



The endurance athlete's comprehensive knowledge resource since 1992

AO Booster

Superior support against fat-soluble free radicals... and so much more

Words : Steve Born

Hammer Nutrition's *Super Antioxidant* product provides dynamic nutrient support to protect the body against damage from free radicals, primarily water-soluble free radicals. The new Hammer Nutrition product, *AO Booster*, "completes the picture," so to speak, by providing wide-ranging nutrient support for the all-important neutralization of fat-soluble free radicals and the specific damage they can cause. In addition, the nutrients contained in this unique product support a variety of other benefits, as we'll discuss later.

The importance of free radical neutralization

Our bodies need antioxidants to protect us from the damaging effects of free radicals. Researchers Bradford and Allen write, "A free radical is simply a molecule carrying an unpaired electron... All free radicals are extremely reactive and will seek out and acquire an electron in any way possible. In the process of acquiring an electron, the free radical... will attach itself to another molecule, thereby modifying it biochemically." [R. Bradford & H. Allen. *Oxidology*. Chula Vista CA: R.W. Bradford Foundation, 1997. Pp. 64-65.]

Leibovitz and Siegel state: "However, as free radicals (FR) steal an electron from the other molecules, they convert these molecules into FRs, or break down or alter their chemical structure. Thus, FRs

are capable of damaging virtually any biomolecule, including proteins, sugars, fatty acids and nucleic acids." [Leibovitz, B. & Siegel, B. (1980) "Aspects of free radical reactions in biological systems: aging" *J Gerontol* 35: 45-56.]

Dr. Bill Misner writes, "If free radicals are not neutralized by on-site antioxidant body stores immediately, tissue damage occurs to absolutely every cell membrane touched by these imbalanced molecular wrecking machines. Some theorize soreness and stiffness result because free radicals and waste metabolites build up during either prolonged or intense exercise."

A wide range of both water- and fat-soluble free radicals is continually formed in the body as part of normal biological processes. Other factors, such as pesticides, cigarette smoke, pollution, alcohol, stress, and foods that are fried at high temperatures or burnt, also contribute to an overload of free radicals. Supplementing with a wide variety of antioxidants is required to counteract the damaging effects of the various types of free radicals.

The AO Booster formula

Tocopherol (150 mg)/tocotrienol (50 mg) blend – The vitamin E "family" has eight "members" – four tocopherols and four tocotrienols. Studies suggest that optimal health benefits are obtained via

see *AO BOOSTER* on page 7

IN THIS ISSUE

Welcome	2
From the Saddle of Steve Born	4
Cooking with Hammer	17
Race Report	42

Complete table of contents on page 2

NEW Products

AO Booster Seat Saver Endurance Amino

We're expanding our line, and introducing three new products to make your race or workout more enjoyable and successful!

AO Booster: Superior support against fat-soluble free radicals...and so much more - page 1

Seat Saver: Anti-Chafing/Bacterial Cream - page 8

Endurance Amino: Put the power of Branched Chain Amino Acids (and more!) to work for you - page 10

HOT TIP:
Buy in bulk and save BIG!



Now that getting the most out of your dollar has become even more important for many of us, it's good to know that you can save money on a variety of your favorite Hammer Nutrition supplements and fuels, simply by buying multiple quantities of them. Check out the price list in the center of this edition of *Endurance News* to see which products offer multi-unit discounts and how much money you save when you buy "in bulk."

IN THIS ISSUE

AO Booster	1
Welcome	2
From the Saddle of Steve Born	4
Cyclists Rejoice! Seat Saver is Here	8
Reducing Holiday Weight Gain	9
Endurance Amino	10
Lost in Translation	12
Turkey Ride	13
Quest for the Best	14
Cooking with Hammer	17
Race Day Boost Available in Capsules	18
2008 Hoodoo 500	19
Tips for Successful 24-hour MTB Racing	20
Aging Effects and Performance	22
Triathletes: Tips to Help with 2009 Season Planning	26
Le Randonee des Grands Crus de Bourgogne	28
Want a strong Performance?... Build Strength	30
The Time is Now	32
Electrostimulation (EMS); Backed by Hard Science	33
Record Year for Hammer Event Sponsorships	35
In Search of Epic	36
2009 Planet Ultra Cycling Events Calendar	37
Kona 2008 Recap	38
The Furnace Creek 508	40
Climbing for a Cause	41
Race Report	42



Brian Frank sports the 2009 kit on a fall ride around Whitefish Lake. Photo - Angela Nock

Welcome

Words : Brian Frank

Happy New Year!

Welcome to the 61st edition of Endurance News. Please know that my enthusiasm and anticipation for this year is greatly tempered by the current economic climate and the hardships that so many of you are experiencing as a result. It is my hope that these tough times pass quickly and that you are minimally affected. For those of you who are being significantly affected, I am terribly sorry about your plight. Perhaps now is a good time to focus your energy on the other important things in life - family, friends, and your health. At the very least, training and racing provides a good diversion!

As promised, Endurance News has a new, updated look and will be arriving in your mailbox six times per year instead of four. Over the past 17 years, this publication has grown steadily in terms of content and circulation. You can expect that trend to continue in 2009 and beyond as we continue to focus on areas of interest to all endurance athletes,

and especially those of a Hammer persuasion. The topics of healthy eating, "less is best" fueling practices, and prudent nutritional supplementation will continue to dominate these pages, augmented by informative product articles, announcements of new products and flavors, race results, and uplifting stories from the Hammer community worldwide. Despite the growth and associated costs, Endurance News will remain a free publication, as will all of our other publications and information resources.

New products

I'm very excited about two new products that will be introduced in our 2009 catalog later this month. Endurance Amino and AO Booster will make their debut as complimentary additions to the Hammer Nutrition Endurance Supplement line. Endurance Amino is a potent blend of Branched Chain Amino Acids (BCAA), the building blocks for your muscles, plus a couple other complementary and beneficial amino acids. This product compares well to high priced amino acid tablets on the market, at a fraction of the cost, and offers the endurance athlete a new weapon in the fight to build, maintain, and repair lean muscle mass, in addition to decreasing fatigue and boosting immunity. AO Booster is a lipid, or fat-soluble antioxidant formula that nicely complements our flagship antioxidant product, Super Antioxidant. The rationale behind this product is that you need all of the help you can get in the fight against free radical overload, especially the oftentimes-overlooked fat-soluble produced free radicals. In addition, AO Booster provides a number of additional benefits. You can read more about these products elsewhere in this issue.

Our Staff

Editorial : Steve Born, Dr. Bill Misner, Brian Frank
Editorial Contributors : Jim Bruskewitz, Dr. Lowell Greib, Shane Eversfield, Chris Kostman, Al Lyman, Tony Schiller, Randy Profeta, Mike Freeman, Giovanni Ciriani
Layout : Angela Nock, Kelly Pris
Editing : Justin Ward (Articles from contributors are not edited.)

Our Mission

The objective of Endurance News is to provide you, the serious endurance athlete, with a valuable resource that you will find to be informative, educational, thought provoking and helpful in your ongoing pursuit of optimum performance and health.

Endurance News features insightful articles on diet, nutrition, training and other topics of interest for endurance athletes - written by myself as well

as professional and elite amateur athletes and other experts in the area of nutrition and exercise. In addition, Endurance News will include articles highlighting new and existing Hammer Nutrition products and how to get the maximum benefits from them.

In reading this and future issues, please remember that the views expressed in this publication will always be biased in favor of a healthy diet, hard training that emphasizes quality over quantity, and prudent supplementation to improve health and performance. But above all, we at Endurance News believe there are no short cuts, and success can only come from hard work.

Back issues are available at www.hammernutrition.com

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

©2009 Endurance Marketing Group. This information is copyright protected. Please feel free to distribute this information as long as the copyright notice, phone number, and/or URL are included. Content must remain unchanged and original authorship acknowledged.

see WELCOME on page 3

WELCOME from page 2

New flavors and such

You've been asking for a new flavor of Perpetuem for a long time and we've been working on one for just as long. It might not be what you expect, but all of our taste testers have given it the highest score of any variation we've tried. The key feature of this new flavor is that it still tastes good when it gets warm or even hot. Drum roll.... It's Caffé Latte, with 25mg of caffeine per serving. Tastes like iced coffee when it's cool and regular coffee when it gets warm/hot! Single serving packets and 16-serving container will be available in late January or early February.

Another new variation for 2009 is our popular sodium phosphate loading product, Race Day Boost, now packaged in convenient capsule form. Depending on your bodyweight, 2-4 capsules with a glass of acidic juice (apple juice or orange juice are good choices), four times per day for four straight days and you'll be ready for that big race. We'll offer this in a 64-capsule bottle, which is enough for four loading cycles.

The mantras

For better than 18 years now, we have been preaching a number of mantras such as:

- Replenishing what you can assimilate versus replacing what you lose
- Eating a healthy, low-sodium diet
- Proper caloric timing before and after training and races

So much so, in fact, that Steve and I actually imagined it had gotten out to the majority of our clients. In 2008, I was reminded again and again that despite our wide ranging and continuous efforts to educate and enlighten endurance athletes as to the wisdom and success of minimalist fueling strategies and healthy eating, that message has by no means been "heard" by the masses. Whether it be at training camps, clinics, race expos, or hanging out at a client's house, I was surprised to find a continuous stream of regular Hammer users who had fallen away from our strategies or just never adopted them in the first place. Unfortunately the results are predictable – compromised training

and recovery and lackluster race results.

Not being one to walk away from a challenge, we are redoubling our efforts in 2009, on every level, to get the message to as many of our clients and athletes in general as we possibly can. Besides amplifying our message through this publication, *The Endurance Athletes Guide to Success*, our other various publications, and our extensive information offerings on our web site, we've now gone video. Judging by the hits these videos are already getting on our web site with no promotion or fanfare, it appears that many of you are ready to watch a video of Steve explaining our products, optimal usage, and our fueling strategies. Read through the accompanying article, watch a video or two and pass them along to your friends, and then be sure to give us your feedback on this new medium.

Now I know that there are also a good number of you reading this who are 100% on board and in turn go out every day spreading the good news. We call you Hammer Ambassadors or Hammer

Evangelists. Whatever you call yourself, just know that we love you! You know who you are – your friends and training companions call you the "Hammer Guy" or girl. You are forever giving out samples from your personal supply while trying to convince those around you to put down the candy and stop stuffing themselves silly trying to "replace what they're losing." I still haven't figured out exactly how to reach out to you, so if you have any ideas I'd love to hear from you.

As you read through this issue of Endurance News, remember that this publication is for you and your comments and feedback are always welcome. Send them to en@hammernutrition.com or to me personally at suggestions@hammernutrition.com. Thank you for your continued support and loyalty. We could not do what we do without it, and that's something I'll never forget.

Happy Training!

Brian Frank
Proprietor

The wait is over...

NEW flavor of Perpetuem revealed!

Coming in late January or early February is **Caffé Latte** flavored Perpetuem, with 25mg of caffeine per serving. Tastes like iced coffee when it's cool and regular coffee when it gets warm!

Available in:
16 servings \$23.95
Single serve \$2.69

1.800.336.1977
www.hammernutrition.com



From the Saddle of Steve Born

Words : Steve Born

Welcome to Endurance News #61, the first issue of 2009! I hope that 2008 was a great year for you and that this year will be even better. 2009 will be a year where new things are happening here at Hammer Nutrition (read: a couple new and exciting supplements, as well as a new flavor or two of some existing fuels). At the same time, in many respects 2009 will not be a whole lot different than 2008 or previous years, especially when it comes to making sure you, our valued clients, are treated with the highest quality service and support. I know it sounds like just a nice sound bite, but I really do believe that a company can have the best products in the world but if there isn't high quality customer service and technical support to back those products, they're of little to no value. It's been my experience that far too many companies have lost sight of the fact that quality products, service, and technical support go hand in hand; if one is lacking or missing it negatively affects the others.

With that said, on behalf of our entire staff, I can promise you that we will continue striving to provide you with the kind of service, support, and respect that you deserve. I've known Brian for a long, long time and I can tell you from firsthand experience that he *NEVER* wavers when it comes to making sure we provide the best possible service to the clients of his company. In fact, and I say this with complete respect, I oftentimes see Brian as a "glass is half empty" kind of guy, which is a good thing because it

means that he never rests on previous triumphs or laurels; he truly believes that no matter how good something may be (such as our client support and technical resources), it can always be improved. That's a philosophy that has been in place from Day One at Hammer Nutrition and, over two decades later, it continues to be that way.

On the road!

I looked over my column from an earlier edition of EN, the first one of 2008, and I noticed that I had mentioned that 2007 had been a record year of travel for me. Well, not to sound too much like a broken record, but that was the case again in 2008, a year when I was on the road more than ever... so much so that I kiddingly suggest that I know the Salt Lake City airport, which is the Delta Airlines hub, better than my own home! I have to admit that I'm not a big fan of the "flying experience" but that less-than-desirable reality of the majority of my travel to events is always overshadowed by the events themselves, which is where I have the great pleasure to meet and talk with so many wonderful people and promote the Hammer Nutrition products.

2008 Silverman Triathlon

Of all the fantastic events that I attended in 2008, one really great one that comes to mind is the most recent one I was at, the Silverman Triathlon in Henderson, Nevada (11/9/2008). From a competitor's point of view, this is arguably one of the toughest, if not

the toughest, iron distance races in America, if not the world. The 112-mile bike course is especially challenging. If you go to the profile of the bike course, located on the downloads page of www.silvermannv.com, I think you'll agree that it's a course where aero bars and aero wheels are probably best left at home. The marathon course is no picnic either – you can check out that profile on the downloads page as well. Needless to say, with over 12,000' of elevation gain in the race, this is one heck of a challenging iron distance triathlon, and the saying "finishing is winning" definitely applies!

What I think makes this race so special for the athletes, however, is the amazing treatment they receive from the race organizers and volunteers (a 4:1 ratio of volunteers to racers), the incredible scenery along the course, the well-stocked aid stations, and the great swag bag/goodies that are provided to the athletes (the swag bag is a beautiful, durable, and 100% functional day pack). Race sponsors and vendors are also treated like royalty so with that in mind I'd like to thank Frank and Meg Lowery, Pam Dion, and all the other great race staff for taking such good care of me. If you're looking for a challenging end-of-season half or full iron distance triathlon, and one where you will be well taken care of, give consideration to the Silverman. The 2009 edition is on November 9th and details can be found at www.silvermannv.com.

Helpful hints

There are a plethora of helpful hints and tips one can give regarding nutrition, fueling, and supplementation, far too many to list here in one column. Still, I wanted to offer a couple mainly nutrition-specific suggestions to you—ones that were the first to come to mind

see *STEVE* on page 5

STEVE from page 4

when writing this column—that I think will not only help you feel better general health-wise, but also help improve your athletic performance. In no particular order:

- **Be conscious of your diet and make it a priority to consume as high a quality of one as possible, no matter where you are** – I have to admit that my diet is not always pristine, especially when I'm traveling and dining out. I can tell you from firsthand experience that each and every time I deviate from the consumption of a higher quality diet I can feel it... I feel sluggish, lethargic, and just plain "blah." One of my goals in 2009, and one I hope you will adopt as well, is to be much more aware of what I'm putting in my body food-wise. When it comes to your diet, keep in mind the saying "garbage in, garbage out," which means that what you put in your body plays a major role in how you'll be feeling throughout the day.
- **Decrease your sodium intake** – With today's food supply being the way it is, it can be a real challenge to lower your sodium intake. However, when you do you will absolutely reap benefits for both general health and athletic performance. The average American consumes somewhere in the neighborhood of 6000-8000 mg of sodium each and every day, which is 4+ times more than we require... we are literally salting ourselves to death. Amazingly, though, there are still some "experts" who seem to disregard the health benefits of a low-sodium diet, as well as how a low-sodium diet can improve athletic performance. In fact, a fairly recent article in a well-known triathlon magazine suggests that increasing one's sodium intake in the day(s) leading up to the race will benefit performance. My first (and continual) reaction is "You have got to be kidding me!"

Do yourself a favor and read Dr. Bill's article "Does a High Sodium Diet Inhibit Endurance Performance and Health?" on the Hammer Nutrition web site, then work on lowering your dietary sodium intake so that it's in the realm of 2300 mg or less. Your health and athletic performance will be noticeably and positively affected.

- **Increase your fiber intake** – The American Dietetic Association recommends a daily fiber intake of 20 to 35 grams for adults. The American Heart Association recommends 25 to 30 grams daily. Those figures don't seem like they'd be too hard to reach but you'd be amazed how many people don't. In fact, the average American only consumes about 14 grams daily, if that. I have become more cognizant of my daily fiber intake and I have to say that when it's adequate I feel a whole lot better. One of my favorite ways to get more fiber in my diet is via the salads I regularly make. A variety of lettuce greens mixed in with cut up raw broccoli, cauliflower, red/yellow/orange peppers, along with walnuts and almonds not only tastes great, it's a truly fiber-rich meal, not to mention one that's loaded with a variety of antioxidants, beneficial phytonutrients, and healthy fats.

- **Eat the right amounts of food at the right times of the day** – Pretty much every one at the Hammer Nutrition offices will tell you that I'm the worst offender when it comes to following this. I readily admit it and it's something I fully intend on fixing. Far too often I have little-to-no breakfast, I rarely eat lunch, and then I go home and feast at dinner... and I wonder why I find it difficult to lose weight? Duh! Basically, I've got it backwards – I should be "eating like a king at breakfast, a prince at lunch, and a pauper at dinner." I know that when I've adhered to those principles I not only feel better, it's a lot easier for me to maintain my desired weight. I have also found that if I can stop eating prior to 7 p.m. it makes a significant impact on weight control.

- **Drink sufficient amounts of water daily** – Neither you nor I need a lecture on how vitally important water is; I think we're all pretty well versed on its necessity for general health, weight management, and life itself. What we do need to be conscious of is that we're consuming enough daily. For the life of me I can't remember where I saw the recommendation; however, it made a lot of sense to me and it's the one I've adopted: Take your body weight in pounds, multiply by 0.5 – 0.6, and that will give you a more customized figure

(compared to the generic "8 glasses daily" recommendation) in regards to how many fluid ounces you should be consuming daily, in addition to the fluid you drink during exercise.

- **Take supplements each and every day** – We've written quite a bit about how our food supply doesn't contain the nutrient density it once had; you'll find a number of articles on the Hammer Nutrition web site that discuss this. Two of my personal favorites are "Food May Not Provide Sufficient Micronutrients to Avoid Deficiency," and "Supplementation - A necessity for athletes." You can find both of these articles, and many others, in the article Knowledge Base on the Hammer Nutrition web site.

There is no question in my mind that while taking supplements should never, ever replace the consumption of a healthy diet, they are vitally important for overall health and athletic performance, if for no other reason than they help "bridge the gap" between what we should be obtaining nutrient-wise from our diet and what we're actually getting. If you're not already doing so, I would strongly recommend that you start a daily course of the three Daily Essentials products: Premium Insurance Caps, Race Caps Supreme, and Mito Caps. Of all the great products in the Hammer Nutrition product line, these are the ones I believe provide the widest range of powerful benefits for both athletic performance and general health. I have no doubt that you will see noticeably positive changes in how you feel throughout the day and how you perform in your training and racing.

see STEVE on page 6

HOT TIP:
Increase fiber,
minimize high GI carb
consumption



To help prevent weight gain, especially during the off-season, keep dietary fiber intake above 30 grams daily while making sure consumption of high glycemic carbohydrates is limited to during or immediately following exercise.

STEVE from page 5

Fueling—keep it simple and reap the rewards!

This is something I wrote in my column in last year's January edition of EN, and while I usually try to avoid recycling material, I think it is worth repeating, especially since the utterly ridiculous "replace what you lose" message is *STILL* being touted by many an "expert" as being the correct way to fuel. In fact, I'm betting you'll get bombarded with this archaic fueling "strategy" more than ever. My simple message is this: "Don't listen to this nonsense!"

As you begin the 2009 season, I'm hoping that you will read and adopt the information I'm going to mention now, as well as the information available in so many areas on our web site (especially *The Endurance Athlete's Guide to Success*). The reason I'm so zealous about this is because I am convinced it will take the guesswork out of fueling and it will help change what may have been your "weak link" (fueling) to being your strongest ally in your training and racing.

When it comes to fueling your body during exercise, you need to first and foremost keep the following in mind:

- A. Your body is an amazingly designed machine, with an incredible number of remarkably complex and efficient mechanisms, all working synergistically, that are a built-in part of it.
- B. Via these built-in mechanisms, your body absolutely knows how to take care of itself in a crisis/survival situation; its first instinct is survival. And yes, when you start exercising, your body definitely goes into "survival mode."

If you keep those things in mind and fuel your body in deference to the wonderfully designed mechanism that it is, it can't help but respond favorably and keep doing what you want it to do. Sure, it's interesting to know things like how many calories you're burning and how many grams of salt you may be losing. However, while that information might factor slightly into the equation, it really isn't that significant when it comes to fueling during exercise. What takes priority at that time is *not* what you're losing in terms of calories, fluids, and electrolytes, but how much your body can comfortably accept in return from you and your fuel donation. In other words, if your body is going to keep doing what you want it to do, yes, it needs some fueling assistance. However, you need to

give your body a helping hand, not kill it with kindness. As Dr. Bill says, "When we try too hard to help ourselves, we end up doing more harm than good."

We keep bringing up, and will continue to bring up, the "less is best" method of fueling because it *is* the right way to fuel, simple as that. When you put calories, fluids, and electrolytes back into your body, your focus needs to be on what it is capable of accepting in replenishment, not what it's losing. And you know what? When you adopt the "less is best" approach to fueling, you not only see better results, you make things a whole lot simpler for yourself. As you begin your season this year, make a commitment to keep things simple when it comes to fueling. Take the mystery out of it by working in cooperation with your body, not against it. Then, take notice of how good you feel and how your performance has *vastly* improved as a result. You'll be stoked!

Remember, we are here to assist you with your fueling and supplement program. Our goal is to help you achieve your athletic and health goals... we're but a phone call or email away if you need us!

Have a great 2009!
Steve

Steve's picks for 'best of the best!'



Premium Insurance Caps 30 packets of 7, \$29.95, 210 capsules, \$27.95, 120 capsules, \$17.95
Race Caps Supreme 90 capsules, \$47.95, 3 or more \$44.95 ea.
Mito Caps 90 capsules, \$24.95

The three Daily Essentials products—Premium Insurance Caps, Race Caps Supreme, Mito Caps—because they provide the widest range of benefits for both athletic performance and overall health. I am convinced that everyone, athlete and non-athlete, will benefit mightily from the consistent use of these three products.



Endurolytes – Prior to it being a Hammer Nutrition product, I had nothing but trouble with cramping. That is no longer an issue thanks to Endurolytes. It is as important a part of your fueling as anything you eat or drink.

120 capsules \$19.95
150 powder servings \$19.95
3 or more \$17.95



Perpetuem – I basically lived on this product during the majority of my 75+ hours on the bike while establishing the Double Furnace Creek 508 record. To say it worked (and continues to work) extremely well is a huge understatement.

32 servings \$44.95, 96 servings \$23.95, Single serve \$2.00

1.800.336.1977 / www.hammernutrition.com



AO BOOSTER from page 1

intake of a mixture of tocopherols and tocotrienols versus “regular” vitamin E (d-alpha tocopherol) only. One researcher writes, “While alpha-tocopherol has long been known as an important antioxidant, research has now shown that the complete vitamin E team is much more effective. The different vitamin E forms have complementary effects as free radical scavengers. Together they can fight a wider spectrum of free radicals than alpha-tocopherol alone.”

Lutein – This carotenoid is a potent antioxidant, with a particular affinity for eyes and skin, helping protect them from ultraviolet (UV) damage. In regards to eye health, not only does lutein provide the macula and lens with protection from sunlight’s UV rays, it is suggested to decrease the risk of developing Age-related Macular Degeneration (AMD). Lutein aids in protecting the skin from UV and free radical damage, it helps reduce inflammation and redness in the skin, and may even be a powerful ally for the prevention of skin cancer. In addition, studies indicate that lutein and other carotenoids (a class of natural fat-soluble pigments) may have protective benefits against breast cancer. Lutein is also purported to help to prevent or slow down atherosclerosis, a condition that causes the arteries to clog and often leads to cardiovascular disease.

Astaxanthin – This carotenoid, most often derived from the microalgae *Haematococcus pluvialis*, is suggested to be 10 times stronger than beta-carotene and 100 times stronger than vitamin E in regards to its antioxidant capabilities. Japanese research suggests that mice supplemented with astaxanthin appeared to burn fatty acids for fuel more efficiently, were able to exercise longer, and had greatly decreased fat accumulation compared to mice not receiving astaxanthin. Other research has shown that astaxanthin reduces oxidative damage from strenuous exercise in the skeletal and heart muscles of supplemented mice. Research also suggests that astaxanthin may improve human cardiovascular health and prevent cancer, among other potential benefits, including anti-inflammation.

References available upon request.

AO Booster nutrition facts**Gamma E Tocopherol Complex – 150 mg**
Typical distribution:

- Gamma tocopherol – approximately 90-102 mg
- Delta tocopherol – approximately 38-53 mg
- Alpha tocopherol – approximately 7.5-15 mg
- Beta tocopherol – approximately 1.5 mg

Tocomin® Full-Spectrum Natural Tocotrienol Complex – 50 mg**Typical distribution:**

- Gamma tocotrienol – approximately 10-12 mg
- Delta tocotrienol – approximately 2.75-3.5 mg
- Alpha tocotrienol – approximately 5.5-7 mg
- Beta tocotrienol – approximately .75 mg

Lutein – 10 mg**Astaxanthin – 2.5 mg****60 capsules – \$29.95****Suggested dosages****Non-workout days:** 1 capsule with food.**Workouts under 90 minutes****duration:** 1 capsule after workout with recovery drink or food.**Workouts over 90 minutes duration:**

1 capsule after workout with recovery drink or food, and 1 capsule later on in the day with food.

Summary

If there were only one or two types of free radicals negatively affecting our bodies, we’d be able to get by with one, maybe two, antioxidants such as vitamin C and vitamin E. The truth, however, is that there are a number of free radicals, both water-soluble and fat-soluble, which is why a wide variety of antioxidants is necessary. Additionally, not only do antioxidants work on a specific type (or types) of free radical, most-to-all of them work synergistically, supporting, augmenting, and enhancing the effects of other antioxidants... the oft-used saying, “The whole is greater than the sum of the parts” is quite appropriate when talking about antioxidants and how they work in the human body.

With Hammer Nutrition’s AO Booster you now have an arsenal of powerful fat-soluble antioxidants to provide even more immune system-boosting power to the water-soluble ones provided in Super Antioxidant. In addition, with AO Booster you’ll also notice benefits for your eyes and skin, reduced muscle soreness (a nice post-workout benefit!), as well as potentially increased endurance via enhanced fats-for-fuels utilization.

Complete the picture



With AO Booster you now have an arsenal of powerful fat-soluble antioxidants to provide even more immune system-boosting power to the water-soluble ones provided in Super Antioxidant. In addition, with AO Booster you’ll also notice benefits for your eyes and skin, reduced muscle soreness and inflammation, as well as potentially increased endurance via enhanced fats-for-fuels utilization.

60 capsules **\$29.95**
3 or more **\$27.95**

1.800.336.1977**www.hammernutrition.com**



Photo - Greg Elizondo

Cyclists Rejoice! Seat Saver® is Here!

Words : Steve Born

If you spend much time at all on a bike, you know that one of the most important pieces of equipment you need is actually something that you wear. No, I'm not talking about a piece of clothing (though that is important). I'm talking about a cream that helps protect that area where "skin meets bike seat." Take it from someone who has spent a ridiculous amount of time on a bike – suffering from skin irritation and saddle sores is no fun at all. It's definitely something that can make what should be an enjoyable time a real pain in the... well, you get the idea.

Now, you may have tried a variety of products in the past and you may currently be using a chamois cream of some type. However, when you try the newest addition to the Hammer Nutrition body care line, Seat Saver®, we believe you won't ever go back to those other products.

Leave it to Dr. Bill (a guy who's spent quite a bit of time in the saddle) to come up with an all-encompassing, effectively powerful product that we know you'll love using and will definitely appreciate. Of course, as is the case with all Hammer Nutrition products—be they supplements, fuels, clothing, or accessories—it was a very lengthy process to come up with the Seat Saver® formula. As you'll see, there are a significant number of "skin specific" ingredients in Seat Saver®, making it arguably the most unique product of its kind.

The Seat Saver® formula and rationale

Bill Misner Ph.D. writes, "Cycling in the heat creates significant pressure, friction, and an increased risk of skin irritation to an enclosed skin-to-seat area. Moisture, heat, and friction in an environment [that is] potentially rich in microbial proliferation are a formula for disabling trauma. Reduced friction added to reduce microbial proliferation is accomplished by a light application of Hammer Seat Saver® to the chamois pad and another coat to the skin surfaces before riding. Science supports that these ingredients are highly effective anti-microbial and lubricating mediums."

The rationale (supporting science) for each ingredient is as follows:

Pure Olive Oil - Topical olive oil reduces bruising, accelerates the healing of calluses and resolves eczema caused by a deficiency of fatty acids.

Shea Butter - Topical Shea butter is a moisturizer and emollient. It is also a known anti-inflammatory agent.

Calendula - Topical Calendula accelerates the healing of bruising, calluses, corns, and reduces the inflammation associated with burns, dermatitis, radiodermatitis, and eczema.

Yarrow - Yarrow has been anecdotally reported to suppress skin inflammation, cleanse the skin, slough off dead skin cells and close the pores of the skin.

Chamomile - Topical Chamomile cream treats dermatitis, psoriasis, eczema, reduces itching, dry skin, smooths out the lines and wrinkles, and accelerates the healing of wounds.

Comfrey - Topical comfrey resolves eczema, psoriasis, skin ulcers, accelerates the healing of bruises and wounds.

Zinc Oxide - Topical zinc oxide is a remarkable anti-microbial compound that increases endogenous gene expression of insulin-like growth factor-1 for wound healing.

Vitamin E Oil - Topical Vitamin E is an effective treatment or preventative against dermatitis, eczema, dry skin, psoriasis, and damaged keratinocytes, epidermal cells that produce keratin .

Basil Oil - Topical Basil contains antibiotic substances that destroy viral/bacterial infections and heal minor skin wounds.

Clove Oil - Clove oil remarkably suppresses harmful bacteria (due to the eugenol content of cloves), including *Bacillus subtilis*, *Escherichia coli*, and *Shigella flexneri*.

Lavender Oil - Lavender (oil applied topically) inhibits the detrimental bacteria. White (1999) recommends the use of (topically-applied) lavender for the treatment of bacteria induced acne, because Lavender possesses anti-microbial, anti-inflammatory and astringent properties that may benefit acne sufferers.

Peppermint Oil - Topically applied Peppermint Oil kills viruses and reduces pain associated with neuralgia.

see SEAT SAVER on page 9

SEAT SAVER from page 8

Tea Tree Oil - Topically applied tea tree oil reduces histamine-induced skin inflammation and itching. Tea tree oil is the complete antibiotic that resolves irritations to the skin caused by yeasts, molds, fungus, virus, and bacterial proliferation.

References available upon request.

Wow, that's quite a list of powerful, skin-protecting/lubricating ingredients... there's nothing like this on the market! And Seat Saver® is so easy to use: Prior to riding, apply a light coat of Seat Saver® to the skin surface that comes into contact with the bicycle seat and to the chamois surface on the inside of the shorts. Re-apply as necessary, keeping in mind that a little goes a long way. With Seat Saver® you'll be able to enjoy your rides a lot more because you've got a very important "comfort factor" requirement fulfilled.

Also, though Seat Saver® was designed primarily with cyclists in mind, that doesn't mean that it's just for those particular athletes. In fact, because Seat Saver® is such a potent anti-chafing/anti-bacterial cream, runners, triathletes, and other endurance athletes find it to be ideal for helping to protect the skin from the discomforts of chafing and other caused-by-friction skin irritations.

Seat Saver® is now available in a 2-ounce jar and retails for \$12.95. As with all the Hammer Nutrition products, your satisfaction is 100% guaranteed, so give Seat Saver® a try.

Seat Saver to the rescue!



A potent anti-bacterial cream protecting all athletes from the discomforts of chafing and other friction-caused skin irritations.

2 oz. \$12.95

1.800.336.1977
www.hammernutrition.com





Reducing Holiday Weight Gain

Words : Dr. Bill Misner, Ph.D.

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

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

Ghrelin is a polypeptide containing 28 amino acids linked together manufactured primarily in the stomach, with lesser amounts produced in the kidneys, pituitary and the hypothalamus. Blood levels of Ghrelin are lowest shortly after the consumption of a meal, then rise during the fast just prior to the next meal. Excess production of Ghrelin is associated

with binge eating. When the stomach is physically extended by volume of fluid or food, Ghrelin release is inhibited. Interestingly, dietary protein alone during amino acid digestion inhibits release of Ghrelin.

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

Ghrelin & appetite-inhibition application

1. Drink 10-fluid ounces water 30 minutes prior to meal.
2. Chew each individual mouthful of food until ready to swallow then chew it 10 more times.
3. Eat protein first and separate from carbohydrates, fats.
4. Swallow ONE mouthful of water between each mouthful.
5. Repeat 1-2-3 until appetite is completely satisfied.

The longer it takes to consume a meal the more effective will be this Ghrelin-inhibiting appetite suppressing application. Application of [numbers] 1-5 results in 300-750 fewer calories consumed per meal with equicaloric satiation.

While this application appears simple, most of us find it difficult to practice, but of the few who do, the reward is being satiated not only after a meal but more so after an endurance event on a climber's course.



Endurance Amino

Put the power of Branched Chain Amino Acids (and more!) to work for you

Words : Steve Born

After a long time on the “drawing board,” and in response to the many requests we’ve received to have an encapsulated amino acid product in the Hammer Nutrition line, we are excited to announce the arrival of Endurance Amino. As Brian mentions in his letter in this edition of EN, “This product compares well to high priced amino acid tablets on the market, at a fraction of the cost, and offers the endurance athlete a new weapon in the fight to build, maintain and repair lean muscle mass, in addition to decreasing fatigue and boosting immunity.”

The impetus for producing this product, and the reason for its main components being the three Branched Chain Amino Acids, or BCAA (l-leucine, l-isoleucine, l-valine), comes from an ISSN position paper that discusses the benefits of BCAA supplementation.* Dr. Bill Misner writes, “The International Society of Sports Nutrition’s published ‘Position Stance,’ which concludes with ‘BCAA may improve exercise performance and recovery from exercise,’ is long overdue.”

“Amino acids provide from 5-15% of the energy moiety for the glucose fraction recruited for energy during exercise. Branched chain amino acids support endurance performance, improve immune system reaction, and enhance recovery. Physiologists often use BCAA in various formulations to decrease

central nervous system fatigue in athletes. Intake of BCAA during or prior to exercise may delay exercise-induced or central nervous system-induced fatigue.”

“BCAA (l-leucine, l-isoleucine, and l-valine), particularly leucine, have anabolic effects on protein metabolism by increasing the rate of protein synthesis and decreasing the rate of protein degradation in resting human muscle. During recovery from endurance exercise, BCAA were found to have anabolic effects in human muscle. These effects are likely to be mediated through changes in signaling pathways controlling protein synthesis. Intake of BCAA supplements and/or BCAA-enriched energy gel or drinks enhances endurance performance. BCAA administration results in enhanced endurance performance. Research dramatically supports each of these statements.”

STEVE’S NOTE: There is good evidence [Acta Physiol Scand 1997; 159(1):41-9] that BCAA administered during training can not only reduce the perception of fatigue, it may also improve mood and cognitive performance. This can be a real “plus” when you’re involved in long distance workouts and races, especially ultra distance races where you’re racing non-stop throughout the night and early morning hours.

References available upon request

Every two capsules of Endurance Amino contain the three BCAA in the preferred 2:1:1 ratio:

- L-Leucine – 400 mg
- L-Isoleucine – 200 mg
- L-Valine – 200 mg

There’s more to the Endurance Amino formula, however, than just merely being a BCAA product. We’ve included the following nutrients in Endurance Amino, with the amounts listed per two capsules:

- L-Alanine – 100 mg

The liver can convert L-alanine into glucose as needed, which the bloodstream transports to the muscles for energy. L-alanine also aids in the synthesis of pantothenic acid (B-5), which is also needed for protein, fat, and carbohydrate metabolism. Some products use a form of alanine called beta-alanine, primarily for the purpose of increasing endogenous levels of the acid buffering/ antioxidant/anti-glycating nutrient known as carnosine. The problem is that very large daily doses of beta-alanine (3.2 grams - 6.4 grams) over the course of several days to weeks are necessary for this increase in endogenous levels of carnosine to occur. Carnosine is a dipeptide, a combination of beta-alanine and l-histidine, and it is already included in HEED, Sustained Energy, and Perpetuem. That means you’ve got the benefits of this nutrient available to you via these products.

- Reduced Glutathione – 100 mg

Glutathione is a tripeptide, consisting of the amino acids glutamic acid, cysteine, and glycine. It is one of the three endogenous (naturally occurring in the body) antioxidants—the other two being

see ENDURANCE AMINO on page 11

ENDURANCE AMINO from page 10

catalase and superoxide dismutase—the body maintains to control excess exposure to free radicals produced during exercise as well as from exposure from the environment. Literally pages and pages could be written about this tremendously powerful nutrient, which one nutritional scientist calls “The Life-Extending Master Antioxidant.” With an Oxygen Radical Absorbency Capacity (ORAC) score/rating estimated to be an astounding 12,000+, glutathione is undoubtedly a potent antioxidant, arguably the most important one in existence.

In regards to glutathione’s general health/potential life extension benefits, Dr. Bill Misner writes, “Dr. [Michael] Colgan not only has published research that demonstrates a direct association with glutathione and longevity, he advises people to take it in an oral dose. His studies show that the more glutathione the body has in store, the longer the person will live. Conversely, lower levels of this endogenous natural antioxidant are associated with shorter lifespan.”

Among its many other benefits, reduced glutathione helps prevent free radical damage, facilitates the transport of amino acids, and plays a critical role in detoxification. Decline in endurance performance may parallel decline in glutathione concentrations imposed by the aging process. We include this nutrient in Super Antioxidant but are convinced that supplementation with glutathione *during* exercise may enhance

performance, primarily due to its free radical neutralization power and the role it plays in the transport of other amino acids. Dr. Misner writes, “The harder you work the less the body’s in-house antioxidants are able to reduce/neutralize free radicals produced by increased metabolism.” That’s one of the primary reasons why this multi-beneficial nutrient is included in Endurance Amino.

Dosage suggestions

For the purpose of building, maintaining and repairing lean muscle mass, in addition to boosting immunity, Endurance Amino can be taken prior to and after any workout or race, with the suggested dose being 2-4 capsules prior and 2-4 capsules after.

It’s during prolonged exercise (3+ hours), however, that you’ll really notice the power of Endurance Amino, especially in regards to increased endurance and fatigue reduction. It’s a perfect complement to Anti-Fatigue Caps and can be supplemented similarly: 2-4 capsules prior to exercise, with 1-2 capsules every hour during the workout or race. Afterwards, to enhance recovery, 2-4 capsules can be taken with water, Recoverite, or food.

Endurance Amino comes in two sizes. The 120-count bottle retails for \$29.95 and the 240-count bottle retails for \$49.95

* NOTE: This article is not an ISSN endorsement of a specific product.

HAMMER GETS HIP!



Come check us out on social media sites such as YouTube™, Facebook®, MySpace™, and Flickr™. We’re getting with the 21st Century, and we invite you to come along!

Subscribe... become a fan... become a friend... view our photostream...



<http://www.youtube.com/user/hammernutrition>




<http://www.facebook.com/pages/Hammer-Nutrition/25309721565>



<http://www.myspace.com/hammernutrition>



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




Amino Acid power!

- Decrease perception of fatigue and increase cognitive performance
- Help build, maintain, and repair lean muscle mass
- Powerful immune system support

Endurance Amino is ideal to use after all workouts and races, and really shines (and is the perfect complement to Anti-Fatigue Caps) when taken hourly during training sessions and races that extend beyond two hours. Endurance Amino gives you a wide-range of powerful amino acid benefits, without you having to break the bank.

120 capsules \$29.95
240 capsules \$49.95

1.800.336.1977
www.hammernutrition.com





Lost in Translation

Confessions of a veteran Endurance News contributor

Words : Tony Schiller

One of my favorite moments in the old Peanuts cartoons was the sound we heard when the teacher barked out lesson plans to the kids. If you're a fan you know the sound. It was actually a trombone blasting as a plunger mute opened and closed. And it's been universally funny for decades, across all generations and in every language because we've all been one of those kids... hearing the teacher drone on and on but comprehending none of it.

I speak from a deep well of experience on the subject. So thorough were my escapes (usually due to boredom) that much of the time I never even heard the trombones. But this story is about the times when the subject matter was so foreign that no amount of concentration made the language recognizable. For me, the sciences, especially, chemistry and biology brought on the trombones

I can still see poor Mr. Casey contemplating a new tactic he might use to reach me. His hopeful expressions usually turned to utter bewilderment as he continually got the same result... a dazed and confused glare that said it all... "huh?" Fortunately, Mr. Casey had a soft spot for me (or he couldn't fathom having me retake his class) so I got a charity pass.

This was the early 1970s when ADD wasn't diagnosed and when little was

understood about personality types, learning styles or multiple intelligences. Kids were viewed as learning equals and those who struggled usually got labeled as having behavioral problems – "Ms. Schiller, Tony's a good kid with more potential than he's using, but he needs to channel all that energy to the classroom."

Of course, that just led to more attention which produced more anxiety. Not even the threat of taking away the most important thing in my world – running – changed the fact that when Mr. Casey spoke, I heard trombones.

My struggles in school cast a large shadow of doubt that took years to crawl out from under. To be sure, I was saved by running. Even though slow in the beginning, running was the only place I felt free and it became the refuge of my life – the place I went to escape from all fears and inadequacies.

We now know that intelligences come in many forms and athletics gave me a path to discover some of my own, including athletic intelligence. The notion that athletics required an inherent intelligence – and that I possessed it – was a completely foreign concept to me. Accepting both ideas taught me that anything was possible, including that I could overcome terrible stage fright and pursue the dream of being a motivational speaker.

All of this brings me full circle to Endurance News, filled each issue by writers who are what I'm not, experts on the science of sports nutrition. From what I can decipher from these pages, it's one of the best things going... a free publication packed with advice from people who have dedicated their lives to cutting-edge sports nutrition. How cool is that?

To all of you expert contributors I say, thank you. I admire you more than you can know and owe a debt of gratitude to you for making my sports experience more enjoyable and successful. With that said, please don't be offended when I say that reading your articles sometimes makes those trombones start to play in my head as if I'm back in Mr. Casey's class all over again. My lord, the last issue (and probably this one too) was a tomb – 64 pages of stuff that mostly goes over my head.

Don't get me wrong, it's not your writing, it's me. Don't change on my account, please. There are too many athletes depending on you – people who can't get enough. They really want to know about the bio-chemistry of how glycogen is generated from glucose (a simple monosaccharide sugar) by the enzyme glycogen synthase and that this process is called glycogenesis and that the conversion of glucose to glycogen enables the body to 'park' extra carbohydrate calories for future use.

Me? I could care less about all of that as long as I go fast. In truth, if I could race as well as I do without supplementation, I'd be all for that. But I know that's impossible and that my best races happen while using Hammer products. That's all I need to know. So even if I can't always explain the science behind why, I know my own experience and

see LOST on page 13

LOST from page 12

trust the correlation. People need to know too that I'm not an employee of the company, just an athlete who really believes in Hammer.

Through more than a little guidance from the experts at Hammer and my own experimentation, I've come to rely on a core group of products best for me. For the most part they include daily intake of Premium Caps, Race Caps and fish oil. During harder training I add Phytomax and Super AO. And for training during longer sessions or in hot weather you'll find me using Heed, H-Gel, and Electrolytes followed by Recoverite, and the occasional smoothy with Whey Protein. I also mix in E-stim therapy for recovery or as body parts are ailing.

My use is not religious... I'll even take the occasional off season break from supplementation just to let my body start dragging a bit. Follow that advice to your own peril, but for me the break seems right and I like the boost that comes upon restart.

While I've poked a little fun here at myself and the Hammer experts, my real intention was to reassure those like me, easily overwhelmed by the complexity that is the sports nutritional industry. I can't be alone in being daunted by it all and it's going to get worse as more and more wonder products will land on the horizon.

While Hammer has launched its fair share of breakthrough products during the last 20 years, I appreciate how they've always waited to get each one right. That's why Hammer products don't make a big splash followed by a loud thud. They stand the test of time.

So while you won't get a lot of nutritional advice in my columns, I hope you'll take advise... the next time you hear the trombones blast when you try to figure out your nutritional supplement plan, give a call to the experts at Hammer and let them guide you. Then forget about it and get outside to train and have some fun. Have a great 2009.

Tony Schiller is a corporate motivational speaker and one of Hammer's first and longest standing customers. This year he won his 6th ITU Age Group world title at the age of 50.



2008 Turkey Ride participants.
Photo - courtesy Mike Freeman

The Turkey Ride

Its history and Hammer's involvement

Words : Mike Freeman

The Turkey Ride is a bicycle ride from the Berkeley, California Police Department to South Lake Tahoe, Nevada, for the purpose of raising money for a holiday food basket program. The participants of the ride are off-duty employees of the Berkeley Police Department, the University of California Berkeley Police Department, retirees from both departments, and a few invited guests.

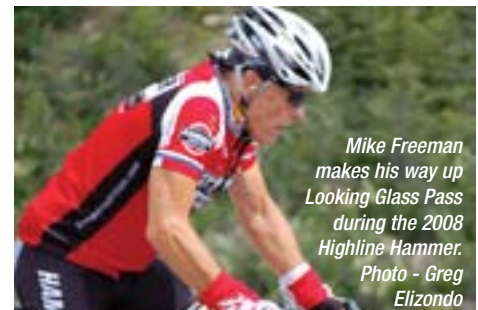
In 1983 three officers of the Berkeley Police Department, Alec Boga, Bruce Agnew, and Paul Cataleta, rode their bicycles from Berkeley to South Lake Tahoe. During the trip they talked about developing a community service project and involving other officers. They decided that they wanted to raise money to buy food, and to give it to needy Berkeley families at Thanksgiving and Christmas. In 1985, seven Berkeley Police officers rode their bicycles 216 miles, over 2 ½ days, to South Lake Tahoe, and collected per-mile pledges from family, friends, co-workers, and community organizations. The first Turkey Ride raised enough money to purchase approximately 250 turkeys and other items of food that were given away during the holidays. Each food basket contains enough food for a holiday meal for approximately eight people. Over the years, participation in the Turkey Ride and pledges to riders have increased enough to provide 500 holiday food baskets each holiday season.

Each year officers submit names

of needy Berkeley families, church outreach programs, and senior centers, to receive holiday turkey baskets. A few days before Thanksgiving and Christmas, employees of the Berkeley Police Department, UC Berkeley Police Department, and members of community service groups gather in front of the department to assemble the food baskets. Uniformed police personnel then deliver the baskets to the families.

The Turkey Ride has become a tradition that has involved over 100 different participants over the course of the past 24 years. Many riders have participated for 10 years or more.

Long time friend and Hammer Ambassador, Mike Freeman, has been doing the benefit ride for 19 of the 24 years. A number of years ago, Mike approached Brian Frank for support for this ride. The rest is history, with Hammer Nutrition providing nutritional support for this community event on many occasions. Mike has told us that many of the riders are Hammer customers and all are believers in the fuels and supplements provided for the ride. It really makes a difference.



Mike Freeman makes his way up Looking Glass Pass during the 2008 Highline Hammer.
Photo - Greg Elizondo



Mt. Lemmon in Tucson, AZ, is the site of many Hammer Camp training rides. Photo - Brian Frank

Quest for the Best

Words : Shane Alton Eversfield

In any pursuit of excellence, athletic or otherwise, we search for the very best resources, opportunities and associates. In triathlon, this pursuit includes equipment, training programs, training partners, coaches, nutrition, and race events. Our quest never remains static for very long. There is always something new and promising on the horizon – a new carbon bike frame, the latest training software, a breakthrough tool to monitor, meter or track performance, a new line of nutrition products. All promise increased training and racing results, often backed up by scientific research.

Nutrition? Settled!

My quest for the best *nutrition* is settled. From sprint to ultra-distance, I fuel and supplement exclusively with Hammer Nutrition products. At this point, it's just a matter of constantly refining my protocol, based on my ever-changing training and racing goals, and my ever-changing physical, mental, emotional and spiritual condition. Great products do not assure great performances – not without astute “inner listening” and adequate education. Along with superior products, Hammer sets the precedent for nutrition education – all you need to do is read the Hammer literature, go the Hammer website, or give them a call. You are holding in your hands another great educational source – Hammer Endurance News.

Brian Frank, Steve Born, and especially Dr. Bill Misner, the wizard behind

Hammer's Products, deserve the credit for envisioning and realizing the Hammer mission to empower athletes with the best nutritional products and education. Though my camaraderie with them has been brief, Brian and Steve are like brothers to me. I look forward to meeting Dr. Bill someday. That will be a true honor!

Technique – the life-long quest:

With the nutrition issue settled, I can shift my focus to other areas that offer consistent progress towards athletic excellence. For me, the most promising and rewarding is the relentless pursuit of brilliant, graceful, efficient *technique* – swim, bike and run. (Excuse my “tri-centric” perspective; this article addresses pursuit of any endurance-based technique.) There may not be quite as much marketing hype around technique programs as there is around, say, aero wheels and bike frames; but it doesn't diminish technique mastery as perhaps the most effective means of successfully pursuing athletic excellence.

Big questions:

What constitutes a great technique program? How can we evaluate a particular athletic technique program and its capacity to serve our specific needs and circumstances before investing our precious time and money?

Starting line:

As athletes, what do we really desire in our pursuit of excellence? Fame and fortune perhaps? Do we measure success

and satisfaction by podium position, media recognition and sponsorship contracts? If so, the vast majority of us are going to be mighty disappointed throughout our athletic “careers”: Podium recognition usually reaches just 3 to 5 places deep, and not too many of us get paid to ride the bikes we have chosen. Our pursuit of excellence is really measured by the satisfying experience of mastery: consistently improving, progressing, evolving and integrating. These are the essential ingredients for passion and appetite – even for the pros. These are the vital elements of our *re-creation*, our renewal. (And remember, most of us train and race for exactly that – re-creation.)

We experience our greatest health, balance and enjoyment in those areas of our lives where we discover the most growth, integration and refinement.

Perception:

The greatest navigational tool we bring to this path of refinement, progress, growth, mastery – whatever you want to call it – is a constant sharpening of our *perceptions*. If we cannot (or are simply unwilling to) discern between what is functional and dysfunctional in any specific area or pursuit in life, then the process of refinement is left to chance; it is unpredictable, sporadic, possibly regressive. If we approach opportunities in life with a “been-there-done-that-got-the-t-shirt” attitude, then there is no possibility for further growth.

However, approach even the most mundane endeavor (like running, for example) with humility, curiosity and patience, and we are poised to develop sharper perceptive capacity. Athletically, this means we approach each training session, no matter how

see *QUEST* on page 15

QUEST from page 14

trivial, as an opportunity for discovery. In the broader expanse of our lives, we honor each relationship, each obligation and responsibility as an opportunity for growth. This humble approach to each event in our lives "primes" our perceptive potential so that we learn and grow rapidly. (For more on the importance of perception, see the blog "Athletic Excellence: Perception and Attitude" at www.zendurance.net.)

Bottom line:

Now we have identified a "bottom line" in any pursuit of excellence: **improving perceptive ability**. This is absolutely essential in the pursuit to consistently refine athletic technique, and begins to answer the question: How can an athlete evaluate a particular "brand" of technique? **Assess how effective the specific technique program is at challenging and improving the athlete's perceptive capacity** in that specific discipline. There are two crucial areas of perception that must improve: 1) The first area of perceptive improvement is to recognize and explore the underlying principles and functional laws at work in the universe that pertain specifically to the area of our pursuit. (As an example, efficient technique in *any* endurance sport is governed by the laws of gravity. Efficiency is based on the ability to transform gravitational pull – what we experience as weight – into forward motion.) 2) The second area of perceptive improvement is sport-specific *proprioception*, something I write about frequently. (Visit www.zendurance.net.)

Thinking deep:

As profound and fundamental as they are, the functional laws and principles that govern athletic technique are often quite subtle. Clear recognition and comprehension of these requires deep contemplation and philosophical curiosity, as well as practice, practice, practice. Many of the world's best endurance athletes are, by necessity, deep thinkers; it is not enough to be genetically gifted and to tirelessly drill the rudiments.

Navigation:

An effective technique program provides

a structure for *investigating* 1) The subtle underlying laws and principles and 2) The proprioceptive capacities that enhance posture and alignment (including maximum use of pelvic core musculature), as well as biomechanics specific to that sport. While there are certain universal standards of technique within a specific sport, the investigation is *unique for each individual*. Therefore, an effective technique program must provide each athlete with *navigational tools* to conduct this personal investigation in an ongoing and sustained manner.

These navigational tools may include drills and exercises (both physical and mental), images and concepts, as well as measures for evaluating efficiency - how economically the athlete is able to transform energy into the specific activity for the chosen duration. In endurance sports, these measures may include stroke/stride length (I.e., swimming strokes per lap) cadence, heart rate and power. Regardless of the sport, one of the most essential tools for

pedal technique. However that does not make it the most *sustainable*, especially for long duration. This pedal technique draws heavily on the muscles that extend and straighten the leg, to the exclusion of other muscle groups. Granted these are the muscles that maximally apply body weight to the pedals; and technique excellence is based on efficiently transforming gravitational pull (weight) into forward motion. However, for endurance, many cyclists find it beneficial to vary cadence, resistance and biomechanics (perhaps a small amount of emphasis on other parts of the pedal stroke, approaching a more circular technique.) *Variation is essential* for maintaining proprioception, and proprioception is vital for technique and endurance.

Additionally, factors such as riding position (classic road vs. time trial), pelvic tilt, body proportions (especially the proportion of femur-to-tibia/fibula length for cycling), hip mobility, core strength, seat position (fore-aft, as well as height), crank length, cadence,

The quest for athletic excellence often leads to a profound philosophical shift in how the athlete approaches the sport, and even life.

evaluating efficiency is *rate of perceived exertion* (RPE). Learning to "quantify" RPE provides the most accurate evaluation of energy output for the body's current condition and capacity. We don't train and race in the lab.

Cut to the chase:

"OK, enough talk about investigation, perception and all that. I just want to know what's the very best swim/bike/run technique on the market?" In my experience, there is no single best technique in any discipline. For illustration, consider cycling biomechanics: The pedaling biomechanics that produce maximum power output are not necessarily the most *sustainable* biomechanics. Applying power to the pedal between the 1 o'clock and 4 o'clock segment of the pedal stroke is considered (and measured) by many as the most powerful

gear selection, topography and wind conditions will affect your quest for the perfect pedal stroke. Don't forget about event duration either - shorter events may favor technique specificity for maximum power, while longer events may favor technique variation for endurance.

The classic road bike geometry, with a seat tube angle of 72-74 degrees, is considered to set the rider in the best position over the bottom bracket for maximum power production. However, in windy, non-drafting conditions, there may be a distinct advantage to prioritizing aerodynamics over maximum power production. These two distinct priorities will require different pedaling biomechanics, as they affect many variables, such as pelvic tilt and muscle recruitment.

see QUEST on page 16

QUEST from page 15

The quest for athletic excellence often leads to a profound philosophical shift in how the athlete approaches the sport, and even life. As an example, Total Immersion Swim embraces "kaizen", the Japanese notion of continual growth and improvement, the perpetual pursuit of excellence. Kaizen recognizes the potential "carry-over" phenomenon: Devoting oneself to excellence in a particular practice leads to excellence in many elements of one's life. This carry-over of excellence from one area to another occurs through the cultivation of humility and curiosity - always priming our perceptive potential, even for the most seemingly mundane experiences.

Summary:

Rather than promoting and teaching a limited, narrowly defined technical parameter, a functional technique program should educate the athlete in a variety of technique options for a variety of specific conditions, all soundly based on the underlying laws and principles. The program must enable the athlete to evaluate these options for the specific conditions and her/his current capacities, and empower the athlete to construct an optimal technique "package". It is not enough to learn specific motor skills; the proficient athlete must develop analytical kinetic intelligence.

There is no single perfect biomechanical technique; there is only the most efficient and economical technique for the present

moment, given the present conditions (both external and internal). *Endurance often calls for variety* - the capacity to change movement patterns and preserve proprioceptive neuromuscular function.

Sustainability:

As we age athletically, we can expect to lose aerobic capacity and muscle mass; but we can continue to refine our technique and our approach to sports. "After 87 marathons over 16 years, I ran my fastest one ever in cool flat conditions at age 62. Whazzup with that? Totally unexpected." - My good friend Karl Kunz, a very *mindful athlete*, a true master of zendurance. He lives in Thailand, does meditation retreats and ran a 3:14 PR at age 62.

Wisdom certainly does have its place in endurance sports. While the motivation and ambition is left to each athlete, a quality technique program should facilitate athletes in a long-term pursuit of excellence and wisdom. As an example, Total Immersion Swim hosts a lively and active online discussion forum that has been instrumental in the growth and evolution of swim technique.

Humility:

Great technique programs honor and recognize the necessity and vitality of growth and evolution. Like the athletes themselves, technique program administrators must preserve a sense of humility and curiosity. They must passionately strive to refine and evolve,

even if this temporarily tarnishes their image. Not one of us knows all there is to know.

Applicability:

Obviously an effective technique program should improve the athlete's performance - *given that the athlete invests the necessary time, energy and attention*. Through a great technique program, the athlete discovers a passionate and lively approach that s/he implements in her/his life beyond the world of sport. In my experience, there is tremendous liberation in the discovery that we don't have to be grown-up or live "past tense" just because we're beyond 21 years of age.

A significant element that fuels the current growth of triathlon is the discovery of this liberation from "I was" to "I am" and "I will be". I don't think it's coincidental that we discover this through the three most basic forms of childhood recreation - swimming, biking and running. It's amazing what a little humility and curiosity will do for us. They sure worked miracles in childhood.

Shane Eversfield is author of "Zendurance, A Spiritual Fitness Guide for Endurance Athletes". He has also developed Zendurance Cycling Technique and offers 2-day clinics. He is looking for assistance with marketing and development. Contact: ironzen@hotmail.com, or 410.804.8205


HOT TIP:

Make saving money and getting free product easy with our referral cards!



In the middle of this and every issue of Endurance News, you'll find the current price list and attached to that price list are handy referral cards. Simply tear the card out (it's easy, they're perforated!), write in your name or client number, hand them out to your friends, and start watching those referral credits accumulate. If you need additional referral cards, you can print them out at www.hammernutrition.com/downloads/referralcards.pdf. More information about the Athlete Referral Program can be found on page 39 of this edition of Endurance News.

The Endurance Athlete's Guide to Success



The Endurance Athlete's
GUIDE TO SUCCESS
Everything you need to know about optimum safety, nutrition, and fuel intake for training and competition.
More than 200,000 copies in circulation!

Let Hammer Nutrition guide you through your "Quest for the Best". You already know which product to use, but let us help you figure out HOW to use them. *The Endurance Athlete's Guide to Success* serves as the rationale behind the Hammer Nutrition line of endurance fuels and supplements which have been successfully used in nearly every conceivable endurance and ultra endurance contest on the planet.

130+ pages of valuable information you can use right now to take the guesswork out of your fueling program and ensure higher quality training sessions and better race results.

Guide To Success - 136 pages - \$4.95
download for FREE online:
www.hammernutrition.com/guide

1.800.336.1977
www.hammernutrition.com






Photo - Kelly Pris

Cooking with Hammer

Reader recipes using Hammer products

Perpetuem

I bake whole wheat bread with Perpetuem, (only a half cup)... it sure makes the bread moist with a hint of orange.

Hammer Soy

I've added Hammer Soy protein to just about everything that starts in a batter stage, all with fine results. This includes: whole-wheat (buckwheat) pancakes and waffles, brownies, several varieties of cookie dough (oatmeal-raisin, snicker doodle, chocolate chip, etc), my wife's excellent German pound cake (don't let her know!), and more. I will note you might need a little extra water since the soy tends to soak it up. I've also tried oatmeal with OK results, but can't recommend it if you are cooking steel cut (pinhead) oats.

Fruit Smoothies with Hammer Soy:
I usually add a cup of frozen fruit (strawberries are my favorite, but I have used frozen mixed berries, blueberries, bananas, and even skinned fresh peaches). Add about 8 oz skim milk, 1 scoop of Hammer Soy, and a cup of the frozen fruit.

Hammer Whey

I have added Hammer Whey to pancake and waffle batter with no problems.

I have added to oatmeal with OK results. About 20-25g for an entire cup (cooked), depending on how you stomach plain

Hammer Whey. I've only had success with normal Quaker oats, not steel cut.

When I have hot oatmeal I oftentimes like to mix some Hammer Whey and some lecithin granules in the bowl with the oatmeal. If I need to sweeten everything a little I'll sprinkle some Xylitol on it.

Here's my homemade smoothie recipe for after a hard run or session in the weight room:

- 1 cup plain yogurt (I like Stonyfield)
- 1-1.25 scoops of Hammer Whey (~25 grams protein)
- 1 cup orange juice (not from concentrate, I like it with pulp)
- 2-2.5 cups of frozen fruit (you decide, I usually pick up a big bag of organic frozen berries from Costco)
- 4-6 ice cubes

I like to mix 1 to 1.5 scoops of Hammer Whey in a blender with water and any number of Cascadian Farms organic frozen fruit. The specific antioxidants/phytonutrients/polyphenols in a lot of fruits (mainly the berry types of fruits) are powerfully beneficial and I feel they're a perfect complement to the whey protein isolate and glutamine in Hammer Whey.

Our Sunday morning runs usually end with a Whey Smoothie. I have frozen fruit (usually Strawberries, Blueberries sometimes a frozen banana). About 1 ½ cup of fruit for three of us. I add grape juice, 100% Cranberry, 100% blueberry, 100% Pomegranate. About 1 1/2 cups

juice total. I like plain yogurt about ½ cup. Then at least 6 scoops Hammer Whey. Makes 3 pint glasses.

I tend not to worry about specific ratios, but feel the smoothie I make is a pretty good balance.

- Frozen blueberries
- 1 banana
- 1 heaping spoon of peanut butter
- 1 cup of any flavor yogurt
- milk
- 1 scoop of Whey Pro

Thick, tasty and serves as a good post-workout recovery meal - after a hard workout on the bike or after a weight session.

Recoverite

Smoothie:
2-3 scoops of Recoverite
12-16oz of juice (apple, orange, pineapple)
1/2 cup frozen blueberries
1/2+ cup frozen strawberries
...puree in a blender and enjoy!

**Three great flavors,
two convenient sizes!**

1.800.336.1977
www.hammernutrition.com

HAMMER
NUTRITION

Hammer Whey - single \$2.99, 24 serving \$32.95, 3 or more \$28.95 ea.



You Asked for It, We Did It!

Race Day Boost to be available in capsules!

Words : Steve Born

After numerous requests, we're pleased to announce that Race Day Boost (RDB), our powerfully effective acid-buffering product, will soon be available in convenient, easy-to-use capsules. We've also come up with updated usage suggestions, which we'll discuss shortly.

The problem with trying to encapsulate the existing RDB product is the number of capsules required. One teaspoon-size dose contains 1000 mg of sodium tribasic phosphate, 500 mg of glutamine, and 4500 mg of maltodextrin. Fitting all that in a standard size capsule would require approximately 10-12 capsules per dose, equating to 40-48 capsules per day, and a total of 160-192 capsules to complete the four-day loading dose cycle... that's too many capsules!

In order to provide RDB in capsule form at a reasonable price and dosage, it was necessary to remove the glutamine and maltodextrin components, leaving just sodium tribasic phosphate. Of course, while taking RDB in capsules is more convenient and involves less work than mixing up a teaspoon of the product, there is a bit of a trade off – with the capsules you won't be getting the benefits of either the maltodextrin or the glutamine. The latter is of primary significance, mainly because of the role it plays in increasing glycogen storage capabilities and immune system support, both desirable benefits during a pre-race taper.

However, these two components

definitely take a back seat to the “star” of RDB, sodium tribasic phosphate, and each capsule contains 500 mg of this powerful acid-buffering agent.

Now you have two ways of taking this remarkable, time-tested ergogenic aid: in its original powder form or in the new, easy-to-use capsules. Encapsulated Race Day Boost comes in 64-capsule size bottles and retails for \$14.95. That's enough for two or more four-day loading cycles, depending on your body weight. Speaking of which, here are some new possibilities regarding the RDB loading dose.

New RDB loading dose possibilities

The majority of the studies of the main ingredient in RDB, sodium tribasic phosphate, showed noticeable performance-enhancing results with administration of 1000 mg of the nutrient four times daily for four straight days. This is our dosage recommendation for most athletes. However, it is theoretically possible, and reasonable to believe, that lighter weight athletes may be able to achieve the same benefits using less.

With that in mind, here are some suggested usage instructions—based on a couple different blocks of body weights—which you may want to test in your training:

Up to 125 lbs

Day One: 1 tsp. RDB powder one time/day or 2 RDB capsules one time/day

Day Two: 1 tsp. RDB powder two times/day or 2 RDB capsules two times/day

Day Three: 1 tsp. RDB powder two times/day or 2 RDB capsules two times/day

Day Four: 1 tsp. RDB powder three times/day or 2 RDB capsules three times/day

126-160 lbs

Day One: 1 tsp. RDB powder two times/day or 2 RDB capsules two times/day

Day Two: 1 tsp. RDB powder three times/day or 2 RDB capsules three times/day

Day Three: 1 tsp. RDB powder three times/day or 2 RDB capsules three times/day

Day Four: 1 tsp. RDB powder four times/day or 2 RDB capsules four times/day

160+ lbs

Day One: 1 tsp. RDB powder four times/day or 2 RDB capsules four times/day

Day Two: 1 tsp. RDB powder four times/day or 2 RDB capsules four times/day

Day Three: 1 tsp. RDB powder four times/day or 2 RDB capsules four times/day

Day Four: 1 tsp. RDB powder four times/day or 2 RDB capsules four times/day

It's important to remember that these are estimated doses. Each athlete, whether they use the powdered form or the encapsulated form, must test these protocols for Race Day Boost in training before using it in the four days prior to a race.

Race Day Boost
made easier!

Now available in convenient, easy-to-use capsules!

HAMMER
NUTRITION

32 servings \$14.95 / 64 Capsules \$14.95

1.800.336.1977 / www.hammernutrition.com



2008 Hoodoo 500

Ultramarathon bicycle race

Words : Steve Born

One of the newer races on the ultra cycling scene is the Hoodoo 500, a Hammer Nutrition sponsored event, now in its second year, which takes place in Southern Utah. The 2008 edition of the 519-mile race took place on September 13-15, with racers from twelve states and four countries entered.

“What’s a Hoodoo?” you ask. According to the race web site, “Geologically speaking, hoodoos are tall, skinny spires of rock that protrude from the bottom of arid basins and sedimentary rock. Nowhere else in the world can one find a concentration of these awesome pinnacles like those found in Southern Utah.”

The Hoodoo 500 course starts in St. George and travels through Hurricane, Colorado City, Kanab, Carmel Junction, Bryce, Tropic, Escalante, Boulder, Torrey, Panguitch, Cedar City and back to St. George. Its 519 miles feature spectacular scenery, not to mention 30,000+ feet of climbing over mountain passes above 10,000 feet. “Beautiful but really tough” would be an appropriate way to describe this course!

According to race director Debbie Bowling, “It was a perfect weekend for racing in Southern Utah. Daytime temperatures ranged from the mid 80s to low 90s, winds were fairly calm, and not a drop of rain or hail or snow fell in the high mountains. As a bonus this year, the racers and their crews enjoyed the scenery at night as the nearly full

moon illuminated the rocks through crystal clear skies. In addition to the great views, the clear skies also dropped the temperature into the 30s on Boulder Mountain Saturday night.”

Hammer Nutrition client, Kenneth Philbrick from Corvallis, Oregon—an ultra cycling veteran with, among other notable accomplishments, a Race Across Oregon victory (2005) under his belt—shattered the course record by nearly six hours with his very impressive win in a time of 30 hours, 59 minutes. Also finishing under the prior course record time were Urs Koenig of Seattle, WA (32:59), Jeremy Smith of West Jordan, UT (33:33), and Solo 50+ winner, Joel Sothern of Laguna Niguel, CA (34:20, which is also a new record for the Solo Men’s 50+ division). A mere month later, Sothern, a Hammer Nutrition client, would follow-up his superb race here with a win in the Men’s 50+ division (and 3rd male overall) in the Furnace Creek 508.

According to Bowling, “There was a lot of head-to-head racing at the Hoodoo! The top five men really put on a great show! Kevin McNulty took the early lead, but by mile 375, Kenneth Philbrick had closed the gap and arrived at Time Station 5 (TS5) just one minute ahead. Joel Sothern was less than an hour back. Urs Koenig and Jeremy Smith checked in at TS5 next, just one minute apart! By TS6, McNulty had dropped, Philbrick took the lead and never looked back, Koenig was second followed by Sothern then Smith. In the last 80 miles, Smith

put the hammer down, taking third by not only making up a 45-minute gap, but gaining another 50 minutes! A great effort by all!”

Congratulations to Kenneth on his great win and outstanding new course record, and to all of this year’s Hoodoo 500 finishers. Complete results can be found at www.planetultra.com.

Go the distance!

Recoverite is the easy way to take care of serious recovery needs for serious endurance athletes!

Single serve \$2.69
32 serving \$49.95

1.800.336.1977
www.hammernutrition.com

HAMMER
NUTRITION

HOT TIP: Frozen Hammer Gel



Thanks to Hammer employee Mark Ceccarelli for this Hot Tip...

Want a cool treat on your next run or ride? Try freezing your Hammer Gel! Before your next warm weather workout or race, toss your Hammer Gel in the freezer until the gel is a thick consistency. Be careful, because if you leave the gel in the freezer for too long, it will freeze solid. Anywhere from 30 minutes to an hour is perfect for a single serving packet.



Randy Profeta crosses the finish line at the second annual "Traverse" Endurance race.
Photo - courtesy Randy Profeta

Tips for Successful 24-hour MTB Racing

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, or race as part of a team, racing well still comes down to proper pre-race preparation and an effective fueling strategy once the gun goes off.

This article will focus on providing some insights into the strategies that have worked for me. I'll also share some of my training tips to help prepare you for 24 hours (or more) in the saddle. Just remember, though, that you are not me. Make sure to work out a plan that works best for your style of racing, your physical size, age, and physiology.

As with all recommendations regarding an individual's participation in an endurance event, you will need to do some experimentation to dial in the correct dosages for your specific body type and metabolism. While these suggestions may work better than what you are doing now for race day, I'd strongly recommend at least a 90-day period of acclimatization as you dial in your nutritional plan. Use your training rides to refine your race-day strategy.

First things first

Read and then re-read *The Endurance*

Athlete's Guide to Success (v.8). This handy reference guide provides the foundation for what you are about to read here. I was one of those athletes who had tried everything and learned mostly by trial and error. Unfortunately, many of my experiences ended in less than stellar race results.

Several years ago, a friend recommended Hammer products and gave me a copy of "The Guide." I still have my original copy and it's dog-eared from use. As I learned about the intricacies of fueling and switched to Hammer products exclusively, my results started improving.

Training strategies: Dialing in your nutritional plan

Let's spend some time talking about the months and weeks leading up to race day. We will focus on developing a fueling strategy while training, and follow through right up to your pre-race meal. As we talk about fueling, you will see that I definitely adhere to the "more is not always better; less is best" philosophy when it comes to hydration and nutrition.

As I am putting in my base miles early in the season, I generally will take two water bottles of HEED (2 scoops of HEED to 24 oz. of water) as my primary fuel when rides are less than three hours in length. As backup, I'll take a flask of Hammer Gel just in case I want to go a little longer. For rides over three hours, I'll start using a mix of unflavored

Perpetuem and Hammer Gel. While the Gel will change the 7:1 protein to carbohydrate ratio of the Perpetuem, I find it more palatable since it adds some flavor. For me, it also seems to be more digestible. Also, it allows me to change the flavor from ride to ride and hour to hour when I am racing. My preference has always been Chocolate, but I have been known to mix in Vanilla, Raspberry, Orange, and Apple-Cinnamon.

As an example, for a four-hour ride I will mix a multi-hour bottle made up with two servings, or four scoops, of Perpetuem (520 calories) mixed with four servings (two tablespoons per serving) of Hammer Gel (360 calories). This yields a mixture with about 880 calories, which is perfect for my four-hour workout. This means that I will be taking in about 220 calories an hour from the Perpetuem/Hammer Gel mix. At 6'0" and 180 lbs. this is slightly below what the Guide recommends. If I feel the need for a few more calories, I will add another 24 oz. bottle of Heed (2 scoops and 200 calories), which also provides some electrolytes and addresses my hydration needs. If it is really hot out, I'll take another water bottle filled with just plain water. As a backup, I'll usually carry a flask with Hammer Gel or a few single serving packets and a hydration pack with more than enough water to get me home.

Morning workouts and breakfast

Most of my training workouts begin sometime between 4 a.m. and 5 a.m. When starting early in the morning, I skip a pre-ride breakfast entirely and start fueling as soon as I get on the bike. If this sounds familiar, it is basically what the Guide recommends when starting an early morning race. As I

see TIPS on page 21

TIPS from page 20

am kitting up and rubbing sleep from my eyes, I will sip some water. Rarely will I have coffee or other caffeinated beverages before a workout unless I have an hour or more before the ride.

I am an early riser so training in the pre-dawn hours was easy for me. Since I will usually be racing with lights, this gives me the opportunity to get accustomed to the night-riding sensation and the changes in depth perception. I can also dial in my lighting system to make sure that battery life will be adequate and get used to the weight of a helmet-mounted lighting system. I live in Southern California about 40 miles south of Los Angeles. At 4 AM, there is absolutely no traffic whatsoever. It's just me and the coyotes. Make sure that you have a lighting system that includes a taillight that meets the legal requirements for your state or locality. I also use two reflective strips on my ankles that are accompanied by an ID tag. To that, I add a small yellow LED lamp to each reflective ankle band.

An added benefit to my morning training routine is that it seems to "jump-start" my metabolism. My body seems to burn fat more readily during the day. I also find that I have more energy during the day when I start with a morning workout. Try it if you are looking to shed some of the "baby fat" that we all seem to gain during the off-season.

Putting in saddle time

As my training progresses, I will start riding longer and longer each week. Just before a solo event, I'll be riding at least a century a week or the equivalent in saddle time (usually five to six hours) on the dirt. Multi-hour bottles and a hydration pack are my choice now. I'll also take enough Endurolytes to last six hours. For most rides, one to two Endurolytes are fine. The beauty of the product, however, is that you can adjust the dosage as needed. I recently did an endurance race where temperatures reached 118 degrees. At one point, I was taking five Endurolytes every 30 minutes.

Since my primary interest is solo endurance racing, my training is focused on pacing rather than developing

the intensity and sustainable speed necessary for team 24-hour events. These events are like a series of time trials where racers have to go full-on five or more times in a 24-hour period.

I generally will be consuming about 20 to 30 ounces of water when I am on the bike. Forget about trying to replace all the fluids lost when you are working out. A good friend of mine recently did a 12-Hour solo race with me in Temecula, CA, which is in high desert country. Temperatures got close to 100 that day. I was following my standard fueling and hydration routine and was doing well but my training partner was having stomach issues. While his fueling seemed to be OK, he was draining a 50-ounce hydration pack about every 70 minutes. He had to stop and rest for about two hours before the bloated feeling would subside.

If you will be racing with a hydration pack, make sure you train with one, even when on your road bike. I find the markings on the side of most packs are close but if you want to know how much you are consuming, measure it going in and measure what remains after your ride. Don't approximate or guess. I have used a measuring cup to fill my hydration pack. Don't forget to measure the liquid in your ice cubes too. When you return from the ride, measure any liquid remaining and determine your fluid intake.

To be safe, I will always carry more water than I need on a mountain bike ride. This way, I will not run into trouble if I get stuck with a mechanical problem and have to walk out.

My crew monitors my intake the same way during a race and will let me know

to increase or decrease fluid intake. This is always balanced with how I am feeling.

While many of my training miles are on the road, I will switch over to the MTB exclusively in the last 30 days before an event. I'll put slicks on a spare set of wheels and ride it on the road as well.

One more thing: a lot of racers I know will consume gallons of water in the days before a race as this is conventional wisdom. If you are like most Americans, you are probably slightly dehydrated. In

general, I try to consume about 90-100 ounces of plain water each day. A good rule of thumb is to divide your weight in half and consume that many ounces each day. So at 180 lbs., 90 ounces a day is about right.

Solid foods when training

I will usually do several organized centuries or doubles as part of my training for a 24 Solo. But whether it is an organized event or just a long training ride is unimportant.

Work on minimizing your intake of solid foods and stay away from simple sugars. While I have been known to have a chunk of fruit at a checkpoint, I stay away from the rest of the stuff there. I will carry everything I need in a few plastic bags and just add water. Plan on going it unsupported.

If you need to take a break from your liquid diet and are craving something more solid, fruit chunks work well as do Hammer Bars. I have tried every bar known to man from the first putty bars to all of the stuff on the market today and find Hammer Bars to be the easiest to digest while riding. They are also the tastiest.



Eric Model hammers the course at his first 24-hour mountain bike race. Photo - ImageExtreme.com

see TIPS on page 24



Aging Effects and Performance

Words : Dr. Bill Misner, Ph.D.

I evaluated Colorado State professors Anderson & Prior's article according to the effects of aging on performance reported. Physiological changes occur slowly over time in all body systems. Aging is influenced by life events, illnesses, genetic traits and socioeconomic factors. Here are some of the changes one may expect and what I suggest may reduce this rate of loss. Effects of aging on performance, and what most of us can expect, are followed by conservative antidotes and Hammer Nutrition applications that may help to reduce the rate of age-inhibited performance.

EFFECT: Loss lean body mass affects vital organ function, with loss of cardiac muscle strength and flexibility. Changes occur in the kidneys, lungs and liver, reducing our ability to generate new protein tissue. The most significant result of the loss of lean body mass may be the decrease in basal energy metabolism. Metabolic rate declines proportionately with the decline in total protein tissue. Total body fat typically increases with age. This often can be explained by too many calories. As we age, fat tends to concentrate in the trunk and as fat deposits around the vital organs. However, in more advanced years, weight often declines. Loss of lean body mass also means reduced body water as 72 % total body water is in lean muscle tissue. Generally, water as a nutrient is the most important, serving many essential functions. Adequate

water intake reduces stress on kidney function, which tends to decline with age. Adequate fluid intake also eases constipation. With the aging process, the ability to detect thirst declines, so do not wait to drink water until you are thirsty.

ANTIDOTE: Drink plenty of water, juice, milk, and coffee or tea to stay hydrated. Drink the equivalent to five to eight glasses every day*. It may be helpful to use a cup or water bottle, which has calibrated measurements on it, in order to keep track of how much you drink. Avoid gaining fat, calorie intake must be reduced or activity increased. The goal is energy balance, adequate hydration, quality protein replacement, strength training, reduced processed high-sodium and fats, with a control intake of fiber-rich carbohydrates from plant foods. Reducing the overall fat content in the diet is reasonable. It is the easiest way to cut calories. This is appropriate to reduce weight. Lower fat intake is required to reduce the risk of chronic disease. Between 45-60% calories may come from carbohydrates, with emphasis on complex carbohydrates. Glucose tolerance may decrease with advancing years. Complex carbohydrates put less stress on the circulating blood glucose than do refined carbohydrates. Quality sleep is very important for muscle growth hormones, which are released at maximal rates only during deep REM sleep cycles.

STEVE'S NOTE: My general recommendations for fluid intake are .5 to .6 of one's body weight in pounds. For

example, a 180-lb athlete I suggest an intake of approximately 90-108 ounces daily. The key thing is to make sure you're consuming adequate amounts of fluids.

PRODUCT APPLICATIONS: Hammer Whey, Hammer Soy Protein, REM Caps. Appetat once or twice each year during off-season to reduce or trim off-season fat weight gain.

.....

EFFECT: Cardiac capacity can be reduced or cardiac function impaired by aging that proceeds towards chronic disease such as atherosclerosis, hypertension or diabetes.

ANTIDOTE: Intermittent interval training & weight training to increase lean muscle growth with periodic endurance training.

PRODUCT APPLICATIONS: Race Caps Supreme, Carlson Norwegian Salmon Oil, Hammer Bar.

.....

EFFECT: Immune system's response making antibodies decreases as age increases.

ANTIDOTE: Timing training bricks means evaluating resting heart rate daily to plan rest periods for recovery, and intensity & duration when resting heart rate permits. Some foods and diet plans have been shown to boost the immune system, which in turn offers protection from various cancers, diabetes, arthritis, and other diseases. A healthy diet that fights aging should include:

1. Berries—contains fiber and vitamin

see AGING on page 23

AGING from page 22

- C, and an antioxidant known as ellagic acid, which has been shown helpful in preventing and treating cataracts, cancer, and constipation.
2. Broccoli—contains fiber and beta-carotene, known cancer-fighting agents.
 3. Beans—with fiber that can help lower cholesterol, stabilize blood sugar, and possibly reduce the risk of breast cancer.
 4. Carrots—significant amounts of beta-carotene that improves night vision and protects against heart disease, cancer, and macular degeneration.
 5. Fish—high in Omega-3 fatty acids that fight heart disease, and possibly colon and breast cancer.

PRODUCT APPLICATIONS: Super Antioxidant, Mito Caps, & Premium Insurance Caps.

.....

EFFECT: Loss of bone density – women faster than men lose bone mass at an accelerated rate. Recent attention has focused on the high incidence of osteoporosis. Severe osteoporosis is debilitating and serious. Increase intake of foods rich in calcium, fiber, iron, protein, and vitamins A, C and folic acid.

ANTIDOTE: Weight training both lower body and upper body retards loss of bone mass.

PRODUCT APPLICATIONS: Premium Insurance Caps, Boron, Hammer Whey, Hammer Soy.

.....

EFFECT: Digestive secretions diminish markedly, although enzymes remain adequate. Adequate dietary fiber maintains regular bowel function and will not interfere with the digestion and absorption of nutrients. The slowing of the normal action of the digestive tract plus general changes have the most direct effect on nutrition.

ANTIDOTE: Raw whole plant foods, with emphasis on limiting intake of processed foods. Adequate fiber, together with adequate fluid, helps maintain normal bowel function. Fiber also is

thought to decrease risk of intestinal inflammation. Vegetables, fruits, grain products, cereals, seeds, legumes and nuts are all sources of dietary fiber.

PRODUCT APPLICATIONS: iFlora, Phytomax, Digest Caps.

.....

EFFECT: Vitamin deficiencies occur during illness that stress the body and may be enough to use up whatever stores there are and make the person vitamin deficient. Medications also interfere with many vitamins. When dietary analysis

with vitamin E, like whole grains, peanuts, nuts, vegetable oils, and seeds, may help reduce the risk of Alzheimer's disease. Low levels of vitamin B12 have been associated with memory loss and linked to age-related hearing loss in older adults. Folate [Folic acid] is related to B12 metabolism in the body and may actually improve hearing. However, if B12 levels are not adequate, high folate levels may be a health concern. As we age, the amount of the chemical in the body needed to absorb vitamin B12 decreases. To avoid deficiency, older adults are advised to eat foods rich in vitamin B12 regularly, including lean

Eating nutrient-dense plant foods are increasingly important when calorie needs decline but vitamin and mineral needs remain high.

or drug histories are looked at, nutrient deficiencies may emerge.

ANTIDOTE: Eating nutrient-dense plant foods are increasingly important when calorie needs decline but vitamin and mineral needs remain high. The body can store fat-soluble vitamins and usually the elderly are at lower risk of fat-soluble vitamin deficiencies. Iron and calcium intake sometimes appears to be low in many elderly people. To improve absorption of iron, include vitamin C-rich fruits and vegetables with these foods. For example, have juice or sliced fruit with cereal, a baked potato with roast beef, vegetables with fish, or fruit with chicken. To boost your intake of calcium, have tomato slices in a cheese sandwich, or salsa with a bean burrito. Zinc can be related to specific diseases in the elderly. It can also be a factor with vitamin K in wound healing. Zinc improves taste acuity in people where stores are low. Zinc along with vitamins C and E, and the phytochemicals lutein, zeaxanthin and beta-carotene may help prevent or slow the onset of age-related macular degeneration. The best way to obtain these nutrients is to consume at least five servings of fruits and vegetables, especially dark green, orange and yellow ones. Good choices include kale, spinach, broccoli, peas, oranges and cantaloupes. Vitamin E may have a potential role in the prevention of Alzheimer's disease. Research has shown that eating foods

meat, poultry, fish, eggs and dairy foods. People of all ages need more than 40 nutrients to stay healthy. With age, it becomes more important that diets contain enough calcium, fiber, iron, protein, and the vitamins A, C, D and Folic acid. Reduce calories, select nutrient-dense foods, and avoid foods high in fat, sugar and sodium. Because no one food or pill provides all of the nutrients, eat a variety of plant foods and lean proteins to get the full spectrum of nutrients.

PRODUCT APPLICATIONS: Premium Insurance Caps, Xobaline, Carlson Norwegian Salmon Oil, Race Caps Supreme, Phytomax.

Summary

Age's effect on performance may be reduced by 10 principles of a nutrition and training plan to include:

1. Eating fruits, vegetables, whole grains.
2. Drink plenty of fluids.
3. Reduction of food containing saturated fat, trans fats, cholesterol.
4. Limiting sweets and salt.
5. Moderation in alcoholic beverages, if any. None is best.
6. Portion control to limit calorie intake.
7. Plan distance and intensity. workouts by AM resting heart rate

see AGING on page 24

AGING from page 23

8. Use weight training for upper and lower lean muscle growth.
9. Select lean high quality protein sources for 1.2-1.4 grams per kg, 0.55-0.66 g protein per lb body weight.
10. A plant food dominant diet is the solution model for age's inhibitory effect upon performance.
11. A dietary supplement protocol may reduce the rate of the lean muscle mass loss, immune system deterioration, recovery from exercise-induced free radicals, and increase the repletion of substances or fluids lost during exercise magnified by the effects of age.

Reference

Anderson JE, Prior S, NUTRITION AND AGING, Colorado State University @ <http://www.ext.colostate.edu/pubs/foodnut/09322.html>

Join the Team and WIN!

The TEAM HAMMER Auto-Resupply program is for our clients wanting the ultimate in convenience and Super VIP treatment. You'll be pampered like a guest at a 5-star hotel.

Auto-Resupply members enjoy:

- A personal advisor assigned to your account
- Automatic resupply every 90 days
- FREE cycling or triathlon kit with your first order!
- Special pricing
- FREE gift in every order
- Exclusive offers
- Advanced Client Appreciation Sale (Starts 1 week before other clients)
- Special access to our experts
- And much, much more

For more information:
hammernutrition.com/team

Call Today!
1.800.336.1977



TIPS from page 21

Supplements

If you plan to use any supplements on race day, start working with them several months in advance. Here are a few of the products I use:

Although I will not use Endurolytes when training unless I will be riding for more than three hours, I always carry a dispenser or plastic bag with Endurolytes ready for use if needed. For longer training rides, I'll take two as I head out and take one capsule an hour during the workout and adjust up and down depending on how I am feeling. You generally have a sense of the early stages of cramping. I'll take 2-3 tablets at the first muscle twinge.

If I will be riding for six or more hours, I will add one Anti-Fatigue Caps, a Mito Caps, and a Race Cap Supreme to my hourly intake. While I will vary the Endurolytes up or down, I have only had one experience when I needed to increase my intake of Anti-Fatigue caps. At about the 30th hour of the Furnace Creek 508, my sweat was taking on a bit of an ammonia odor. I upped my dosage to two capsules an hour and the ammonia smell went away.

Energy Surge has helped me to give it one more hard hill climb push or sprint to the finish while racing. The main ingredient of Energy Surge is adenosine triphosphate (ATP), which is one of the energy transport mechanisms that work at the cellular level. Energy Surge tablets should be dissolved under the tongue and not swallowed whole. Some athletes have had luck chewing them into a paste and then allowing the paste to be absorbed sublingually (under the tongue) as they race. Be advised, though, that Energy Surge is somewhat acidic and your stomach may not like large doses. I find that using Energy Surge is not as much an issue when I am fueling with Perpetuem, since Perpetuem is the most alkaline fuel in the Hammer lineup. It seems to neutralize the acidic effects of Energy Surge. Even so, I rarely consume more than four tablets in a one-hour period.

Race Day Boost also works for me and helps me put some time "in the bank" by allowing me to go out a little harder

in the early laps. You need to follow the loading regimen for the four days leading up to your race.

If I know that race day is going to be hot, I'll load up with Liquid Endurance. Loading with Glycerol has been proven to help athletes retain more water. This will give you a little edge in the first half of the race. If you know your race will be hot, see if you can train in similar conditions. I lived in Florida when I was training for my first 508. Locals would be off the road by 10 a.m.; I would extend my summer training rides into the afternoon. If you live where it is cool, try wearing extra clothing. If at all possible, enter another event with weather similar to the one you are peaking for. In any event, you should try to replicate race day conditions if you can.

I always carry some Tissue Rejuvenator with me in my race bag. A few years ago I crashed hard during a race and was taking large doses of an NSAID (non-steroidal anti-inflammatory drug) to dull the pain. Steve Born suggested that I try Tissue Rejuvenator since it does contain anti-inflammatory nutrients. Since I am a "masters" age racer, I take Tissue Rejuvenator every day for joint health anyway, so I figured I would give it a try. Tissue Rejuvenator helped me get back on the bike during the 2007 World Solo Championships after a freak crash at midnight that bruised both legs. I was riding in second when I crashed, dropped to fifth, and came back to finish in third.

Recovery

Please read the section in the Guide about the importance of fueling as part of an active recovery. You have a small (time-wise) "window of opportunity" to replenish the glycogen stores to nearly 100% if you fuel just after your activity.

If my ride starts from home, I will have a protein smoothie made with Hammer Whey, frozen fruit and about 8 ounces of skim milk right after I put my bike away. I will sometimes have a slice of turkey or a piece of Smoked Salmon and a bagel half. If I have to drive to the ride site, I'll bring a bottle filled with powdered Recoverite and some chilled water. After the ride, I'll mix it up and consume it with a Hammer Bar on the way home.

see TIPS on page 25

TIPS from page 24

If I did an epic training ride, I'll have a second bottle of Recoverite later that day. Either way, make sure to top off the tank within about 30-60 minutes of your workout.

Here's a nice after-dinner treat. Mix up one box of fat-free, sugar-free White Chocolate Mousse gelatin mix with 16 ounces of non-fat plain yogurt and chill it in the refrigerator. The taste is similar to cheesecake but with a lot fewer calories. If you have a yearning for ice cream, just take some frozen fruit and add it to the mix. I usually add about a cup of frozen blueberries to the yogurt mix and stir them in. The frozen berries thicken the yogurt to the consistency of soft ice cream and add great flavor.

Two weeks before the race

I will start tapering off about 10-14 days before the race. During this time, rest is more essential to an endurance athlete than extra miles. I'll sometimes shorten my morning ride and add a workout in the evening.

I will be making every effort to get 7-9 hours of uninterrupted sleep at night and a nap during the day if I can manage one. While I am generally a sound sleeper, REM Caps have helped me to fall off to sleep when I am anxious.

My diet during two weeks out will be biased slightly more towards protein-rich foods since I want to make sure that I am well recovered and that the micro-tears in muscle tissue is healing. While Hammer Soy and Hammer Whey make great fruit smoothies, I usually try to get my proteins from whole foods.

As race week comes around, I will begin taking in more carbohydrates than protein. This does not mean consuming large quantities of pasta, but switching my diet so that carbs make up between 60 and 70 percent of my daily intake.

I will usually do training rides right up to the day before the race. My last hard interval, however, will usually be 3-4 days before race day. From there on out, I am just spinning. I'll intentionally wear board shorts or baggies to help me get out of the "racer-boy" mentality where I will try to jump on any wheel that passes

me or be the first up a climb.

My traditional pre-race dinner is whole wheat pasta with fresh tomatoes and a touch of garlic. No real reason, I just like garlic.

Some time during the week leading up to the race I will sit down with my crew and work out the fueling strategy for the race. I will be estimating how long it will take me to complete a lap and then determine how much Perpetuem and HG I will need to mix in each bottle. Read your labels and know exactly how many calories there are in the products you will be using. I'll go into more detail on what I do when mixing up my race-day bottles in Part 2.

Race day!

Most 24-hour mountain bike races start at noon, so I'll have my traditional race day breakfast: a bowl of Cream of Wheat topped with some Apple Cinnamon or Raspberry Hammer Gel and maybe some fresh fruit. I'll have some "lite" waffles with HG or maybe a bagel half. Coffee is a must! I tolerate caffeine very well so I will be indulging myself, partly to get me wired, and also because the caffeine helps the body to metabolize fat more readily.

I'll take two Race Caps Supreme and one Mito Caps with breakfast along with my other supplements. I will be sipping from a bottle of HEED up until about two hours before the race when I'll switch over to plain water.

Stay away from whole grains and fruit with skins if you can. I do not need to be making an unnecessary "pit stop" at the Porta-John just as the race is ready to start.

You want to top off the tank before the race. I am not sure how to put this in a delicate way, but just like your car, if you try to overfill the fuel tank, it will overflow.

Let's sum it up

1. For training rides less than three hours:

What's in my water bottle:
HEED

In my jersey pocket:
Endurolytes, a flask of Hammer Gel

In the car:
Recoverite and chilled water,
Hammer Bar

2. Rides from three to six hours:

What's in my water bottles:
One 24 oz. bottle with a multi-hour mix of Perpetuem and Hammer Gel and a second 24 oz. bottle of HEED

In my jersey pocket:
Endurolytes, a flask of Hammer Gel, plastic bag with powdered Perpetuem, Hammer Bar, and plastic bag with powdered HEED

In my hydration pack:
Water to last me at least 50% longer than I plan to ride, less if I am sure that I can get water on the route

In the car:
Recoverite and chilled water,
Hammer Bars

STEVE'S NOTE: Randy wrote this article just before the July 2008 World 24-Hour Solos in Canmore. How did he do? He came in second place competing against some 49-year-old "young-uns." Randy recently turned 54 and moved up into another class where he'll now be the "young guy," well, for at least a year anyway.

HOT TIP: An easy way to take Race Day Boost



Thanks to Hammer client Anthony Parsells for this Hot Tip...

I measure one teaspoon into a gel flask and take about two flasks to work. When the time comes for my RDB, I use warm-to-hot tap water, filling up the flask to about 4-5oz, shake rigorously, and drink. I have done about 5 cycles this way and find it very easy. I don't use juice, as warm water helps to dissolve the RDB better. It just tastes like salt water.

Athletes enter the water during the Vermont Sun Triathlon. Photo - Rick Sorenson



Triathletes: Tips to Help with 2009 Season Planning

Words : Al Lyman

Smart, common sense planning is obviously important for both short and long term success in our sport. The question most triathletes ask at this time of year is "what is the best way to plan so that I have the best chance of reaching my goals?" In order for planning to be effective, it needs to be highly flexible, realistic, and practical. Successful planning should begin as a thought process rather than a highly structured recipe or formula. Your individual strengths and weaknesses, baseline fitness, race goals, and lifestyle, should all be the driving factors in how you set up your season, NOT the calendar. Simplifying the process will always be preferable to something more complex. Above all, make sure your plan includes training that is enjoyable and rewarding or you won't be happy doing it!

Annual planning and periodization:

The basic idea underlying periodization and "annual planning" is that you should logically and progressively adjust your schedule as the season progresses by changing the focus, volume, skills, or intensity of your training. I think we would all agree a periodized approach is a smart way to plan. The traditional approach to periodization that has become accepted as gospel in some triathlon training circles is one centered on a 12-month calendar, and on fairly highly structured phases. Each phase typically begins with higher volume and lower intensity, and it is often recommended that you follow a three

week build, followed by one week of recovery.

While progressing your training in a logical fashion makes a lot of sense, for the typical age-group triathlete, "annual" planning is more arbitrary than ever. What I mean is, an approach that focuses more on the months of the calendar or an entire calendar year, as opposed to a specific race(s) and the demands that the race(s) will place upon you, isn't efficient or practical. Each of our definitions of a "season" is unique and personal. Our lives are more complicated and we are under more stress than ever, making long term planning using a rigid formula more difficult.

Don't be a slave

The most practical way to plan your season AND solve any potential dilemmas that might arise, is to think of season planning from the inside-out, making your most important events (and the necessary skills and abilities required for those events) the focus or object upon which everything else revolves. Think of your "A" priority races as the center of your seasonal planning universe, and see that everything else expands outwardly from those, until what you have encompasses what YOU define as your season. The real benefit to this approach is that instead of thinking of a "base, build, or peak" phase, you can now think in terms of specific abilities and skills that you need to work on. Regular field testing and "C" and "B" priority races can help you learn if your training

is working, and whether or not you need to work on one or another skill prior to your most important race(s).

When planning, remember that while we are all human and alike in most ways, we are also "experiments of one" and unique in many ways, including our stress levels and the rate at which we are able to adapt to training. Noted functional training guru Vern Gambetta, in speaking about today's athlete, told a group of coaches that their primary goal is to help "create athletes that are adaptABLE - not just adaptED." I believe that smart planning for the typical age-group triathlete starts with the idea that training AND planning, in all its forms, should be more intuitive, not less. Make the most important races on your schedule and the abilities you need to be successful in them, the central object and focus of your planning. If you can do that, the plan you create or follow will then serve you, rather than you being a slave to the plan.

Tips to help in smart planning

For training at ANY time of year to be effective and efficient, it should meet some important criteria:

- It should go from general to specific
- It must address imbalance and dysfunction before power and speed
- It must address skills enhancement as a means to easier, faster performances
- It should be short and fast before it is long and fast
- It should include the use of frequent field tests to monitor how closely performance is approaching the requirements of competition
- Along the same line, it must gradually address the specific demands of the most important events on the schedule

see TRIATHLETES on page 27

TRIATHLETES from page 26

- It must include time and the resources to ensure adequate recovery and regeneration

Here are a few TIPS for the Preparation and Pre-Competition phases. I hope these are helpful in assisting you with 2009 training and planning.

Swimming: Your swimming skills will always set the upper limit to how far your fitness will take you. Use preparation periods throughout the year to focus on improving your skill and technique first.

- Get your stroke videotaped underwater. Seek out the advice of a knowledgeable swim coach (who understands the unique demands of the triathlon swim) for form analysis and workout guidance.
- Increase the variety, frequency, and duration of swimming DRILLS, to help you learn a better feel for the water and to implement new skills. If you don't have access to a regular on-deck coach, I believe the next best way to LEARN new skills and drills is with the Future Dreams Swim CD. Go to this link to learn more about this great swim training tool: <http://www.coach-al.com/products/swimcd.htm>
- Routinely TEST your new skills (achieved after careful review of your underwater video and stroke drills practice) with Swimming Golf. I like regular test sets of "golf" to assess efficiency, as well as whether you should work on increasing or decreasing stroke rate. The common assumption (a myth!) is that a lower stroke count is better.

Cycling: Early training phases are the ideal time to resolve any bike fit issues you have. You can also work on basic pedaling skills, establish baseline fitness levels and training zones, and begin to lift Functional Threshold and maximum aerobic power.

- Work to refine and resolve your bike fit issues, including cleat placement and pedal selection. Don't wait. You should be training in the position that you intend on racing in later on. I refer my clients to Todd Kenyon of <http://TTBikeFit.com> for the latest in time trial and road fit analysis.

Todd can work with you remotely and the results are always excellent.

- Routinely TEST two key physiological benchmarks: I like to use a simple testing protocol for triathletes that can easily be repeated on a regular basis moving forward. The tests, a 20-minute Time Trial and a 4-minute Time Trial, can help establish very good estimates for power output at lactate threshold and V02max. These practical field tests allow us to set training zones and learn about a cyclist's strengths and weaknesses. If they display a relative weakness in one of these two markers, I will design training accordingly to lift that ability to a higher level.

- Incorporate some "backwards" running into your weekly routine. Running backward, using both a quick prancing footstrike as well as a bounding technique, is beneficial for strength and resiliency development.
- As part of your weekly training, experiment with incorporating some barefoot walking and running, preferably on a treadmill, to strengthen your legs and improve the proprioceptive balance and strength of the smaller muscles of your feet.

To summarize, smart planning is absolutely critical for success, but it should be done with an inside-out

When planning, remember that while we are all human and alike in most ways, we are also "experiments of one" and unique in many ways...

Regular field tests and adapting training design accordingly, should result in a "rising tide that floats the whole boat."

Running: Durability, leg-speed, coordination, and efficiency are the attributes of a triathlete and runner who has used their preparation periods well.

- Develop leg speed and coordination with regular strides or "form accelerations," and short segments of very fast running. In the early training phases, I like to integrate short fast running segments with functional strength training, total body conditioning, and low intensity plyometrics such as progressive 1-leg hopping, box jumps, and cone hopping.
- Include regular periods of trail running and running over hilly terrain, to build overall resiliency and strength. Progress gradually so you don't increase injury risk by doing too much too soon.
- Frequent running workouts build durability, something which is quite hard to quantify, but is obviously very important. Aim to build toward 5 days of running per week during the initial phase. Build slowly and progressively, listening to your body.

object centered approach that is highly flexible, and that allows you the freedom to adapt, adjust, and insert blocks and phases as you see fit. The end goal of smart planning is to simply move you gradually closer to developing the skills and abilities you will need for your most important races. Most importantly, once you devise a plan, be sure you execute it, and then monitor and evaluate it continually for its efficacy, and then revise it as needed! Through regular testing and some objective evaluation, you'll know instantly whether or not your plan is working or whether you need to revise. Best of luck!

© Pursuit Fitness, LLC, all rights reserved, 2008.

Coach Al Lyman, CSCS, has been coaching endurance athletes of all ability levels since 1999. Coach Al is certified by USA Triathlon, USA Cycling, the National Strength and Conditioning Association, and the American Swim Coaches Association. As an athlete, Coach Al has competed in hundreds of races over his career as an endurance athlete and is a 25-time marathon finisher with a Personal Best of 2:39 at the Boston Marathon, as well as being a 9-time Ironman Triathlon finisher, including having qualified for and finished 3-times at the Ironman World Championships in Kona, Hawaii. For more information on Coach Al and his available coaching programs and training plans, go to: <http://coach-al.com>. For more information on Runner-CORE, go to: <http://runner-core.com>



Brian, far right, and other Randonnee de Grands Crus participants pose with their awards during the ceremony.

Le Randonnee des Grands Crus de Bourgogne

Words : Brian Frank

This past September I was extremely fortunate to be invited and be able to participate in this event in Dijon, France. Actually, I have been invited each year since 2003 when I first met our now dear friends, Rene and Jeannine Tabacchi, on a two-week ride through Italy. Every year, however, something always came up that conflicted with the dates of this ride. So this year, when I spent two weeks with the Tabacchi's on another ride in June, they urged me once again to come and join them for this year's event. Having never visited the famous Burgundy wine region of France, it did not take a lot of convincing; once my wife signed on, we were on our way. Cheap tickets and a direct flight from Salt Lake City to Paris made the decision that much easier.

Randonnee events are definitely not races – they could be described as the French version of a century ride, with the added flair that one might expect from a country with such a strong cycling tradition. Layer on top of this their affinity for good food and fine wine, and you may be able to begin to imagine the experience.

Events like this are put on by cycling clubs all over France during the riding months beginning in early spring, all the way into the fall. Since every town has at least one such club, there is basically an event every weekend. The Randonnee de Grands Crus is organized by Les Randonneurs Dijonnais, which my friend Rene has been a member

of for over 25 years. Most of the 150 plus members of the club volunteer in some capacity to pull off this extremely well choreographed event. From pre registration, packet pick up, course marshals, manning “check stations,” and hosting lunch, to the never ending awards ceremony, every possible detail is covered with the ease and efficiency that comes from doing something year after year after year.

One of the many differences I noticed was the variety of ride options and even a walking division. So, as opposed to just a metric and 100 mile option as we often find here, there were 4 road options with distances of 45, 95, 125 and 150 kilometers, two mountain bike options with distances of 30 and 50 kilometers and the 20K walk. Some of the routes overlapped, but most did not so the logistics were pretty complex.

I did the 150K option with about 250 other cyclists. Since none of the riders I knew from the club were riding, Eves, the congenial club president, arranged for me to ride with his friend Marcel and four other guys from a neighboring club in Chaignot. Marcel is in his sixties and has been doing these rides for well over 40 years. He was no slouch on the bike, setting the pace all day and charging up every one of the endless mild climbs that totaled more than 6,000 feet of elevation by the time we were done. His buddies were the “young” ones since they were only in their late forties and fifties. Marcel was not shy about pointing out his strength compared to the others and basically set the tone for six hours of

good-natured ribbing. Some things are universal, no matter what language is being spoken, I kept thinking with an ear-to-ear grin plastered on my face.

The route took us from Dijon through the towns of Beaune, Meursault, La Rochepot, Savigny-les-Beaune, Echevronne, Clos de Vougeot, and back to Dijon. However, we deviated from the marked course frequently, starting about 10 kilometers out of Dijon. Marcel explained that he liked his version better than the designated route as it was more scenic and employed less traveled roads, some of which turned out to be service roads through the vineyards! I was in no position to object nor did I feel any need. I just followed the merry group wherever they went and somehow we always ended up at the correct “check station.” The scenery was some of the most enchanting I've ever seen – endless vineyards dotted with majestic chateaus, picturesque towns, green pastures full of “Burgundy” cows and sheep, and a quaint little village every 5 to 10 kilometers. I couldn't help thinking that this was something every cyclist should experience.

“Check stations” are like rest stops, but you also have to have your official card stamped by an official looking person sitting at a table. These were set up in Beaune, La Rocheport, and Echevronne. The significance of this procedure is still a mystery to me, but everyone dutifully produced their cards at each stop to have them stamped. The food and beverage offerings were a bit different than what we usually see in the US, and that was not a bad thing.

The “breakfast” stop in Beaune was in a wine cellar, of course, and consisted of coffee, isotonic sports drink, croissants, and breakfast cake. The second time

see RANDONNEE on page 29

RANDONNEE from page 28

station in La Rochepot was more exciting, with cheese, pate, fresh and warm baguettes, water, sports drink, and a little wine for those who asked. Lunch in Echevronne was a grand affair with a full a four-course sit down meal, your choice of red or white wine, and coffee. After that, it was mostly down hill, literally, to the finishing party/ awards ceremony at the Boulodrome. In case you are wondering, I completely abandoned my usual fueling plan and "did like the Romans." Being that we were riding a civil, conversation pace, I had no trouble with the delicious food that was offered and thoroughly enjoyed every bite.

About 1,500 riders and walkers participated in the various options and the vast majority came back to the Boulodrome (a large covered arena used to play Boul, also known as Bocci and Petanc, where large, heavy metal balls are thrown some distance in an attempt to get closest to a small, wooden ball or to knock your opponents ball away from the wooden ball), to enjoy the post event awards

party. I'm pretty sure most were hoping to win the grand prize of your weight in fine Burgundy wine. There were countless other wine prizes and the 2nd place prize was a nice La Pierre bike (that brand is local to

Dijon), so just about everyone left with an award or a bottle or more of wine, in addition to the obligatory t-shirt, water bottle, and assorted goodies.

Foolishly, I believed that I would just be a spectator for this part of the event. Little did I know, Rene and his friends had cooked up quite a scheme. As the Emcee called up rider after rider to

receive awards for the oldest rider, the youngest rider in each division, the club with the most participants, and so on, Rene started looking kind of anxious. That's when the Emcee looked straight at me to announce the winner of the award for traveling the greatest distance to participate in their event. It was also noted several times that I was the only American and they hoped that next year that I would bring more friends! My



Jeannine, Brian, and Rene at the lunch stop in Echevronne.



Brian taking a photo op in front of the chateau of La Rochepot.

large Cup trophy was presented from the city of Dijon by Bernard LaPorte, the current French Secretary of State for Sport, a personal friend of Rene who lives in Dijon three days a week. After the salutations and thanks were given, the awards continued. Next, I was presented with a wine tasting spittoon, a set of wine glasses customized with the Randonneurs Dijonnais crest, and a set

of books about the history of Dijon and Burgundy. After a few words of thanks and appreciation and a slew of photos, I was permitted to leave the stage so the giveaways could commence. Rene was hoping I'd win some wine, especially the grand prize, so I could keep the booty in his wine cellar until my next visit, thereby assuring my speedy return. My usual luck for drawings held up and I won nothing, which was a relief after all of the fuss they had already made for me.

As you might expect from reading this account of my experience, I am intoxicated with the memory of Le Randonnee des Grand Crus de Bourgogne. The date has already been announced for next year, Sundaym September 13, 2009, and the invitation stands to return with as many friends as I can find.

So, if this sounds like something you might enjoy, let me hear from you. We'll plan to spend about a week soaking up the rich history of this area of France with sight seeing, wine tasting, eating Slow Food (authentic regional cuisine),

and riding around the countryside with the culmination being the Randonnee ride.

Getting there is remarkably easy with the TGV train station at the airport in Paris; there are

regular high-speed trains that will take you directly to Dijon. Of course, adding on 2-3 days or more of sight seeing in Paris before heading out to the country is easily doable as well. Riding or non riding spouses are encouraged to attend and alternate activities will be planned for those not riding. I'll help with arranging transportation and accommodations so we can all be on the same itinerary, but this is not a Hammer Camp per se. I'm already looking forward to the trip. E-mail me at suggestions@hammernutrition.com for more details or with any questions.



Pace line through the vineyards.

WANT from page 30

to it, specific strength training can and should be included in July. The point is work needs to be done now if you want to develop strength and continue to enjoy the advantages it confers later on.

In order for your Globus strength training to be an effective compliment to developing your overall fitness, fit the Globus training in two to three times weekly. Start these training sessions after intense or high volume exercise, not before, so that you can always give yourself enough time, usually 48 hours, before you plan to perform well while training. If you aren't reasonably well-recovered from the Globus training before a long or hard planned training session in your chosen sport, then you'll be able to absorb less training in that specific sport. If this practice is continued, the sum of the training that you absorb over time will suffer and you won't be efficiently building your fitness.

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

Suggested periodized strength training plan for the Globus Premium Sport model

Program	Frequency	Duration
Max Strength 1	2 to 3 times weekly	2 to 3 weeks
Max Strength 2	2 to 3 times weekly	2 to 3 weeks
Max Strength 3	2 to 3 times weekly	2 weeks
Max Strength		6-9 weeks total
TRANSITION WEEK		
resistance strength 1	1 time weekly	1 week
max strength 3	1 to 2 times weekly	1 week
Resistance 1	2 to 3 times weekly	2 to 3 weeks
Resistance 2	2 to 3 times weekly	2 to 3 weeks
Resistance 3	2 to 3 times weekly	2 to 3 weeks
Resistance Strength		6 to 9 weeks total
TRANSITION WEEK		
Endurance 1	1 time weekly	1 week
Resistance strength	1 to 2 times weekly	1 week
Endurance 1	2 to 3 times weekly	4 to 6 weeks
TRANSITION WEEKS		
Endurance 1	1 time weekly	2 to 3 weeks
Endurance 2	1 to 2 times weekly	2 to 3 weeks
Endurance 2	1 to 2 times weekly	4 to 6 weeks
Endurance Strength		6 to 9 weeks total

It's like having a massage therapist, gymnasium, and personal trainer in your hand!



Globus Premium Fitness

SKU PRICE
GBF \$599

PROGRAMS

- Demo
- Warm up
- Aerobic Resistance
- Active Recovery
- Preparation
- Jogging
- Fitness (Basic Training)



Globus Premium Sport

SKU PRICE
GBS \$899

PROGRAMS

- Demo
- Warm up
- Maximum Strength
- Resistance Strength
- Explosive Strength
- Reactivity
- Aerobic Resistance
- Active Recovery
- Preparation
- Jogging
- Fitness (Basic Training)

6 SPORTS-SPECIFIC TRAINER PROGRAMS



Globus Premium Sport Plus

SKU PRICE
GBSP \$1100

PROGRAMS

- All Sport programs PLUS 4 new custom programs designed by Brian Frank, Steve Born, and Dr. Bill:
 - 3 levels of Ultra Endurance programs - Ideal for ultra training like IM, 100 milers, 24-hour events, etc.
 - Stretch Relax - When applied to the lower back, it helps to de-contract tight spinal erectors and floods body with endorphins. Say goodbye to stiff backs!

Try Globus in the comfort of your own home...order today!

Use the Globus for a full 30 days for just \$29.95. If you are not totally amazed by this device, send it back for a full refund. However, since we know you'll want to keep your Globus unit, we offer convenient payment plans.

3 Convenient Payment Options

If you choose to purchase the unit after 30 days, select one of the payment methods below.

Easy Payment Plan

3 Easy payments of \$199 / Fitness

4 Easy payments of \$224 / Sport

4 Easy payments of \$275 / Sport Plus

Pay-in-Full & Save \$29.95!

Pay the full amount after your 30-day trial and we'll deduct the \$29.95 you paid initially from the final price.

\$569 / Fitness

\$869 / Sport

\$1070 / Sport Plus

Save up to \$78!

Pay the full purchase price (no 30-day trial) and receive FREE electrode pads.

Fitness - \$599 3 FREE sets (up to a \$39.00 value)

Sport - \$899 6 FREE sets (up to a \$78.00 value)

Sport Plus - \$1100 6 FREE sets (up to a \$78.00 value)

All models include : Carrying Case / 4 lead cables / Battery Charger / 4 reusable adhesive electrode pads 2"x2" / 4 reusable adhesive electrode pads 2"x3.5" / User Manual



Free 3-day shipping on all units.

1.800.336.1977 - www.hammernutrition.com/globus



The Time is Now

Words : Dr. Lowell Greib MSc ND CISSN

As I sit and watch snowflakes drifting slowly to the ground, I quietly contemplate what motivates me to participate in sport and how it makes me a better person. Now, I could list a thousand reasons how sport motivates me and what it does to enhance my character, but it is probably more important for each of you to take a little bit of time for self reflection and decide why sport is important in your life.

Over the years I have found that fall and winter have always been convenient times for me to review my goals in life (of which sport is a large component) and to determine new aspirations for the upcoming year. They are seasons that offer opportunities outside of my regular competitive sporting venues (running and road cycling). As an avid outdoorsman, fall is a superb opportunity to refresh my mind by spending an abundance of time in the forest and on lakes. The winter is a time to get out nordic skiing and snowshoeing. They are times for me to allow my body and mind to recover from a strenuous season of racing and training, but probably more importantly, they give me the opportunity to reflect on what I can do outside of my physical training regime to enhance my performance.

Clinically, I use this time to help educate my athletes of the importance of lifestyle modifications and their direct influence on sport performance. Other than exercise (which we are all experts at), rest and diet are the two important lifestyle factors that we can work on in our off season.

Rest and sleep are not synonymous. Rest does, however, include sleep! You may ask if there is a quantitative method of evaluating rest? In fact, there is... and it is dead simple! In a training log, an athlete can journal when they take rest periods in a day, and when they sleep. Rest can take any form that enhances parasympathetic nervous system involvement. It may take the form of a nice hot bath, reading a favorite book, cuddling up in front of a roaring fire with a favorite person or pet, yoga, mediation, or relaxation breathing. By no means is this list extensive, but will offer some suggestions that may help you build a rest strategy into your everyday life. Evaluation of sleep is just as simple. Once again, you can log this information into your daily training journal. List the length and evaluate the quality of your sleep. Ask yourself if you are sleeping through the night and whether you are waking rested and motivated to face the day?

Other than exercise, rest and diet are the two important lifestyle factors that we can work on in our off season.

Diet, unlike rest, is something that takes a little more work to figure out! One thing that we all need to be aware of is that building healthy dietary practices should be evaluated in a continuum over time. As a specialist in performance sport nutrition, one would think that my diet is "perfect". Such is definitely

NOT the case, but I do spend significant time evaluating what I need to do to help enhance my diet over time. The process can be involved, but is rewarding once one starts to understand the "cause and effect" actions of food on human performance.

To start the process, it is always good to list the foods that you are eating in a diet log. Try to be as extensive as possible with serving size and timing of intake. Once complete, a macronutrient analysis is helpful to determine adequate ratios of carbohydrates/proteins/fats are being consumed. When displayed in a clear and concise table it is also easy to see if appropriate food combining is occurring. This is especially important if an athlete is a vegetarian and need to combine protein sources to ensure their completeness. There are several free online dietary analysis packages that you can access to help with the process. From this point, an athlete can start to make dietary changes that can affect the macronutrient profiles of their diet.

Now you are ready to start evaluating the micronutrient profile of your intake. Again, online analysis may assist, however, it is important to realize that

RDA's may not be the best guideline for all athletes, but do offer a minimum standard for the human population. If there are deficiencies, these need to be corrected immediately! As athletes, our bodies are under more metabolic

see *TIME* on page 34



Tom Erickson enjoys the benefits of Globus EMS at a Hammer training camp in Tucson.

Electrostimulation (EMS); Backed by Hard Science

Words : Giovanni Ciriani

When I tell people that I use and am involved with electrostimulation devices, they normally look puzzled. I'm sure the same has happened to you. I then have to embark on a clear and concise explanation. I normally start from rehabilitation, because a physiotherapist's practice is the place people most likely have been exposed to EMS (Electro-Muscle Stimulation). The truth of the matter is that the average Physiotherapist, MD or Chiropractor, has not been schooled in the recent scientific advances in EMS, and therefore may or may not use EMS correctly.

I recently asked permission to sit in a class in which Electrotherapy is taught to Master's degree students in Physical Therapy. This is the only class during the whole graduate program, in which future Physiotherapists are exposed to EMS: only 9 hours of teaching in a three-year program. This is a reputable University, with one of the most reputable Strength and Conditioning departments run side-by-side the PT department. You'd expect the PTs trained here to be exposed to EMS applications for sports. However, after a cursory presentation of EMS techniques, the faculty teacher explained that research literature about EMS use is not conclusive on the benefit obtained by rehab patients. He mentioned the Cochrane Reviews⁺, which wrote that there is no evidence that EMS is more effective than regular exercise in the recovery from disuse atrophy (i.e. recovery of muscle strength lost during

immobilization caused by injury).

My point is that not even PTs, who are the most frequent users of electro-muscle stimulators, know a lot about training the muscles, because they have never been formally taught. This is mainly because the most compelling findings on EMS, which are gradually transforming this training technique into a science, are very recent. Therefore, I think we need to shed some light on how EMS research has evolved.

So let's back up a little bit. In 1971 Kots in the USSR reported increases of more than 20% in muscle strength, speed and power produced by several weeks of electrotraining. Russian athletes that had used electrostimulation obtained excellent results at the 1972 Olympic Games in Munich, (Borzov, gold medal in the 100m and 200m). Western sport researchers were not able to obtain the same results, and Kots, in a series of conferences, started detailing his methods. Practitioners started referring to his methods with the name of Russian currents in North America, and with the name Kots current (or Kotz) in Europe. It became apparent that it was not just the uneducated application of current that allowed the gains, but the modality in which this was done.

Some notable weight lifters and speed trainers in the West started using electrostimulation with more results. However, there was not a unified theory explaining the mechanism that allowed this progress, and it was considered more of an art than a science. Certain

people who had widely experimented with and had bumped into a lucky outcome, or who had an intuition, were using particular EMS programs and periodization strategies obtaining results again. In the meantime science had made some progress in understanding muscle fibers differences, and how these applied to skeletal muscles of vertebrates. Unfortunately, even though man is a vertebrate, not all that applies to other animals applies to man 100%. There are, for instance, several types of animal muscle fibers, but only three apply to humans, and all muscles in man are a combination of these three.

At the same time electrostimulation became more common as a therapy method. In the 1990's the miniaturization and affordability of electronics allowed the wide experimentation of new protocols. Protocols based on square waves improved in quality and superseded the protocols invented by Kots (aka Russian current programs) which were less flexible and less comfortable.

Speed forward to 2003. Research article over research article, have finally put to rest the old debate whether an athlete could or could not alter his/her fiber-type natural endowment. The response is yes. In a comprehensive article* on the strong body of research accumulated on the subject, two scientists in the field, review all of the recent results on muscle plasticity (i.e. the possibility of altering muscle composition with long standing effects). Plastic changes are confirmed in all sorts of events that affect the muscles: Endurance training, Electrostimulation, Resistance training, Absence of gravity, High altitude etc.

Regarding EMS, the article acknowledges the capability of this technique to even be able to reach higher levels of plastic

see ELECTROSTIMULATION on page 34

TIME from page 32

demand and, as such, we need to supply appropriate vitamins and nutrients to assist in biochemical function.

Further to the aforementioned macro- and micronutrient analyses, it is important to check two other factors that are important for basic physiological function - water (or fluids in general) and fiber intake. Both play a vital role one as the solvent in the body that allows

for every biochemical reaction to occur efficiently and the other for optimal function of the gastrointestinal tract.

Putting these pieces of the human performance puzzle together will go a long way to improving every day physiological and biochemical function. This process can be completed by an individual on their own, or with the assistance of a medical professional who specializes in sport nutrition. Whichever method you decide to use, take some

time to think about how your body is functioning and what actions you can take to optimize your biochemical potential.

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.

ELECTROSTIMULATION from page 33

muscle adaptation, in virtue of the fact that EMS can involuntarily recruit a higher percentage of fiber than it would be possible voluntarily.

The key sentence in the article is quite flattering for somebody involved with EMS for Endurance training: **CLFS (chronic low-frequency stimulation, scientist-speak for an Endurance program) activates all motor units of the target muscle synchronously and with the same impulse pattern. It is thus possible to attain much higher levels of muscle activity over time than with any voluntary exercise regimen. CLFS thus challenges muscle to its full adaptive potential.**

The frequency considered by the article is just one frequency, 15 Hz. That's alright; you have to understand that this article is more concerned about biochemistry than about training. However, I want to point out at this point that there is a continuum of frequencies that cause a wide spectrum of permanent muscle adaption.

Two more studies give us a better window on the discriminatory effect of stimulation frequency on plasticity: i.e. that different programs can have very different training effects. A 2003 article** using a frequency of 15 Hz showed that after a 10-week-long training induced a 13% increase in slow-twitch fibers proportion. A 2006 article*** using a frequency of 75 Hz showed that after interrupting 4 weeks of EMS training, at week 8 (i.e. 4 weeks after stopping the training), the force gain was 20%, and the percentage of fast-twitch type 2a muscle fibers doubled (from 20% to 40% of total). These articles go in depth into the composition

of muscles, and base their findings on biopsies of muscle fibers before and after the training periods. The techniques utilized in the studies are very advanced: biochemical analyses, rigorous force testing, VO2 measurements, muscle fiber geometry, and contractile properties. In one word, they are very serious.

The above results are strong indications that change in muscle composition can be achieved selectively as we select different stimulation frequencies (EMS program). It is for this reason that in the Globus Premium Sport+ we consulted with specialist in the field and introduced additional frequencies and programs. Most notably we added the Ultra-Endurance programs, to tap a range of muscle fiber stimulation that is still disregarded by competing devices. Our belief is that by using these new programs, athletes will be able to move from their Winter training through Spring and competition season, optimizing simultaneously their endurance and resistance capabilities.

Hopefully, armed with this review of the still-developing science of EMS training, when people ask you why you are using a device to complement your training, you will be able to counter that disbelief with solid science, and you will have a convincing impact on your audience.

Note+: The Cochrane Reviews is an on-line collaborative effort on medical research. It provides information about the effects of health care, by comparing all medical research available on a particular subject, and then validating or disproving a therapy based on the concurrence or contradictory findings of the evidence presented.

Note *: Molecular basis of skeletal muscleplasticity, from gene to form

and function - Reviews of Physiology Biochemistry and Pharmacology, March 2003 - M. Flueck · H. Hoppeler. The abstract can be viewed at www.springerlink.com/content/dx7r1x5d9k61m2mw/, the whole article can be downloaded from the University of Berne, Switzerland, www.ana.unibe.ch/%7Eflueck/102540159-2.pdf.

Note**: Functional and biochemical properties of chronically stimulated human skeletal muscle – European Journal of Applied Physiology, April 2003 – Nuhr et al. The abstract can be viewed at www.springerlink.com/content/jluwunga1qucjqgy/.

Note ***: Neuromuscular Adaptations to Electrostimulation Resistance Training American Journal of Physical Medicine & Rehabilitation, 2006 – Maffiuletti et al. The abstract can be viewed at www.ncbi.nlm.nih.gov/pubmed/16428910.

Join the e-Stim revolution!



Fitness
\$599



Sport
\$899



Sport Plus
\$1100

Globus EMS allows you to:

- Build muscle faster
- Increase power
- Muscle recovery in minutes
- Correct leg strength imbalance
- Help prevent and manage injuries



1.800.336.1977 / www.hammernutrition.com



2008 Interbike Outdoor Demo

Record Year for Hammer Event Sponsorships

Words : Steve Born

When we say, "We support your sport," we not only talk the talk, we walk the walk, as evidenced by the number of events we sponsored in 2008. Now, I'm writing this article around mid-November so there's still over a month to go before 2008 ends. However, with us currently at a figure of 2155 events from our race bag program, and taking into account the 40 events we sponsor via the Outdoors NW race bag program, it's a cinch that we'll break the 2200 mark. This will easily be the highest number of sponsored events in the history of Hammer Nutrition, breaking the old mark by over 300 events. And that's just in the U.S. – that figure doesn't even include our Canadian sponsored events!

Sponsoring that many events means a lot of product! From our race bag program alone we have sent out nearly 740,000 samples, brochures, and goody bags. Outdoors NW uses their own goody bags but we've supplied them with over

17,000 samples and brochures to include in those bags. Combine the two of them and we've provided events with well over 750,000 samples of Hammer Nutrition products. Wow!

We have also supplied thousands of containers of HEED and a nearly countless amount of HEED cups (I estimate close to 2.5 million, if not more), and we have donated literally tons of additional product for use as awards or raffle prizes. Wow again!

We sponsored events in all 50 states, with the following states in the top 15:

- California - 166
- Florida - 120
- North Carolina - 117
- Michigan - 114
- Colorado - 103
- Arizona - 82
- Virginia - 78
- Pennsylvania - 74
- New York - 73
- Wisconsin - 66

- Washington - 63
- Georgia - 62
- Tennessee - 61
- Montana - 58
- Illinois - 55

Not surprisingly, our top months were:

- June - 295
- May - 289
- August - 269
- September - 256
- July - 206
- April - 206

Our top sport continues to be triathlon/duathlon (775), followed by mountain biking/cyclo-cross races (434, and now that we're sponsoring more "cross" races than ever, it'll have its own distinction on our 2009 calendar). After that were road cycling events/races (210), running races (174, comprised mainly of marathons, with some half marathons and shorter-than-ultra-distance trail running races), adventure races (168), ultra running races (149), and the camps/clinics we sponsor (112).

Needless to say, we're very excited about achieving this new standard in event support and we look forward to even higher sponsorship numbers in 2009. As I'm fond of saying, "If you're going to an endurance race, chances are you'll see Hammer Nutrition there!"

HEED - A real, effective sports drink



Single serve - \$1.69 / 32 serving - \$21.95 / 80 serving - \$46.95

"Best sports drink I've used. No gastrointestinal problems, better delivery, and no spikes. Very gentle and effective!" - Timothy J.

- Steady, consistent energy
- Buffer lactic acid
- Help prevent cramps



1.800.336.1977

www.hammernutrition.com



Elizabeth Jefferson finds an epic adventure on Figueroa Mountain. Photo - Chris Kostman

In Search of Epic

The endurance path

Words : Chris Kostman

“Epic” is defined at www.dictionary.com as “heroic; majestic; impressively great” and “of unusually great size or extent.”

To live on the endurance path is to live in search of epic experiences.

What does it mean for a ride, a run, a swim, a ski, or other type of athletic endeavour to be epic? Here are some thoughts on the subject:

First and foremost, to be epic, the experience must be a memorable adventure, literally. That may result from one or more of the following factors:

Distance:

The longer the adventure, the more “out there” it will likely become. But words like “far” and “ultra” are relative to one’s experience and training level. How far is far? Farther than you’ve been before, perhaps.

Difficulty:

The more difficult the experience, the more likely it will be memorable. “Difficult” is also relative; if it’s difficult for you, it’s difficult. There’s no magic cut-off, distance-wise, or in terms of elevation gain, or anything else, which defines “difficult.”

Weather, especially unexpected weather:

Rain, wind, snow, hail, sandstorms, heat, and many other things we often call “weather” can turn “an ordinary outing” into an epic outing. Likewise for related phenomena like floods, road washouts, and the like. Of course, sometimes we go deliberately in search of intense weather, like cycling in the dead of winter, or running across a desert in summer, or when tempting fate during monsoon season with only a t-shirt on our back.

Mechanicals/breakdowns:

Cycling is about the body-bike interface. When the bike breaks down, so can the whole system and pretty soon we’re no longer a cyclist, but a bike-pusher or hiker instead. But more often than not, mechanicals don’t completely disable the bike, they just make it a whole lot harder to ride. Similar fates can befall running gear, swim goggles, XC skis, and other equipment “necessary” for the endurance athlete. Can you turn adversity into an opportunity?

Going somewhere new, especially unplanned:

“Hey, I wonder where that road - or trail - goes?” can be The Seven Magic Words just before an ordinary workout turns epic!

Getting lost:

See point immediately above, a closely related subject.

Running out of food and/or water:

There’s nothing like the bonk, or a good thirst, to make things interesting.

Getting sick or injured:

Such a list must, of course, begin with throwing up and related GI distress from either end, along with blisters, blown out joints, thrown out backs, and the myriad possibilities which can result from crashes, falls, and other accidents. Can you push through?

Encountering the unusual:

Crossing paths with deer, giant turkeys, bobcats, snakes, or millions of grasshoppers, to name just a few examples of the animal variety, can make things memorable. Unusual varieties of people, places, and more are also out there, too. Don’t ride or run right past them!

Racing the sunset:

Running out of light, when you don’t have your own lights, can be simultaneously exhilarating and frightening. No matter how tired you become, at the end (or near the end) of an epic ride, run, or ski, the adrenaline usually kicks in when the sun is nearing set and there are still miles to be covered.

Road/Trail surface:

If smooth, beautiful pavement were the only good place to ride, we should just all ride velodromes! Mix it up. Ditto for running and every other kind of human movement over the landscape: Are you an outdoor athlete, or just recreating

see *SEARCH* on page 37

SEARCH from page 36

your usual indoor treadmill workout, elliptical jaunt, or lap swim?

Using the "wrong bike" for the ride:

This is a topic, and concept, which is near and dear to me and which inspires my blog slogan "Any Bike, Anywhere." I love to pedal, and we I to pedal anywhere I possibly can (or can't). Mountain bikes: who needs them?

Unlikely routes:

Linking roads and regions together with trails and other connectors that most people wouldn't think of is an exciting and enlightening flight of fancy. The end result is a one-of-a-kind route, a tour of disparate regions, and a ride or run that is perhaps half dirt and half paved. Cycling version nickname: "Rough Riding."

Adventure-seekers on the endurance path aspire to be prepared and ready for any circumstance, but when they're not, they get the job done, while reveling in the opportunity to have new experiences, to explore the inner and outer universes, and to learn new things about the world, about their endurance sport of choice, and about themselves.

What defines EPIC for you? When was your last epic experience? When will the next one be?

How about today? See you out there!

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- to seven-day cycling and yoga camps. This is his sixth article for Endurance News. Learn more at www.adventurecorps.com. Share your thoughts, especially about epic cycling rides, at his blog, www.XO-1.org.



2009 Planet Ultra Cycling Events Calendar

Words : Steve Born

When you sponsor over 2000 events it can be a challenge to remember some of them. That's not the case for me with the Planet Ultra events. Why? Because when I lived in Southern California I did many of these great rides for several years and have some great memories from them. In fact, one of the rides (the Mulholland Double Century) takes place very near where I used to live in Topanga, CA, covering many of the same roads that I cycled on when training for RAAM and other ultra cycling events.

We are honored to once again sponsor the 2009 Planet Ultra series of events, where you'll find ample supplies of Hammer Nutrition fuels at the rest stops. With the exception of the Hoodoo 500 Training Camp and the Tour of Southern Utah, all these events take place in Southern California or fairly nearby. So if you live in SoCal, or plan on being there in the future and want to do a really great ride, check out one of the Planet Ultra events.

Here is the current list of Hammer Nutrition sponsored Planet Ultra events for 2009. For more information go to www.planetultra.com. While you're there be sure to check out the King of the Mountains Century Challenge, a three-ride series comprised of three of Planet Ultra's centuries, the "toughest California Spring Centuries." Also check out the Planet Ultra Grand Slam. As per the web site, the Planet Ultra Grand Slam was created "to recognize our most committed and loyal riders, the hardest

of the hardy, the toughest of the tough. Who are these people? They are the cyclists who have officially completed four or more of Planet Ultra's endurance events (double centuries or multi-day tours) in any one calendar year."

2009 MULTI-DAY TOURS

King of the Mountains Training Camp
January 23-25
Solvang Spring Tour
March 16-22
Hoodoo 500 Training Camp
June 11-14
Tour of Southern Utah
August 30-September 5

2009 CENTURY SERIES

Mulholland Challenge
April 11
Heartbreak Hundred
May 23
Angeles Crest Century
October 3

2009 DOUBLE CENTURY SERIES

Camino Real Double Century (formerly Butterfield Double Century)
February 21
Solvang Double Century
March 28
Mulholland Double Century
April 11
Heartbreak Double Century
May 23
Eastern Sierra Double Century
June 6
Solvang Autumn Double Century
October 17
Tour of Two Forests Double Century
TBD



Kona 2008 Race Recap

18 years and counting

Words : Laura Sophiea

It was a fantastic day in the lava fields as Madam Pele threw everything at us from head winds, to cross winds, to full blown sunshine. It would have been nice if she had remembered how cyclists like a tail wind after all the head winds, but on October 11th 2008 that was not to be.

Race morning

All was calm in Kona at 5:00 a.m. The weather during race week had been overcast and foggy (“volcanic smog”), with calm winds so I thought we were in for more of the same... but I was a bit wrong on that one. In fact, I was a little disappointed since I believed a windy day would benefit me as I had so much experience in riding the howling trade winds with the 20 to 30 MPH cross gusts. A hard day helps the cyclists and hurts the stronger runners, since hard conditions take the “sting” out of the runners. Be careful for what you wish for!!!

I had set my phone to wake me up at 3:45 a.m. for breakfast. That was a new plan for me. I had spent about 90

minutes early in the week with Steve Born from Hammer Nutrition going over my race day calories and pre-race breakfast. I learned that eating 3 hours before the race is optimal for capping off my liver glycogen stores [and without negatively affecting muscle glycogen usage]. Two hours before the race is my normal time to eat, as I love sleeping, but thought I would try his plan. It worked perfect for my race day (more on that in a bit). I finished my breakfast by 4:00 and then rested until 4:30. We left for the pier and body marking at



5:15. Body marking was a breeze, unlike previous years where it took as long as 30 minutes to get marked. Incredible volunteers happily marked our bodies with our age on the calf and race number in big block letters on my arm... which you are still able to see 24 hours later.

The swim

Although this is my 18th Ironman, I always worry about the start of the swim. It is ALWAYS a fist fight, and never seems to clear out. It was a beautiful morning for a swim with 1800 of your closest friends, and I mean close. I was always tapping someone’s feet, or swinging arms, or rubbing shoulders.

This was the first time I was not swum over and had to come up gasping for air. I must be learning to fight my way through the mix a bit better than previous swims in the bay. I came out in 1:06:17 for 2nd in my age group. I am always happy when my feet touch the ground.

The bike

My wish came true. To everyone’s surprise, by mile 20 of the bike we began to face stiff winds and hot temperatures... a return to the conditions that make Kona so famous and brutalize so many athletes. My plan was to keep my power output below 200 at all times. I was mostly successful riding and paying attention to the watts. I had the fastest bike in my age group at 5:36:26 and felt strong the entire ride. I used 2 bottles of Perpetuem and Hammer Gels to make it through the bike. At mile 65, feeling hungry, I ate a Hammer Bar and within 5 miles promptly threw it back up. I guess when Steve told me no solids, I should have listened, but food just sounded good at the time. I am glad I didn’t opt for a PBJ in my special needs bag. Oh, did I mention the cross winds? While riding down from Hawi you are able to experience great speeds. I got up to 39mph, but along with that speed comes the cross winds. I was able to watch the cyclist in front of me go from riding upright to being blown 5 feet to the left and riding at a 45 degree angle and I just knew I was next! I kept repeating my mantra: “RELAX”... all counterintuitive when you are riding at a 45 degree angle to the ground and veering into the wind. I felt comfortable actually and loved the challenge of the day!

The run

No matter how strong and well prepared I am, the run is ALWAYS a “death

see KONA on page 39

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.

KONA from page 38

march." PURE SURVIVAL. The run is my least favorite of the three events as I am just trying to protect my lead and hang on to the finish. This year I was injury free, which is a bonus when getting to the start of any Ironman and I had a plan to run fast... well fast for me. Running out of T2, you run up a short hill and onto Kuakini, surrounded by hundreds of people, and then down Hualali Road to Alii Drive where more people are cheering you along. When I came to the Mile 1 sign and checked my watch, I had run a 7:47 pace... way too fast and I knew I needed to back off or I would blow up before I made it out to the Queen K highway. Mile 5 of the run at the Alii turnaround is the first opportunity I get to see where I am vis a vis my competitors. At the turn around I push my lap timer and start counting. I check my watch every few minutes, seeing my margin increase, until finally at 7 minutes (double it to 14 minutes) I see the next age group competitor, then my next competitor at 14 minutes (double to 28 minutes). But instead of relaxing I start doing the math. If they run 30 seconds per mile faster, #2 could catch me, so I keep telling myself, "Keep it going. Stay focused. Don't let up."

I had my 2nd fastest run of my 18 races in Kona. I was able to stay focused and

mentally strong and keep running. The cloud cover about Mile 13 helped bring the temperatures down as they told us it was about 100° at the Energy Lab, the last turn around point and 7 miles to the finish.

The finish

Finishing on Alii Drive still gives me goose bumps and tears as I run the last 200 yards to the cheering crowd of thousands of people. Smiling and waving my arms in the air, I finished the race in my second fastest time of 10:38:46. Good for 1st in my age group and the chance to keep the Age Group Champion title for one more year. The 30th anniversary Ironman is over and I am looking forward to the 2009 Ironman World Championships.

A quick thank you to Steve Born and Hammer Nutrition. Without your help, I could not have met and exceeded my marathon time, let alone my bike split. The 90 minutes we spent going over my plan was money in the bank. You understood what I needed and Perpetuem, Endurolytes, Energy Surge, (as well as Recoverite leading up to the race), and the first three products during the race were key to my victory. I would not have been able to ride strong and run that pace without all of the people from Hammer Nutrition being behind me. You

HOT TIP:
Liquid Endurance -
ally for weight control



Because L-carnitine is a crucially important nutrient for maintaining optimal utilization of fatty acids as a fuel source, it naturally assists fat burning mechanics. This is obviously helpful for preventing weight gain during the off-season. However, L-carnitine's "life span" in the body is somewhat short, unless adequate amounts of glycerol are present. That's where the use of Liquid Endurance—which contains both glycerol and L-carnitine—can be a valuable ally for off-season weight control. We suggest one tablespoon in water (approximately 20-25 ounces) taken once or twice daily.

are all so amazing and you understand what we crazy athletes do for fun! Thank you from the bottom of my heart.

Aloha,
Laura

Hammer Gel

Anytime. Anywhere.

9 great flavors!



HAMMER GEL
Orange



HAMMER GEL
Apple-Cinnamon

Single serve \$1.25
26 serving \$19.95
3 or more \$16.95 ea.

1.800.336.1977
www.hammernutrition.com



Michael Emde on his way to another 508 victory. Photo - Chris Kostman

The Furnace Creek 508

Hammer athlete Michael Emde wins again!

Words : Steve Born

The 25th edition of this epic ultra cycling race was contested on Oct. 4-6, 2008, and once again it proved to be a most memorable event. The very challenging race course is actually 509.58 miles long and has a total elevation gain of over 35,000', while crossing 10 mountain passes, and stretching from Santa Clarita (just north of Los Angeles), across the Mojave Desert, through Death Valley, to Twenty Nine Palms.

The story of this year's race was the first and only "three-peat" by Michael Emde of Spokane, Washington. The 38-year-old Austrian native shredded the course again this year, winning in a superb time of 27 hours, 28 minutes, 01 second. Shortly after his historic win, Michael wrote us and said, "I would like to thank you very much for your confidence and support for the 2008 Furnace Creek 508! Without Hammer Nutrition products I wouldn't have performed as well as I did! It was a pleasure representing Hammer Nutrition and I thank you all very much. I'm very appreciative of all the advice you have given to Marla and me during the year and leading up to FC508. Thanks Steve, you are awesome! With your help we achieved an unprecedented three victories in a row! I still don't really grasp that accomplishment yet. I'm proud to be associated with a company such as Hammer Nutrition and the people that work there!"

For a good portion of the race, Emde was in hot competition with 44-year-old Kevin McNulty of Ramona, California.

McNulty reached the first time station in California City (83.60 miles) in 3:41, with Emde following one minute later. At time station #2 in Trona (153.78 miles), McNulty had a 7-minute gap on Emde. By the third time station in Furnace Creek (252.89 miles), Emde had closed the gap to one minute. Both riders were setting a wicked pace, averaging nearly 22 mph as they passed through Furnace Creek.

By the time both riders reached the fourth time station in Shoshone (326.29 miles), Emde had built a slight 3-minute lead over McNulty, and extended that margin to 18 minutes in the 56+ mile stretch to time station #5 in Baker (382.62 miles). Either in Baker, or somewhere after that, McNulty withdrew from the race prior to reaching the sixth time station in Kelso (417.55). By Kelso, Emde had built a comfortable 2:02 lead over the eventual 2nd place finisher, 31-year-old Chris Ragsdale of Seattle, Washington. That gap diminished a bit by the finish line, but Emde still maintained a comfortable 1:40+ margin,

finishing in 27:28:01 to Ragsdale's excellent time of 29:10:43.

Women's winner, Swedish native Catharina Berge, repeated her solo win from 2001 with an even better result in 2008. Her time of 29:43:01 was not only three hours faster than the 2nd place woman, it was good enough for 3rd place overall. Following Berge, and finishing 3rd in the men's division, 4th overall, and 1st in the 50+ division, was Hammer Nutrition client Joel Sothorn of Laguna Niguel, California. Sothorn's effort is especially notable as it comes on the heels of his recent 50+ age group win (and 3rd place overall finish) at the Hoodoo 500.



Shanna Armstrong hammers through the 508 leg of her "ultra endurance triple crown". Photo - Chris Kostman

Hammer Nutrition athlete Shanna Armstrong succeeded mightily in the second event of her incredibly difficult "ultra endurance triple crown" goal (Badwater, Furnace Creek, Ultraman in one season) by finishing 5th in the women's division in a time of 34:30:58. Her finishing time, combined with her time at Badwater, allowed Armstrong to claim the Death Valley Cup, which is awarded to the fastest male and female athletes

to complete both the Badwater Ultramarathon 135 Mile Running Race and the Furnace Creek 508 Mile Bicycle Race in the same calendar year. Armstrong's combined time broke the Death Valley Cup record by a whopping

see 508 on page 41



Carl Drew and a crew member en route to the summit of K2.

Climbing for a Cause

Expedition on Mount K2

Words : Carl Drew

I would like to thank you for your past interest and support of our documentary and climb. It was a few years ago when we reached out to you for sponsorship. At that time we were preparing to head to Pakistan to film a documentary about climbing K2. (K2 is the World's 2nd highest mountain with a summit of 28,253ft, and is considered by many to be the Most Difficult and Dangerous Mountain on Earth). Our expedition was in great need of your specialized nutrition, and you came through in a big way! Through your help our team was able to operate at our highest physical capacity (disregarding the effects of altitude) throughout the expedition.

As you may know, digestion is essential non-existent at high altitudes, and is therefore a major issue. Having a product like Hammer Gel and Perpetuem made it possible for our bodies to absorb some of the calories and nutrition needed to continue climbing. Several climbers, who did NOT have Hammer Gel, had

major issues with the strong taste of their product at high altitude and some even commented that their stomach just could not bear taking their product.

During the expedition, Hammer Nutrition products helped to maintain my strength and health which made it possible to keep filming when I would have otherwise bonked. This resulted in successful filming of the climb and interviews with: the first married couple to summit K2, one of the few women to summit K2 and return alive, expedition climbers and porters, and survivors of tragic accidents on the mountain.

Since our return from Pakistan we have been working to bring together the funding and post-production team needed to begin editing the documentary. I'm happy to say that we have recently secured an editor to take on the production of a 3-minute "movie trailer" and a 5-minute "continuous scene" that will be used to pitch the film to the networks. All the proceeds from the film will be going to the four charities we

were supporting under our mission of *Climbing for a Cause*.

After returning from K2 I felt a calling to find a way to combine my passion for adventure and my concern for today's struggling teens. To achieve this, I founded LifeClimb, which I dedicated to the personal development of teens through adventure related experiences. The remainder of our supplies from Pakistan were used to help fuel 8 cyclists in their 3500 mile campaign across the USA in the Fall of 2006. As we crossed the continent we stopped at schools, Boys & Girls Clubs, and youth centers, to deliver inspirational messages. Every student we spoke to was also gifted the National Best Seller, *The Rhythm of Life*. In all, over \$250,000 in books were delivered into the hands of teens across the USA!

You are to be thanked for your part in the development of LifeClimb. Without your support and interest in *Climbing for a Cause*, LifeClimb would not have been conceived. Thank you for your support!

Your friend in the Adventure of Life,

Carl Drew, Executive Director
LifeClimb
www.theadventureguy.com
www.lifeclimb.org

508 from page 40

7 hours, 20 minutes.

NOTE: Shanna did complete her "ultra endurance triple crown, by winning the women's division of Ultraman, her 4th consecutive title, and 5th overall. We'll have more coverage in the next issue of EN.

More times than not, the weather plays a

major role in the race and this year was no different. According to race director Chris Kostman, "The winds were very favorable for the first 200 miles, then they floated around in various directions. Overall, the conditions were really good. It was never hot, nor cold. It did rain on the frontrunners in Death Valley, though, and for a while I worried we'd have to shut the route down as dirty water was starting to flow across Hwy 190 on the way to Furnace Creek,

reminding me of this year's Badwater and the possibility of flash flood. Thankfully, the rain (and lightning!) stopped and the roads quickly dried out."

Once again Hammer Nutrition was honored to support the Furnace Creek 508 and we congratulate all the solo and team riders who competed in this year's race. Complete results from this and previous year's editions of the Furnace Creek 508 can be found at www.the508.com.



Mike Lewis crossing the finish line at the Furnace Creek 508.
Photo - Chris Kostman

Race Report

Hammer athletes

Kenneth Philbrick (photo on page 19)

I competed as a solo racer in the Hoodoo 500, a 519 mile ultra marathon cycling race, and finished first with a time of 30:59 (HH:MM), broke the previous course record by 5:46 (HH:MM), and finished exactly 2 hours ahead of the next closest solo racer. The race itself started in St. George, UT, looped south through northern AZ, and then headed north doing an extended loop through the national parks and monuments in southern UT. The course passed over numerous mountain summits, the two highest points were peaks at over 9K feet, and over +10K feet, and in total the race had over 30 thousand feet of total climbing. Over the duration of the race, I spent less than 25 minutes off the bike.

The race nutrition at this event went better than any of my previous ultras. Race diet was dialed and included HEED, Sustained Energy, Perpetuem, Hammer Bars, Hammer Gel, and Endurolytes. Unlike previous ultras

where I had hourly caloric goals, at this one I let my body drive the race, and didn't worry as much about my hourly intake. During the day I ate more, during the night I ate less. After experiences at the 508 where I had suffered gastric shutdown, I finally got wise up and didn't even bring a single can of Ensure. I never once missed it!

I would also like to thank you (Steve Born) personally. Your racing continues to be an inspiration for me. The Double 508... I'm in awe. I would also like to thank you for the advice you gave me a few years ago, immediately before I rode to my first victory at RAO. You told me "Stop for nothing. Ride my own race..." At Hoodoo, I took the lead somewhere around 370 and well after that it was magical, even at over 10K feet.

Best & Hammer On!
Kenneth Philbrick

Mike Lewis - Team Bonedog (pictured above)

Just wanted to give you a rundown on my FC508 race. I had a great race thanks to great preparation and excellent support from the Hammer team. I followed what I learned from the Highline, *The Endurance Athlete's Guide to Success*, and the time spent with you. I trained and raced with nothing other than Hammer products and they worked flawlessly during training and racing. We finished 1st in the 40+ two man team

division and 3rd overall in the two man teams. Needless to say, I am very happy with that for my first 508. Now for next year, I may be looking at a solo attempt to try and grab the 50+ record that was broken this year. I will, however, not be attempting the start in 29 Palms as you did [to attempt a Double Furnace Creek 508]. That is yours to keep.

Mike Lewis, Team Bonedog

Murray Family

Here are some family photos taken at the conclusion of The Ukiah Triathlon, Ukiah, Ca., Sunday, September 7, 2008. Three generations of Hammer Nutrition believers/users!

Father: Bert Murray, age 74, cyclist.
Son: Sandy Murray, age 41, swimmer.
Grandson: Max Murray, age 12, runner.

Together we powered to a fourth place finish using Heed, Hammer Gel, Endurolytes and recovering with Recoverite. Great fuel for athletes of all ages.

I promised my grandson that you would make him world famous. See what you can do.

Thanks,
Bert Murray



Bev Enslow



Here's a shot from a Hammer sponsored event that my husband and I rode, the Brown County Breakdown, near Nashville, IN. It was one week after my successful defense of XTERRA USA National Champs (F50-54) so I'm sporting my new jersey and my hubby Alan is flying the Hammer flag. We rode 60 great miles that day fueled by Hammer.

Bev Enslow

STEVE'S NOTE: The 2008 XTERRA USA National Championship on October 5th at Incline Village, NV. Bev is getting pretty familiar with winning National titles as she not only won the F50-54 division for the second straight year, she also won the F45-49 division in 2006. Way to go Bev!

Randy Beckner

With the end of the Xterra season and the start of the ski season, I wanted to touch base with you and let you know how things went since we talked for the Endurance News interview. I thought that came out really nice, by the way. I hope it helps promote your great product.

I think I mentioned that I had qualified for the Xterra National Championship in Lake Tahoe. We went down and were treated to an amazing course and very stiff national competition. Things went great and I was able to take the 55-59 national title by about 6 minutes.

We had waffled on going to Maui for the Xterra World Championships but decided to in the end. Boy am I glad we did! What a race! I did everything by the book. No food for 3 hours before the race, a fuel bottle with 6 scoops of Perpetuem, 6 Endurolytes, and a flask of Hammer Gel. I sipped on my fuel from when I came out of the swim til the end of the ride. I felt great! I won my division over the New Zealand 55-59 National champion by 23 minutes. My time was 3:23. The weather was "Hawaii hot" and a lot of competitors had trouble on the run. Thanks to my fuel, I felt strong through the entire race.

Connie Gardner

As always, I have been racing quite a bit this year. I tend to race more than I follow-up and send you my results. I guess it's time to send you an update! This summer, I won the Mohican 100-miler and the Burning River 100-miler. I then focused on a two-month racing spree. In late September, I won the master division at the Akron Marathon and the next day took 2nd place masters at the Quad Cities Marathon, the week after I won the masters at the Youngstown Peace Race and set a PR for my 10k time. The next week I went to Seoul, South Korea and was a member of team USA at the World 24-hr Championships. Two weeks later I was with Team USA again at the World 100k Championships in Tarquinia, Italy. Team USA took the silver medal that day... it was an impressive group of USA women to race with! With two weeks recovery, I closed the season with a 1st place overall at the JFK 50-miler this last weekend. The last two months have been amazing. Your products are always with me and I remain a big supporter! Thank you for all you have done for me and the sport. I can't do it without you!

Connie

William "Legstrong" Aligue

A big congratulations to our endurance cyclist William "LEGSTRONG" Aligue, a member of the ADOBOvelo Filipino-American Cycling Club on his recent accomplishment. He had just completed the 2008 California Triple Crown Series by riding 3 double centuries within a year. William relied on Sustained Energy, Perpetuem, HEED, and Endurolytes as his fuel sources during his training which helped him to complete 3 double centuries.

- The Grand Tour Highland Double Century, June 28
- 15th place overall finisher in the Solvang Autumn Double Century, Oct.18
- 8th place overall finisher in the Death Valley Fall Double Century, Oct.25

William has been using Hammer Nutrition Products since 2007 and the ADOBOvelo members have witnessed him become a better, stronger, and faster endurance cyclist. Keep on Hammering and more Legpower to you LEGSTRONG!!

Sincerely,
Rosalie Kneebone
(ADOBOvelo rider and Hammer Nutrition Customer)





Race Report

Hammer athletes

Ian Murray

Wanted to drop a thank you for a great season. This is my first season using Hammer products. Prior to Hammer I, was using whatever sports drink I could find on sale with Clif Shots and an occasional Power Bar. Needless to say, I was clueless when it came to nutrition and I was just flying by the seat of my pants.

My brother-in-law, Jason Dunlop, started using your products last summer after finishing the Fireweed 400. I crewed for him on that race and saw first hand all of the negative effects that can come about from improper nutrition. So after he went through the ringer on that race he went to the Highline camp and came back to tell me everything we did wrong on that race. He went on to use the product for the rest of the year

and continuing on. In fact, I talked to him yesterday and he tells me he's got a bathroom drawer stacked with Hammer goods and he's taking 16 pills every morning. I think he's fully converted.

So after talking to him and hearing how much he liked it, I gave it a try.

I've been taking the Daily Essentials everyday since early spring. I train with HEED, Gels and Endurolytes on my shorter rides. For my longer rides, I start off with a bottle of HEED, and a bottle of water, then bring enough flasks of Perpetuem and Endurolytes (2-3 an hour) to use as needed. I've been mixing 3 scoops in one flask and using that for two hours of fuel, supplemented with gels. Then I follow up every ride

with 2 scoops of Recoverite. The system seemed to work for me so I've stuck with it all season, and I have had a great (for me at least) season. I have had several personal bests on my training rides and have been able to feel a lot better as the season progressed. As I look at it, Hammer didn't make me a better rider, but it made my rides better.

On September 6th, I competed in the Cat V Citizen Open Class of the Lotoja. The race is a 206-mile, one day race from Logan, Utah to Jackson, Wyoming. It's a great race with around 1,000 riders competing in over 30 different categories. There were 45 other riders in my category/start group. I was able to finish the race in 10:17:59. Not incredibly fast, but it was faster than anyone else in my group and I ended up taking first for my category. During the race, I followed the same fueling strategy I'd been training with all season. Started off with some HEED for the first 2 hours, then rode the rest on plain water, Perp flasks, and Gels as needed, and Endurolytes.

Thanks for making a great product!

Molly Hayes

2008 USAT Age Group National Championships
2nd place
75-79 Womens division



Connie Johnson (pictured above)

"Give a girl water and she runs for a day...give a girl HEED and she runs for the rest of her life."

We all ran our first marathon this past weekend...all of us on HEED and most of us with Perpetuem too; Recoverite after. It cured me of digestive issues that almost made me quit the training...I had terrible digestive issues and migraines after 10 miles of training in the DC heat, but I got through it all with Hammer. We are hooked.

My friend Mary Beth said that she

discovered your product during her training in Durham, NC, as that is what they had on course one day. So then she introduced it to us.

The night before the race I was making Perpetuem for all of us...taking care of my friends!

Anyway, I am so grateful for the advice and support, I would not have made it without you.

Thanks!
Connie

Jet Tanner

Another year has passed and how quickly the new year comes upon us. Thank you so much for your wonderful support of our Junior Cycling Program. We had some tremendous success. With your products, our athletes were able to accomplish a lot this past year. Out of 35 races we were on the podium 35

times, and 28 of those were for first place! We won 5 California Nevada State Championships, and 9 top 10 finishes (7 of which were on the Podium).

We could not have done it without your help. Thank you Hammer Nutrition for the support and partnership.

Jim Lawson

BRIAN'S NOTE: This note came in from a Canadian friend whose family has a cabin next to ours in Montana. He also owns a bike/ski/boat shop up in Lethbridge, Alberta that carries the full line of Hammer products. One day we were both at the cabin and I noticed that he was tearing down his motorcycle (a big Yamaha street bike). We got to talking and he told me about this ride and how he planned to use Hammer products along the way. While this is a far cry from the typical applications, it does demonstrate that our products are helpful for anything extreme! Jim used Hammer Gel, HEED, and Endurolytes throughout his ride.

I just got back from the Saddle Sore 5000 Rwyb Ironbutt event. You have to ride 5000 miles in 5 days or you get DQ'ed. It was a good experience as I got a little behind in mileage by day 4 and had to do 1400 miles in 22 hours to finish in Salt Lake City at 5am on Sunday morning. I started Day 4 on Saturday at 7 a.m. and realized that I had a long day ahead and only had 4000 miles by 1 p.m. I usually did 250 miles between breaks for nutrition and liquids. The Hammer products were awesome as usual, I just wished I had two giant water bottles for the desert runs. If I would have rode all 5 days like I rode the last one, I would have been in the top 5, I think. I was taking things too casual and enjoying

myself too much. The Ironbutt is all about suffering just like marathon running only I don't have to train. I was getting 6 hours of sleep in a hotel each night. Some riders finished with 7 hours of sleep total. I took off for San Diego on day 1 to allow hurricane Gustav to get out of Louisiana so I could get the 2 bonuses there on day 4. I got frickaseed in Arizona in 115 degree heat on Wednesday. I never got east of Mississippi as getting the bonuses eats up too much time. I was taking my time and enjoying the ride. Some riders went through the hurricane twice as I rode in a t-shirt 4 of the 5 days. I would like to do a one day Utah 1088 next year.

Here's my ride summary:

Day 1 Salt Lake City to San Diego with 400 miles of side routes - 1150 miles.

Day 2 San Diego to Anthony, NM in 115 degree heat - only 785 miles

Day 3 Texas is one big state! Anthony, NM to San Antonio to New Orleans - 1000 miles

Day 4 New Orleans to Mountain Grove, MO - 784 miles

Day 5 Mountain Grove, MO to Salt Lake City - 1400 miles

Thanks again for the Hammer products!

Talk to you soon,
Jim



Nicole Best

Having qualified for the Ironman Triathlon World Championships at this years Ironman Austria, I traveled to Hawaii's beautiful Big Island to take part in the world's most famous triathlon race. As dawn broke on Oct. 11th, 2008, all hell broke loose in the usually calm and warm waters in Kona Bay. The start of the race lived up to its billing as the world's biggest washing machine and was more of a fight than a swim. Despite swallowing more sea water than is really desirable, I headed off on the bike course feeling surprisingly strong. Out on the bike course it was unbelievably hot and strong winds made it difficult to hold on to the handlebars; nevertheless 112 miles and 8 Hammer Gels later I made it back to the transition zone, safe and sound, and headed off on the 26-mile run. The first 10 miles were hot, hilly, and very, very hard, but then the Hammer Gels kicked in and I got a good rhythm going which saw me overtake 245 people over the rest of the run. In the end, I was a daylight finisher (my main goal) with 30 minutes to spare and finished 4th in my age group in a time of 10h33m. The next evening, I had the honor of taking the stage at the awards dinner to receive my trophy. Thanks to the support from Hammer Gel, it was a fantastically rewarding world championships for me.

Thanks for supporting me!

Best wishes from Nicole Best





Tieni Duro team photo - courtesy Lance L. Larsen

Race Report

Hammer athletes

Tieni Duro (pictured above)

Hi Brian... hope things are well up in beautiful Whitefish. Autumn is in the air here in California, so I am guessing you guys are getting weather by now too. Just a quick note... I wanted to send you a digital copy of the latest team photo... I am working on getting a nice framed hard copy up to Hammer HQ as well. I also attached a photo of the entire group out on Bear Creek Road (it includes all the coaches and mentors... quite a long line). Our fall recruitment is working, and we have great retention this year, so next year will be a big year for us, I predict.

Anyway... it was quite a season. You will note 2 California State champions and one National Champ flying the Tieni Duro kit. The Hammer Nutrition logo was seen all over the podiums (podia?) of California, and maybe even on the cobbles of Belgium too. Peter Taylor was a one-man wrecking crew, taking 1st in the State RR championship up at Nevada City (which is one of our biggest crits) and of course, Sea Otter and about 10 other races. He is one to watch. Amazing focus and a heckuva

lot of talent. Dylan Drummond is the National 12 y.o. RR champ and he wins about everything he enters. He is now riding track quite a bit and he also enjoys XC, though he is focusing on road cycling. Dylan definitely benefits by riding with TD and with the older boys and girls. Two of our girls are also very competitive, and Laurel won the State Crit (though in fairness, it is not a very deep field). We are always trying to recruit more young women, but most teenage girls are not cyclists...yet!

Thanks again for all you do to help these kids. They are amazing ambassadors of the sport and make us all very proud the way they conduct themselves, on and off the bike, and the way they further competitive cycling with their commitment and grit. They are very focused this year, and I have to say, moral is very high. All good.

Say hi to the Hammer gang from all of us at Tieni Duro!

Ciao, Lance

Liz Good

My hiking buddies and I completed rim to rim and back again in the Grand Canyon on a diet of Hammer Gel, Perpetuem, Energy Surge, Anti-Fatigue Caps, and Endurolytes. We felt great the next day, as this picture shows. Thanks Hammer Nutrition for all your great products!

Liz Good



Mike Arenberg

Hammer Nutrition stuff ROCKS! I was so pleased with the entire 508 race. Everything went well and my crew was awesome! I used only Hammer products, including Gel and Perpetuem (for calories), Endurolytes, and Anti-Fatigue Caps. I cannot thank you enough for your guidance and your help.

Mike Arenberg



Photo - Chris Kostman

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!



Michelle Wu, Photo - courtesy Canberra Times

Int'l Race Report

Hammer athletes

Andrew and Rebecca Sawatske

I have an interesting story for you and a slightly different use of Hammer Gel than I am sure you intended. My wife recently gave birth - 9/26/08 - to a healthy baby girl named Alisha. The midwife told us to eat high sugar things such as lollies, but I wasn't a fan as I have done the same thing in triathlons with negative results. So we took a bottle of my Chocolate Hammer Gel in with us. Wife loved it because it tasted like choc sauce. No massive dips in energy levels,

her tests throughout were spot on, and she wasn't destroying proteins, despite it being a very epic labour (from go to woe a few days!).

Thought you may enjoy this story and the new found use of your products!

Cheers,

Andrew and Rebecca Sawatske
NSW

Jarad Kohlar

I'm now current Australian Multisport Champion for 2008 after winning the Freycinet Lodge Challenge. This race receives great media coverage in both print and TV. I had lots of coverage on Saturday, Sunday and Monday throughout all major newspapers and TV channels in Tasmania.



I was also selected to participate in the Australian Landrover G4 trail in the Blue Mountain. They had over 4000 applicants with only 20 male and 20 female athletes being selected for the Australia G4 trial. Only two male and two female athlete were selected from these Australian trail to attend the international trials in Europe during Feb next year. I was one of the lucky four to be selected for the international trails in Feb. The G4 event receives strong international media coverage, will keep you posted on this when I have some more information.

Off to WA this weekend for the WA Anaconda adventure race. Thanks for the support could not have done this without your help. Hope you are all safe and well.

Jarad Kohlar

Michelle Wu

(pictured above)

Michelle Wu started the year by winning the 2007-08 ACT Triathlete of the Year and capped off her season with a victory at the Vancouver BG Triathlon World Championships. Not only did she win her 25-29 age group, but she was also first among ALL age groups. In a race to the finish, she bettered her opponent by 5 seconds.

Her time of 2:00:14 was one minute faster than the elite women's race winner.

Congratulations Michelle!

Gravity 12-Hour Rosewhite, Australia

We had a pretty good success with Hammer supplying HEED for the event. We had a 3rd & a 7th in the three man class. With the amount of Hammer shirts out there, it was probably the biggest impact overall of any team representing their brand.

Cheers
David





IN THIS ISSUE

NEW Products

AO Booster	1
Seat Saver	9
Endurance Amino	10
Race Day Boost Capsules	18
Kona Recap	38

Complete table of contents on page 2

Feedback

Michael Emde

"Without Hammer Nutrition products I wouldn't have performed as well as I did! It was a pleasure representing Hammer Nutrition and I thank you all very much. I'm very appreciative of all the advice you have given to Marla and me during the year and leading up to FC508. Thanks Steve, you are awesome! With your help, we achieved an unprecedented 3 victories in a row! I still don't really grasp that accomplishment yet. I'm proud to be associated with a company such as Hammer Nutrition and the people that work there!"

- Michael



Photo - Chris Kostman

THE fuel for extreme endurance!



**3 convenient sizes,
3 great flavors!**

32 servings - \$42.95
16 servings - \$22.95
Single serve - \$2.49

FLAVORS:
Orange Vanilla
Caffé Latte
Unflavored



ENDURANCE FUELS

1.800.336.1977

www.hammernutrition.com