



endurance

NEWS

a newsletter for the endurance athlete

issue
36

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ZZZZZZZ! The need for sleep

Here are two great articles by Nate Llerandi and Dr. Bill regarding sleep...

The Ultimate Performance Killer

by: Nate Llerandi

Sleep. We all need it. Sometimes we crave it. But do we get enough of it? My guess is that most of us do not.

We spend so much time and energy trying to put together the perfect training plan that some of us miss one of the most important aspects of performance improvement. Sleep.

For those of you who receive "Endurance News", Dr. Bill has written an article in the latest issue speaking to HgH and how to maximize its natural release to stimulate lean muscle growth

and also improve our performance. Up to 84% of the HgH that is released during a 24-hour period occurs at night during sleep. 84% - this is huge! Less sleep equals less HgH release.

Another thing lack of sleep inhibits is recovery. During rest, the body can turn on the recovery switch and start driving the Zamboni over your traumatized muscle tissues to repair them and smooth them out. Less sleep equals less time for intense recovery, which in turn equals declining performance over time.

An athlete of mine emailed me today (which prompted this article). He said that last weekend and through the beginning of this week, he has really gone to bed late and not slept much. He doesn't sleep enough anyway. His

(see Sleep on page 3)

Now Available!

THE ENDURANCE ATHLETE'S FUELING HANDBOOK

We've gathered seven of our fueling related articles, revised them, and put them together in a 20+ page handbook. Easy to read, convenient to use, you can now reference these important articles from one source. Included in The Endurance Athlete's Fueling Handbook are the following articles:

The 10 Biggest Mistakes Endurance Athletes Make

Proper Fueling During Endurance Events

Electrolyte Replacement

Superior Recovery

The Pre-Race Meal, Simplified

The Importance of Protein

Hammer Gel/Sustained Energy Facts

Currently, there are a limited supply of these booklets available but we'd love to send you one free with your next order. Just ask for the Fueling Handbook the next time you place an order and we'll be happy to send you one, free of charge.

A Note From



Brian Frank

DO YOU NEED A PERSONAL DISTILLER?

Unless you already own a home distillation water purifier, the answer is a resounding yes. If you buy bottled water, you need a distiller. If you are on city or well water, you need a distiller. If you are concerned about chemical and biological contaminants, you need a distiller. If you are still not convinced, read the article on pages 8 and 9 and take a good look at the photos of sediment that the distiller removed from Spokane tap water.

What you may not know is that for the past 5 years, we have been distributors for the world's leading brand of water distillers. Distillers manufactured by Pure Water Inc. have consistently been rated #1 by consumer reports. These are extremely high quality stainless steel units with great warranties. Although they make distillers of every size and shape, there are basically two units that will accommodate most people.

The entry level unit, called the Mini Classic, will make 1 or 2 gallons daily and is great for 1 or 2 people. It is a manually operated unit, so the boiling tank must be removed and filled before each boiling cycle. This unit has a suggested retail price of \$975, but we sell it for \$495.

The Midi Classic is the next unit in the line. It is a completely automatic unit and comes with an integral 5 gallon holding tank. It will make up to 5 gallons of water per day. This unit will supply enough water for a family of 5, but is also popular with couples who just want to manually fill the boiling

tank everyday. It must be attached to a water supply for automatic operation. It can also be run in manual mode, not connected to your water supply. This unit can also be outfitted with a demand pump that will send water to a sink faucet and or water/ice make in your refrigerator. This unit has a suggested retail price of \$2,495 but we usually sell them for \$1,200. Demand pump, stands, sink spigots and other accessories are extra.

Here's the deal; If you call me and mention this article, I'll give you 10% off of these prices if you order one before the end of the year.

COMING SOON

It seems like about once a week Dr. Bill or Steve come to me with an idea for a new product. Unfortunately, it takes a lot longer to actually get a new product through development and onto the shelf. So, I'm not making any promises about exact dates that these new goodies will be in stock, but you can bet we'll let you know when they are.

So, in the mean time, here is a sneak peek at what's coming down the pipe.

NiteCAPS-In case the name doesn't give it away, it's a sleeping formula consisting of Valerian Root Extract, melatonin, 5 htp and magnesium chelate. 1-2 capsules one hour before bed and you'll sleep like a baby.

Endurolytes Powder-Again, the name should tell the whole story. This will allow you to mix the Endurolytes into your fuel mixture for added convenience.

Perpetuem-Sort of like Sustained Energy with fat and flavor. The fat comes from soy lecithin and the 1st flavor will be a Vanilla/Orange Cream. As Steve mentions in his 508 article, he'll be using it for his double. We've been secretly testing is this summer and it's really good stuff. The lecithin adds a really nice rich, creamy flavor to the already yummy orange and vanilla.

There's many more products on the horizon for 2003, possibly including a 9th flavor of Hammer Gel, but we wanted to give you a taste of what's on the way.

Brian Frank

our mission

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

Endurance News features insightful articles on diet, nutrition, training and other topics of interest for endurance athletes — written by myself as well as professional and elite amateur athletes and other experts in the area of nutrition and exercise. In addition, Endurance News will include articles highlighting new and existing E-Caps products and how to get the maximum benefits from them.

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

Brian Frank
E-Caps CEO

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

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.

(Sleep from page 1)

Tuesday interval workout was sub-par (no surprise there) and he was still feeling the effects of the poor sleep through this weekend - 5 days later! He raced on Sunday and it went OK, but he complained of dead legs and lack of pep (again, no surprise).

I had to have a real heart-to-heart with him today. I told him that if he could commit himself to 7.5 - 8 hours of sleep per night instead of 6, in no time he would be feeling like a million bucks instead of a hundred. We'll see.

Sleep deprivation can put you in one of the worst holes you'll ever experience. It goes hand in hand with over-training, erratic training and poor performances. To combat this, aim for as close to 8 hours of sleep per night as you can. Find a bedtime ritual that allows you to transition from your evening routine to your bedtime routine. For example, I lie in bed and read before turning off the lights. Sometimes I last 5 minutes before I get drowsy, sometimes it's 45 minutes. But if I turn out the lights without first reading, it ain't happening. Find something that allows you to quiet

your mind and really relax.

If you've got your training program dialed in but aren't performing up to expectations, increasing your sleep could be the missing piece of the puzzle.

TO ENSURE A HEALTHFUL NIGHT'S SLEEP, TRY THESE "GUIDELINES" [1]:

by: Bill Misner, Ph.D.

1. Plan on a daily transition from stimulating activities to less active, relaxing pursuits up to 3 hours prior to sleep, such as reading, listening to music, soaking in a warm bath, or taking a walk.
2. Two hours or less prior to bedtime, eat only foods that are rich in complex carbohydrates and tryptophan and contain a 2:1 ratio of calcium to magnesium in chelated form, augmented with high optimal intake of vitamin B complex (especially B-5 and B-6).
3. Avoid consumption of caffeine, alcohol, or foods rich in tyrosine or tyramine at least 6 hours before going to bed.
4. Avoid stimulating arousal from exer-

cise, stress, or medications at least 6 hours prior to sleep.

5. See if you can synchronize your sleep pattern with available sunlight by developing the habit of going to bed when the sun sets and waking near the time when it rises. While this is not always possible, you can try to reinforce your basic sleep cycles (circadian rhythms) by providing a dark, quiet environment for sleep.

6. If you nap between two-a-day workouts, attempt to sleep for at least 90 minutes to complete a deep-sleep cycle for optimal recuperation and muscle mass growth during sleep.

If after applying the above principles and sleep is still difficult, you may want to consider melatonin 3 or 5 or 10 mg dose taken 60-90 minutes before retiring.

REFERENCE LINK

[1] SLEEP BUILDS STRONG MUSCLE MASS, Endurance Library-->Training and Recovery Section @: <http://www.endurance.com/knowledge/endurancedet.cfm?id=21&sub=endurance%20library>

TRI CLOTHING

As most of you triathletes are well aware, there has been a very limited selection of triathlon specific clothing available since the beginning. Sure, there are companies like DeSoto, Zoot and the like, but even their offerings are limited and they do not offer sublimated clothing that gives the "pro" look. Well all that is about to change. Our friends at Voler Team Apparel have been developing their own like of triathlon clothing that is technically superior to anything on the market, is entirely US made and is aesthetically enhanced by the same sublimating process as their popular cycling clothing.

Partly because I've been bugging them about doing tri clothing for the past year and because we are such good customers, we are the first company to receive this trick new clothing. We will continue our tradition of offering our customers the

very finest branded clothing at exceedingly reasonable prices.

The triathlon season may be almost over, but you may want to stock up for next year. Here's a brief description of each piece of new clothing;

Men's & Women's Tri-Suit

These are a one piece top and short combo. They feature a light weight, quick dry chamois, 3/4 hidden zipper and wide, sleeveless arms to prevent chafing. Designed to fit under a wet suit. Shorts are shorter than typical bike shorts. These are not unisex, so be sure to specify men's or women's. Price is \$75.00.

Men's Tri Top

This is like a skin tight vest. Wide arm holes to prevent chafing. Can also be worn by a woman. Price is \$39.95

Women's Shimmel

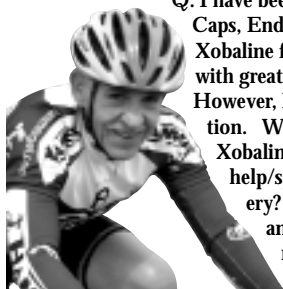
This is kind of like a sport top with a little more material or a women's version of the Tri Top. Features a shelf bra and goes perfectly with the women's tri shorts. Price is \$34.95

Men's & Women's Tri Shorts

These shorts are much shorter than typical cycling shorts and features the light weight, quick dry chamois. Goes perfectly with the Tri Top. These are not unisex, so be sure to specify men's or women's. Price is \$34.95

These will all be in stock by the time you read this story. Call 800.336.1977 or log onto our web site to order your trick new E-CAPS/Hammer Nutrition triathlon clothing.

Ask Dr. Bill



Q: I have been using Race Caps, Enduro Caps, and Xobaline for the past year with great success. However, I have one question. What does the Xobaline do to help/speed my recovery? Is it an anti-oxidant, or a mineral supplement, or what?

I recover very well...but just wanted a little more detail about Xobaline.

A: XOBALINE is the sublingual version of Vitamin B-12, also known as Methylcobalamin, Cyanocobalamin, Hydrocobalamin, or Cobalamin. It is an essential micro-dose nutrient, which is delivered in microgram levels. The more you have stored in your liver and throughout your body, the more your body will absorb. "Cobal" in its name refers to the metal COBALT in B12. Vitamin B12 is required for the normal activity of nerve cells, and works in methylation with folate and vitamin B6 to lower blood levels of homocysteine, which when found excessive in the blood may generate heart disease. B-12 also plays a role in the body's manufacture of SAME. B-12 and Folate are considered essential nutrients in support of Red Blood cell morphology. Anemia is usually the sign of B-12 deficiency. Pernicious anemia is caused by a condition in which the stomach fails to secrete a special substance called intrinsic factor. Without the intrinsic factor, efficient absorption of vitamin B12 fails. Vitamin B12 in food comes attached to

proteins, requiring stomach acid for absorption. Stomach antacids neutralize gastric acids and then interfere with B-12 absorption from foods. When stomach acid levels are low, we don't absorb as much vitamin B12. This is why sublingual or buccal absorption of B-12 boosts its levels up to 40 times the RDA.

Many athletes do not know that folate needs to be taken with B-12 or anemia can result from too much B-12. This is the rationale for formulating an Optimum Daily Amount [ODA amounts for athletes] for both B-12 and Folate in Premium Insurance Caps in order to counterbalance the B-12:Folate ratio-> [2:8]. My suggestion is make sure you do not neglect Folate intake by only taking Xobaline. Xobaline sublingual dose taken after every intense workout or every other day with less intense workouts should be complimented by a Folate-high supplement [400-800 micrograms] or a folate-enriched food source. Those of you who are using Xobaline with Premium Insurance Caps or high Folate supplements/foods should have nicely balanced blood levels of both nutrients. B12 is found in animal foods such as Beef, liver, clams, and lamb which provide a 80 to 100 mcg of B12 per 3.5-ounce serving, at least 40 times the dietary requirement. A single Xobaline dropper serving also contains 40 times the RDA, with a significantly higher absorption rate. Sardines, chicken liver, beef kidney, and calf liver are also good sources, providing between 25 and 60 mcg per serving. Trout, salmon, tuna, eggs, whey, and many cheeses provide at least the recommended daily intake. Nondairy, or total, vegetarians can eventually become B12-deficient, unless they take B12 supplements or eat B12-enriched yeast. Because B-Complex tends to enhance water soluble vita-

min activity, nutritional experts recommend taking B12 with other a B-complex supplement. Vitamin B12 deficiencies in men may lead to reduced sperm counts and lowered sperm mobility. Male Cyclists [low sperm count or motility due to seating on bicycle] or all Vegetarian athletes [inadequate dietary sources of B-12] typically require more B-12 and Folate than do most others. If you have an event you are attempting to peak, taking these dosages the last 8 weeks prior to the event should positively support Red Blood Cell morphology outcome. With adequate levels of B-12 &

Folate, the rate of recovery and performance should progress to maximal levels. Inadequate levels may result in anemic blood counts leading to premature fatigue, depression, and malaise leading to loss of motivation to extend the training effort.

SUMMARY ROLE FOR COBALAMIN, VITAMIN B-12 [C63H90CoN14O14P]

- #1-Activates amino acids during protein formation.
- #2-Coenzyme of B-12 is a carrier of Methyl groups and Hydrogen - necessary for carbohydrate, protein, and fat metabolism.
- #3-METHYLATION is: — B-12—> EXTRACTS METHIONINE FROM HOMOCYSTEINE via METHYL FOLATE
- #4-B-12 plays a secondary role in choline synthesis in the lipid pathway by its methylation of methionine
- #5-Contributes to fatty acid synthesis in myelin nerve sheaths
- #6-DNA replication depends on methyl group carrying [B-12, Folate, TMG]. DNA replication is completed process that occurs in a 180-day cycle.

Q: I've heard that it is better to consume milder temperature fluids while racing or training because colder temperature fluids are harder to digest and may cause cramping. Is this true?

A: I am in favor of cooled drinks as opposed to lukewarm for absorption rate gain.

Stomach (gastric) emptying times are important for the absorption of fluids. Numerous studies by Costill and others show that stomach-emptying times are directly related to the OSMOLARITY of the fluid, the VOLUME of fluid intake, and TEMPERATURE of the fluid. COLD FLUIDS ARE EMPTIED FROM THE STOMACH MORE RAPIDLY THAN ARE WARM FLUIDS. Large volumes of fluid are emptied from the stomach faster than small volumes. Fluids with less dissolved substances (lower osmolality) are emptied faster.

Based on all available evidence, the AMERICAN COLLEGE OF SPORTS MEDICINE makes the following general

recommendations on the amount and composition of fluid that should be ingested in preparation for, during, and after exercise or athletic competition:

It is recommended that ingested fluids be cooler than ambient temperature [between 59 degrees and 72 degrees F] and flavored to enhance palatability and promote fluid replacement. Fluids should be readily available and served in containers that allow adequate volumes to be ingested with ease and with minimal interruption of exercise [1].

Dr. T.D. Noakes M.D. wrote, "Fluid consumption during exercise is enhanced by the ingestion of cold, sweet fluids [2]."

Maughan & Leiper wrote, "Fluid replacement during exercise is essential for endurance exercise performance and reducing the risk of heat illness. Fluids supply water, which ameliorates dehydration, and also substrate for the working muscles. Absorption of water and nutrients occurs in

the upper part of the small intestine, and replacement may be limited by the rate at which fluid is emptied from the stomach or absorbed in the intestine. Gastric emptying of liquids is influenced primarily by the volume of fluid in the stomach and by its energy density. Increasing the volume will speed emptying, but increasing the nutrient content will slow emptying. Osmolality, temperature, and pH of drinks, as well as exercise intensity, are of minor importance. Intestinal water absorption is a passive process: water follows osmotic gradients but will also follow the active absorption of nutrients, especially glucose, which is actively co-transported with sodium. Water transport is maximized by the presence in the intestine of hypotonic solutions of glucose and sodium. Hypertonic solutions promote net water secretion into the intestinal lumen, resulting in a temporary net loss of water from the body [3]. [NOTE: This model favors a low sodium electrolyte composite.]

References available upon request.

THE 2002 FURNACE CREEK 508 (Or, How I Spent My Summer Vacation)

by Steve Born

Billed as the world's toughest and most prestigious 500-mile bicycle race, the annual 508-mile ultra cycling event commences on Saturday, October 12th this year. This course, which includes 35,000 feet of total elevation gain, including the monstrous Towne Pass, begins in Valencia, north of Los Angeles, traverses Death Valley, and finishes in Twenty Nine Palms near Palm Springs. E-CAPS/HAMMER NUTRITION is once again proud to sponsor this epic race

Annually, the Furnace Creek 508 draws some of the best ultra distance cyclists across the United States and throughout the world. This year's race looks to be one of the largest, if not the largest, based on the current list of entrants. So far, 40 men and 4 women will be attempting to complete the distance solo. 2 cyclists riding recumbent bikes are entered, as is 1 tandem team. Additionally, 7 four-person teams and 7 two-person teams are also entered. One of the interesting things to note is the rookie-laden field this year... many new riders are signed up for the 508 this year. The Furnace Creek 508 serves as a qualifying race for the Race Across America (RAAM). In the men's and women's solo (not team) divisions, a rider must complete the course within 15% of their divisional winner's time to qualify for RAAM. Racers who have previously qualified for RAAM do not impact the qualification window; i.e. the 15% is based on the time of the first non-qualified racer. For riders over 50, the window is 25%.

After winning the race in 1994 and placing runner-up in 1999, this year I, your fearless (or is it crazy?) Endurance News editor, Steve Born, am attempting to be the first cyclist to ever complete consecutive back-to-back 508's... a Double Furnace Creek 508. On Thursday, October 10th, my crew and I will set off from the 508 finish line in Twenty Nine Palms. I'll ride the course backward, 508 full miles, to the starting line in Valencia. If I've paced myself

well, I will reach Valencia at around 2:30 - 3:00 AM on Saturday morning and will take a planned 3-4 hour sleep break. The second half of the attempt will be the actual Furnace Creek 508, where I will be racing against all the other competitors. If all goes well, I'll finish. If all goes REAL well I hope to finish in 72-75 hours (sleep break included).

I will of course be using a variety of E-CAPS supplements and HAMMER NUTRITION FUELS. For this attempt I am estimating that I will consume somewhere in the neighborhood of 100-140 Race Caps, 200-280 Enduro Caps, 200-360 or more Endurolytes, 140 or more Anti-Fatigue Caps, as well a dozen or two Super AO. Also, I will put Liquid Endurance to a pretty good test. It hasn't been terribly hot this summer in Northwest Montana and it may very well be in the 100's in the Mojave Desert (even in October).

As far as fuel, I will most certainly be relying on Sustained Energy and Hammer Gel, no doubt about that, but I've also been very fortunate to test a new product that Dr. Misner has formulated called Perpetuem Pro. After very successful testing in training, I believe Perpetuem Pro will pass every test the Double 508 can throw at it and become a most worthy addition to the HAMMER NUTRITION line of superior fuels.

You can find all the information about the Furnace Creek 508, and even follow the race via their web cast, at www.the508.com

I've been training very hard for this attempt and look forward to the amazing challenge that awaits me. Thanks to my fellow employees at E-CAPS for their support (and immense patience!) and all the E-CAPS customers/friends for their support. I will be gone until October 23rd and look forward to being back in beautiful Montana... just in time to get ready for the Nordic Skiing season!

OFF SEASON POWER TRAINING

by Joe Arnone

Now that the racing season is winding down (especially for us Notherners), it is time to do some power training. Whether you are a runner or cyclist, you can benefit next season from power training now. Your muscles and tendons have been abused enough throughout the season that they are ready to handle the stress of pushing them a bit harder.

For cyclists, this means riding in a bigger gear than normal or riding a mountain bike if you are a roadie. Mountain bikers can just use a larger gear. You know you are using the right size gear if you are turning a maximum of about 80 rpm, slightly less for mountain biking. If you are a runner or triathlete, your power training can be accomplished by running uphill. I know it is tough to find a steep enough hill sometimes so you might have to get creative. Running to work towing your car would be one option. If you are fortunate enough to live near the mountains like we are, hiking up steep trails would be great. Just remember that the bears are foraging for food this time of year so always hike with a friend who's a slower runner than you!

As winter approaches you may have to get more creative in finding other ways to get a power workout. Spinners, treadmills, skiing, and skating are all great and they add variety to your workouts. Part of the benefit of power training is that you are doing something different than your in-season training routine. This is great for mental recovery, which is something we all need at the end of a long season.

If you can do some consistent power training 2-4 days a week for the next month or two, it will keep you fit and give you a jump on the start of winter weight training or the start of your base building phase. You will definitely reap the benefit next season when the racing starts again.

Joe Arnone
USCF Licensed Expert
Cycling Coach

RACE REPORT • Catching up with our athletes

It's been a great season for athletes using E-CAPS supplements and HAMMER NUTRITION fuels. Honestly, we could devote and fill an entire Endurance News (and then some) just with athlete results. Unfortunately, space limits our ability to recognize all of you (you're all STARS though!). Still, we wanted to report the results of some of the athletes who used the products to fuel their successes. We've received the following results/press releases via email.

JULIE KAPLAN

Things have finally settled down enough for me to get this email to you. Here are my results from Masters Nationals held in Bakersfield, CA July 9-14.

I decided to do all three of my individual events and two tandem events. My goal was to win the ITT, the tandem TT and the tandem RR and I was able to do just that. I knew it was a lofty goal...doing five races in six days in the heat of Bakersfield in July. So, I armed myself with my E-Caps supplements, the awesome advice I have collected over the years from Steve, Dr. Bill & Brian and trusted my preparation on the bike had me on form.

I knew the hardest day of the week was going to be the first one. I had my individual time trial at 10:30 AM and would maybe have a 90-minute window to recover before our tandem start. The 106-degree temps of the day made the challenge even greater.

I won my first ever individual title (women 45-49) and followed it with a win in the Women's 90+ tandem category with teammate and fellow E-Caps user Liz Benishin of Palo Alto, CA.

Liz and I then won the Women's 90+ tandem road race...50 miles, 4200 feet of climbing and 108 degree heat. I was three for three.

The day after the tandem road race I had my individual road race...same course, same distance, but 115 degree temps under a cloudless sky. It was brutal. I was not able to stay with the mountain goats when they pushed some early climbs on lap one. But, I was determined to finish even if I had to do it solo. I finished 10th.

On day six with four races already in my legs I did not know what to expect in the crit. It was fast and furious with numerous

attacks. Well, I chased down several of them and was able to get off the front late in the race with four other gals. It looked like another podium finish was possible until two gals bridged up to us with less than two laps to go. I faded to sixth in the sprint and just missed the podium by one place. And, I did the last lap on a flat front tire!

I can say a lot of things about how happy I am with my results, but cannot ignore the huge part my E-Caps supplements played. I did a Race Day Boost and Liquid Endurance loading protocol prior to the start of the race week. I then did a single dose of RDB and LE each night between races.

I started my supplementation of Endurolytes the week before and snacked on them almost like candy throughout my week in Bakersfield. The coolest day we had was 105 degrees and the nighttime lows stayed in the 80's. I saw cyclists suffering from the heat all week long, but I felt as strong on Sunday as I did when I arrived the previous Monday.

I have said it many times...you guys are the best!

JIM BROCKUS

Hammer Gel products allowed me to set a bike PR by 30 minutes at Ironman Canada this year and an overall time of 11:42. For a guy with two knee surgeries a 5:30 bike split on that course made me very pleased. No cramps or energy drain during the race at all. I am convinced that your products allowed me to maintain a constant energy level and avoid the cramping I've experienced in 9 previous Ironmans. Thanks again!!!!

ANN GILBERT

I had an awesome race finishing second in my age group (behind some former pro who put an hour on me!). 11:48. Nailed that spot to Kona... whew!!!! I felt great (hindsight is everything) the whole way through. I have a huge gut problem on all my runs and never stopped once. So, my plan worked great. Bottom line is I ran the whole way (even through the first half aid stations which probably kept my position as #3 was closing in fast on the run!) and was strong at the finish. I am so psyched. Thanks so much.

NANCY GWOREK

Just a note to let you know that I finished IM Lake Placid w/ a 41 minute PR! The

bike was pretty tough but like you say, the nutrition on the bike paid off on the run. I felt totally wonderful for most of the 26 miles. Thanks for all your help!

ROBERT KELLY

I wanted to write to you and tell you how appreciative I am of your support. Steve's advice on fueling for my Ironman race was right on the money. The fact that you took the time to put so much information into the email made me again realize what a great organization you are.

I stayed in Lake Placid with a bunch of Ironman vets who were able to answer all of my rookie questions and to help get me comfortable with the whole transition bag concept. Surprisingly, I was really relaxed about the race. I knew extra miles on the bike, pool, or run in the days before the race would have an impact. I just had a great time with my wife and son.

Race Day: Besides having to use tree leaves for toilet paper, the morning was going as planned. I literally blinked and I was already getting into the water with 1750 fellow Ironman hopefuls. While I was treading water shoulder to shoulder with about 6 other swimmers, all I could do was try and keep my legs as still as possible so I would not kick the person next to me. Next thing I know....Bang!!!! and we're off.

The swim was beautiful and after the first 1/2-mile, things opened up and I really got into a rhythm. I was 82nd out of the water and I was feeling great. After a smooth transition, I was out on my bike. Besides the weather changes on the bike, it was a beautiful ride. I have never ridden on a more beautiful route and could not help but take in the sites.

I followed Steve's advice to a T! I had my little pills all taped to my Softride and every hour took my necessary pick me up. With my Sustained Energy in my Camelback and my Hammer Gel on my handlebar clip, I was able to focus on my pace and avoiding the draft with my fellow riders. I felt rock solid the entire ride.

After a smooth T2, I hit the run course and felt like I was going to have a really strong run. After the first lap, my wet feet were really taking their toll on me and I bowed to peer pressure and walked with some of my fellow Ironmates. I lost my dose

for the run and relied solely on my fuel belt filled with HG and SE. Although my goal was to not walk, I focused on my bigger goal, which was that I wanted to finish the race and to carry my son across the line. My worst nightmare was that I would bonk and not finish or that I would not have enough strength to carry my son across the line.

We'll I did it. I feel that you guys are a big reason that I enjoy this sport so much and completed an event that a couple of years ago would have seemed unthinkable. Thanks again and oh by the way, two of the Ironman vets that I train with bonked on the course and one did not finish. These same guys were making fun of me and my bike before the race because I looked like a pharmacy on two wheels.

After the race both of them have approached me about my fueling methods and I gladly forwarded them your email. They both stated that they would never have a GU again. Thanks again

ADAM PRICE

I wanted to write and thank you for a couple of things. First, you rushed my delivery of Hammer Gel and Hammer Pro Whey, which arrived the day before I was due to head for Canada for the International Law Enforcement Games. I very much appreciate the service! Second, you spent a good deal of time further educating me on a solid nutrition strategy to use during my events.

I'm VERY happy to be able to report to you my results:

Criterium - Silver Medal
Road Race - Silver Medal
1000m TT - Gold Medal
10 mile ITT - Silver Medal

I owe a great deal of my success to your advice on fueling during and after my races. The Hammer Gel was outstanding in giving me the energy and nutrition I needed in a very convenient and easy to use form. My competitors were scrambling around trying to open and chew Powerbars and other solid foods during the races, and all I had to do was take a hit from my Gel Flask every 20 minutes. I had absolutely no difficulties with digestion as I had with the other products we discussed.

The Hammer Pro Whey (1 scoop, mixed with 4 servings of Hammer Gel) was again, absolutely perfect as a recovery drink. I had a bottle prepared and waiting in a cooler at the finish line after each event, and I believe it

made the difference in allowing me to show up at the start line day after day fully recovered and ready to race.

This was three days of hard racing against some excellent competition, including riders who came from as far away as Australia, Germany, Italy and Russia. I just wanted to thank you for the time you spent giving me an excellent consultation on a very important facet of my preparation. I owe a great deal of my success to you and Hammer Nutrition. Thanks very much!!

LOIS MARQUART

Hello again from the Pacific Northwest! Raced in the K2 (my other sponsor) Off-Road Triathlon on Vashon Island, Wa. It was also an XTerra Regional stop. Won my division, and also won the USAT Grand Masters overall. (50+female). It rained the entire time, true to Northwest fashion...took my E-Caps in my ritual style: 2 Race, 4 Enduro, 2 'lytes/ 2hrs prior. Then the same 1 hour prior. I took 2 Race and 2 Enduro on the run. Used Raspberry Hammer Gel on the bike and run. So far I am winning my region in points, and my Richmond victory earned me a slot to race at Maui—the World stop. Wish me high energy and performance thru E-Caps! They rock!

ERIC SLOANE ANDERSON

I'd like to extend a special thank you to E-caps/Hammer Gel for your sponsorship and your effective product line. Through the use of your products, namely Race Caps, Enduro Caps, Hammer Gel, and Sustained Energy, I have had an excellent mountain biking season! I'm very pleased with my 2nd place finish in a recent Solo 24 Hours of Adrenaline Race. Not only did I come in 2nd but I completed 288 miles of mountain biking in 24 hours and qualified for the Solo 24 Hour World Championships this fall! In addition to my own training program, I plan to use your products in my nutritional supplementation program for the upcoming World Championships.

I have been using your products all season. As I mentioned earlier, I use Race Caps, Enduro Caps, Hammer Gel, and Sustained Energy (SE). I have noticed after using them that I feel amazingly strong. I especially noticed how good I felt after completing my solo 24-hour race. In addition to performing well, I never once felt that I was lacking in energy. My legs were strong long after the event was over and my energy level was surprisingly high (keep in mind I had been awake for 24 hours straight - actually longer if you count the awards ceremony and extra-

neous activities after the race)!

Thanks to E-caps and SE, I have been able to handle a high volume of races this year and perform strongly in them. Besides 24 hour racing I have done well in an X-terra race, 3 NORBA races, and 10 local series races allowing me to place 4th overall in my category of Semi-Pro.

Thanks again E-Caps for supporting my very busy and successful racing season. I appreciate your sponsorship and look forward to using your products in the future.

BRUCE SAXTON

I traveled from Connecticut to West Virginia June 20th to race the Norba National MTB race at Snowshoe Mtn. I race in the 40 to 44 year old expert class and am happy to report exceeded my expectations and finished 3rd. My time was around 2:18. My previous best national finish had been 4th at Mt Snow. This finish qualifies me for the 2002 Masters Mountain Bike World Championship Team!

The course was in great condition with a mix of steep slippery single-track descents and long, long climbs. I had a great day and after the descending (which was New England style) I was leading the pack somehow passing 10 guys once we entered the woods. Unfortunately, there were 2 stronger climbers and they went by me for good on the tail end of the 1st lap. I held my position for the remainder of the race.

I tried to peak for this race and had prepared well and won a local race the weekend before after finishing mostly around the 4th spot. E-Caps and Hammer Nutrition supplements I used for this race were Race Day Boost loading cycle, Race/Enduro caps, Hammer Gel, Endurolytes, ATP 100's and Liquid Endurance. At the half way part of the race, I took a few more Endurolytes (since I've had a cramping problem in the past), a dose of Race/Enduro caps and another ATP. I consumed 2 large bottles of water and a few shots of Hammer Gel. This supplementation protocol has been provided by the E-Caps staff and the web site.

Athletes...would you like the E-Caps/Hammer Nutrition community to know what you're up to? Send us a short email to graphic@e-caps.com (please put Race Report in the subject line) about your recent accomplishments and we'll try to include it in our Race Report

WHAT IS REMOVED *(by distilling)* FROM OUR DRINKING WATER? *by Bill Misner, Ph.D.*

During the past 6 years my daily fluids intake “averaged” roughly 1/3rd gallon water daily or 50 gallons distilled water every 6 months. I wondered what was I removing from tap water? TOTALLY DISSOLVED SOLIDS [TDS] were collected by distilling 1 gallon pure water from 2 gallons municipal TAP WATER. The Totally Dissolved Solids were then collected from a Pure Water MD-4 Water Distiller base tank, removed in 6 fluid ounces solution. This process was completed both 1 time and 50 times. Extracted pure distilled water appears clear and transparent either when stationary or shaken. Extracted Totally Dissolved mineral Solids [TDS] from 2 gallons TAP WATER appear as a light sediment on the bottom of a 6-fluid ounce clear water sealed container. When shaken, the mineral solids [TDS] suspend giving the fluid contents a milky appearance. Extracted Totally Dissolved Solids [TDS] from 50 gallons TAP WATER appear as a thick dark brown sediment on the bottom half of a 6-fluid ounce container, though some of the mineral solids are suspended even when stationary. When shaken, the thick brown sediment spreads throughout the container, giving a dark muddy-like appearance. When the collected specimens are visually compared, the extracted solutions from both 1 and 50 gallons tap water make using pure distilled water for replacing fluids inviting.

Some have hypothesized that chronic intake of impure tap water potentially raises the risk of arterial plaque formation by imposing inorganic dissolved minerals in the presence of elevated dietary or genetic-induced cholesterol. Minerals from drinking tap water falls far short of meeting the RDA requirement, though most nutritionists recommend we fill the RDA from whole organic produce and/or quality supplements. Science has been relatively quiet on the health advantages of using distilled water as an adjunct to health or avoiding totally dissolved mineral solids

in tap water. However, most government grant research labs, hospitals, US Navy Ships, and the higher institutes of research for learning are inspected, it is found that they use large quantities of distilled water for any research or hydration requiring pure water. For most of us, simply seeing the extracted sludge removed from either 1 gallon or 50 gallons of tap water is most persuasive.

Mineral Volume Content In Tap Water - What Is In Tap Water?

One study done on 102 Canadian children's determined fluid intake-mineral content from TAP WATER [1]. The table on the facing page contains the results of that study.

Trace element intakes from tap water were negligible. Hard tap water provided less than 8% of the Canadian Recommended Nutrient Intake (RNI) for magnesium, less than 3% for calcium, and less than 1% for zinc. Mineral contributions of soft tap water to the RNIs [Like the USA's RDA] were less than 2%.

What About The Required Daily Allowance For Minerals?

In fact, mineral content of tap water is typically low. Minerals from drinking water do not come close to meeting the RDA requirements. However, this added dissolved inorganic mineral solids from tap water, begs 2 questions, “Is consuming an additional +8% inorganic mineral solids excessive or not healthy? Or could drinking tap water be the proverbial “straw that breaks the Rabbit's back” especially if you are a predisposed to renal-uremic atherosclerosis?

CALCIUM + PHOSPHATE + CHOLESTEROL = ATHEROSCLEROSIS

Epidemiological studies have indicated an increased incidence of cardiovascular events among patients with chronic renal failure. An acceleration of the atheroscle-

rotic disease process in uremia has been proposed and a few studies have even suggested the existence of a specific pathological entity, uremic arterial disease, characterized by medial degeneration and calcification rather than by accumulation of cholesterol. As an experimental model of arterial disease in uremia, rabbits with CHRONIC RENAL FAILURE (CRF RABBITS) induced by renal cauterization and contralateral nephrectomy were studied. Chemical analysis confirmed that accumulation of Calcium, Phosphate and Magnesium was a prominent feature of the arterial changes, whereas the aortic content of cholesterol was not increased. Restriction of dietary calcium and phosphate decreased the mineral accumulation as well as the severity of the morphological changes. Increased amounts of calcium and phosphate in the diet increased the mineral accumulation of the aorta [2]. OK, I am not a rabbit, what about humans predisposed to atherosclerosis?

Calcification Mechanisms Implicated In Atherosclerosis

Coronary atherosclerosis is frequently associated with calcification of arterial plaque. To understand the mechanisms responsible for the formation of Atherosclerotic calcification, researchers examined human coronary arteries for the presence and extent of mineral. In sections stained specifically for mineral, staining was diffuse and present in all atherosclerotic plaques. Hydroxyapatite was not detected in normal coronary artery sections. Distribution of HYDROXYAPATITE coincided with a similar distribution of CALCIUM detected by a radiodense pattern using contact microradiography of the same sections before cytochemical staining. By energy-dispersive x-ray microanalysis, the chemical composition of calcified sites was identical to HYDROXYAPATITE (Ca₁₀[PO₄]₆[OH]₂), the major inorganic component of bone. Osteopontin is a phosphorylated glyco-

protein with known involvement in the formation and calcification of bone and is regulated by local cytokines.

Human coronary artery segments (14 normal + 34 atherosclerotic) obtained at autopsy were evaluated immunohistochemically using polyclonal antibodies generated against human OSTEOPONTIN. Immunohistochemistry for osteopontin indicated intense, highly specific staining in the outer margins of all diseased segments at each calcification front; staining was evident throughout the entire plaque. Conversely, arterial segments free of atheroma and calcification and sections treated with nonimmune serum had no evidence of positive staining. Osteopontin, a protein involved in mineralization, is specifically

associated with calcific coronary atheroma and may play an important role in the onset and progression of this disease in human coronary arteries. The deposition of noncollagenous proteins such as osteopontin may regulate the presence or absence of calcification and ultimately alter vessel compliance [3].

Conclusive Or Inconclusive?

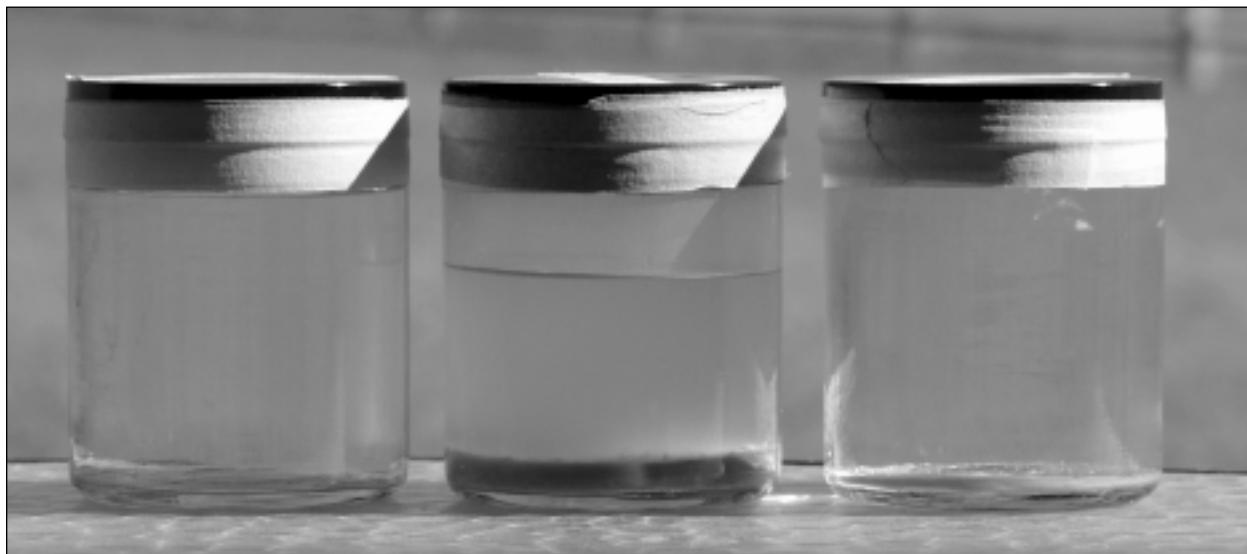
This is by no means conclusive science. However, it does raise a few unanswered questions. Does tap water elevate inorganic dissolved mineral solids enough to provide contribute ongoing atherosclerosis? Are inorganic mineral solids more likely to be recruited by the body to form arterial plaque sites than organic food minerals? I do not know, nor does modern science present a conclusive

answer. If faced with the choice of drinking out of a mud puddle or from a clear bubbling spring, I would choose the purer clear water. Thus for most of us, visual evidence of what a water distiller removes from tap water is remarkably persuasive. Endurance athletes require a daily macro-mineral dose best supplied through healthy organic food or a chelated mineral supplement form.

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- [3] Fitzpatrick LA, Severson A, Edwards WD, Ingram RT. Diffuse calcification in human coronary arteries. Association of osteopontin with atherosclerosis. J Clin Invest. 1994 Oct;94(4):1597-604.

Average Intake Of Macrominerals			
	Males	Females	RDA
Calcium	16.5 mg	13.2 mg	1000 mg
Magnesium	6.6 mg	4.5 mg	320-420 mg
Sodium	2.3 mg	2.3 mg	500 mg



Extracted pure distilled water. No sediments!

Extracted Totally Dissolved Solids from 50 gallons tap water. A really nasty amount of sediments!

Extracted Totally Dissolved Solids from 2 gallons tap water. Some sediments at the bottom.

FROM THE DESK OF STEVE BORN



As I write this, cooler temperatures and a gentle rain are covering the area where I live and work. Along with the beginning of the foliage changing colors, it's a sure sign that summer is giving way to autumn. Pretty soon it'll be time to hang up the bike for the season, take a break from the intense training I put myself through this year, and start thinking about the upcoming Nordic skiing season.

After taking a 3-year break from competitive cycling, I decided to get back into the game. Why I decided to do such a ridiculously difficult endeavor as a DOUBLE Furnace Creek 508 (yep, two 508-mile legs back to back) I may never know. What I do know, is that in spite of the difficulties of trying to train just about full time (25-30 hours a week), in addition to working here at E-CAPS full time, it's been very rewarding. I only hope and pray that the end result will be successful (I'm betting it will). I have to thank Brian for his generosity and for allowing me some flexibility in my work schedule so that I could train a few days in the afternoon and not so much in the freezing, pre-dawn hours. I also have to thank Joe for not only working me to darn near exhaustion every time I rode with him (he's SO STRONG!) but also for all the tireless work he's done getting my bikes and wheels in such perfect condition (the man's an awesome mechanic). I feel I have an almost unfair advantage with Dr. Bill. He's one of the busiest guys I know yet he's taken the time to call and email me to go over my training and supplement program...and also just to make sure I was doing OK. I know that when I line up for this most difficult endeavor, I have a very definite advantage with Dr. Bill's knowledge supporting me. They - Brian, Joe, and Dr. Bill - along with the great group of people I work with, have been so supportive and helpful...I want to thank them for that.

Still, as most of you can identify with, training for endurance and ultra endurance sports can all-too-often be a very isolated experience, many times the lengthy training sessions border on loneliness and sheer boredom. I wonder why I subject myself to that, why we endurance athletes subject ourselves to that. Sometimes I tell people that for all the hard work and dedication I've put into my chosen sport of ultra marathon cycling, I should have picked golf or tennis instead; at least I could have perhaps made some money! What always makes me come around though is the fact that when I am engaged in my sport, when I am doing something perhaps more extreme than most everyone else on planet Earth is doing, I feel as though I am really living. Not just existing, but living. There's something really special about choosing a goal and taking all the steps required accomplishing that goal. Sometimes it's not easy, sometimes it can be a total drag. Yet when you look back on it, you realize that you did something unique, something special, something not too many people would ever want to put themselves through. To me, that's one of the differences between really living and merely existing. I'm pretty sure you feel the same way.

During my training, which at times saw my mileage on the bike approach and surpass the 500-mile mark during a weeklong period, a few things became even more apparent to me. These are things I had known about for a long time but now, applying them during tough training periods, they became REALLY clear.

One of the things I realized (and I hope you'll consider applying my experiences to your training) is that even when it's cold outside you still need to take Endurolytes every hour. Sure, the potential for cramping may be greater during hotter weather but the reason I take Endurolytes, the reason I think everyone should take Endurolytes, is NOT so much to prevent cramping. Oh sure, by all means we want to prevent cramping. However, cramping is a state that we

should NEVER reach in the first place. Cramping is your body's way of saying "Hey! I'm on empty! Re-supply me or I'm going to stop... and it's going to hurt!" Just like you never want to reach the state of bonking before you re-fuel the body, so too do you never want to cramp before you replenish electrolytes.

The main reason I think we need to consistently supply the body with electrolytes is because many of the body's functions, the optimal performance of those functions, is dependent on adequate levels of electrolytes. Proper functioning of the muscular, digestive, nervous, and cardiac systems requires adequate levels of these vital minerals. It's kind of like the motor oil in a car; it's not what makes the engine run but it sure is necessary to keep the internal parts operating smoothly. That's how I look at electrolytes, like the motor oil in a car, and keeping the body supplied with them, even when it's not hot outside, is an important part of properly fueling the body. Even though Endurolytes doesn't look like your typical "fuel", coming in capsule form, it is as important a part of your fuel as your water and calorie source (the latter hopefully being Hammer Gel and Sustained Energy).

One other area of importance that became crystal clear to me was on the hardest weekend of training I had attempted. Early on a Saturday morning I began a solo ride from my home in Whitefish to the city of Helena, 200+ miles away. Joe, his wife, and his son were spending the weekend in Helena and invited me to finish my ride at their weekend home. Joe had planned on riding back home to Whitefish the following day (Sunday) and suggested that I ride with him. I agreed. Back to back double centuries would be an awesome weekend of training and I know Joe would certainly make me work on that second double.

The route to Helena, although quite beautiful, was very difficult thanks to a lot of tough hills and a seemingly endless

headwind. Nearing the completion of the ride I still had to negotiate a real mother of a climb. Problem was that a monster of a thunderstorm was brewing up ahead. I had been dodging thunderstorms the last half of the ride already and, having been pummeled by the ever-increasing wind, had no desire to add more "misery" by getting soaked, or worse, hit by lightning. Joe must have sensed that because he drove a few miles back along the route to come and find me. He did, which was a relief to me. He wasn't about to let me into the car though and, as tempting as it was, I knew I couldn't do that either, not before tackling McDonald Pass. With the thunderstorm activity still in the distance, the rain had not yet hit and traffic was very light so I felt as though I would get up the climb without too much difficulty. The great thing was having Joe drive next to me, blasting Stevie Ray Vaughn over the CD player as I rode the pass. Perhaps it was the influence of the driving music or perhaps it was the desire to simply get this tough climb under my belt, but I pounded up that grade. I didn't even know how long the pass was but I forced myself to push harder and harder. Needless to say, upon reaching the summit and riding down the other side, after completing over 200 miles that day in a pretty good average speed, I WAS TOAST. I could barely walk.

To make a long story shorter, Joe, being the angel of mercy that he was, had made me a recovery drink. I've always tried to be consistent about consuming adequate carbohydrates and protein after a workout, but this workout REALLY demanded it. Thankfully Joe came through with a mix of 3 scoops of Sustained Energy and 1 scoop of Hammer Pro Whey in a 21-ounce water bottle. He also brought some orange juice to mix it in. Quite frankly, in all my years of using E-CAPS products, I had never tried this combination. All I can say is that it went down sooooo good. Even after 10-11 hours of liquid food consumption prior to that, this mixture tasted fantastic. Best of all, it worked. The next day was windier than the first and, even though I had dealt

with a headwind on the route to Helena, I was subjected to a headwind on the way back (isn't it funny how that always happens?). Joe, true to his word, pushed the pace hard most of the way. Although I took turns at the front, it was nowhere near what Joe was doing. Still, staying on his wheel, especially after having accrued 200 miles the day before, was TOUGH! To say I got a workout that day is a real understatement.

Bottom line though is that without the quick replenishment of quality carbohydrates and protein, I doubt I could have gotten out of bed with any efficiency, let alone ride a tough 200 miles back to Whitefish. As I am fond of saying, "when you're done training, you're not done with training", meaning that until you "refill the tank" with adequate amounts of carbohydrates and protein, you've not yet completed your training. This experience supported that statement more than at any other time I think! And whether or not you choose to try the "Joe Arnone recovery formula" or not, do give some combination of Sustained Energy and Hammer Pro Whey a trial... it really works!

In closing, I wanted to say that I hope you have all had a fantastic summer. It's been a great one for us here at E-CAPS and we're looking forward to the changing of the seasons (well, most of us anyway!). Upon completion of the Double Furnace Creek 508, I will be back in the office mid to late October, just in time to begin preparing for our annual Winter Sale. Yes, it's getting to be that time already! Look for the details about that sometime soon. In the meantime, enjoy the rest of the summer and early autumn.

Sincerely-



DEALER UPDATE

As a reminder, for your convenience Hammer Gel is now carried by retailers in all 50 states. For those times when you run out of gel the day before your race, it will save you express shipping costs if you can run down to your favorite shop and pick up an emergency gel supply. A number of shops are carrying the Sustained Energy and Endurolytes as well. If your favorite shop doesn't carry our products, please ask them if you can send us their phone number. We will send them a dealer information packet and we can have them stocking the Hammer Nutrition line in no time. Customer demand dictates what shops will carry so please ask any and all shops that you frequent if they would like to carry Hammer Gel. You can e-mail phone numbers and shop names to: jjja@e-caps.com

A NEW BOOK ABOUT RAAM

Athletes, especially those in ultra sports, inherently know the truth of the saying,

"We conquer by continuing."

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

"THE PART-EMPTY BOX" The Story of Steve Born and His Crew in RAAM '91

This is the sequel to DC Born's first book about the Race Across America "Release the Pace Giraffe"

"The Part-Empty Box" can be reviewed and purchased at www.xlibris.com/ThePartEmptyBox.html or phone 1.888.795.4274

12 years in the making...it has to be good!

The nd

POWERFUL PRESS RELEASE *(courtesy of Mickey Rzymek)*

Local Cleveland, Ohio Triathlete Captures 3rd Overall at Mrs. T's - Worlds Largest Triathlon

Long known for her skills as a marathoner and competitive swimmer, Jeanne DeBonis (37) of Brecksville, Ohio wooed the crowd at the Mrs. T's Chicago Triathlon with a third place over all finish in the female division in a very competitive field.

A contingent of over 7000 triathletes converged on Chicago, ILL on a hot August Sunday morning to participate in the 20th annual Mrs. T's Chicago Triathlon. Long known as the world's largest and most competitive triathlon, it took 47 individual wave starts to get all the triathlete on the course.

DeBonis competed in the International distance triathlon, which starts with in 1500-meter swim in Monroe Harbor on Lake Michigan. The bike portion consists of a 40K (24.4 Miles) bike route on scenic Lakeshore Drive and finishes with a 10K (6.1 Miles) run that passes such notable locations as McCormick Place and the Shedd Aquarium.

With a blistering swim time, DeBonis exited the chilly 64 degrees water of the Monroe Harbor with the competitive determination that she has long been known for. Gliding through the T1 transition area onto the bike DeBonis posted her personal best bike time for a 40K course. She finished with a strong 10K time into the throng of boisterous

fans lining the finishline chute.
Her finish time was 2:11:48

