marathon or more every day.

It seems that even professional athletes have lost sight of this principle. In the old days of Ironman Hawaii, it was common for athletes like Mark Allen and Dave Scott to do weeks with 500 miles of cycling, 80 miles of running and 20,000 meters of swimming. These days few pros train that long. But if you examine the historical results at Hawaii, it appears that the older generation athletes actually did somewhat better than today's pros. And this is despite the (ahem) chemical advantages the current guys are rumored to employ. Both the men's and women's records at Hawaii are more than 12 years old! In the last 12 years the men there have averaged 8 minutes slower times than



*Bill Nicolai puts those 'junk miles' to use during his 2008 Race Across Oregon.
Photo - Michael Frommlet*

long day in a row, things actually start to get easier, and after a couple weeks of 8 to 10 hour days, real changes in endurance seem to occur. Steve Born has noted that some of his best ultra cycling performances have come after doing long bicycle tours featuring many days in succession of moderately hard 100 mile plus bike rides. This has been successful for me as well with several of 700 to 800 mile weeks prior to a 10 day taper before a 48 hour 500 mile ultra bike race. Once, over thirty years ago, I spent five continuous weeks skiing at high altitude. At the end of this time I had the experience of easily skiing over a 13,000 foot pass with a heavy pack. Amazingly, it hardly felt like any effort at all. Such adaptation to continuous hard work is no doubt at the heart of the legendary running abilities of the Tarahumara Indians who occasionally

the men did in the eight years preceding. Maybe the current crop of pros ought to consider adding a few thousand "junk miles" to their yearly schedules.

Athletes who train too hard are apparently trying to gain endurance by going fast. Think about the absurdity of this idea. It is like asking to get something for nothing. Examples of this are regularly seen at ultra races, where slower persistent athletes keep going and pass much faster competitors who are spent. On many occasions at ultra events I have finished ahead of far faster cyclists who just haven't done the long riding necessary to properly prepare for these events. So, the next time someone chides you for your "junk miles", don't argue, just smile and tell them that you enjoy your riding and running. And, if you back off a bit and go longer, it is probably going to be true.

Get **FREE** Product with our Athlete Referral Program!

The Hammer Nutrition Referral Program is the easy way to save BIG on all your personal-use product purchases. In fact, some athletes have accrued so many referral credits, they've rarely had to pay anything for the products they need! What could be better than that? Here are the benefits:

- Every time you refer a new customer to Hammer they will receive 15% off their first order with us.
- You will accrue a 25% credit from the subtotal of this first order, which we will keep track of in your client file.
- You can use these credits to save money on your future purchases. Earn enough credits and you may not have to pay anything!

The referral program is applicable for all non-family members. If you refer someone to us, it is absolutely essential that they mention YOUR NAME or CLIENT NUMBER when ordering. This is very important because it's the only way we will know that you referred them. (So when you talk to friends and athletes regarding our products, please make sure that they know to mention your name or client number to us when they order.) To make this more convenient, we have easy-to-use referral cards that are available on the product order form in each Endurance News and in the Hammer Nutrition catalog. You can download and print even more from the Hammer Nutrition web site at www.hammernutrition.com/downloads/referralcards.pdf.





Zen Fundamentals for Cycling Technique

Words : Shane Alton Eversfield

When you finish a long, hard ride, are you ready to divorce your bike? This discussion on fundamental cycling techniques may provide a little “matrimonial guidance” for you and your bike.

Cycling Technique Dilemma:

There are several well-known swim technique programs and a few popular run technique programs, yet cycling technique programs are virtually unknown. The main reason for this paucity is that effective cycling technique is based on a relationship between a rider and a bike. Dynamic harmony in that relationship is the basis for efficient and correct cycling technique. Each relationship is unique. A single rider will have technique variations on different bikes. Consequently, there are few constant technique standards, even for one rider. Some aspects of the complex, dynamic bike-rider relationship are obvious, measurable and visually evident; while others are subtle, unseen and difficult to develop or to teach. It is possible however to give structure to the investigation of cycling technique so that even the most subtle aspects improve.

The Focus: For this fundamental discussion of cycling technique, we leave aside the geometry of the bike, the material and frame design, and its resulting ride qualities and characteristics. These affect cycling technique profoundly, but the concentration here is to address the

rider-end of the relationship.

From the rider’s perspective, effective cycling technique is a combination of (at least) 4 elements: 1) Rider positioning strategy, 2) Posture and alignment, 3) Biomechanics, 4) Handling skills. Posture, alignment, biomechanics and handling vary with each rider position. Therefore, effective cycling technique is based on establishing correct posture, alignment, biomechanics and handling skills for each position the athlete uses. It all starts with rider positioning strategy.

The athlete must work with a bike that is appropriately fitted and set-up to ride in the positions that are specific to her/his goals. Next, the athlete must develop the ability to articulate these rider-positions on the bike through posture and alignment, biomechanics and handling skills. An athlete preparing for the relentless winds and exposed rolling terrain of Hawaii Ironman may employ a different set-up and positioning strategy than s/he would preparing for the variable winds and hilly terrain of Lake Placid Ironman. Likewise, the bike set-up, positioning strategy and cycling technique will probably vary tremendously between, say, St. Anthony’s Olympic and the Virginia Double Iron. Wind, topography, terrain and distance (among several other factors) influence bike fit, rider positioning and consequently, cycling technique.

Briefly, rider positions are comprised of

various combinations of hand/bar and groin/saddle locations. (For a detailed discussion of positioning strategies see “The Set-up”, Feb. 2007 Triathlete Magazine, or visit www.zendurance.net) In this article, we will identify some guidelines for developing posture, alignment and biomechanics once the rider positions are established.

Get to the Core: Spinal alignment, pelvic orientation and core engagement comprise an element that is common to effective swim, run and cycling technique. While the precise pelvic tilt and spinal position vary with each sport, attention to these factors is foundational to any sound technique. Specific to cycling, the pelvis must be angled (via hinging at the hips) so that the rider engages the abdominal core and gluteal muscles while pedaling. There are many subtle variations. As an example, consider low back profile: Some athletes ride with a flat lower back, resulting in a straight spine from the coccyx to the crown of the head, while some athletes ride with a rounded lower back. Ultimately, a rider may employ several very slight variations in low back posture, since this change alone affects muscle group use and pedaling biomechanics. I find that a flat low back engages more core and gluteal muscles, while a round low back engages more muscles in the thighs. (Test this for yourself: In the standing athletic position, transition from a flat to rounded low back and notice the difference in muscle engagement.) For sustained endurance cycling, these subtle variations in posture, muscle group use and biomechanics are significant factors in a strategy to minimize fatigue and maximize performance. In summary, cycling technique, like swim and run, starts at the abdominal core - the stable platform, the source of all movement.

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Universal Alignment Technique:

Whether you are swimming, cycling or running, remember to lead with the crown of your head. To do this, you need to retract your chin and lower jaw, drawing them back towards your spine, without bowing your head down and forward. The back of your neck should feel very long, and you should feel a lot of distance between your ears and your shoulders. If you can be conscious to maintain this head and neck position, the rest of your spine will naturally align and your shoulders will fall into place when you are standing. (For a detailed discussion of Universal Alignment Technique, see the Blogs tab, www.zendurance.net.)

Your field of vision is more crucial in cycling than in swimming or running. Since your torso is pitched forward from the saddle to the bars, you will need to condition your eyes to look “up” towards your eyebrows in order to look out ahead without bending and craning your neck. This is especially true in aero position. (Be sure your eyewear and helmet don’t obstruct this upper part of your visual field.) Along with saddle discomfort, a stiff neck and shoulders are the most common grounds for “bike divorce”. Constantly practice the universal alignment technique, and you will alleviate this condition.

COM-Link: The body’s center of movement (COM) is in the abdominal core, located about 2 inches below the navel, midway in towards the spine. Your bike also has a center of movement (COM), known as the “bottom bracket”. It is the axis of rotation for the crankset/pedal assembly, where it passes through the frame of the bike. The quest to develop a powerful, efficient and fluid pedal stroke begins by energetically linking these two centers. (I call this the “COM-Link”.)

Saddle Silence: Develop your COM-Link by striving to maintain “saddle silence”: Learn how to remain virtually motionless on the saddle, precisely at the contact points – the perineum and the ischial tuberosities (the “sit bones”). Develop this capacity throughout a wide pedaling cadence range, and a wide resistance range. When you can maintain saddle silence under a wide range of conditions, your pedal stroke

will be efficient, fluid and versatile. You will not waste energy fighting your bike. Instead, nearly 100% of the energy you expend will turn the pedals and move you forward. You will experience far less saddle discomfort and chaffing when you develop saddle silence.

Soft Foot-Pedal Interface: In addition to saddle silence, focus precisely on the power spot at the ball of your foot, where the energy passes from your foot to the pedal. Learn how to relax your foot and ankle, so that this power spot circles precisely the same “orbit” as the pedal, even when you are pedaling hard. Often, as we struggle to increase cycling speed, our pedaling efficiency disintegrates. If your feet are tense, or jammed against the side or the toe of your shoes, this is a sign that you are attempting to make your foot travel in a path other than the perfect circular orbit of the pedal. This is wasted, fruitless effort, since you will never succeed in forcing the pedal to travel any other path. When you maintain a soft interface, you will feel a fairly constant pressure between that power spot and

the correct functional movement. Once you are familiar with it, experiment at various cadence and resistance levels. Gradually transition back and forth between this isolation drill and a natural pedal stroke to help with the integration. As you integrate ankle function into your stroke, your knees and upper legs transition smoothly between the up-stroke and down-stroke.

Ride Stationary: The very best time to focus on all of these technique exercises is on a stationary stand. Some of us regard stationary riding as a punishment for living with inclement weather. When faced with a stationary workout, we may be tempted to slip into “auto-pilot”, start up a movie, and just make the legs go ‘round for the mandated duration. However, this is the perfect time to focus your awareness inward on your technique, while you are free from the dangers and distractions of the open road. Work with a mirror placed alternately at the side and at the front to help with visual feedback. Strive to equate what you feel with what you see. In addition, stationary training allows

When you finish a long, hard ride, are you ready to divorce your bike? This discussion on fundamental cycling techniques may provide a little “matrimonial guidance” for you and your bike.

the pedal, and your foot will remain quiet and centered in your shoe. Even at high intensity, this interface should feel soft and constant. (You may need to consider an aftermarket insole, a custom orthotic and/or cleat wedges to facilitate this foot/pedal interface.) As with saddle silence, learn how to maintain this soft interface throughout the cadence and resistance ranges.

Ankling: Another key element of efficient pedal technique is “ankling”, which will facilitate a smooth transition through the top and bottom dead spots of the pedal stroke. You can learn to use your ankles effectively by practicing an ankling isolation drill. Exaggerate the movement of your ankles as you pedal – flexing your foot through the top and pointing it through the bottom of the stroke. When you first practice this isolation drill, do it slowly with very moderate resistance so you can train

you to accurately control the resistance and therefore the cadence and intensity of your workout. (For this reason, many pro and elite athletes conduct their all-important interval workouts on a stationary trainer, even though they may live in a cyclist’s paradise.) This control can also facilitate technique development, as you determine the optimal combinations of cadence and resistance for technique assimilation. What about speed and strength? It’s true that (unlike swimming) technique mastery alone may not make you the fastest and strongest rider in the pack, even though it will make you one of the most efficient. That said, here is some advice on how you can use technique to develop cycling speed and strength. The Myths: Typically, athletes associate both strength and speed with effort and exertion: If you want to push a big gear,

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you have to grit your teeth, tense up and bear the pain. If you want to go fast, you have to force your legs faster through the pedal stroke. However you can apply cycling technique skills to your speed and strength workouts to maximize results and to retain every ounce of that new-found efficiency. It all starts by changing your perspective and your approach.

Strength is your capacity to recruit more muscle fibers to execute a movement – say a pedal stroke. This is what allows you to execute that movement under higher resistance. As you train your neuromuscular system to recruit more fibers, you are able to either increase your power output at the same rate of perceived exertion, or maintain the same power output at a lower rate of perceived exertion.

There are two components of strength you will train as you challenge yourself with higher resistance: The first is your capacity to recruit more fibers to execute each pedal stroke, both in your legs and your core. The second is your capacity to stabilize and precisely align your joints for maximum biomechanical efficiency and economy under higher resistance loads.

Consider these two aspects of strength every time you crank up the resistance and start to hammer. You cannot mentally “will” yourself to recruit more muscle fibers for every pedal stroke. Patient and consistent training will take care of that. However, you can monitor your joint stability and precise alignment at every moment as you train on a stationary stand with a mirror. When you start to feel and visually observe any faltering in your alignment, it’s time to back off. Even under the great duress of heavy resistance and intensity, the connective tissues of your joints must be able to relax to align precisely. When your technique starts to disintegrate, back off and recover rather than tensing up and struggling. Pursue cycling strength with patience and consistency, and you will learn to maintain enough relaxation in your muscles and connective tissues to maintain precise joint alignment.

Strength and endurance: As you develop cycling strength you are

recruiting more fibers both to pedal your bike and to stabilize (harmonize) your relationship with your bike through core strength. Strength figures prominently into endurance as well. Since you recruit more fibers for every pedal stroke (at every level of intensity) you are able to prolong the activity for longer duration. This makes sense, since your body is relying on a greater “base” or “foundation” of trained neuromuscular connections. By training neuromuscular strength, you will endure longer. Cycling Speed is your capacity to turn the cranks faster. Like strength, pedaling at a higher cadence requires efficient, economical, fluid biomechanics. To efficiently spin at high cadence, you must be fluid in your movement. Your foot must move in harmony with the circular orbit of the pedal itself, since that orbit is fixed and unyielding. Here again, relaxation is absolutely crucial. In a single rotation of the pedal stroke, many muscles and connective tissues in the legs and torso are stimulated to contract and then to release. If specific muscles and connective tissues do not release and relax in order to lengthen at the appropriate instant, they create resistance for the opposing contracting tissues. More energy must be exerted to overcome this resistance, resulting in inefficiency, diminished endurance and a choppy movement. This inability to relax diminishes the fluidity of the pedal stroke. The result is a degradation of proprioception, biomechanics and technique, and an increased potential for injury.

Focus on relaxing your muscles, connective tissues and joints to increase your cadence. This will develop fluidity in your pedal stroke and help you to maintain saddle silence as you spin. Since there is an actual fluid that lubricates your joints, synovial fluid, the description of a fluid pedal stroke is literal. As you learn to float your joints around the pedal stroke at high cadence, you allow this fluid to perform its function. Using this approach to increase your cadence is a sure-fire way to improve pedaling efficiency.

Subtle Progress: As you progress towards mastery in any form of technique, the path gets very subtle. Yet there is no limit to your technique potential if you are humble enough to accept that there is still something to be learned (even on a stationary stand).

Some aspects of cycling technique, like slight changes in your fore-aft position on the saddle, or slight changes to your pedaling biomechanics are very subtle indeed; yet, in time, the results may be profound. It is important to approach any study of technique with humility, patience, curiosity and an open mind. If you have already determined that there is no value in patiently and diligently studying these finer nuances of technique, then continue to hammer away at the highest levels of exertion. For some of us, this seems like the only possible way to succeed – in sport and in life.

Kaizen: Terry Laughlin, founder and head coach of Total Immersion Swimming, calls the patient, curious and open-minded approach “kaizen”, translating to “continuous improvement”. In his own words, “We believe in the pursuit of pleasure, rather than pain.” As you experience more harmony in the dynamic relationship with your bike through a patient and subtle pursuit of cycling technique mastery, you will enhance the pleasure and reduce the pain of your riding. You will discover “kaizen. That continuous improvement will motivate you to train simply for the joy you experience through discovery and improvement. The resulting increase in your performance with less effort and exertion will simply be icing on the cake. And that icing sure tastes good on race day!

Shane Eversfield is author of “Zendurance, A Spiritual Fitness Guide for Endurance Athletes” and founder of Zendurance Cycling Technique. He is available on a limited basis to lead clinics. Lots more information and essays: www.zendurance.net. Contact him: ironzen@hotmail.com

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Shanna Armstrong crosses the finish line at the 2008 Ultraman. Photo - Rick Kent

2008 Ultraman World Championships

Shanna and Suzy shine again!

Words : Steve Born

The 2008 Ultraman World Championships, one of the toughest endurance contests on the planet, took place on November 28-30, 2008 on the Big Island of Hawaii. (Note: we were hoping to include this article in EN#61 but were unable to due to deadline restrictions, which is why this article is appearing now).

Anyway, once again it was a spectacular showing by two amazing Hammer Nutrition sponsored athletes – Shanna Armstrong of Lubbock, Texas, and Suzy Degazon of San Dimas, California.

Ultraman takes place over the course of three days. Day One consists of a 6.2-mile swim, followed by a 90-mile bike that includes over 7500' of climbing. Day Two is comprised of a 171.4-mile bike that covers a good portion of the island and contains 8600' of climbing. Day Three's gruel-a-thon is a 52.4-mile run, a "double marathon" in essence.

Armstrong took the women's lead right from the start and was never challenged. She appeared to have no weak spots whatsoever during the entire race; in fact, her second day bike split of 8:59:36 (for 171.4 miles) was a mere 4 minutes and 7 seconds off the record. Her Day Three double marathon time of 8:17:13 was the 8th fastest of all competitors.

- Armstrong's cumulative time of 26 hours, 25 minutes, and

52 seconds was not only good for the victory, it placed her 10th overall and gave her an unprecedented 5th women's title and fourth straight (other titles came in 2003, 2005, 2006, and 2007). Shanna's race is also the culmination of what may be one of the greatest endurance "triple crowns" ever achieved in one year, with top finishes in these extremely difficult events:

- Badwater Ultramarathon (ultra running race) – 3rd place woman, 7th overall
- Furnace Creek 508 (ultra cycling race) – 5th place woman
- Ultraman World Championships – 1st place woman, 10th overall

Degazon, an Ultraman veteran, had another great race in 2008. After overcoming extremely difficult conditions on Day One's 6.2-mile swim, where she had a less-than-stellar time of nearly five hours, she came out of the water 21 minutes behind impressive Ultraman rookie Catherine Paulson of Dallas, Texas. Degazon had a great ride in the 90-mile bike portion, however, knocking approximately 15.5 minutes off of Paulson's gap. By the end of Day Two's 171.4-mile bike portion, Degazon had moved into second place, albeit by a slim 11 minute, 17 second margin over Paulson. She "sealed the deal" on Day Three though, with a 10 hour, 1 minute, 57 second time in the 52.4-mile run,

over an hour and 10 minutes faster than Paulson. What is most remarkable about Degazon's accomplishment is that this is her 12th straight Ultraman finish, an extraordinary achievement.

Hammer Nutrition congratulates these two amazing athletes on their phenomenal accomplishments... way to go Shanna and Suzy! Reports and details about the 2008 Ultraman World Championships can be found at ultramanlive.com.

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Creating Championship Speed in 2009

Words : Robb Beams

At both the amateur and professional levels, the racing season has increased to the point where the racer is competing nearly year round and actually inhibiting his or her ability to improve physically as a racer. It is unrealistic to think that a racer can be on top form every weekend from January through December. Throughout the year, the body needs to be provided the opportunity to develop various energy systems through specific workouts along with a window of time to rest and recover from the stress loads applied to the muscles and the cardiovascular system for long term improvement. This is where Periodization comes into a racers program. Periodization answers how hard, how long and how often a racer should train to reap the benefits of training without burning out or getting injured.

Periodization – An implementation program for the competitive racer

As a competitive racer, you need to look at a year as four different seasons of performance development. At MotoE, we break the year into four training “seasons”: Pre-Season, Pre-Competitive, Competitive and Off Season. Each season has a different performance objective to optimize the racers training time for maximum results.

With motocross involving so many elements of a racers life, it has literally

become a lifestyle – sleep, eat, ride, train off the motorcycle, repeat until the next race. However, this lifestyle of training, doesn’t allow a racer to decide to start training seriously for four weeks and then be ready for the season’s first big race. On the other hand, hitting the open road on your road bike hard the Monday after your big race and riding every day until next years race isn’t productive either. When you do this, you don’t push the body beyond its normal performance level and hence you don’t allow enough time for the body to adapt to the stress loads and get stronger.

At MotoE we work with four seasons of training - each having a specific physiological purpose. The four seasons are:

Pre-Season: developing maximum aerobic capacity, muscular strength and flexibility; this is also an ideal time to work with your riding coach to help with technique and mechanics.

Pre-Competitive: continued development of your aerobic engine, final stage of maximum strength development and the implementation of slight lactate tolerance intervals.

Competitive: specialization is the main component of this season. Your anaerobic threshold and sprint training should make up the high quality workouts during the week. Also during this season is the increased need for rest – ideally one complete day of rest per

week to help you recover both mentally and physically.

Off Season: this is ideally four to six weeks in duration where you deviate away from heavily structured training. This is where you back to riding verses training when you are on your motorcycle or any other types of cross training. You don’t want to become so inactive that you begin to lose the conditioning you have worked so hard to achieve throughout the year; however, you do what to remain active and healthy.

***Important note:** you can cycle through these seasons throughout the year as long as you are peaking two to three times throughout the season. It is very difficult to maintain the high level of performance every week without allowing for some down time for your body (mentally and physically). How and when you cycle through your season is established by your race goals and associated race schedule – see step one below.*

Periodization – Step One: Establishing Goals

Establishing long term goals and develop a plan for achieving each goal. This step needs to be quantified, simple, optimistic and also realistic. Though this sounds like an easy task, it is going to take some real brain storming to narrow this down first step down and onto paper. Here is an example of an unrealistic long term goal: “I want to be fast”. There is no way to quantify fast and there is no time line established to complete and it doesn’t tell you who you are setting your standards against.

If you say: “I want to be the top local rider in my class by the area qualifier for Loretta’s” – this is quantified, specific and with a little research you are able to

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be determine what it is going to take to surpass the current top riders to achieve the status you are looking for.

At MotoE we have our clients establish three sets of goals – 3 months, 6 months and 12 months. If you would like a copy of this MotoE Goal Profile, please contact **robb@earthlink.net** for your personal copy. If you have established goals in past seasons and you have had troubles obtaining your goals, feel free to forward your MotoE Goal Profile to **robb@earthlink.net** and I will be happy to review and help you develop some training objectives to help you achieve your personal goals for 2008. The most important thing to remember when you are sitting down to establish your goals is that they need to be specific and have a goal date applied to each goal. Without specific goals, you will quickly lose your motivation to stick to the homework, especially when it becomes difficult (due to either the duration or intensity levels required).

Periodization – Step Two: Determining A Starting Point With Your Training

If you are starting at a minimum fitness level, you will have to increase your overall strength and endurance before your dive into a comprehensive performance program. As a general rule of thumb, don't increase your duration of you're overall workouts by more than 3-5% every other week. Once you have been consistent with some level of training for six to eight weeks without any physical set backs, it is time to determine exactly where your fitness levels are at – this will identify your strengths and weaknesses and what to address with daily training to maximize your training time.

The main concept to keep in mind when it comes to training is to strengthen your weaknesses that have been specifically identified in your field testing. Racers, like any athlete, have a tendency to complete workouts doing the elements that we are already strong in. For example, in the gym, you rarely see racers working there legs in the gym due to the high levels of lactic acid and associated heart rate levels. If you use riding a road bicycle as a form of cross training, and you are not a strong

climber, how often do you go out and complete hill repeats to increase your strength and lactate tolerance? It is not that you are soft as an athlete; it is simply human nature to do the activities that we are strong and confident with.

With this in mind, it is imperative for racers to capture three key testing data points in testing data (no matter what time of year the testing is completed): aerobic capacity, muscular strength and lactate tolerance. There are numerous debates about which form of training (off of the motorcycle) are the most effective measures of your aerobic capacity, muscular strength and lactate tolerance. At MotoE, we are more interested in testing these three variables within the training modalities that you have been using over the last six to twelve months. The important thing to keep in mind with establishing base line assessment numbers is to be consistent with your testing protocols. For example, if you use the Concept 2 rower for your cardio training, it would not be a wise choice to use a running test for your lactate tolerance and aerobic capacity testing

in the shortest amount of time. As an illustration, as it relates to riding the bike, a racer gets a riding coach to help work on problem areas around the track. A racer may be fast through the whoops, but if he or she can not get in and out of the corners fast, the time gained in the whoops is immediately lost in the next corner. The same applies to developing the training protocols that are going to maximize the appropriate energy systems to maximize the elements of aerobic capacity, muscular strength and lactate tolerance. As mentioned earlier, at MotoE we break the year up into the four seasons of Pre-Season, Pre-Competitive, Competitive and Off Season. During each season of training there are two key elements that have to be factored into the development of a racers training program: the energy system(s) being enhanced and the order in which they are put into place within a workout. For example, implementing muscular endurance protocols prior to explosive power protocols may actually be counter productive based on the training season (based on race goals and the physiological adaptations needed)

Periodization answers how hard, how long, and how often a racer should train to reap the benefits of training without burning out or getting injured.

due to the different muscle groups and demands on the cardiovascular system – ultimately your testing data would be inaccurate. If you would like MotoE to provide some suggestions on how to determine your aerobic capacity, muscular strength and lactate tolerance given your current training methods, feel free to contact me directly at **robb3@earthlink.net** (please be sure to indicate what you are currently doing in the way of training to help me determine what is the most productive for you and your program).

Periodization – Step Three: Establishing A Training Program Based On Your Field Testing Results

This is where a human performance specialist can be an asset to a racers development program – identifying where the most progress can be achieved

and the field testing results – remember, we need to constantly work on your physiological weaknesses due to the fact that you are only as strong as your weakest link in your racing program.

Next issue MotoE will cover the various energy systems, how they relate to faster lap times and how to properly enhance them without getting burned out or injured.

Motoendurance.net is a premium resource center for motocross and supercross riders of all abilities. The site outlines the MotoE Performance Training programs available to racers for 2009 - similar to training programs used with great success by WMA Champion Ashley Fiolek and AMA MX Lites star Kyle Chisholm in 2008. Additional resources available include the MotoE Performance Training Facility in Haines City, Florida, eBooks on various human performance elements and online instructional videos. To discuss your current program or have a new one developed for you; feel free to contact Robb Beams at Motoendurance.net or 407.701.7586 directly.



Hammer/CMG Racing Team

Words : Dustin Phillips

We have some exciting news to announce for the upcoming 2009 season. We have signed on as the title sponsor for what we believe will be the premier junior cycling team this year and beyond. Hammer Nutrition has always taken pride in offering up large amounts of support at grass roots events and to junior development programs like Tieni Duro. This has been our approach since our inception and will continue to grow in the future.

With our sponsorship of the Hammer/CMG Racing Team, our junior development efforts have gone to the elite level by partnering up with one of the nations best coaches and some of the most promising junior talent in the country.

Butch Martin, a former Olympic cyclist and Cycling Hall of Fame inductee, holds a long list of accomplishments, including being a member of the U.S. Olympic team in '64 and '68 (track and road). His coaching accomplishments are equally impressive: As a U.S. National Road Coach and Olympic Team Road Coach, his riders have produced breakthrough results in the Olympics, World Championships, and international events. Over the years Butch has worked closely with top North American cyclists that have produced outstanding results in major European professional events.

he has gone down one of the most difficult, yet rewarding avenues a coach can by going into rider development via the Hammer/CMG junior U-23 program. Butch has attributed his long success as a coach to the ability to identify and develop talented athletes in the formative stages of character and physical development. In 2007, CMG set out to recruit the best junior riders in Oregon with the intention of developing a program that would produce champions. The success of this team revolves around rider commitment and sacrifice, high levels of motivation, discipline, and potential for future athletic development. Combine Butch's experience and expertise with this group of motivated and talented young riders, along with the most effective athletic fuels and supplements available, and we are sure to have a winning team.

Hammer/CMG has accomplished just that. These kids are intelligent athletes who can execute team strategy, read races correctly, and make very few tactical mistakes. They have each proved to be physically up to the task by riding with some of the best professional and senior category men in the Northwest, while proving their ability in international fields. They have also proven to be able to blend their individual talents into a balanced team offense. These are key elements the team must have to compete at the national or international level successfully.

Austin Angelo, Max Doltish, Marcel deLiser (U23), Marshall Opal, Jacob Rathe, and Wes Stein. All of these riders are accomplished athletes. Austin, Marshall, and Jacob have participated in UCI European and Nations Cup events as members of the U.S. Junior National Team. Max has participated in North American International events as a member of a USAC team.

Highlights:

Jacob Rathe was selected and raced with the U.S. National Team participating in a three week European series of International Junior races and Nations Cup events in Belgium and Czechoslovakia.

Jacob Rathe won the U.S. Junior Worlds Selection race and represented the U.S. at the Junior World Championships in Cape Town, South Africa.

Austin Arguello was selected to race on a USAC (U.S. governing federation) Western Regional Selection Team in the International Tour de l' Abitibi, in Quebec, Canada.

CMG won the FICA (Federation of Independent Cycling Associations) Team Time Trial Junior Championships and finished 6th overall out of 32 senior teams participating.

At the '08 U.S. Junior 17-18 National Track Championships in Carson City, CA, Hammer/CMG Racing Team member Jacob Rathe produced outstanding results:

Team Pursuit- 2nd
Team Spring- 3rd
Individual Points Race- 5th
Scratch Race- 10th

In choosing to give back to the sport,

The Hammer/CMG team roster is:

see CMG on page 31

CMG from page 30

At the '08 Junior 17-18 National Road Championships in Anaheim, CA, Hammer/CMG Racing Team riders Austin Arguello, Marcel deLisser, and Jacob Rathe produced outstanding results.

Individual Time Trial-
7th, 9th, and 13th
Criterium Championship-
5th and 11th
Road Race-
6th, 8th, 13th, and 21st

Jacob Rathe and Austin Arguello were selected to ride with the U.S. National

Team in International Junior and Nations Cup events in Italy and Croatia.

New riders for 2009 include Marshall Opel, 3rd at the U.S. Junior National Road Championships and 14th in the Individual Time Trial, and Max Durtschi, 22nd overall in the International Tour de l' Abitibi, in Quebec, Canada. Both riders have raced with the U.S. National Junior Team.

This is a program that Hammer Nutrition is excited to be supporting, not only to be reaching the national and international level of competition but more so to be supporting this group of talented riders into the next level

of competition in a positive, healthy environment. It is our goal for this new program to grow and mature along with the riders. With the support of outside corporate sponsors (not easy to find these days), industry sponsors, and the support of our loyal clients, we hope to expand Hammer/CMG Racing in 2010 to include a U-23 squad and to launch a full pro team in 2013 or 2014. If you have a vision for this program or feel compelled to help out in any way, feel free to contact us.

If you see the Hammer/ CMG Racing colors being flown at any of your races, be sure to say hi and wish them luck.



Austin Arguello
Portland, OR



Marcel deLisser
Portland, OR



Max Durtschi
Ketchum, ID



Marshall Opel
Whitefish, MT



Jacob Rathe
Portland, OR



Wes Stein
Corvallis, OR





Laying Out Your Training Schedule?

Make room for E-stim!

Words : Jim Bruskewitz

If you've discovered training with electromuscular stimulation (EMS), you've no doubt found that you can cut your recovery time down significantly and increase the training load that you can absorb. We all wish we could recover more quickly, fit in more high quality training, and enjoy the increased fitness that results. Athletes find that the Globus Muscle Stimulator active recovery program is an easy and effective start to using EMS to improve their performance. Once the unit is charged, the pads placed, and the program started, the Globus Muscle Stimulator does the rest. It is programmed to flush the muscle beds of the metabolites that remain after training and make room for a fresh supply of oxygen rich, nutrient laden blood. Fitting the active recovery program sessions into a typical training week is easy. Since this program is used to enhance recovery from training, it can be used after any training session with positive results. Since the active recovery program has so much utility, it is generally the most used program.

Some have taken another step and use the preparatory programs. These programs do an excellent job of warming up the muscle tissue

and removing some of the neural inhibition that hampers the muscle from contracting efficiently. Those I've worked with report that on days when the muscles are lethargic and normally take a fair amount of warm up and training before they respond as desired, the muscles feel ready to accept a training load right after the warm up, sprint prep, or endurance prep programs. Warming up effectively improves performance by decreasing

How many times per week should you strength train a muscle group with Globus? Three times per week is maximal.

the viscosity of the muscle cell making it easier to deform while contracting, increases the rate at which all the reactions required to contract a muscle occur, increases the dissociation of oxygen needed for aerobic energy delivery from hemoglobin and myoglobin molecules, and as mentioned helps remove the normally occurring neural inhibition. There need be no confusion about when to use these programs. They'll deliver a tremendous warm up before any activity you have planned.

Most of the programs stored in the Globus Muscle Stimulator deliver a training load. Where these programs will fit with your normal training schedule deserves consideration. What kinds of training load will the Globus deliver? If you have a hard run or bike coming up tomorrow, how can you best use the Globus to improve that session and like sessions to come throughout your year? Let's start with the first question.

The Globus programs that deliver a training load will build strength. Strength can be divided up into categories dependent upon which kinds of muscle fiber are being recruited to produce the desired tension. Are you looking for a maximal one time contraction, strong contractions produced over relatively short periods

of time for sprinting, or longer efforts that are best served with the strength of muscular endurance? The Globus has programs to specifically improve each of these desired adaptations. Whether one moves from maximal strength to resistive strength to endurance throughout the season as is commonly practiced, or focuses on one of these categories of strength, a session to build specific strength with the Globus will deliver a training load that needs recovery like any training session. You can choose how intensely you want to

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TRAINING from page 32

train with Globus. Because of this, the amount of recovery you'll need from a Globus session is in your hands.

Since you will need to recover, how will you fit this in to your planned training week? Strength training requires 36 to 48 hours of recovery. The amount of recovery time depends on how long one has been strength training. A small training load can take 48 hours when an individual starts adding Globus strength training to their schedule. Within a couple of weeks, the size of the training load can be increased without increasing the amount of time needed to recover. You'll get stronger and require less time to recover from the training that gets you there.

How many times per week should you strength train a muscle group with Globus? Three times per week is maximal. If you spread the strength training out throughout the week while

giving ample time to recover between sessions, three times per week is all you will have time for. Each muscle group can be trained independently however. For instance, if you train your legs on Monday, Wednesday, and Friday, you could use a split routine and train the upper body on Tuesday, Thursday, and Saturday. The strength training will impact the amount of training that you can absorb in your chosen sport. If you performed a strenuous Globus strength training session on Monday and then planned to ride hills hard the next day on your bike, you could notice the effects of the Globus session while riding the hills. After a couple of weeks of doing this you would be able to absorb both the Globus strength session and the hills on your bike because you will have gained the adaptations needed to do so. A prudent approach to enjoying the benefits of Globus strength training is to do a Globus session on the same day after your intense sport specific workout. This approach will maximize the recovery

time between the more intensive sport specific workouts while adding strength training with Globus to your weekly routine.

In order to become accustomed to strength training with Globus, start with a low training stimulus, maintain consistency, and gradually increase the stimulus (training load) weekly. Within a couple of weeks you will see significant increases in your strength while training in your chosen sport. Now that is something we could all use.

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

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The author competes at the 2007 World Solo Championships. Photo - Greg Profeta

Tips for Successful 24-Hour MTB Racing

Part II : Race day strategies

Words : Randy Profeta

One of the steadily growing segments of mountain bike racing is the 24-hour endurance race. These all-night sparring matches contested on dirt combine the intensity of full-on cross country racing with the carnival-like atmosphere of Woodstock. And they give us a legitimate reason to stay up all night. Whether you go it alone and do it solo or race as part of a team, having a good race still comes down to proper pre-race preparation and an effective fueling strategy once the gun goes off.

In the last article, I shared some of my thoughts about developing a fueling strategy for your 24-hour race training and concluded with the pre-race meal on race day. This article will pick up where the last one ended and focus on fueling and race strategies that have worked for me during 24-hour solo mountain bike events.

Let's review some of the basics that we covered in the previous article:

- Read and then re-read "The Endurance Athlete's Guide to Success (v.8)". This publication is a must for the serious endurance athlete.
- Develop your fueling strategy while you are training for an event. Do not wait until your race to find out what works best (and what does not work).
- Most athletes only require from 200-300 calories and about 20-24 ounces of water per hour.
- Try to avoid solid foods while you are

riding. Plan to go completely liquid. -Refuel properly within 30-60 minutes after completing a training ride. You have a short "window of opportunity" to replenish the glycogen stores to nearly 100% if you refuel just after your activity.

Noon-time starts

Let's look at the strategy surrounding a race that starts at noon since many of the 24-hour mountain bike races I have done go from 12 to 12. I usually plan to be in bed no later than 10 PM and up by 7 AM. This allows me adequate time to handle any final race preparations and provides enough time to have a pre-race breakfast.

My pre-race breakfast consists of easily-digested complex carbs. I avoid fiber, fatty foods and the temptation to "pack in" extra carbs or protein. Since my body will be utilizing its glycogen stores during the early part of the race, all I need to do is "top off" my liver glycogen. About 200-400 calories for my first meal is just right. My breakfast is more like a "large snack" than a three-course meal.

I'll generally have my traditional race day breakfast: a bowl of Cream of Wheat topped with some Apple Cinnamon or Raspberry Hammer Gel (HG) and maybe some fresh fruit. I'll sometimes have some "lite" waffles with HG or maybe a bagel half.

For me, coffee is a must! I tolerate caffeine very well so I will have a cup with breakfast, partly to get me

energized, and also because it is claimed that caffeine helps the body to metabolize fat more readily. In the evening hours, I will switch to a Hammer Gel that contains caffeine. Both Espresso (50 mg of caffeine per serving) and Tropical (25 mg) provide racers with an easy way to take in controlled amounts of caffeine. My system cannot tolerate over-the-counter caffeine alertness aids. Most contain about 200 mg of caffeine which is almost twice the amount in an 8-ounce cup of drip coffee (105 mg). As a comparison, most cola-flavored soft drinks contain about 35-50 mg per 12-ounce serving. The reason that many soft drinks give you a "buzz" is more related to their sugar content than the caffeine. It is a myth that some soft drinks contain more caffeine than coffee. The same thing can be said about many "energy" drinks. Do your homework: read the labels.

Plan on finishing your morning meal at least three hours before the start of your event. This should allow adequate time for digestion and absorption. It should also allow your blood glucose regulation system to normalize.

You also want to start your race well hydrated. This does not mean drinking until you burst on race day; you should have been addressing your needs for pre-race hydration in the weeks leading up to the race. Proper hydration habits should become part of your everyday routine whether you are racing or not. As I mentioned in the first article, about one-half ounce of water per pound of body weight should be the basis for your daily water consumption. So, at 180 lbs. my water intake is at least 90 oz. per day.

I will take two Race Caps and one Mito Cap with breakfast along with my other supplements. If time allows, I will be sipping from a bottle of HEED up until

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about four hours before the race when I'll switch over to plain water.

As I said, try to avoid fiber before the race, especially whole grains. I also try to limit or avoid consuming fruit with skins such as apples or grapes. You do not need to be making an unnecessary "pit stop" at the Porta-John just as the race is ready to start.

Remember, you just want to top off the tank before the race. Do not overdo it.

But what if your event starts earlier, say at 9 AM? Do you rise at 5 AM for a pre-race breakfast? As the Endurance Athlete's Guide to Success (v.8) states, do not forego rest so that you can have a pre-race meal. Make sure that you get adequate sleep and start the race well rested. If you are feeling hungry, a serving of Hammer Gel should hold you over until the gun goes off. Just as you did in training, try to start your fueling once you are riding. You may feel like eating, but you should have enough stored glycogen to get you on your way successfully.

Just before the race

My goal is to consume about 80-100 oz. of water in the four hours before the race. I try to stop drinking water about 20 minutes before the race starts to allow my stomach to empty.

If I feel hungry after breakfast, I'll have a packet of Hammer Gel about 15 to 20 minutes before the gun goes off, but that is it. My bike is ready and I am resting. I take out my pre-race checklist and review it one more time with the crew.

Avoid the impulse to do a long warm-up or frantically pacing around. This is a time to get off your feet, take it easy, and relax. Do final checks of your hydration pack or seat wedge. Get dressed in your Hammer race kit if you have not done so already. Here's a tip: if you have a chamois crème that you prefer, apply it now. I have my favorite too, but I will first apply some Zinc Oxide diaper rash crème to my bottom. This combination will go a long way in making it a more comfortable day (and night) in the saddle. I find zinc oxide especially beneficial when the weather is wet. Unlike most

chamois crèmes, zinc oxide is not water-soluble.

The crew mixes my primary race fuel: unflavored Perpetuem with Hammer Gel. They will then ice it down. One thing to remember on hot days is that the mixture will change strength as the ice melts. While this is not a big deal, try to avoid taking bigger gulps when the bottle is still fresh and the ice is still solid since you will be increasing your caloric intake. Is it a big deal? Probably not, but you want to make sure your bottle will last as long as you need it to.

In the pit, have everything laid out in an orderly fashion and make sure that your crew knows where everything is stored and exactly how to mix your bottles. This takes on greater importance if, like me, you add some Hammer Gel to your Perpetuem bottles for flavor. In the early days, my crew would always be a tad light on the Hammer Gel in the mix and, aside from the fact that it did not suit my taste, I had a feeling that my caloric intake may have been slightly below what I had intended.

it with a sip of water from my hydration pack. If you have familiarized yourself with the course, you probably know where the best "feed zones" are. Unlike road racing, you can generally feed anywhere on the course during most 24-hour MTB races. The tip is to know where it is most practical and safe to refuel. I do not think I would want to reach for a water bottle when I am straining to clean a steep incline or blasting down some technical descent. You will soon know the best locations to feed. Make a mental note and pick out some visual cues that will remind you to refuel at or near this location on every lap. You will probably be passing this point on the course many more times during your race. While refueling in the same location sounds like such a simple thing to do, it will become increasingly difficult to remember after 20 hours on the bike.

If given the choice, take smaller and more regular swallows from the bottle and hydration pack rather than downing larger quantities all at once in an effort to "catch up". If my consumption is a bit lower than planned and my crew and I do

The most challenging, yet rewarding, part of 24-hour racing is the sunrise lap. You can see the course again and are warmed by the sun and yet you have six more hours of riding to do.

To round out my pre-race preparation, I will try to consume at least one water bottle full of plain water (about 20-24 oz.) in the last hour before the race and slightly more if it is hot. This is also a good time to empty your bladder.

Before I head to the Start/Finish line, I will make sure that I have everything that I need: my Perpetuem mix, hydration pack, Hammer Gel in a five-serving flask, Endurolytes, and Energy Surge. Don't forget your helmet, glasses, and gloves! While it is fine to sip some water as you are lining up for the start of the race, avoid HEED or anything with calories at this time.

The First Lap

Depending on the course layout, my fueling will typically start about 10-15 minutes into the race. I will start with my Perpetuem bottle and always follow

not notice any decrease in performance, adding more calories or water is not necessary. I would rather err on the low side as far as my intake is concerned than have to deal with stomach issues later.

Until riders of varying abilities have time to spread out along the course, the first lap will have its share of traffic jams and Congo lines. Focus on riding at your own pace; let the faster riders pass.

A word about pace: I was originally from the school that believed in going out hard and doing a fast-paced first lap in an effort to put some time "in the bank". Steve Born and I chatted at last year's Hammer Highline where he shared some of his endurance pacing wisdom with me. He said that I should "start out slow and then taper off from there." The next month, I followed Steve's advice at the

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2008 24-Hour World Solo Championships in Canmore. I started in 8th place in a field of nine. My splits were consistent and I saw some of the racers in my category fall off the fast pace they had initially set as the race wore on. The net result was a second place finish. I did not take any time off the bike during the evening hours and my last lap was my third fastest.

Supplements

I carry two coin purses or the newer Hammer flip-top capsule dispensers as I ride. I always have Endurolytes and Energy Surge on hand in a jersey pocket or stashed in the leg of my bike shorts just above the elastic. My crew provides me with Mito Caps, Anti-Fatigue capsules, and Race Caps after each lap as I cruise through the pit area. By making short stops, my crew can make sure that I do not miss a dose. They have a cold bottle of HEED or plain water ready as I ride through. They also have some Tissue Rejuvenators on hand just in case I take a spill or have some other muscle aches and pains. Tissue Rejuvenator capsules contain Turmeric which is an anti-inflammatory and it seems to work as well for me if not better than Non-steroidal Anti-inflammatory drugs (NSAIDs). The crew will also use this brief stop to provide me with a fresh Perpetuem bottle and make sure my hydration pack contains enough water. They will also check tire pressure and chain lubrication. During the evening hours, they will make sure that I have fully charged batteries for my lights.

If the course is short and my lap times are fast, I may stop on alternating laps instead of every lap.

Tip: do not bring your “comfy” folding chairs into the pit area. We have some very comfortable portable camp chairs that I can literally sleep in, and I will be tempted to do so if they are on hand. My crew knows to keep me standing over the bike whenever possible, or seat me in a very basic (read that as “uncomfortable”) camp chair during my pit stops.

Avoid the temptation to snack on what your crew may be eating. I see many crews bring fast food or snack items into the pit area for their own consumption.

Most racers will pay dearly for eating many of these snack foods when they get back on the course. There are exceptions; some racers have cast-iron stomachs. Since converting to Hammer products for all of my nutritional needs, I cannot remember the last race where I had to contend with stomach distress caused by poor dietary choices. Stay with what works! Utilize the fueling strategy that you developed during your training regimen. An important race is not the place to experiment.

The Crew

Aside from taking care of my bike, my lights, and mixing my bottles, the crew is also jotting down notes in my Race Log Book. They will record my lap count, lap times, time I spent in the pit area, calories consumed per lap, supplement intake and dosage, notes on my general condition, any bike maintenance performed, and whether I ate any “solid” food (more on that later).

While I have done distance events without support, it is nice to have a crew that will take care of the details so that you can focus completely on the task at hand. In general, I have at least a two-person pit crew and many times I will have three. A three-person team allows someone to grab some sleep and stay fresh. The remaining two crew members can keep each other company in the pit and efficiently attend to my needs.

One thing to remember: be nice to your crew! I have seen many racers bark at their crew after each lap and treat them pretty poorly. I am not a professional and my crew is not being paid; they have volunteered their time. My wife heads up my crew, one of my three training and racing partners (my sons) will attend to the mechanical duties, and one of their significant others will fill in wherever needed. It would be a bad thing if I did not treat them civilly and with respect. Racing can be expensive; it pales in comparison to the cost of a divorce.

Settling In

Hopefully you did not go out too fast and have been watching your heart rate. For me, I try to settle into my “race pace” as early as possible. I must confess that adrenaline sometimes overrides logic and reason. While it may be difficult, try not to go out too hard. You should be

backing it down to a manageable, aerobic pace within the first hour of the race.

You should be mindful of your pace and how your body feels. A mistake that I see many solo racers make is riding at an unsustainable pace and then stopping to recover after each lap. These riders will then pass you on every lap in the early part of the race and usually fade as the race wears on. While Race Day Boost works for me and helps me to go out a little harder in the early laps, I do not ride myself into the ground. Know what your limits are.

I frequently read articles about “riding through the pain” or how painful some hard efforts can be. In my mind, I draw a distinction between discomfort and pain. Discomfort can be tolerated but pain should be addressed. The more experience you gain, the more easily you will be able to differentiate between uncomfortable soreness that will pass and the pain that accompanies an injury which should not be dismissed.

The crew is keeping you on the bike and addressing your hydration, nutrition, and supplement needs as you pass through the pit area. The only thing that you need to do is pedal your bike. Keep a positive attitude and enjoy yourself! Maintain your focus on the course and on the best line but enjoy your surroundings. Chat with other riders. A strategy that works for me is to divide the race into four six-hour segments. Another way to break up the race is to plan longer stops around meal time. I have occasionally found it helpful to stop at dinner time and again at breakfast.

To add some variety to my liquid diet, I will occasionally ask the crew to mix my Perpetuem with a different flavor of Hammer Gel. The beauty of Hammer products is that most of the nutrition products can be mixed together. Hammer Gel is perfectly compatible with all other Hammer Nutrition fuels. During ultra distance events, while Hammer Gel should not be your sole source of calories every single hour, it may be used occasionally to give you a little variety in what you’re consuming.

Hammer Gel flavors can be mixed for a variety of tastes. Experiment and see what suits your taste. Try these

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combinations:

- Banana + Chocolate or Espresso = Banana Split
- Chocolate + Vanilla = Milk Shake
- Orange + Vanilla = Orange Creamsicle
- Raspberry + Orange + Banana = Fruit Punch
- Raspberry + Espresso = Raspberry Mocha
- Raspberry + Tropical = Tangy Berry
- Apple-Cinnamon + Vanilla = Pie a la Mode
- Plain mixed with any other flavor to make it milder for long-term use.

Solid Foods and “Snacks”

One of the benefits of Hammer products is that they can supply all of your caloric and nutritional needs. Occasionally, I will have an urge to eat solid food during a race. While I have seen racers eating a slice of pizza or a burger, my taste runs to watermelon chunks, grapes, brown rice, or a cup of my son Greg's famous chicken noodle soup. I view these foods as more of a treat than a necessity since I have completed several races on a liquid diet consisting of Hammer products. The crew may even reward me with a peppermint pattie during the midnight hour (peppermint is claimed to keep you alert).

My primary snack food will be bite-size servings of Almond Raisin or Chocolate Chip Hammer Bars. The crew will cut a bar into three or four pieces and keep them handy to satisfy my urge for solid food. Hammer Bars are also good on the trail. They are small enough to fit in a jersey pocket, moist, and are loaded with healthy, non GMO, energy-producing organic ingredients with no added refined sugars. The Almond Raisin bar also carries the USDA organic, non-dairy kosher and vegan certifications.

When your game plan is not working Hopefully, you have dialed your nutritional plan in well before race day. Most endurance athletes are strong-willed and uncompromising. While

developing an effective game plan makes sense, do not blindly follow it if it clearly is not working. Athletes who stubbornly maintain the same fuel intake hour after hour even when it is obviously not working, end up with poor race results, if they finish at all.

While it is important to be consistent, you will occasionally need to adjust



Randy Profeta at the 2007
World Solo Championships
Photo - Greg Profeta

your plan based on the temperature and the weather. Your body's ability to process calories is compromised when the weather turns hot. When the temperatures soar, it becomes more important to focus on proper hydration and electrolytes. Do not force down calories simply based on your “plan”. Listen to your body and be aware of how your stomach feels. Taking on too many calories when your body cannot assimilate them can lead to stomach distress.

If you do experience an upset stomach, sometimes the best cure is a short break. During a 24-hour race in 2006 where daytime temperatures were in the low 100s and evening temperatures

were in the 90s, I had to stop at about 3 AM because I was starting to have some stomach distress issues. I sat for about an hour and nursed a cold bottle of HEED before I felt well enough to resume riding. In an emergency, I will sometimes have some flat cola. I can recall my mother giving me some cola when I was a child to help calm an upset stomach. It still seems to have a similar effect on me. Do not overdo it unless you want to experience some negative results due to insulin spikes. As a rule, you should not mix simple and complex sugars. Remember, be flexible and listen to your body.

Stay with it!

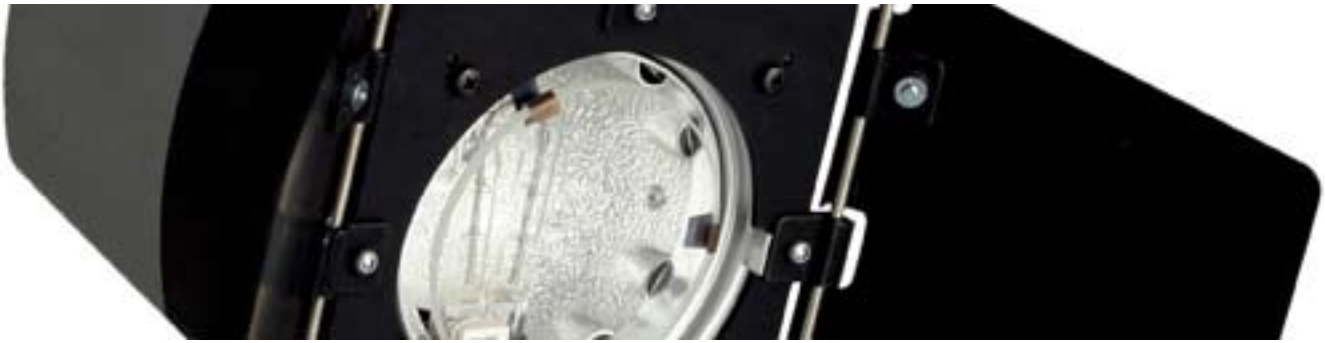
The most challenging yet rewarding part of 24-hour racing is the sunrise lap. You can see the course again and are warmed by the sun. It is also easy to be discouraged when you do the math and realize that you have six more hours of riding to do. This is when you need to have the mental discipline to push on. Endurance racing is a physical, mental, and spiritual experience. It is easy to become discouraged and have your attitude go negative. Tap into the positive energy around you: the course workers, your crew, and the spectators and other racers that cheer you on as you pass through the timing area.

Your crew needs to make sure you stay focused on you calories, nutrition, and hydration. You are almost there! Visualize your success and how it will feel to cross the finish line!

Congratulations! Well Done!

You made it! Twenty-four hours, thousands of feet of elevation gain and loss, and hundreds of miles are behind you. Enjoy the moment. Take a well-deserved rest in the pit. Change into a fresh Hammer jersey for your trip to the podium. I have been blessed with many successes in my life, but few can rival the satisfaction of completing a solo 24-hour mountain bike race. The details of each race have been etched into my memory and will live with me forever.

What's next? Recovery! We will discuss the steps to a successful recovery and the preparation for your next event in Part III.



Athlete Spotlight

Byron Lane

Words : Steve Born and Byron Lane

Talk about someone who is, in his quiet way, making quite an impact and garnering a lot of attention in the ultrarunning world! Byron Lane, from Stony Brook, New York, is this issue's athlete spotlight and when you take a look at some of his race results you, too, will come to the conclusion that, at the very least, he is the picture of consistency in terms of excellence. Check out these highlights:

2008

Only ultrarunner in USA to have won at least four ultramarathons every year since 2003

USATF-Long Island Ultrarunner of the Year

Overall Winner, New York Ultrarunning Grand Prix (6th time)

National Champion, 24-Hour Run, Ultracentric, 3rd overall (might be selected to represent US at 24-Hour World Championships) –NOTE: READ BYRON'S RACE REPORT IN THIS ISSUE OF ENDURANCE NEWS

Winner, 6-Hour Birthday Run

Winner, Ted Corbitt 24-Hour Run (PR)
Winner, Staten Island 6-Hour Run (5th consecutive)

Winner, Viaduct Trail Ultra 50 Miler (Course Record)

Winner, Joe Kleinerman 12-Hour Run (3rd consecutive)

Winner, Unisphere 50-Miler and Unisphere 50k (same day)

Winner, Mid-Hudson Valley/Staatsburg 50k (3rd consecutive)

Elected to Broadway Ultra Society Hall of Fame

Folks, these are just the 2008 highlights! Due to lack of available space we're unable to list all his accomplishments, but needless to say he's done even more excellent races, dating all the way back to the mid-80's. After his 2008 season, which Byron told me, "This has been one great year," it was time to catch up with him.

STEVE: Byron, for someone who has accomplished so much over the past several year—I mean, I knew you were good, but I had no idea just how many races you've won—you seem to have done it in a quiet, humble, not-in-the-spotlight kind of way. Would that be a fairly accurate assessment, and is that how you approach your races – just doing what you've got to do to get the job done?

BYRON: Hello Steve. First, please let me thank you for asking me to be the Spotlight Athlete for this month's edition of Endurance News. I appreciate being a member of the Hammer family.

Yes, I'd say that your description fits me pretty well. Because of the nature of what we do, I think that endurance athletes generally tend to "quiet, humble, not-in-the-spotlight" kind of people. For me, this is true for three main reasons.

Most of the enjoyment that I get out of ultrarunning—and I think what most endurance athletes get out of their sport—is intrinsic. On its most primal level, it simply feels good to move. As

Stu Mittleman writes in *Slow Burn*, "No other form of movement is as natural or as beneficial as running.... Our physiology is exquisitely designed for running and walking.... To engage in this motion brings us one step closer to what we are."

Second, each of us likes to test our mind, to test our body, to explore and learn about ourselves on the inside, to find that point where we want to stop and make ourselves go on anyway. The challenge is the thing—the challenge to do our best. It has nothing to do with anyone else. If I run well and come in tenth, I'll go home very happy. If I win a race against a lesser field but don't run well, it's a hollow victory.

Third, I've always felt that the amount of talking one does about himself or herself is directionally proportional to the amount of self-doubt that person has. The "spotlight" doesn't need to be on me.

I'm very happy with my marriage, my kids, my family, my career, my health, and that I have found a hobby that I really enjoy (and that is good for me to boot!). I have everything I could have hoped for in life. I don't need people to look at me or to cheer me for me to feel good about myself.

In fact, I tend to divert discussion away from myself and my accomplishments. I do not want to give the appearance of having a swelled head. In fact, sometimes it gets sort of funny when I talk to local athletes. I'm sponsored by the Super Runners Shop—it's owned by the first winner of the NYC Marathon and a great guy, Gary Muhrke—and when people see me in my team shirt or team jacket at an event or training run, they always want to ask me about shoes. Invariably, someone else will come along during this conversation and say something about my latest race, "Good work at the hundred," or, "Nice job at the

see SPOTLIGHT on page 39

SPOTLIGHT from page 38

6-hour," something like that. Suddenly, the first guy stops caring about his shoes and wants to ask me what it's like to run 100 miles and I'm still talking about his shoes. I want to do a good job for this guy, so I'm asking him, "Did your arch feel good in your other shoes?" but he doesn't care anymore about his shoes and he's telling me, "Yeah, yeah, good, but, like, how do you go to the bathroom when you're racing?" "They have porta-johns. Now what were you running in before these?" "Something else. Yeah, now how do you train to do a race that long?" It's pretty funny.

There are times, though, when it is important to step up and speak about what I can do. When I am asked to give a talk or do an interview like this, before I answer, I ask myself if it will be useful or helpful for the group on the receiving end. Last month, for example, I agreed to one such role. I was asked and agreed to be an "Honored Hero" for the Crohn's and Colitis Foundation because, as my friend Scott Martin reminded me last year, "your story can inspire others." As someone with Crohn's Disease, I'm in a position where I can show others with Crohn's or with Colitis that, yes, you can do this certain athletic activity, or that there might be a way that you can get around these issues and have a more active life. That's a powerful thing. I have come to think of it as a responsibility that I have, in the sense that only someone who has Crohn's Disease or Colitis and who has done some difficult athletic event can inspire this population. Interestingly, when I deliver my message at the various Foundation events during the year, I have a feeling that I will be the one most inspired. Meeting person after person, each one with a life-changing story...it's going to be amazing.

Regarding the way I approach races, yes, I think I try to keep things on an even keel. I'm a Libra, so maybe I'm hard-wired to be that way! People like Roy Pirrung or Ray Krolewicz or John Geesler—they exude confidence and a quiet strength. They are good, they know it, everyone else knows it, and they don't need to say anything to anyone: their results speak for them. I think that shows class.

My basic plan is to stay within myself, starting at a pace that I think I can maintain until the end. Since many of

the races that I do occur on loop courses in a park, keeping an even pace becomes easy to determine. It also helps those of us who like to race tactically. If someone else moves in front, depending on who he is and how much I know about him, I may let him go or I might stay just behind him and watch. If I decide to stay with him, I try to learn whatever I can about his habits: how long does he go before drinking, does he walk any hills, how quietly does he strike the ground, does he seem concerned with me, etc. If I decide to let him go, I start monitoring how far ahead of me he is getting by timing his laps. I check every lap and keep track of how quickly he is moving away. At some point later in the race, I make a determination about when and how to attack. If the leader is holding steady lap times, I know that I must

run steady laps, too, as he isn't faltering and I will probably have to hold my speed to the line. If he is starting to slow a bit, I have to choose between holding my pace (if he seems ready to crack) or blitzing him with a few very fast laps (to give him reason to think he won't stay ahead). Getting passed by someone with six miles to go in a race can be disheartening. Getting passed by someone who is going a minute per mile faster than you with six miles remaining is a crusher. I guess you could call my style "patient and calculating," or, as one observer noted at a race last year, I "run softly and carry a big kick."

STEVE: You've had some stellar seasons, no doubt topped by the 2008 season. Obviously you have to be satisfied with your results over the course of the year, capped off by a great effort at Ultracentric.

BYRON: Satisfied? Very. This was a wonderful year for me on a lot of fronts. I am thankful that I won so many races, and am glad that I ran well in all of

the races that I entered, but I'm most appreciative of the experiences I went through during those races, the feelings that I'll remember. What determines my satisfaction with a race, I guess, is based on the way I choose to look at it: did I make adjustments during the race to fix things that weren't going well, did I put in a suitable effort, did I make mental or physical errors, did I come into the race well-trained and well-rested? The optimist in me tends to retain all the good memories and the part of me that likes to learn and improve tends to analyze what I could have done differently, but yes, it was a great year of racing.

While I feel most fortunate that I became the U.S. National 24-Hour Champion, I know that I could have, and perhaps, should have, done better. This is another reason that I think we endurance athletes are humble. No matter how well

I do in a race—whether I finish ahead of a particular rival, beat last year's time, beat the course record, set a new PR, etc.—there are always the twin questions of, "What could I have done better?" and, "Then why didn't you do it that way during the race?"

At the Ultracentric 24-Hour Race, for example, I can think of at least eight things that I should have done differently during the race. What if every one of the top ten finishers says the same thing? With so many variables, then, I think one has no choice but to be humble. I didn't win the national championship because I am the best 24-hour runner in the United States: I won because the totality of what I brought to the table that day plus the effects of the decisions that I made on that day, at that time, and under those conditions brought me farther than the totality of each of the other runners' training, eating, rest, and decisions brought them. Had I made all the right decisions,



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I could have gone, maybe...12 miles farther on that course in that weather and in the shape I was in on that day. However, had Runner A and B and C made better decisions, maybe they could have gone 1.3 and 2.5 and 2.8 miles farther than I ran. There goes the title. So I think if one looks at things from that perspective, one would necessarily feel fortunate that things worked out the way they did.

I know that I could have made better decisions during each of my races. That being said, I think that "successful" endurance athletes, however one defines them, are those who generally make more good decisions than bad ones.

The thing I am most pleased with in the Ultracentric race was the way I came back after being so tired. That effort, I am very pleased with. I basically got off the chair and willed myself to go again. >From then on, I ran the last 30 something miles beautifully. That moment of standing up, and the chunk of the last 5+ hour push to the finish, are the two things that I will always remember about this race. They were defining moments.

STEVE: Would you say that was your best effort in the past few years, or is there another race that takes top honors?

BYRON: The two times when I made a great effort during that race were right at the beginning, when my hamstring tightened up and I almost fell over, and when getting up after almost falling asleep late in the race. I think it was a great effort to get up right then. Remembering some words of encouragement from my wife, Melora ("When things get tough, that's when you do your best,"), and a quote from Napoleon ("Glory may be fleeting, but obscurity is forever") helped then. Making that decision to get up from the chair right then set everything else in motion. The rest of the race was difficult, and tiring, and mentally taxing, but had I not handled those two situations well, the race would have turned out very differently.

If you asked me at the time when I had just started up again if I thought I could hold that pace to the finish, more than five hours away, I couldn't have seen myself doing that—I don't think I could

have wrapped my mind around that idea. It was too big and too far away. What I could do, though, was take the next step at that pace. That I could do. I focused only on the now, and, soon enough, the laps ticked by. After a while, it became effortless: I just held to that concept of continuing to move just the way I was. It was like I was all alone. At that point, it was easy.

Another race where I made a great effort was during the 2007 Metropolitan 50-Miler. I was just coming off an upper respiratory infection and was not in good shape at all. National team member Phil McCarthy took the pace out right away and I decided to stay with him. We ran neck and neck alternately passing each other up and down the hills for about 35 miles before he slowly but surely eased away from me for about a minute and a half win. I was very pleased with this effort, even though I did not win the race. The time I recorded on that day gave me insight into what I could do when healthy: it was very encouraging.

STEVE: I think I ask this of all our "spotlight" athletes, so I figure I'll ask it to you. You've obviously had a tremendous amount of success in the past few years. However, was there a race (or two) where absolutely nothing went right? If so, what race(s) was it, what happened to make it a less-than-stellar experience, and what did you learn as a result?

BYRON: Considering that I was on crutches for four weeks from mid-January through mid-February ("doctor error" when giving me a medicine that is known for rupturing tendons), that both my wife and daughter had illnesses during the week before the race, that I had, really, the only injury of my career six days before the race, and that I almost fell down because of the pain in the first few miles of a 24-hour race, I'd say that Ultracentric had quite a bit of "nothing went right" in it! Even as late as 18 hours into the race, I would have said that it was uncanny that so many things had gone wrong.

I try very hard to stay consistent, healthy, and in a positive frame of mind. My grandfather, Charles I. Pace, always taught us that a Positive Attitude Changes Everything. We thought it was cool that his saying matched his last name, and now my own children like it when he tells them the same message. I

also consider weather and the course, and take some time to plan out my pacing and my nutrition. I think pacing is critical. The ability to dial in the right pace for a particular day to get the most out of your body is so hard, but so important. I try to do what I can to prepare well for a race. I am fortunate that I have not had a single race where much has gone wrong other than this one. A mistake here, an error in assessment of someone else's ability there, but nothing close to what was going on coming into and during Ultracentric.

Well, there was one time where one thing went wrong, but it was a big thing. I did a team trail race a few years ago where my training partner and teammate, Tim Henderson, and I found ourselves tied for the lead with the race director and his partner, about a third of the way through the race. We know that we can outrun them over the long haul, so we stay with them to be absolutely sure that we stay on course. About two hours later, the four of us find ourselves at the end of the trail and in a residential area. As the RD pulls off the trail, knocks on the door of one of the houses, and asks if he can make a phone call back to race headquarters, we realize that the race director is lost on his own course. That sort of thing is very humbling.

STEVE: What race or races (if you've done more than one of the same race) are your favorites? Why is that? What makes these races particularly special to you?

BYRON: Just like my children, Zachary and Olivia, I enjoy each one for its own merits. I'm an elementary school teacher, and we use a chart called a PMI. When we evaluate something, we write out three lists: one of positives, one of negatives, and one of interesting. Every course has some of each. I think the secret is to prepare for whatever course you're about to run on. If you're competing on a hilly course, do hills. If you'll be racing in the heat, train at noon. There are good things about every course, focus on the positives and don't let the things about it that you don't like get you upset.

STEVE: Of all the races you've done, which one do you consider the most

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difficult? Why?

BYRON: I think the double ironman is the hardest to train for from a scheduling point of view. Having to plan time in the water adds another dimension to training which makes it very challenging. I think 6-hour and 50 mile runs are very hard because there is no let up: they are basically a sprint the whole time. It's long enough to get you tired and fast enough to really beat you up. Over time, I might end up selecting 24-hour runs as the most difficult because of the exactitude needed to do really well. It's hard to judge between going fast enough to get a good distance and slow enough to be able to move steadily for all 24 hours. If you mess up your pace in a 10k, you might have to slow down a minute or so per mile for the last mile. If you mess up your pace in a 24-hour, you might have to walk the last 60 miles. Imagine running a perfect race for 19 hours, leading by 8 miles, and then developing blisters and finishing seventh. Ouch.

STEVE: You've been a client of ours for a long time so you've been using a lot of the products for a long time. With that in mind, what does your daily Hammer Nutrition supplement program look like? Which of the Hammer Nutrition fuels do you use in your training and racing, and how do you use them?

BYRON: I use the Premium Insurance Caps every day. They make such a difference. I've done comparisons to other multivitamins to see just how efficacious the PICs are and I've been amazed at the results. I also drink a glass or two of HEED every day and have the Whey Protein just before turning in. Some days I use Digest Caps and some days I use Phytomax. I have a Hammer Bar sometimes when I'm "on the go." Very nice. I have some of the Soy Protein in a smoothie probably two or three times a week, usually with rice milk, frozen pineapple chunks, a banana, and a scoop of Cherry Chocolate Chip soy ice cream.

During training, I use either Sustained Energy with Hammer Gel, HEED, or HEED and a Hammer Bar, depending on what I'm doing.

During races, I vary what I use based on the distance, time of year, weather, shade or lack of it, humidity, etc. These

are the things that I have in my cabinet right now: Melon HEED (80 serving!), Sustained Energy, Perpetuem, many jugs of Hammer Gel, Endurolytes, Race Caps Supreme, Anti-Fatigue Caps, Race Day Boost, Liquid Endurance, Mito Caps, and Recoverite.

For a 24-hour run, I'd make up concentrated 6-hour bottles of Perpetuem and some of Sustained Energy plus Hammer Gel. To them, I would add Endurolytes. I would usually drink one bottle of Perpetuem, one of Sustained Energy, and then one of Perpetuem again. Intermixed, I'd have maybe two Hammer Bars. I wash everything down with HEED. I also bring Race Caps Supreme, Anti-Fatigue Caps, and Mito Caps with me in those coin purse things and take them like clockwork.

For short races, say 6 hours and shorter, I usually make hourly bottles instead of the concentrate. All else is the same.

STEVE: I know that, for the most part, whatever success I enjoyed in ultra distance cycling came primarily through hard work. What I mean is that I don't believe I was born with any extraordinary physiological gifts, which would have certainly been part of the equation for the good efforts I was able to achieve. Would you say that's been the same for you, or have you had any physiological testing that revealed some genetic gifts, such as a higher-than-normal VO2Max or something of that nature?

BYRON: While you might not think so by looking at me now (I am 5' 9" tall and race at between 128 and 130 pounds), for a few years, I was the heaviest kid in my grade in elementary school and was teased for being overweight. I'm 25 pounds lighter now than when I raced for my high school's cross country team. Physiologically, if I have any gifts, I haven't opened them yet! No, I don't think that there is anything special or unique about the way I'm put together. The two things that I rely on are a positive attitude and a strong mind. I enjoy challenges. I like to think that I am from the same mold as Emil Zatopek and Steve Jones. They thought: I have trained harder than you, I can work harder than you, and I don't think you can beat me.

STEVE: It's going to be hard to top 2008 but I know you're a pretty driven guy so I'm sure you've got some plans in the works. Speaking of which, what are your goals in 2009? What races have you got on tap for this year?

BYRON: Well, I'd like to get a few good 24-hour runs in. I'd like to think that as I understand the 24 better, I could be right up there with the two or three best American men. To that end, my primary racing goals in 2009 are to run well at the 24-Hour National Championship race and to make the 24-Hour World Championship team. Also, I'll continue my participation in the New York Ultrarunning Grand Prix Series. The organizers are very nice people and for a mostly urban area, the courses are interesting. There are also several first and second time races that are relatively close to my area that I'd like to enter, like Viaduct and South Mountain. The most meaningful race on my calendar, though, is the Long Island (NY) Marathon: I run that every year with my dad, Byron Sr.

STEVE: Finally, based on your years of experience and superb accomplishments, what advice would you give to an up-and-coming ultrarunner?

BYRON: I would suggest that he or she read a lot about the sport (Tim Noakes' Lore of Running and Stu Mittleman's Slow Burn are just two of the many helpful and interesting books out there about long distance running, join the Ultralist on the internet, subscribe to Ultrarunning magazine). Also, I'd suggest that a developing ultrarunner stay patient with his/her body, appreciate what it can do instead of being frustrated by what it cannot do yet, and treat it well by giving it the best fuel and supplements possible (*I recommend Hammer Nutrition!). Understand that you are responsible for your own successes and your own injuries. Finally, always remember what's truly important in life.

STEVE: Byron, thanks for taking the time to talk with me today, congratulations on a great 2008—capped off by your being named National Champion, courtesy of your effort at Ultracentric, and best wishes for another great 2009!

BYRON: Thank you very much, Steve.



24-Hour Run National Champion : Byron Lane

Words : Byron Lane

The Ultracentric 24-Hour Race was held on November 15-16, 2008 at Erwin Park in McKinney, Texas under very cold and windy conditions. Byron ran 124 miles over a hilly 1.159 mile loop course to finish third overall behind world class runners Attila Vozar of Hungary and Elisha Tanui of Kenya to win his first national title. In addition, Byron was the first Master.

Despite a series of unusual events, Byron charged through the field over the last five and a half hours of the race to move from 9th to 3rd overall, and more importantly, to win the national championship. But it was almost not to be.

A week before the race, a week in which his wife came down with bronchitis and his daughter got strep throat, Byron injured his left hamstring--the first significant injury of his career--out of the blue while on an easy training run. More irony ensued when, on his way to the race at the airport, five days later and still in discomfort, Byron skimmed the magazine rack and thumbed through an issue of Runners' World, only to find an article by world-class ultrarunner Nikki Kimball, a physical therapist, who was giving suggestions on...how to strengthen your hamstrings so they don't get injured.

On the morning of the race, things started well for Byron, all the way up to mile 2. That's when the hamstring gave out. He picks up the story from there.

It grabbed me and I jumped. I spent the next two hours trying everything I could think of to get it loose: I ran on the left side of the road, on the center, on the right, I took long strides, short strides, I picked my knees up high, tried heel flicks, stretched it. Nothing worked.

Being hurt was new to me. I had always taken great care to let little things heal before they became worse. When I bruised my toe, I ran uphill on the treadmill for two weeks until it felt better; when I got heel pain, I changed to a midfoot landing and the pain went away within days; when my left ankle kept swelling up, I ran on the right side of the road for a month to take the pressure off it until it healed. I had always been able to find a reason for the problem and find a way to solve it, only not now. In the most prestigious race I'd ever been in, I couldn't find the answer.

As a last resort, I decided to add another sockliner to my right shoe, thinking that maybe it would take some pressure off the left hamstring, but that didn't work either. After a quarter mile, I had to stop to take it out. And that is when the answer found me.

As I'm stuffing the extra sockliner into my pocket and starting to hobble off, not sure what to do, who should come along but Nikki Kimball! Interested, she asks what I'm trying to do with the sockliner.

We run together for two laps as I explain everything. She's stumped until I mention midfoot landing. She

immediately says, "Oh, that's it. When you land on your midfoot, you're asking your gastrocnemius muscles to do too much. They're overworked and the only thing back there that can help out is the hamstring, and now that's overworked, too. I think if you go back to heel-landing, you'll be fine." Despite the fact that I haven't run with a heel-landing in two years, I roll the dice and change the way I run as she suggested. After a few minutes, the hamstring gradually feels better. Four hours later, I barely notice it. I'm not dead yet.

Things go smoothly over the next ten hours: I'm taking in concentrated Perpetuem every three and a half miles, HEED from my bottle on every lap, running most of my miles in the 13 to 14 minutes per mile range, and the hamstring problem doesn't return. But then around 2:30 a.m., I begin dozing off, falling in and out of sleep, weaving as I go up the biggest hill on the course. When I finally finish the loop and make it back to the aid station, my friend Phil McCarthy, America's best 24-hour runner, is there to help. He sits me down and puts a blanket on my legs: it is 31 degrees out, and I'm shivering, but getting out of the wind makes this chair so comfortable...I start to doze off...and I hear my wife's voice telling me that one of my strong suits is hanging tough when things are difficult, and that I always seem to be able to work harder than other people--something she told me on the phone several hours ago when I called to give her an update. Phil comes back and gives me a caffeinated Hammer Gel. I perk up and a few minutes later, after more liquid caffeine, I'm off again... but, I realize too late, too cold to run.

I go down the first hill, away from the aid station, away from my helpers, half-walking and half-flailing, but

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not running. Half a mile later, still shivering, I stumble toward a campsite and ask if I can sit by the fire. I go over, sit next to--almost in--the fire and begin to warm up. Five more minutes off the clock, the time is ticking away, but there is nothing I can do: I must get warm. Finally, I'm able to shuffle off and make it back to the aid station, where I put on more clothing--a third pair of pants, a second pair of gloves, a fourth hat--and I can run again. I'm not dead yet.

Two laps later, I'm moving well again, and have to stop to take off that extra clothing. I'm moving so well--back under 13 minutes per mile--that I start to think about the finish, now only five and a half hours away. I have reached 92 miles and ask where I stand; it appears that I'm in 10th place overall and the 8th American. The scorer's charts show what my friends don't want to tell me, that the first American runner, Dan Rose, hit 92 miles over three and a half hours ago.

I start to tell myself that finishing among the top eight Americans in a race like this would be a wonderful achievement. Certainly, at the start of the race, I would have signed up for a top eight finish in a second, but now...I'm not buying it. I'm waking up and feeling stronger. I know that eighth place in a national championship event is terrific, but right now, that's not enough: that's not what I want. I have more to give. There is no more race, there is only push. There are five and a half hours left and I will push to the finish line.

Laps melt into laps. HEED... Perpetuem...HEED. I check my watch. It's 20 hours into the race and I'm running laps in the 11:20's--that's 9:45 per mile. I'm going faster. I will hold this pace. I am focusing on right now, this step, this step, this hill, this curve. I can...make...this...hill. Push.

Lap. Lap. Lap. HEED. For two hours, I have been the fastest runner on the course. My legs feel powerful, my running feels easy. I am running the course by myself. Lap. I am Abebe Bikila winning the Olympics, I am Bill Rogers winning at Boston, I am flying around the loop, all alone. Lap. I barely notice the other runners as I pass them. I have been catching and passing every runner on the course except for the

American leader, Dan Rose. Aren't I the fastest one now? Lap. Why haven't I passed him? Lap. I haven't seen him in over an hour--and then, suddenly, I know why. He's...different. He's...wearing...a sweatshirt now...and...he's walking. Lap. I must have been going by him without knowing it. He's holding his lower back and he's walking. Pass. I increase my speed. Could I...?

Before the race, Phil McCarthy reminded me to be patient, "because a 24-hour race is entirely different from a 100 miler: so much can happen in those last few hours." With the lead American reduced to a walk after going under 17 hours for 100 miles, his words are ringing true. Lap. The race has changed completely. With 110 miles down and just over 2 hours to go, I'm the third American. Lap. I am now within 2 laps (2.3 miles) of the second place American, five-time National Champion, and ultrarunning legend John Geesler and within 4 laps

I've been the heaviest kid in my grade, I've been the slowest kid in physical education class, and I've been the last kid picked for the team. I've been there and now I'm here and it only makes me more proud of what I've done.

(4.6 miles) of Dan, still the highest-placed American. Lap. I run the next six miles at 8:28 pace per mile and am now in the lead. Lap. And am now... in...the lead.

There is one hour remaining. My legs are flying, my head is spinning--both, impossibly fast. With more than five hours to go, I made myself think it was possible and I pushed. I pushed to show who I am and who I've been. I've been the heaviest kid in my grade, I've been the slowest kid in physical education class, and I've been the last kid picked for the team. I've been there and now I'm here and it only makes me more proud of what I've done. Half crying, half laughing, I know it is going to happen and I say it out loud, "I'm going to win the National Championship."

I've been pushing for the last 5 hours 18 minutes. Over that time, I've covered

32.5 miles around this hilly, cambered course on this cold, windy night. That's a 9:49 pace per mile. I was three and a half hours behind and now I'm ahead. That's who I am.

I let my mind wander. I think about my wife and my children who love me like crazy--all I want to do now is hug them. I think of my parents who have always supported me--my dad started jogging with me when I was seven years old because I was overweight and he wanted to help, and my mom didn't want me to run in that 15km race because she thought it was too far, but she brought me to it anyway because she loved me. I think of my sponsors, Hammer Nutrition and Gary Muhrke's New York-based Super Runners' Shop, and how they have helped me with their advice and products, and how I appreciate that they have trusted me to be one of their ambassadors. I'm very thankful for all of them. Boom!

I'm thankful for everything. "Runners, stop!" I'm just thankful. And the race is over.

Read our interview with Byron on page 38.

Byron Lane has been a Hammer-sponsored athlete for several years. Since 2002, when he started using Hammer Nutrition products, Byron has won 33 ultramarathon races of 50 km or longer, was the overall winner of the New York Ultrarunning Grand Prix Points Series six times, and was the 2007 Age Group National Champion in the 50 km run. He keeps his 5'9 1/2" 129-pound frame healthy by eating a mostly vegetarian diet, doing lots of yard work, and taking Premium Insurance Caps daily.

His fuel for this race consisted of Perpetuem (two 8-hour bottles), HEED (constantly throughout the race; no plain water), Hammer Gel (four servings), Hammer Bars (one), Endurolytes (one every hour for the first 12 hours, intermittently after that), and Race Caps Supreme, Mito Caps, and Anti-Fatigue Caps (one of each, taken together, six times during the event).

December 2008 Hammer Camp



You DO Make a Difference

Words : Dr. Lowell Greib MSc ND CISSN

As a long time athlete and, more recently, a medical professional, I do not feel that I really ever understood the term health promotion. It is something that I presumed I knew about as an athlete since it was something that I actively engaged in personally, however, after studying medicine, it became apparent that this field was multifactorial and included concepts beyond diet and lifestyle choices.

The World Health Organization defines health promotion as “the process of enabling people to increase control over, and to improve, their health”. More definitively the American Journal of Health Promotion has conceived health promotion as “the science and art of helping people change their lifestyle to move toward a state of optimal health”. As athletes, we may feel that we are actively engaged in health promotion, however, after closer examination, we may be missing out on critical aspects that not only affect ourselves, but also those with whom we live in society.

A shift in paradigm of what health truly is must occur before societal change happen. The Ottawa Charter for Health Promotion defines health as a concept. One that emphasizes social and personal resources, as well as physical capacities. Health is a resource of everyday life, not the objective of living!

It is interesting to know that this charter is now almost 23 years old, yet there are few models in North America that

demonstrate effective delivery of health promotion. Since it is a paradigm that extends beyond our governmental models of departmental “siloing”, and mandates intergovernmental latitude and collaboration, the model is bureaucratically stalled. To publicly action a health promotion model the following goals have been suggested:

- Build healthy public policy
- Create supportive environments
- Strengthen community action
- Develop personal skills
- Reorient health services

The big question then becomes - What is our responsibility as active citizens in delivering health promotion?

Since most of us are not professional athletes, we all work in a variety

The big question then becomes - What is our responsibility as active citizens in delivering health promotion?

of capacities, from health care, to private industry, to public servants, to governmental officials. One common thread that we have is that we have the ability to affect the agenda of policy-makers in all sectors at all levels. For instance, the “built environment” is one that involves economics, law, management, design and technology, health (including parks and recreation)

and urban planning (but to name a few). This multi-sectoral approach offers greater social equity, healthier public services and a “greener” sustainable environment. It is important to note that change is necessary in all sectors, not only the health care sector.

Conservation of resources is essential for the growth of the health promotion paradigm. Many of us use our natural environment as our training facilities. It is essential to share these environments with others and respect and care for them appropriately. Not only is health reliant on natural environments, but socially through leisure and work. Health promotion, in the true meaning of the term, generates living and working conditions that are safe, stimulating and enjoyable.

Without community engagement and public participation it is impossible to promote health. It is essential to provide empowerment to communities and allow them to take control of their own destinies. As experienced athletes we are in a relative position of power, where we can provide positive experiences

to those who have not had the social support to participate in exercise. Why not take a kid out biking and act as a mentor? What about going for a walk with a senior who is in need of physical and social engagement? Mentorship from those who are active participants goes a long way in community growth

see DIFFERENCE on page 46



Margaret Thompson celebrates her third place at the 2008 USA Cycling's Cyclocross National Championships. Photo - courtesy of Margaret Thompson

Getting it Back

Words just for you

Words : Tony Schiller

This year, more than most, it seems like a lot of veteran racers I've talked to are finding it harder than usual to get their training on track. My hunch is it's, at least in part, the economy. After all, we're human too. With so much gloom and doom going around, the negativity is bound to catch up with even us endurance athletes.

I too find myself behind schedule this year but am quickly getting caught up. I've recently given myself the same advice I offer you now... it's during difficult times that we need our sport most, and don't apologize for prioritizing training in your life. Even if your circumstances are particularly trying right now – and especially if they are – your solid training and some good hard racing won't be a luxury, it will be a necessity. It will help you to stay strong and to keep your sanity. It will be your one sure thing and it will be a force that helps guide you back to being on top.

How do I know this? Well, more than a few times in the past 37 years (and maybe soon in the future too), it was the daily training and the challenge of the next race that always pulled me through the toughest days. And it never failed me. So no matter where you find your level of motivation right now, to help you dial into your best focus, let me remind you of some of the milestone moments in your racing journey which will trigger your juices to fire things up.

I'll bet you can remember that first race as plain as day. The fear, the excitement, the nervous sensation of needing to pee just before starting... and how quickly the surge of pride you felt in finishing faded into the laundry list of all the ways you can do better, next time.

The early days of your journey are some of your fondest. The first day you wobbled on stiff, cramping legs feeling certain you'd caused irreversible damage, only to throw caution to the wind and do it – the training – all over again that same night. Each mile was hard and done with total awe for how some could make it look so easy. How did they do it? They had to be naturals, right? Or maybe it could be learned... you forged ahead hoping it could be that

or when, you could make that happen again. In fact, you can recall all your firsts... the first time breaking each time and distance benchmark, the first time you withstood the pack's surge and didn't get dropped, the first time it was your move that caused others to drop, the first time you powered through that monster hill, the first time you didn't bonk in extreme heat. And the first time you began to believe, I really can do this – and I will.

That was when it – the goal – took on a life of its own, and suddenly, the schedule became the thing all other priorities had to be planned around. You guarded those time blocks with religious zeal, and felt a certain depression and guilt whenever a session was missed. All the while, you scoffed at any notion of being too serious, or even obsessed about your little habit. No, the only way to characterize your drive was with superlatives like commitment, dedication, courage, purpose and fulfilling a gift.

It's during difficult times that we need our sport most...it will help you stay strong and to keep your sanity. It will be your one sure thing...

way for you.

You can still describe the first breakthrough... where it happened, what the circumstances were, who else was involved, and how the performance almost felt like an out of body experience with such acute focus on nothing but that present moment... how you glowed in it afterwards while wondering if,

Somewhere along the way, you realized one of your special strengths was the ability to suffer, and that you could often make up for what's lacking in talent by going deep into pain. Eventually you got so good at going deep that the line between good pain and bad pain was sometimes hard to define. With great

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Grasky Endurance Wine Country Camp

Words : Steve Born

One of the upcoming triathlon camps that we're excited to be supporting is put on by my good friends and longtime Hammer Nutrition clients/sponsored athletes, Brian and Jill Grasky. The inaugural Wine Country Camp will be held on July 20-26—the week after the Vineman Ironman 70.3—in beautiful Santa Rosa, California. Having trained in Santa Rosa and the surrounding areas for many years while competing in RAAM, I can tell you from first-hand experience that there is some great riding to be had out there (the annual Terrible Two double century, which Hammer Nutrition sponsors annually, also takes place in that area).

But there's much more than just cycling at this camp. According to the Grasky Endurance web site, "Bike routes

will take us through rolling hills and vineyards; running routes will be on back country roads or parks, and we'll have our own lap pool at the resort where we'll be conducting underwater video analysis. We'll become very familiar with the race course as well for those who may plan to race next year. Massages will be available back at the resort where we'll be staying. We'll also manage to spend some time at the wineries for wine tasting. We'll train hard, but play some too!"

Sounds like a great camp to me! More information about this and other Hammer Nutrition-sponsored Grasky Endurance camps can be found on their web site at www.graskyendurance.com.

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and engagement. Not only does this community action produce health promotion, but it facilitates the development of personal skills. It enables the public to learn, through experiential involvement, about various aspects that relate to health promotion.

Those of us who are active in the health care industry have one further responsibility in facilitating health promotion. We need to educate the medical system that in order to move into the health promotion paradigm, it is critical to relieve ourselves that

our primary mandate is to provide clinical and curative services. We need to open channels between health care and broader social, political, economic and physical environment sectors. Professional education and training needs to ensure that the health professionals of the future have the tools to be able to actively engage their communities in health promotion.

All in all, it is easy to identify that we all play a critical role in the development of health in our communities. We all have a significant impact on the environments

in which we live (economically, ecologically and socially). We are involved in the ultimate "pay it forward" - health promotion.

Dr. Lowell Greib holds degrees in biochemistry, chemistry, and naturopathic medicine and offers his expertise in sport medicine, injury prevention, and performance athletic nutrition in private clinics in Huntsville and Orillia, Ontario, Canada (www.mahiganmedicine.com). Dr. Greib is a member of the faculty at both the Canadian College of Naturopathic Medicine and the Canadian Memorial Chiropractic College and holds the CISSN designation from the International Society of Sport Nutrition. Dr. Greib can be contacted at askthedoc@mahiganmedicine.com or toll-free at 1-877-624-4633.

Keep your drinks ice cold!



The members of JetCycling
get a training ride in.
Photo - courtesy of Jet Tanner



Nate's Corner

Prioritize

Words : Nate Llerandi

Steve's Note: Per usual, I've dipped into the archives from Nate's "Tip of the Week" contributions to select this issue's edition of "Nate's Corner." And though this particular bit of info dates back about five years to the date, I think it's still sage and timely advice.

Racing is important. We all love to race (please, don't get so granular on this point that you send me letters about how racing isn't important. I'm speaking generally, OK). And, we all want to race well in each race. But, is that a realistic expectation? I don't think so.

We prioritize our races in terms of their importance to our overall game plan. Or, at least we should. I know I've written about race prioritization before, in terms of labeling your races as A, B and C events. However, this is a new slant to the recommendation.

C races are not important, in terms of how you ultimately finish. C races are more like hard workouts than actual races, but with

the added benefit of going through your race day rituals. Perfect dress rehearsals. You should not compromise your training in order to set yourself up to perform well in a C race. Check your ego at the starting line. Besides, you might surprise yourself. Some athletes' best racing happens when they are so fatigued that they are seeing cross-eyed. Go figure.

C races are also the time for you to test out new ways of doing things – new race strategies, ways of fueling, holding your HR at different levels (higher or lower), etc. The more you can experiment and completely fine-tune your racing, the more confidence you will have going into your A race(s). If you are asking yourself or your coach a ton of questions leading into an A race, you have not done your due diligence and homework during the season. The onus is on each one of us as athletes to take ourselves to task in terms of dialing in our best practices for racing.

Even B races can be used for experimentation. While B races are more important than C races— and while we give ourselves a little bit of rest going into

B races—they are still dress rehearsals for the A race(s).

The A races are where we really want/ need to shine. That's what it's all about, in terms of competition. Personally, I'd rather experiment all year and risk compromising my results, and then blast my A race than to race pretty well all along and not really do something truly special in my A race. Treat your A races as the special events they truly are. Check your ego at the door for your C and B races.

By doing this, you should notice a shift in how you train and race. Every workout of every day takes on a new significance. Because you'll start asking yourself, "Am I doing everything I can to best prepare myself for my next A race?" You won't be focusing on your next C or B race because they will just be additional steps in getting you prepared for the A race(s). And you should find that you'll be getting more out of yourself for those A races. Especially since you will be mentally fresher for them. You can only get yourself jacked up for racing so much. You can only dip into your "can of whup ass" so much. Do it too much and you'll be flat for your most important races. So, save yourself mentally and physically—in terms of giving a 100% focused effort—for your A races.

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*Exploring hiking routes for off-the-bike
CORPScamp Death Valley activities :
Elizabeth Jefferson above Golden
Canyon, en route to Manly Beacon.
Photo - Chris Kostman*

The Way of the Outdoor Athlete

The endurance path

Words : Chris Kostman

Ask any average cross-section of the populace whether they are an athlete and few will respond in the affirmative. However, many will explain that they are into running, skiing, cycling, or backpacking, as if those pursuits were neither athletic nor integral to their “real life.” Instead, most people compartmentalize life, separating athletic pursuits from personal life, from professional obligations, and so on. Far too many have lost sight of the interconnectedness of all that makes up the grandeur of life, lost the intrinsic understanding of how every action complements every other, how everything in our human lives is connected to “the big picture.”

This even holds true for triathletes and other multi-sport athletes as well. Simply excelling at three or more sports rather than one, while definitely a tiny step in the right direction, is not enough on the path to excellence. And if excellence is what cross-training and the multi-sport lifestyle is all about, then it's time to quit being so single-minded in our athletic pursuits, time to start living the way of the outdoor athlete.

Steve Ilg wrote, “The outdoor athlete seeks not an arena but embraces the globe” by finding a way to naturally express oneself athletically in each and every possible natural arena that one encounters. And it is this diversified

approach to athletic outdoor experience, as opposed to the training specificity which so many robotically follow, which is the key to excellence in both a cumulative and activity-specific sense.

More importantly, by pursuing a variety of outdoor sports while simultaneously stepping way back from them to see them in context and the lessons which they offer, the multisport lifestyle becomes a teacher unto itself. Call it cross-training for life, if you will. This understanding will increase your enjoyment and success at athletic pursuits and at life in general. For seemingly disparate pursuits have much to offer one another, no matter how much it may seem otherwise. And stepping back, they all offer profound insights into life “away” from sport.

Can snowshoeing add to one's grace and skill while cycling, for example? Quite assuredly so, for snowshoeing naturally puts one in touch with the terrain, texture, feel, and sound of the snowscape over which one is shoeing. This heightened awareness translates into better road or trail sensitivity while cycling and thus enables better handling, cornering, braking, and balance. The same benefits and lessons learned from snowshoeing also apply to running, skiing, and even driving a car. The beautiful cardiovascular, biomechanical, and neuromuscular benefits of snowshoeing also transfer straight across the board into other athletic pursuits

and life experiences, both physical and otherwise.

And what of SCUBA diving? Done mindfully and with practice, it teaches maximum return for minimal investment in movement, energy, and air expenditure. SCUBA diving teaches grace of movement and non-movement, for any wasted energy or movement equals less air remaining and therefore less “bottom time.” Thus one learns to make the most of every physical movement, every breath, every nanosecond while in the water. As well, the diver learns to think, feel, and move in a three dimensional plane while swimming upside down, “standing” on their head, and otherwise exploring and flowing through the underwater world. Along the way, a diver slowly learns that a three-dimensional environment like the ocean is not a prerequisite to moving and living three dimensionally. This translates into conservation of energy and momentum on-land, making any activity (athletic or otherwise) less taxing. One learns not to waste energy, 24 hours a day, and to move, breath, and even live more gracefully.

Inline skating is not just a great butt and thigh workout, but it also teaches profound, yet simple, lessons about direction, flow, inertia, and more. While all the blade companies of the world tout their new braking systems as the must-have new gadget, true bladers hardly use their brakes at all. For bladers simply flow through their environment, be it traffic-clogged street, busy “bikepath,” or wide open highway. Blading teaches one to see into their own personal future, to avoid danger, collisions, and obstructions, all the while threading a beautiful line through the mayhem in which they traverse. Blading is about conversation of momentum, avoiding catastrophe, and making it look easy,

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which it is for those in the know. Who needs brakes when one flows through their environment like a rolling aikido master? (The same can be said for fixed gear cycling on the road, though I do recommend a brake for that pursuit.)

Cycling opens the world, while providing the most efficient means of transportation ever devised for humans. Whether training, racing, commuting, or just riding for fun, cycling teaches blending with the landscape like no other mechanized activity. Momentum, aerodynamics, geography, climate, and more: they all open up their secrets at cycling-speed. At the same time, the bicycle puts the rider in touch with the human environment, generating waves, smiles, and hi's from passers-by and fellow road users, not to mention teaching one how to predict, negotiate, and avoid those less friendly to those on two wheels. But most of all, cycling is the ultimate, grin-a-minute, great equalizer, ready to embrace any and all in a wind-in-your-hair, two-wheeled adventure.

And mountaineering? To climb a mountain is to sit literally at the foot of a master and slowly, ever so slowly, crawl to its dizzying heights of education and inspiration. Patience, route-planning, preparedness, team-work, and regular stepping back to see the whole mountain in its totality are all prerequisites and perks of the ascent. And perhaps more than any other outdoor pursuit, climbing necessitates a true multi-faceted fitness blend of strength, flexibility, range of motion, mental tenacity, and heart-pounding devotion to the moment.

The most exciting aspect of this wholistic view of outdoor multisport performance is its natural transfer into the totality of one's activities. Much will change in your life if you cease to separate your athletic pursuits from the rest of your life and instead acknowledge the interconnectedness of all that you do.

Heightened attentiveness will become an integral part of your life. Not missing those never negligible details will make your work, reading, speaking, and listening more effective and rewarding. Postural awareness will make you more comfortable, at ease, and efficient at something as simple as sitting, not to mention typing at a computer,

conducting a meeting, or working at an assembly line. Intuitive appreciation and recognition of the breath will become a common opportunity to center and renew oneself in times of stress and relaxation. Regularity in athletic pursuits will keep your mind, body, and spirit fresh for each new day and all that it brings.

Perhaps most importantly, though, you'll quit living and longing for some far off timeframe (the next race, for example), but rather you'll live for the moment and remember that your workout is everywhere. Living and loving each and every day of your life will make you a happy camper - whether you're at work, home, or play.

So, just as the innumerable components of our common biosphere are intrinsically interconnected and interdependent, so too are all aspects of our own individual lives. Success in the outdoor world of multisport can - and should - equal success in the indoor world, for they are one in the same. Thus we must not let even one subsystem of our lives be neglected, for the entire system will be taxed and incapable of maximum growth and potential. A great panorama of outdoor sports awaits those who seek, both to engage us in play and to teach us life lessons that permeate our entire day.

Chief Seattle of the Suquamish Tribe of Northwestern America observed that "Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself." We may use our heightened awareness to understand that our own individual lives are webs within this web: we are each and every one of us our own personal biosphere within the greater biosphere. With that understanding we must learn to better steward the ecosystems within and without, for that is the path to excellence, the way of the outdoor athlete.

Chris Kostman has lived on the endurance path since 1982. Besides competing in races as diverse as the Race Across America, the Triple Ironman, and the 100-mile Iditasport Snowshoe Race, he also organizes endurance events such as the Badwater Ultramarathon and Furnace Creek 508 and a series of five day cycling and yoga camps. This is his seventh article for Endurance News. Learn more at www.adventurecorps.com.

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toughness, you got good at pushing through the pain, even when you probably shouldn't have.

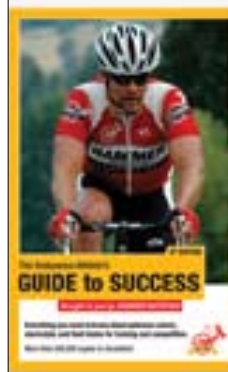
As an athlete, whenever you've been forced out of action, nothing has quite felt right in your life. But good can come from that too. While on the sidelines you got to be a fan, a supporter, a volunteer. You discovered all that it takes to put on a race and how lucky you are for the people who do it. You came to appreciate the special perseverance required to be a racer's support crew, and found yourself being more thankful for those who do it for you. And you learned yet again that it's when we can't have something that we want it most.

It's good to remember that feeling, especially now when we have to recommit to doing the good work again. It always starts in the same way - with the decision to make it happen all over again. So if you find that decision a little tougher to make this year, know this, you're not alone... there's a lot of us going through the same thing.

To admit that is not a weakness. It just makes the discussion real. For me at least, there's a power in realizing that I'm not alone... that many of us are in need of rebooting. That's what this exercise has been all about... getting back online. I'm ready again. How about you? See you soon - at the races.

Tony Schiller plans to defend his over age 50 title at the ITU world championships this year, while continuing to motivate others and direct the MiracleKids Triathlon. To contact Tony, email ts@tonyschiller.com.

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Suzy crosses the finish line with family and friends at the 2008 Ultraman. Photo - Michael Lee

Ultra(wo)man

Suzy Degazon's Ultraman race recap

Words : Suzy Degazon

Every photo has a story and as I look back on my finishing photo from my 11th Ultrawoman I realize that WE had a great journey as a family (Ohana) as my husband (Al) was crew chief, my 2 step-daughters, Cheyenne & Montana, were official cheerleaders and photographers and my sister-in-law Marlene was in charge of navigating. They all offered tireless help (Kokua) and showed lots of love (Aloha) as is the theme of Ultraman Hawaii World Championships held over Thanksgiving.

The journey began at 6:30am on Friday November 28th. Everyone was excited and I was nervous as the 6.2 mile swim is not my favorite part! I put on my new Profile Design/Aquaman wetsuit and stepped into the calm waters of Kailua Bay where just a month back there had been over 1,500 athletes for the Ironman Championships. In contrast here were 38 ultra-triathletes with their respective kayakers waiting for count down. Suddenly one of the guys called out "turtle!" and my panic was forgotten as I watched a Honu peacefully swim around my feet. The next thing I knew the horn blew and the journey had begun.

Soon Raffa, my kayaker for the last eight years, was gliding smoothly by me. He kept on my left side and soon I was passing the Coast Guard buoy then the infamous Ironman turn around buoy! It was a beautiful ocean. Soon I passed mile marker 4.5 at the little blue church, that is when my worst fear came to life: the current changed! You did not need to be a rocket scientist to come to this

conclusion as suddenly the sea life was rapidly moving in the opposite direction and that included schools of jellyfish! I was stung on my face and let out a yelp, meanwhile Raffa remained calm, and guided me on an inside line so I could look at the pretty butterfly fish and see I was moving slowly forward. I ran out of water and Hammer Gel and the last mile was extremely painful. I could see the final buoy turnaround and kept thinking of Cheyenne and Montana waiting for me to get on my bike. As I was nearing the finish I could see my husband waiting to help me out. I heard my name announced and there I was on land, my face all misshapen from the jellyfish welts! I looked at the time of nearly 5 hours of swimming, I could not reflect on it too much, I peeled off my wetsuit and within a few minutes I was on my Cannondale bike heading up the King Kamehameha 111 road, the kids were screaming out of the team van. Cheyenne was snapping photos and Montana was mixing bottles of Perpetuem! After 3 miles of steady climbing I had rehydrated and Montana was giving me my Endurolytes. My left wrist was bothering me and finally I stopped to look and saw a huge jellyfish stinger wrapped around it! I moved my Polar monitor to my right wrist and Cheyenne gave me Wipeaway pain. Al sprayed my shoulders with Kool N Fit then it was time for some serious riding. 45 miles later it began to rain hard and the wind joined the ride on the only bit of downhill on the whole course!! I thought I could not stop and kept on slowly descending until the rain stopped and the long uphill began to the volcano. I finished the first day with just 36 minutes to spare with a respectable bike of 6 hours 25

minutes at Namakani Paio Park.

Now you would think after a hard day in the saddle and jellyfish swims that luxury would await at the Volcano House. I had already told the girls to get their cameras clicking as we were staying in the most expensive room in the hotel! You can imagine my disappointment when I opened the door and saw a room which could not possibly cost \$250 a night. Al went to see if the receptionist had made a mistake, nope no mistake the room had the best view of the volcano and crater but it was pitch black when we arrived and pitch black when we left at 5:45am. The girls were not amused and neither was my husband's wallet!!

Day 2 came all too soon. I slept soundly and was the first awake. Al finally shepherded the girls and Marlene and soon we were all huddled together in the team van making our way to the starting line of the 171.4 mile bike ride! The sun was nearly up to light the road for the steep 25 mile down hill. Cheyenne and Montana took photographs and listened with Al to the race brief. This year the crews went ahead for 25 miles and then we started the race 6:30am sharp! It was pleasant, not too cold and the road was dry. 25 miles went very quickly and I was reconnected with my crew. I gave Al my pink Hammer jacket and set off for the Kalapana Red Road. Montana cracked me up as she monitored my hourly needs of Endurolytes and nutrition, while Cheyenne started speaking in a British accent; it was quite a journey that day. At the Red Road the crew cannot follow and take a different road to wait for their athletes, which really is quite a shame as this part of the bike has the most dramatic scenery with the surf, palm trees, clear skies and lava rocks flowing to the wild ocean! I actually lose time looking at nature! At mile 62 I see my team van, everyone looks happy and we set off for Hilo where I am met with several traffic lights which all seem to

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hit red as I approach each one! It is a great relief to get to Hilo and go along the scenic water front, carefully go over the steel bridge and from here there is only 70 miles left along the Hamakua coast line. There are magical water falls to be seen and plantations of papaya, mangoes, bananas etc... I only see the ocean and visualize the finish! I soon need a potty break and Cheyenne tries to protect my dignity! The girls are getting a real insight to ultra racing! Approaching Waimea, the beautiful tail wind I have

had for most of the way is being replaced with droplets of rain, I can see the Kohalas to my right and do not like what my brain registers, there is a layer of VOG forming (Volcanic Fog) and I can see how hard the wind is blowing. I am so near the finish line, just a 6.4mile ascent over the Kohalas to 3,564 ft, I opt for my Brooks running shoes as I have been blown across this road before and climb strongly to the summit of the climb, I am cautioned by a race official that the wind is howling and to be careful. I gingerly made the

first 3 miles of descent looking back - I probably could have run faster! Then another cyclist passed me so fast it was all a blur, which gave me new confidence to lean into the wind and hammer the pedals and before I knew it I was rolling across Day 2 finish line in less than 10 hours, which just happens to be a personal best for me at this race

After we had all showered we all enjoyed a nice dinner and reflected on a tough day of crewing and riding! Tomorrow it would be all over after 52.4miles of coastline, lava rocks and Hawaiian eco friendly graffiti!

Day 3 and we were met with a rainy dark sky! But this is Hawaii and it would soon be a beautiful day in paradise. The final day I have traded my Cannondale for my Brook's running shoes and blue running skirt! With my trade mark Hammer pink cropped top, I stood in a circle with the rest of the athletes as a Hawaiian

blessing was sung and a triton trumpet blown North, South, East and West! 6am sharp and the final day had begun. What ever way you look at it, it is 52 miles! You have to keep moving forward. One mile 52 times, sounded the best plan. As for my crew we had sat down and discussed our game plan for the day they would leap frog me every mile and stop to give Heed, Gel or endurolytes. Everything was going to plan, as usual the first 18 miles I work out stomach issues, this year I was not too bad and kept to my Hammer Nutrition, I had a good friend Kevin pace me until the run went up a mile hill to

having 7 track meets all in one day! She thought that was cool! The team van started stopping every half mile. I made mile 40 and walked this mile with Al. I was crying with frustration, my Achilles tendons were both fragile my heel was rubbing on the right foot and I had only 12 miles left!! I was on course to wrap this up in 9 hours but my injuries that I had been dealing with were starting to plague me! The last 6 miles seemed like 60! I could hardly put my right foot on the asphalt! This is truly were ohana, kokua and aloha come into play, Montana thought I should just get into the van!!

Cheyenne kept giving me cold sponges, my friend Chuck and my Kayaker Raffa had come out to support those last miles, Finally I am at mile marker 99! Where 3 other athletes over take me, Cheyenne is telling me go catch them, at this point I am in survival mode I just want to finish I finally reach the last quarter mile and another athlete literally sprints



A recent postcard we received from Suzy

the Queen K, then Montana and Marlene joined me for a few miles, Montana in flip flops was quite a sight to see and lasted a few 100 feet! It was fun as you could see other runners vans strung down the highway like a string of pearls, mile 26 half way there and I was joined by another friend Michael, I had the perfect game plan, I was going to get to mile marker 82, then the Western Cemetery, then airport, Natural energy lab and harbor and before I knew it I would be at mile marker 99 running towards the Old Airport! Unfortunately the plan did not go as smoothly as anticipated, injuries I had been dealing with over the year began to wake up, I was also wearing orthotics for the first time at this distance and to add to all that the sun was heating things up! Cheyenne ran a mile with me and was all bubbly and happy! You are nearly finished! She shouted out so enthusiastically (I only had 20 miles left!) She is 13 and does cross country so I turned round and replied it was like

past me!! It is nearly over I have the family around me Montana, Cheyenne, Al, Marlene, Michael, Chuck and Raffa! We all go through the chute together, the journey has finished in a respectable 10 hours and 1 minute! I have just completed my 11th Ultraman Hawaii run, placed 2nd female overall and had the Kokua all the way! Jane Bockus the Race Director hangs a lei of sweet smelling flowers around my shoulders and Cheyenne and I decide to cool off in the ocean!

My thanks go out to Al for his support and my family for sacrificing 3 days to crew 320miles! This is the last race of 2008 for the AVON Breast Cancer Crusade. My thanks to Hammer Nutrition, Brooks USA, Rudy Project, Fuelbelt, Kool n Fit, Cannondale bikes, Serfas Tires, Polar Monitors, Tri all 3 sport cases, Profile Design and Aquaman Wetsuits and finally to Tom and Gordana who give me a place to stay with my family that is KOKUA in capital letters.



Photo - Angela Nock

Restless Leg Syndrome

Relief with Endurolytes

Words : Steve Born

Name a physical ailment and chances are there's at least one prescription medication available that (supposedly) addresses that particular ailment. Honestly, doesn't it seem as though a new drug comes out with ever-increasing frequency, and for darn near every possible ailment there is?

One of the newer prescription medications I've noticed that has gotten a lot of TV airtime is one that's designed to address the symptoms of Restless Leg Syndrome (RLS), which are usually characterized as unpleasant sensations (tingling, jittery, creepy-crawly, and

others) in the thighs, calves, thighs, and feet (sometimes the arms as well).

Interestingly, there have been a lot of clients who have emailed us requesting possible nutritional solutions to this particular ailment, and for years we've suggested using Endurolytes. Over the years we have received numerous emails from clients who have praised Endurolytes for the relief it's provided them from RLS symptoms. Here's one that we recently received:

Dear Hammer Nutrition –

I was introduced to Endurolytes by a friend after a discussion concerning

Restless Leg Syndrome. He gave me some pills and told me to try them. The first night I took one pill. Within ten minutes my legs relaxed and I was able to sleep through the entire night. Throughout the day they kept my legs from feeling "jumpy." One pill lasted several hours. I am grateful to have found a natural product that works so well.

*Thanks –
Kristen Hillman*

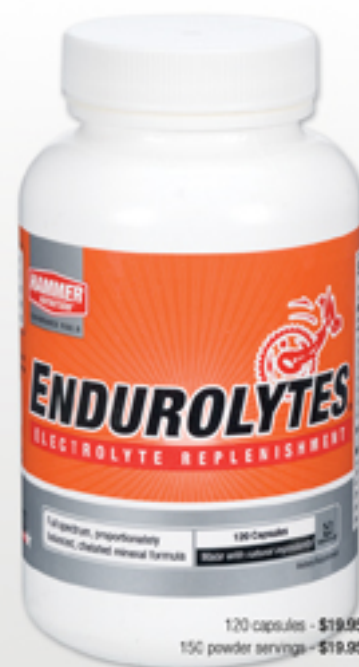
Again, this is but one of many testimonials we've received regarding how efficacious Endurolytes is for the relief of RLS. It's certainly not a "magic bullet" but if you're having RLS-type symptoms such as those described above—and especially at night—consider giving Endurolytes a try before you go the prescription drug route. We think you'll be pleasantly surprised at how well they work... naturally, of course!

Electrolytes done right

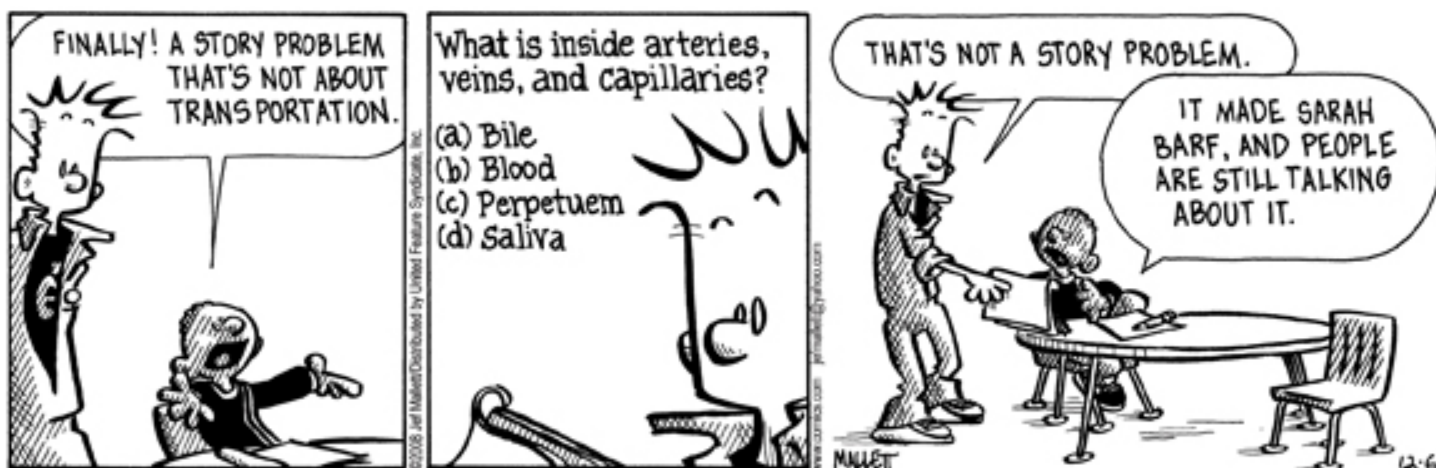
If the caloric fuels (Hammer Gel, HEED, etc.) you consume are the body's "gasoline", electrolytes are what keeps the octane high. In athletic terms, this means that many important bodily systems - muscular, nervous, digestive, and cardiac - require adequate levels of electrolytic minerals to perform optimally.

Endurolytes is exactly what you need as it supplies your body with a perfectly balanced, full-spectrum, rapidly assimilated electrolyte source. Endurolytes complements a healthy, low-sodium diet and allows you to meet your widely variable electrolyte needs with tremendous precision, hour after hour, in all types of weather conditions.

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In Black and White

Catching up with Frazz cartoonist Jef Mallett

Words : Patty Mallett

When my sister and I watched my husband, Jef Mallett, cross the finish line at the 2008 Ironman Florida (on a computer at our Michigan home, alas), we were vaguely disappointed that the race announcer didn't mention Jef's occupation. "Cartoonist" wouldn't have been the most interesting occupation among the triathletes competing that day, we decided later—we awarded that honor to the rodeo clown who crossed the line while we were watching—but it would have been among the most interesting.

While Amy and I both were pleased to see Jef finish (she, in part, I suspected, because we could finally leave the computer to which I had been glued for the better part of the day and do something else), I was also relieved.

Jef had just finished his first Ironman in 11:02:53. He had crossed the line under his own power. And he had looked pretty good at the finish, too—none of the dehydrated, shrink-wrapped look we fondly refer to in our house as "ferret face."

When he called me a half an hour later, he sounded good, too. Giddy, in fact.

Thanks, Hammer.

Jef has been competing athletically in one form or another—bicycle races, triathlons, running races, and masters swim meets—for as long as I've known him. He demands peak performance from himself, regardless of how much time he's had to train. And because he works for himself, his time's always tight.

At the same time, Jef has to get out of his home office to train and compete. If he doesn't, he's a lot less funny. That's a huge problem for someone who makes his living making other people laugh. Besides, he'd have a tough time justifying his five and a half bicycles (we share a

school janitor—spends much of his time outside of work swimming, bicycling, and running. Truth be told, Frazz is Jef ("only cooler," Jef says).

Frazz gets lost on long rides? That's because Jef does, too. Frazz gets chased by dogs when he's running? So does Jef. Frazz gets beat by much older swimmers at masters meets? Yup.

And that's why Jef gave a nod to Hammer's Perpetuem in the strip that accompanies this story.

"It's part of my world, and the comic strip is essentially about my world," Jef said. "That particular comic stuff called for a funny substance with a distinctive name. I chose Perpetuem because it just seemed to fit that joke. It sounded vaguely biological without being biological. And when it's possible, I like to give cameo roles to people—and even energy fuels—that play a big part in my life."

Because Hammer's products work so well for him, Jef can spend more time making people laugh - and less time recovering from his races.

tandem) occupying our basement if he didn't actually use them.

Because training and competing occupy almost as much of Jef's time as his syndicated comic strip, Frazz, does, it's not surprising that the strip's eponymic character—an elementary-

Jef has been using Hammer products for about five years. He used Recoverite in training for IM Florida, and he used Perpetuem in paste form on the bike during the race. ("I mixed it like pancake batter and slurped it out of a flask and

see **FRAZZ** on page 55



Race Report

Hammer athletes

Mary Lou Lowrie

FYI, as a faithful and religious user of Hammer Nutrition products for my training and racing (both Ironman and nordic skiing), I want to report that I had another very successful Ironman race in Western Australia this past December. Not only did I decisively win my division, I also set the new bike course record and will be going back to Kona in October 2009. I am always touting the benefits of Hammer Nutrition and pass along any info that I can to my athlete comrades.

Best to you,
Mary Lou Lowrie



Gerald Lamb

I am sending this picture of me on the podium as the gold medal winner of both the 5K and 10K time trials. This was at the Florida State Senior Games Championship held Dec. 9, 2008. As you can see, I was wearing the Hammer Nutrition uniform. I also wore the gloves, socks, and cap. I have been using the Hammer Gel and HEED drink for some time now. I think it helped in my winning the gold medals. I also used the Race Day Boost for four days prior to the event. Last year I finished eighth in my class. I competed in the 70-74 age group.

Gerald Lamb



Guillermo Medina

Last fall we received the following pictures with captions from ultrarunner Guillermo Medina after the Angeles Crest 100. Guillermo would finish the day in 6th place and as a recipient of a coveted "24-hour buckle". Nice work Guillermo!

1. Alexander, my son and member of my supporting crew.

2. 4:30 am starting line for the AC100 with friends.

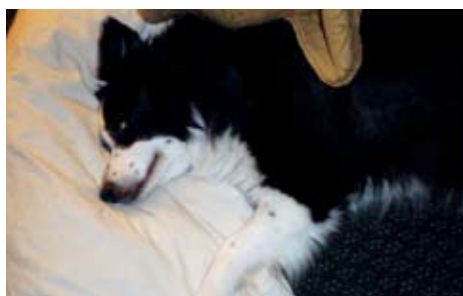


Newby Murdoch

We recently received the following pictures, and note, from longtime clients, the Murdochs. Here's what Lincoln had to say...

"We were driving from Phoenix to Omaha - moving there actually - and our dog Newby got sick with the big "D." We took a pic of her laying down, not feeling so well - the first pic.

We wanted to take all food away from her for a while so her stomach could settle down but, we wanted her to get some nourishment. So we offered her some HEED and took the "after" pic which we thought was cute with the canister next to her. Not sure if she actually drank the HEED but we felt good offering her something that would help and the pics were too cute to pass up. She did eat some Hammer Bar though - her favorite flavor is the new coconut almond. She also is very fond of Hammer Gel - Vanilla being her flavor of choice."



Disclaimer: HEED contains Xylitol and some Hammer Bars contain chocolate. Some studies have shown both of these substances to be toxic to dogs. Please check with your vet prior to feeding either of these products to your pooch.

Dominik Benz

Swiss Hammer Nutrition Endurance Team member, Domink Benz, competes in the Uster Triathlon in Uster Zürich Oberland.

Bill Riley

A long-overdue congratulations to longtime client, Bill Riley, on a record-setting run at the Hartford Marathon and Half Marathon last October. Known as 'Cape Cod's Ironman', Bill completed the course in 1:32:28, a full 41 minutes ahead of his next competitor. Not only did he take first place in the 70-74 age group, Bill also set a course record. Nice work Bill!

Ken Reuter

Congratulations to Ken Reuter for his recent win at the Pooch and Pal 5K trail race in Pasco, Washington. Ken is the coach for Team URS (for the US Challenge Adventure Race) and took up running 3 short years ago. Way to go Ken! By the way, those are Ken's feet pictured at the top of the facing page.



FRAZZ from page 53

washed it down with water.")

"Some stuff seems to be interchangeable, and I make a point of interchanging it—I can't count on Hammer's stuff being served at every race," Jef said. "But I haven't found a long-course supplement that works as well as Perpetuem, and I haven't found recovery stuff that works as well as Recoverite. I tried going cheaper and not using Race Caps, but I really do think they make a difference. I don't seem to go anaerobic as quickly."

Because Hammer's products work so well for him, Jef can spend more time making people laugh—and less time recovering from his races (and worrying his wife with his hydration and nutrition issues). And that's good news for all of us.

After all, who couldn't use a good laugh these days?

Frazz appears in more than 150 newspapers in the United States and Canada. Not in your local newspaper? You can find Frazz online at <http://comics.com/frazz>.



Jef crests the 31% Westernport Wall during the Savageman Half Ironman in Maryland this past September. Photo - courtesy of K.a.r.l.o. Photo



Anita Fromm competes at the 2008 Badwater Ultra. Photo - Tim Fromm

Race Report

Hammer athletes

Tauranga Half Ironman - New Zealand Team

The Port of Tauranga Half Ironman is New Zealand's premier half iron distance race, also doubling as their long distance championships.

Swim conditions were calm this year, but the numerous giant jellyfish in the ocean certainly kept things "interesting". The three lap bike course is flat and fast, following the beautiful coast line before heading out into a rural area. It was most notable this year for the number of punctures caused by overnight rain which brought a lot of glass to the surface! The run is two laps which

follow the coast and then winds around the base of Mount Maunganui. It must be one of the most picturesque HIM courses you can do.

Hammer Nutrition was well represented with the crew from the NZ distributors office taking part in the team and individual events. All Hammer athletes recorded PR's, and while the team is still to be confirmed, three have gained selection to represent New Zealand at the World Long Distance Triathlon Champs in Perth, Australia later in the year.

Anita Marie Fromm

Just wanted to thank you for your support of the Run With An Angel 50 Miler on January 3rd! Usage of your products before and during the race, not to mention in my training, enabled me to come in first place female, seventh overall, and set a PR. I also used your products during the 2008 Badwater, afterwards continuing up Mt. Whitney in a new women's world record time of 52 hours and 17 minutes, (previously held by Great Britain's Eleanor Adams for 21 years) then running back to Badwater, for a total of 292 miles, to set a new women's "Death Valley Double Crossing" time of 129 hours, 44 minutes, and 5 seconds. Thanks so much for your consistent and loyal support of ultrarunning! I love your products and always refer runners to your website who need endurance products and good, solid advice.

Gratefully,
Anita Marie Fromm

Cooling off in the water after the Port of Tauranga Half Ironman:
Chris Button, Barb Watson, Lorna Mills, Tracey Mitchell, Natalie Seay, Phil Shambrook, Susan Prater, Louise Shambrook.
Photo: Nigel Watson / Absent: Rachael Button (I was still out on the course!)



WANT TO HAVE YOUR RACE REPORT PUBLISHED?

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

athleteupdates@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.

Photo note: please ensure that all photos submitted are high resolution at 300 dpi or at least 500 kb in size.

Thanks!

Bill Misner

2008 Run For A Safe Haven 5K, Sacramento, California, November 8, 2008

Men Masters 65-69*

1. **Bill Misner**-----68-----21:51.5-----Under -4:01.5-----82.26%
2. Harold Sullivan-----68-----32:43.1-----Over +6:50.1-----54.93%
3. Franklin Anderson-----66-----58:44.3-----Over +32:17.4-----29.69%

Top 5 Men Masters 60-69*

1. Ernest Takahashi-----63-----21:00.5----- Under -3:43-----79.64
2. Arnold Utterback-----62-----21:12.6-----Under -3:30.4-----77.88
3. **Bill Misner**-----68-----21:51.5-----Under -4:01.5-----82.26
4. Gordon Ulrey-----62-----27:46.4-----Over +3:03.4-----59.47
5. Rick Baker-----64-----27:47.6-----Over +3:04.6-----61.00

*Listed By: Name, Age, Time, All American Standard [1], % Age-World Record (speed) [2]

[1] USATF - USA Track and Field determines "All American" standard by the top 5% running performance age groups in American 5K road races. National Masters News lists "All American" performances in the National Masters News Magazine monthly issue.

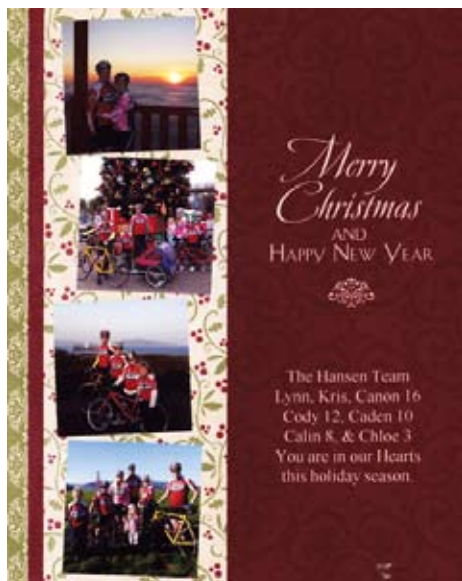
[2] The age-graded performance is calculated from age group World Records, using a simple model to provide a smooth summary of these. Again it is expressed as % age group World Records (speed), so that 100% is (approximately) the current age-group WR, and lower numbers are slower.

The Hansen Family

Thank you so much for all of your support and all of the samples that you have given me. My family has ridden all over San Francisco in our Hammer gear, including 36 miles on Thanksgiving Day, and the day after. My 16, 12, and 10 year old boys all had on their jerseys riding behind my wife as I brought up the back

with my 7 year old boy and 2 year old girl who were also wearing jerseys in a trailer behind my bike. You wouldn't believe the onlookers as my whole family rode in matching jerseys. It was quite an experience.

Lynn Hansen and family



Gary Miller

Hello - you might like to know I have used your products for over 3 years and would not train or race without them! I am 52 years old, race in the 50 Amateur Class and out of about 140 racers, I am in the top 10 for 2008. Thanks!



Katie Mueller

I wanted to share this picture with you and the rest of the Hammer group. My daughter, Katie, loves Recoverite. Whenever Wendy or I have one, she needs to also share in it. Sometimes she drinks more than her share. And she will drink it to the end as seen in the picture.

Peace,
Toby Mueller





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Feedback

Bob Brauser

I had been plagued by cramping during my training for running marathons. I was also attacked by cramping in several marathons that I had participated in including a double calf cramp at Boston.

A good friend and Age Group Triathlete told me about Endurolytes and I was excited about achieving a remedy for the serious problem affecting my performance.

I have recently started taking them and am pleased to tell you that this past Sunday I ran the ING Miami Marathon cramp free! I was waiting for the "Crampire" to attack but the Endurolytes seemingly warded them off. My plan for a 10 mile or more survival walk/limp, or painful cramp ridden run to the finish line, was not necessary to deploy.

I will be making Endurolytes part of my training, especially the long mileage runs.

Thank you, Bob Brauser

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