

Race day issue

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ENDURANCE NEWS

JUNE/JULY 2013
#85

**The perils
of excess
sodium**

**Techniques
for efficient
running**

Hydration

Fluid vs. Fuel

L-Carnitine:
Good for your heart

**Product Spotlight #1 : Race Day Boost,
Energy Surge, Anti-Fatigue Caps**

Product Spotlight #2 : Endurolytes

The informed athlete's advantage since 1992





Nate Weston nears the finish line during his first triathlon of 2013, the TOA Sprint Triathlon.
Photo : Jason Els



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Judy Rose crosses the finish line at the 2012 USAT Olympic Distance National Championships. Read more about this Hammer Nutrition-sponsored athlete on page 64. Photo : Brightroom

ENDURANCE NEWS

The informed athlete's advantage since 1992

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Our Mission

The objective of Endurance News is to provide you, the serious endurance athlete, with a valuable resource that you will find 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 our staff as well as professional and elite amateur athletes and other experts in the area of nutrition and exercise.

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 and hard training that emphasizes quality over quantity, and prudent supplementation to improve health and performance. But above all, we at Endurance News believe that there are no shortcuts and that success can only come from hard work.

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LETTERS

Send your letters to letters@hammernutrition.com for possible inclusion in a future issue of Endurance News.

Here's to the next 25!

Hey Guys,
Just a quick note to thank you for 25 years of help, great support, and a fantastic company to partner with! I had a solid performance at Ironman 70.3 Oceanside last weekend (got my Vegas slot, mission accomplished), a few months shy of 25 years since I first called Brian Frank after Leon's in 1988.

I wore the long sleeve jersey pre-race at Oceanside (pictured, immortalizing that first "50" on the left calf) and during the bike leg. It made for a fun ride down memory lane. Hope to see you all at the Hammer Nutrition house in Kona!

Cheers,
Mike Llerandi



A note of thanks

Hi Hammer!
I just saw the spring issue of Endurance News. Thank you for including me in this awesome publication! I was absolutely stunned when I saw the article and photo on page 89. I had hoped for a brief note in the "From our athletes section", so to be afforded this type of recognition is beyond my wildest expectations!

I have the Rock the Parkway Half Marathon this coming Saturday and ran a really great 10-mile training run this past weekend. With that, on top of the enormous energy gained from seeing my article in EN, I am now super-psyched for my upcoming race! I will definitely tap into this energy when needed during my race.

- Diane Wilhelm

Editor's Note: Diane set a PR at Rock the Parkway Half Marathon on April 12, cutting six minutes off her time, and reported that she had an amazing race and felt great for the entire event.





Brian and Steve at the 2013 Sea Otter Classic Hammer Nutrition booth with two members of the IC3 volunteer crew. Photo : Sonia Frank

Welcome to the 85th issue of Endurance News.

There are so many good articles and content in the following 90+ pages, I'm certain that you will find at least one gem, probably several, that can be put to good use for better results and improved health as the racing season kicks into high gear. Although I am pretty strictly a front to back reader of magazines, Endurance News is the only one I read from back to front. Why you ask? Because I enjoy the submissions from you so much. These motivate me and renew my enthusiasm for doing what we do more than anything else, honestly. If you've been meaning to send in a story, but haven't gotten around to it for one reason or another, now is the time to do it.

Besides all of the great athlete contributions, we have several articles

that address current topics and trends that we see in the marketplace and our community. I think you'll find them not only interesting and enlightening, but also a fresh take as well. Excess dietary sodium, the allure of sugar and citric acid-based sports drinks, recovery drink confusion, and the latest media bashing of a great nutrient are all covered in the following pages. As usual, we're swimming against the current to bring you the rest of the story.

New products

All of our 2013 product additions are in stock and ready for your consumption, and should be available at your favorite retail outlet too. Here's a quick recap on what we've got for you.

Vanilla Recoverite – Almost everyone loves vanilla anything and this flavor of Recoverite appears to be no exception. I'm still pretty set on my one scoop each of chocolate and strawberry flavor, but it's nice to have another flavor to change things up.

Vegan protein powders – All three have been very well received and the universal comment seems to be "tastes a lot better than other vegan proteins I've tried." That being said, I know many of you are waiting for it to come in single-serving packets so that you can taste the flavors without having to buy a giant tub. We're working hard on getting these done and hope to have them available to you in the next month or two.

Vegan protein bars – Again, very well received and many comment that they don't taste like dirt. In fact, they taste really good, are soft and easy to chew, and digest very easily. I'm especially fond of the Almond Cacao version. It's so not sweet, I would almost describe it as savory, but it's not salty at all. (Oatmeal Apple or Cranberry are pretty much my breakfast/snack favorites, and the Vegan Almond Cacao is my current after-ride favorite.)

Speaking of products, while they are not new to our product line, I'm pretty sure that many of you have yet to try them. I'm referring to the trio of products that are featured in our first Product Spotlight article. Any one of them will provide you with a huge boost of performance on race day, but combining all three will take you to a whole new level. Pre-race loading with Race Day Boost and then using Anti-Fatigue Caps and Energy Surge during the race is the most effective way to legally enhance your performance. If you have not yet experienced the effects of these three products, you'll be pleasantly surprised when you do.

Enjoy the read,

Brian Frank
Proprietor

Brian's spring travels . . .

Traveling for work really can be a good time, especially when you love what you do. Brian spent a lot of time on the road this spring heading from one event to another. Here's a few of the highlights!



Above: Brian's son Miles races at the Sea Otter Classic (as Brian and Steve Born man the Hammer booth—pictured far left).
Photo : Sonia Frank

Left: Brian joins in the fun for the 2013 Hammer Nutrition Super Masters Team Weekend in Napa Valley, CA.
Photo : Nellie Freeman

Old school isn't cool when it comes to fuel.

You probably don't use equipment from the 1960s today, so why fuel with a sports drink with the same ingredients used back then? Technology has come a long way in 50 years! HEED is truly sports drink 2.0, delivering sustained energy in a mild, non-acid, electrolyte-rich blend. No need for sugar, excess sodium, citric acid, or other old school ingredients!



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Product Spotlight #1

Race Day Boost, Energy Surge, Anti-Fatigue Caps

The ultimate race performance-enhancing combo

BY STEVE BORN

As an endurance athlete, you employ a tremendous range of training techniques, implement a wide variety of equipment and training aids, and use Hammer Nutrition fuels and supplements in your workouts. If you're a competitive athlete, the goal in testing and incorporating all of these tactics is to help you set personal bests in your races, perhaps even winning in the process.

If you want to make that goal more of a reality instead of just a possibility, we have three products designed precisely with that in mind! While all three perform specific functions and provide unique benefits, using them in combination will absolutely help you perform at your best, and you'll enjoy breakthrough performances more frequently. What could be better than that?

Race Day Boost

Preload to enhance energy-production pathways and buffer lactic acid!

Available both in capsule and powder form, Race Day Boost (often referred to as simply "RDB") has a wealth of research behind it, supporting its proven positive effects to athletic performance. Its primary ingredient, sodium phosphate, enhances functioning of all three of the body's ATP-producing energy systems—the ATP-CP system, the lactic acid system, and the oxygen/aerobic system. With Race Day Boost, you're boosting the performance of your body's short-, medium-, and long-term energy production pathways. What other product can do that? Answer: NONE!

Race Day Boost enhances each of the

three energy-producing pathways:

1) The ATP-CP (adenosine triphosphate and creatine phosphate) system. ATP is the immediate source of energy for muscle contraction, breaking down to ADP (adenosine diphosphate) as it releases the energy to fire a muscle fiber contraction. This system releases energy very rapidly, but also depletes very rapidly, in just a few seconds of continued effort. It is the energy source used in brief, intense activities such as weightlifting or sprinting. Creatine phosphate, another high-energy compound naturally occurring in all muscle cells, also breaks down, releasing energy as it loses its phosphate group. Unlike ATP, however, it does not cause muscle contraction. Instead, the phosphate goes to an ADP, converting it back into ATP, thus replenishing the system. The sodium phosphate in Race Day Boost supplies phosphate groups used in the re-synthesis of ATP and CP, thus improving the performance of this short-term energy system.

2) The lactic acid system. A key feature of this system is its relationship with blood pH. Normal blood maintains a slightly alkaline pH of 7.3 to 7.4, optimal for the enzymes that produce energy via the lactic acid energy system. This system uses carbohydrates as fuel, primarily in the form of glycogen stored in the muscles. Our bodies break down muscle glycogen (a process known as glycogenolysis) into glucose, which then undergoes further breakdown via glycolysis. Glycolysis converts sugar to pyruvic acid, releasing energy and creating ATP. Glycolysis occurs with or without the presence of oxygen. At rest, glycolysis occurs at a slower rate sustained by the oxygen that you take in (aerobic glycolysis). As you begin to exercise, the rate of aerobic glycolysis

increases. As intensity of exercise increases, aerobic glycolysis becomes inadequate to support energy production and the system switches to anaerobic glycolysis. Through a series of chemical reactions in muscle cells, the formation of lactic acid allows anaerobic glycolysis to continue. However, excess lactic acid accumulates during high intensity efforts, increasing the hydrogen ion concentration within the muscle cells and disrupting the ideal alkaline blood pH. This results in that all-too-familiar "burn" that we all hate. Race Day Boost's phosphate salt buffers blood acidity and helps maintain this acid-alkaline balance by neutralizing excess hydrogen ions within the muscle cell. Effectively buffering excess lactic acid allows the lactic acid system to provide energy for a longer time.

3) The oxygen/aerobic energy system. This system uses primarily carbohydrates and fats to produce ATP, but after 90-120 minutes of sustained exercise, this system starts to rely on protein, with about 5-15% of the energy coming from amino acids. The oxygen/aerobic system can't produce ATP as rapidly as the other two systems, but it does produce greater quantities of ATP. It serves as the primary energy system of aerobic, or "conversational level," athletics (if you're breathing easily enough that you can talk while you're running or cycling, you're basically still in "aerobic mode"). Even though it seems that you're always going anaerobic in a race, or at least going back and forth between all of the energy systems, once you settle into a rhythm, your body relies mostly on the oxygen energy system. Phosphates form part of a compound found in red blood cells known as 2,3 diphosphoglycerate (2,3-DPG). This molecule helps release oxygen from hemoglobin into the muscle cells. An

- continued on page 7

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increase in 2,3-DPG will improve the availability of oxygen to working muscles for the process of creating ATP.

Bottom line: Sodium tribasic phosphate improves all of the body's three energy producing pathways/systems, making it a superb ergogenic aid. It is one of the most researched substances ever, with overwhelmingly positive results from those many years of testing. Studies on sodium phosphate date back to 1990 [Lenfant 1990, Lunne 1990], with Dr. Richard Kreider's 1992 study arguably being the hallmark research on this substance. In Kreider's study, subjects loaded with sodium phosphate for four days (1 gram four times daily). During a 40K time trial, mean power output increased by 17% and oxygen uptake by 17%, netting an 8% improvement in performance time! The amount of sodium phosphate used in Race Day Boost exactly matches the dose used in all studies done with this nutrient.

Race Day Boost is not a daily use product. Taken for four days prior to a race or event, it super-saturates your body with sodium phosphate, which will provide noticeably positive effects come race day. Race Day Boost is most-appropriately named, and we've no doubt that it'll make a huge difference when it's time to take advantage of all that hard work you've put into your training.

Note that we recommend you first test Race Day Boost in training about 2-4 weeks prior to a major event. This allows you to see how your body responds to the product. Then follow the same loading dose protocol four days prior to your event.

Energy Surge

An effective burst of energy on demand!

Each sublingual tablet contains 100 mg of the patented PEAK ATP® form of adenosine triphosphate. ATP, the chemical compound (the "energy currency" of the cell) that provides the overwhelming majority of energy needed by your body, is formed from a long chain of metabolic events in which a variety of substrates are transferred from the foods you eat, primarily carbohydrates. Under normal

- continued on page 8

Tips and caveats for optimizing Race Day Boost use

1) When to use while tapering – The four days prior to a race—the time when you'll be using Race Day Boost (RDB)—are *not* the time for high-intensity or long-duration training. Still, some athletes like to get 30-60 minutes of light exercise a couple days prior to a race. The question is, "If I do one or more of the loading doses prior to a workout, keeping in mind that these are shorter, lower-intensity workouts, will that negatively affect the benefits received from the product?" The answer is yes, at least some of the benefits will be somewhat diminished if you use the product prior to a workout.

Therefore, if you do any workouts prior to a race (and definitely keep them to a minimum), make sure they're short and easy. It's best to do the majority of the loading doses of RDB afterward, so that you don't "use up" any of the sodium phosphate in RDB that you've taken prior to the light workout.

2) Diet modifications – When you use a loading dose of RDB, you'll be consuming multiple teaspoons of the powder OR multiple capsules several times daily for four days. (Loading protocol varies by body weight.) Each two teaspoon/two capsule serving contains 1,000 mg of the sodium phosphate compound, 193 mg of which is comprised of sodium. Four servings daily will give you 772 mg of sodium per day. Over the course of four days, that's an additional 3,088 mg of sodium you'll be consuming. Therefore, lowering your salt intake to accommodate the additional amounts you'll be receiving from a four-day load of RDB is recommended. (Yes, lower it!) Increasing your salt intake ("sodium loading") during the days leading up to your race won't provide any benefits and will most likely create problems on race day.

3) Mixing RDB powder ahead of time for consumption later – We do not recommend this, due to the glutamine component in the powdered form of RDB. Glutamine is not a very stable nutrient once mixed in solution; a portion of it degrades into ammonia. As a result, RDB (Hammer Whey and Recoverite as well, as they contain glutamine) should be consumed as soon as possible after mixing.

4) Using RDB to enhance alkalinity in the diet – Dr. Bill Misner states, "I do not recommend using RDB as a daily alkaline-enhancing supplement; diet is the correct answer. The pH of body fluids, including urine, saliva, and blood, varies with function and is tightly regulated [via] systems to keep the acid-base homeostasis. The pH of blood is known to be slightly basic, and at a value of 7.4 pH, is vital in maintaining the functioning of cells. For example, enzymes are heavily affected by changes in pH, and have an optimum pH at which they operate. Outside a

small range, they can denature and cease to catalyze vital reactions."

"Most plant food contains weak organic acids and salts; however, when they enter a medium of acidified water or acidified dilute salt brines and become heated, they create a buffering action to maintain their original pH. Natural, raw vegetables and fruit juices are alkaline-producing. (Fruit juices become more acid-producing when processed, especially when sweetened.) A diet containing 60-75% vegetables and fruits will raise pH to higher alkaline values. Exercise, especially endurance exercise, lowers pH to acidic levels. Athletes should alter their diets to a high pH food menu, plan longer recovery time, and only use RDB in a loading dose protocol prior to events."



- continued from page 7

conditions, such as at rest, the body can produce all of the ATP it needs for a healthy existence. However, during stressful conditions such as high-intensity exercise, the body's ATP stores are rapidly depleted and cannot be replenished quickly enough by normal means, which creates a shortage or gaps.

That's where Energy Surge comes in. Dr. Bill Misner states that Energy Surge "aids in filling the energy deficit gaps that can occur when the body is stressing to produce energy upon extreme demand. Taking ATP in a sublingual dose when fatigue is sensed may act as a preventative primer for the ATP-endogenous pump." Energy Surge raises ATP enough in the blood stream to supply a "priming dose" when existing cellular ATP stores are becoming depleted and when the body cannot keep up with ATP production demands. Sublingual ATP acts as a boost substrate to cover gaps when intensity efforts cannot keep up with the high pace efforts generated.

Speaking of the blood stream, Energy Surge's sublingual (under the tongue) form bypasses the gastric chamber and is instead directly absorbed through the mucosa of the mouth and throat, going directly into the blood stream and avoiding degradation by the stomach.

When you put an Energy Surge tablet under your tongue and let it dissolve, you get a nice boost of energy exactly when you need

it . . . simple as that. It's a "use as needed" product, so don't be shy about taking it frequently during your workouts and races, especially when you need an extra burst of energy. Recommended dosage varies greatly from athlete to athlete. Some athletes take one tablet every 15 minutes for hours on end, while others

find that one tablet an hour works best for them. Bottom line is that you'll want to test it in training to determine your optimum dosage.

Thousands of athletes have attested to the effectiveness of Energy Surge—shouldn't you be one of them?

Anti-Fatigue Caps

Ammonia-induced fatigue won't stand a chance!

Whether you're doing short or long workouts and races, excess ammonia is considered a primary culprit—perhaps THE primary culprit—in premature fatigue. One supplement expert has stated that an inhibitor of exercise, "happening simultaneously with the accumulation of acidity, is accumulation of ammonia. All anaerobic and endurance exercise produces oodles of the stuff. Bad news! Ammonia is toxic to all cells, reduces the formation of glycogen, and inhibits the energy cycle. It has devastating effects on brain function. We still don't know how much it contributes to fatigue, but we do know that the higher your blood ammonia, the poorer your performance."

One study examined the changes in blood ammonia levels in humans during exercise and determined that the higher the blood ammonia, the poorer performance will be. No doubt about it, ammonia is detrimental to athletic performance!

Anti-Fatigue Caps is a unique product combining potent amounts of two well-known, ammonia-scavenging nutrients: potassium/magnesium aspartate and OKG. For optimal nutrient absorption, each capsule also contains 10 mg of Enzyme Enhancement System™.

Anti-Fatigue Caps can be a significant aid for the following applications:

- As a pre-exercise supplement for workouts and races of any duration
- Every hour during workouts and races longer than two hours
- When you're making a jump in the length of race you're doing, such as going from a century to a double century on your bike, or going from doing sprint or Olympic distance triathlons to half or full iron distance triathlons
- As a non-stimulating energy booster any time during the day (Many Hammer Nutrition staff members

take a couple of capsules with lunch.)

Anti-Fatigue Caps is a favorite among ultra endurance athletes, primarily because ammonia-induced fatigue tends to become more prevalent the longer one exerts efforts. However, whether your workouts and races are purely aerobic, mostly anaerobic, or anywhere in between, your body will produce lots of ammonia, which can devastate your performance. Bottom line: No matter how short or long your workout or race is, Anti-Fatigue Caps minimizes the performance-inhibiting effects of excess ammonia, helping you maintain optimum performance.

Summary

Over the years, and to this day, there are tons of overpromised but under-delivered sports supplements available. It's no wonder that after far too many "geez, this stuff did absolutely nothing" products, most athletes never use them again, believing that all ergogenic aids are nothing more than expensive snake oil. However, these three products—Race Day Boost, Energy Surge, and Anti-Fatigue Caps—have been popular supplements in the Hammer Nutrition lineup for many years, so we know without a doubt that they work. If athletes didn't keep demanding them, they would have disappeared a long time ago.

The fact is that these three products flat-out work, especially when used in combination . . . you have our satisfaction guarantee on that. Think of Race Day Boost, Energy Surge, and Anti-Fatigue Caps as the "icing on the cake" products in your supplement arsenal. They'll allow you to obtain maximum benefits from all of the training aids and methods you use, the tough workouts you do, and the Hammer Nutrition fuels and supplements you're already taking. Put this 1-2-3 combo to the test and see the race results you've worked so hard for!

HN



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- AMANDA



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- Unsurpassed lactic acid buffering
- Breakthrough race performances and personal bests

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Product Spotlight #2

Endurolytes

Superior cramp prevention

BY STEVE BORN

Have you ever had a key race (or two? or three?) go down the drain thanks to cramping? I sure did, and not only was it absolutely one of the most physically painful things I've ever had to endure, it was devastating mentally and emotionally to see all that hard work—plus the time commitment of my support crew members—vaporize because I didn't know how to effectively deal with cramping issues. That happened a long time ago, but I haven't forgotten it. (A DNF stays with you a long time.)

It was 1995 and I was competing in the Race Across America (RAAM). I started the race the fittest I had ever been to that point in my athletic career. Unfortunately, I was ill-prepared for the extreme heat that I encountered during the first day through the Mojave Desert. Long story short, I dehydrated, became thoroughly electrolyte depleted ("Electrolytes? What are those?"), and ended up in the hospital where I required eight liters of IV fluid!

Sadly, my race was over. Thousands of training miles were wiped out within a matter of hours. I didn't even make it 200 miles in a 3,000-mile race . . . what a disastrous bummer! I laugh about it now ("I did the most expensive double century in history!"), but at the time you can bet that it was definitely no laughing matter. Not only was I in physical, mental, and emotional agony, I darn near died out there.

Since then, I've learned a lot about nutritional supplementation, fueling, and their effects on athletic performance; proper electrolyte replenishment is one of the most important things I've learned. Trust me, you don't want to ever

go through what I did, and I never want you to either. You may never ride your bike through the Mojave Desert in the middle of the summer; however, chances are that you will encounter potentially debilitating heat and/or humidity in your training and races, especially at this time of year with temperatures rising on a seemingly daily basis. That's when taking hourly doses of one of Hammer Nutrition's Endurolytes products—in capsule, effervescent tablet, or powder form—isn't just a good idea, it's essential! In fact, Endurolytes is perhaps the most important fuel that you will ever use.

What are electrolytes? Why do I need them?

Electrolytes are chemicals that form electrically charged particles (ions) in body fluids. These ions carry the electrical energy necessary for many functions, including muscle contractions and transmission of nerve impulses. Many bodily functions depend on electrolytes; therefore, optimal performance requires a consistent, adequate supply of these important nutrients.

Many athletes neglect electrolyte replenishment because they've never had cramping problems. Even if you've been fortunate enough to have never suffered the debilitating effects of cramping, you still need to provide your body with an appropriate supply of electrolytes, even in cooler weather. Why? Because the goal in replenishing electrolytes is not necessarily to prevent cramping (though, of course, that's something you definitely want to avoid), but primarily to maintain specific bodily functions at optimal levels. Cramping is oftentimes your body's way of letting you know that it's "on empty" electrolytes-wise. When you've reached that point, the performance of many bodily systems



(cardiovascular, central nervous, digestive, and muscular) has been severely compromised for some time,

meaning your athletic performance has been deteriorating steadily as well. Cramping is almost sure to occur, and that only makes things even more miserable for you.

You want your body to perform smoothly, without interruption or compromise. That's precisely why, just as you shouldn't wait until you're dehydrated or bonking before you replenish fluids or calories, you never want to wait until you're cramping before replenishing electrolytes.

Complete electrolyte profile required, not just salt!

In addition to completely neglecting to replenish electrolytes, many athletes make two other major mistakes regarding electrolyte replenishment:

- They equate "electrolyte replenishment" with the intake of salt tablets, or high-sodium foods, fuels, or electrolyte products. While salt (sodium chloride) is indeed an

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"I love your 'clean' products . . . keep it up!" - Lisa P.

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important component of electrolyte replenishment, it's not the whole story. Many athletes place too much emphasis on salt, forgetting that other minerals—potassium, magnesium, and calcium—are required along with sodium and chloride to adequately address and fulfill electrolyte requirements.

- They consume too much salt in their daily diet, which interferes with, and usually neutralizes, the body's complex and efficient built-in mechanisms that regulate and recirculate sodium from body stores.

Bottom line: When you oversupply your body with salt, you cause more problems than you resolve and end up hurting performance rather than helping it. We have seen this repeatedly with many endurance athletes and their salt intake; they consume too much and end up suffering from a variety of problems, the least of which is stomach distress. We cannot emphasize enough that fluid, calorie, and electrolyte replenishment has to happen in amounts that cooperate with, and do not interfere

with, normal body mechanisms. The goal is to support these normal body functions, not to work against them. That's why we put moderate amounts of sodium chloride (salt) in Endurolytes and Endurolytes Fizz, along with a balanced and appropriate amount of the other necessary electrolytic minerals you need. That is the right way—the “body cooperative” way—to replenish these important minerals during exercise.

Summary

Consistent replenishment of fluids and calories is essential to maintain hydration and energy levels during workouts and races. Providing consistent replenishment of electrolytes is an equally important component of proper fueling. Getting your fluids and calories dialed in is fairly easy to accomplish, but fulfilling electrolyte needs requires more attention and fine tuning because there are more variables that need to be accounted for (thoroughly explained in the article “Avoiding the Painful Plague of Cramping” found on page 18).

Using Endurolytes and/or Endurolytes Fizz in your training and racing

will make satisfying electrolyte replenishment requirements—an absolutely crucial component of athletic performance—so much easier to achieve. Don't wait until you suffer the painful, performance-ruining consequences of improper electrolyte replenishment before you start using this product!

Proper electrolyte replenishment is important all year long, but now, with temperatures definitely getting warmer and warmer, it's a necessity. Endurolytes—available in capsules, effervescent tablets, and powder—contains the right minerals in the right balance. Hammer Nutrition Endurolytes products will accurately and precisely fulfill your electrolytic mineral needs hour after hour regardless of your size, sport, training intensity, fitness, weather conditions, and how well or poorly you're acclimated to those conditions.

For more information on this all-important aspect of athletic fueling, please read the article “Electrolyte Replenishment - Why It's So Important and How to Do It Right” in *The Endurance Athlete's GUIDE to SUCCESS*. **HN**

“endurolytes are the best thing in the universe!”

— richard b.



- superior cramp prevention
- full-spectrum electrolytes in a well-balanced formula
- versatile dosing for a variety of conditions



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Hydration

Monitoring fluid intake with multi-hour bottles of fuel

(As copied from the 9th Edition of *The Endurance Athlete's GUIDE to SUCCESS*, pages 33-36.)

Multi-hour bottles of fuel – A convenient way to monitor fluid and calorie intake

If you're going to be exercising for several hours, a convenient and time-efficient way to fuel (while also helping you monitor calorie and fluid intake with greater precision) is to make concentrated, multi-hour bottles of Sustained Energy or Perpetuem. This is discussed in the article "The Hammer Nutrition Fuels" found in the *The Hammer Nutrition Fuels and Supplements – Everything you need to know*. However, since the topic here is hydration, presenting this information now is relevant.

Each scoop of Sustained Energy and Perpetuem that you put in a bottle reduces the water volume by about 1.5 ounces (approx. 44ml). For example, if you add two scoops of Perpetuem to a 21-ounce (approx 620 ml) water bottle, you won't end up with that same amount of actual fluid; it will be approximately 18 oz (roughly 502 ml), perhaps even slightly less. For some athletes, 18 oz/hr is sufficient, but for many athletes that's not enough; oftentimes upwards of 25-28 oz (approx 740-830 ml) of fluid are required hourly. As a result, you'll have to drink your entire fuel bottle plus plain water from another source. After awhile it can be difficult to keep precise track of your fluid intake because you're fulfilling your needs from two separate sources.

To make things easier when doing a three-hour or longer workout, we suggest making concentrated, multi-hour bottles of fuel. For example, if you're going to be exercising for four hours and you know that you need two scoops of Perpetuem to satisfy an hour's worth of fueling, make an 8-scoop bottle in a 21-ounce (approx 620 ml) water bottle. Now you have four hours of fuel in one bottle and that provides a number of benefits:

- Because you have four hours of fuel in one bottle, you only need to drink one-fourth of that bottle hourly, which means you don't have to drink a full bottle of flavored liquid hour after hour.

- You don't need to stop every hour to make more fuel because you've got four hours in one bottle.
- You can drink and enjoy plain water from another source (another bottle, hydration system) to cleanse the palate and satisfy hydration needs.

Yes, there is some actual fluid left in that 8-scoop/4-hour bottle of Perpetuem, but the amount is small, yielding less than four ounces (approx 118 ml) hourly over the course of four hours. Does that small amount of fluid "count" toward fulfilling your overall hydration needs? Yes, but it's a small enough amount to not have to think about whether you're keeping your overall fluid intake within our suggested guidelines (approximately 20-25 oz/590-740 ml hourly). Plus, those hourly guidelines do have some flexibility built in (+/- 3-4 oz or approx 89-118 ml).

With that in mind, a concentrated bottle of Perpetuem can thus be thought of as a "calories only" bottle and you'll fulfill your hydration needs with plain water from another source. The beauty of this, among the other benefits mentioned earlier, is that because you're fulfilling your calorie and fluid needs from sources independent of each other, you're able to gauge your intake with greater precision.

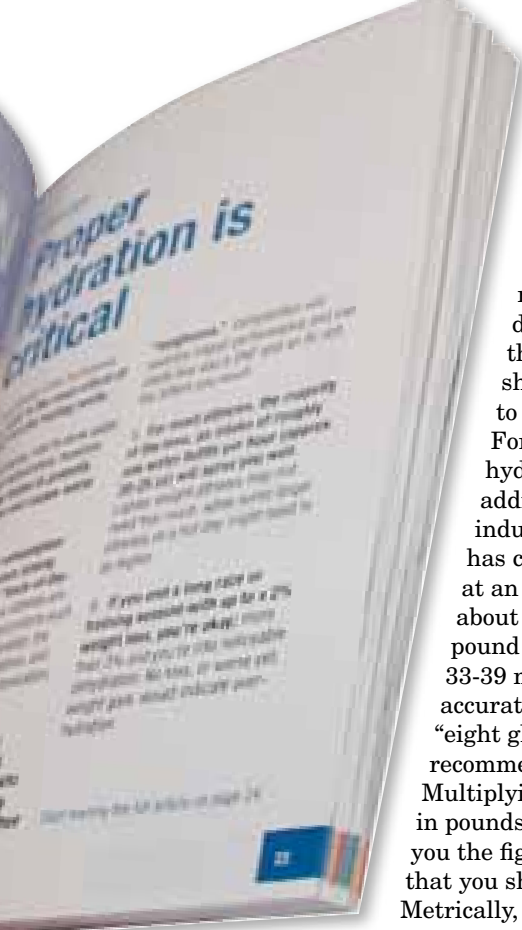
So when your workouts are greater than three hours in length, give the multi-hour bottle of Sustained Energy or Perpetuem a try and you'll find that it'll be a lot easier to keep track of both your calorie and fluid intake . . . it's been a winning strategy for thousands of endurance athletes.

Daily and pre-exercise fluid intake suggestions

Now that you have a good guide for your fluid intake during

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exercise, we can turn to two other considerations: how much you should drink overall during the day and how you should hydrate just prior to racing or exercise.

For your regular daily hydration needs (that is, in addition to your exercise-induced needs), no research has conclusively arrived at an RDA for fluids, but about 0.5-0.6 fluid ounces per pound of body weight (roughly 33-39 ml/kg) makes a more accurate standard than the "eight glasses a day" commonly recommended for everyone. Multiplying your body weight in pounds by 0.5-0.6 will give you the figure, in fluid ounces, that you should aim for daily. Metrically, you'll multiply your body weight in kilograms by about 33-39 and that'll give you a good

estimate, in milliliters, of what you should be drinking daily. Caveat: If you have not been following this recommendation consistently, you'll want to start increasing your daily water consumption gradually until you reach your target amount. If you increase your fluid intake too quickly it will overwhelm your body with too much fluid too soon, which may increase the potential for hyponatremia.

For satisfying hydration requirements prior to a workout or race, there have been a number of recommendations presented over the years. These are the two that we believe to be the most sensible, the ones that will satisfy hydration needs without putting you at the risk for overhydration:

- One liter of fluid (about 34 ounces) in the two hours prior to the start (about 17 ounces/500 milliliters per hour), ceasing consumption about 20-30 minutes before you begin the workout or race.
- 10-12 ounces (approx 295-355 milliliters) of fluid each hour up to 30 minutes prior to the start (24-30 ounces total fluid intake).

Keep in mind that although these are our recommendations, you need to determine what works best for your system and the particular logistics of the race or training session ahead.

HN

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- MATTHEW K.

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Strengthen and stabilize those cycling muscles!

BY DRS. RYAN WIGNESS & TORBEN JENSEN

Cyclists share in common specific areas of weakness or instability, but there are simple exercises that can help strengthen and stabilize these areas to keep you comfortable, strong, and efficient for a great day on the bike.

Inefficient respiration

While you are sitting there reading this article, take a deep breath. Where did you feel that breath go? Was it in your rib cage, shoulders and neck, or into your abdomen? The most efficient place to send that breath is actually into your belly and lower ribs! If you watch a baby breathe, you will notice that they breathe into their little bellies. This is because when we breathe, we are supposed to use our respiratory diaphragm, the broad flat muscle that separates our chest cavity from our abdominal cavity at the bottom edge of our ribs. The respiratory diaphragm arches upward like a full parachute when it is relaxed; when it is contracted, it shortens and flattens, pulling downward. As the diaphragm pulls downward, it creates negative pressure in the chest cavity causing air to be pulled into the lungs and displacing the abdominal contents in a downward and outward direction forcing the abdomen to flare forward and to the sides of your lower ribs. The key to proper respiration is to learn how to **BELLY BREATHE**:

- Lay on your back on a flat surface without a pillow. Using a gym ball or chair for support, flex your knees and hips to 90 degrees.

- Place your hands across your abdomen between your belly button and pubic bone. Relax your chest, shoulders, and neck.
- Let your belly bulge upward and outward as you breathe in, raising your hands up with the expansion of your abdomen. (Do not flex any abdominal muscles, just use your respiratory diaphragm the way it was designed to be used.)
- After a few minutes, add alternating knee lifts from the ball (simulating the pedal stroke). Exhaling from your abdomen and lift your right leg. Your core muscles should gently contract as you lift your leg.
- Keeping leg elevated, inhale into your abdomen. Exhale, then lower the leg back to the ball.
- Repeat with the left leg. Repeat 10 repetitions with each leg.

Neck and shoulders

Constantly leaning your trunk over the bars with the head extended at the base of the skull to see where you are going, puts great stress on the muscles and joints of the upper thoracic spine, cervical spine, and shoulder girdle. If you assume poor postural positioning over the bars, fatigue will set in quicker, reducing your riding efficiency, endurance, and enjoyment. To maintain postural control of the upper body, we must hold the joints of the spine and extremities in their optimally loaded ranges and strengthen

the supportive muscles of the region:

- Lay down on a flat surface on your front with your chin slightly tucked in and forehead on the floor.
- Bring your hands up above your head resting on the outer edges of your baby fingers (think Karate chop), and your elbows on the floor at the height of your ears. Relax your shoulders.
- Maintain proper respiration into your abdomen, or your shoulders will migrate upward toward your neck, thus increasing fatigue.
- Belly breathe and draw your shoulders downward toward your back pockets, lengthening your spine.
- Lift your head slowly 2-3 inches from the floor, concentrating on hinging the movement at a point between your upper shoulder blades (the 4th thoracic vertebrae) and not the base of your skull.
- Hold for 10 seconds and slowly lower your forehead to the floor. Repeat 10 times.

Riders should maintain this posture while riding to help take tension off their neck and shoulders.

Hips, glutes, and lower back

Most cyclists have an extremely difficult time engaging their gluteus maximus muscles at all. This is most likely because we concentrate on pushing through the quad and pulling through the hamstring in an attempt to create smooth circular pedal strokes. Unfortunately, not using the glute max muscle prevents us from using one of the strongest muscles in our body and our most powerful hip extensor muscle, thereby reducing our maximal power output significantly. Also, because the cyclist is always moving their body in the sagittal plane (in a line parallel to the midline, forward and backward) and rarely laterally, we become unstable with lateral movements and open ourselves up to injuries of the lateral hip once we hop off of our bikes and start walking. To strengthen and activate the glutes in the

- continued on page 15

Inefficient respiration



Neck and shoulders



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lateral plane:

- Lay on your right side and elbow with right elbow placed beneath right shoulder with your weight on your right elbow, forearm, and open hand.
- Flex knees and hips slightly with head, hip, and shoulder lined up. Rest your left hand on your left thigh. Keep shoulders and hips perpendicular to the floor and not rolling forward or backward.
- Belly breathe and elongate your spine while you draw your right shoulder down and back toward your back right pocket (spine straight and relaxed).
- Press your right knee downward toward the floor; your right hip should lift from the floor. If possible, do not add support with your up-side leg, and lift your leg and knee slightly.
- Lift your hip until your body forms a straight line from your spine to a point between your ankles. Hold for 10 seconds and lower yourself to the floor. Repeat 10 times. (After you can easily perform 10 reps for 10 seconds, add movement with your arm like you are reaching forward and move your leg forward into flexion slowly as shown in the picture. Repeat 10 times.)

Performing these exercises will help improve respiration, stability, and endurance on the bike thereby increasing power, efficiency, and enjoyment for those awesome summer rides coming up. Have fun and ride fast! **HN**

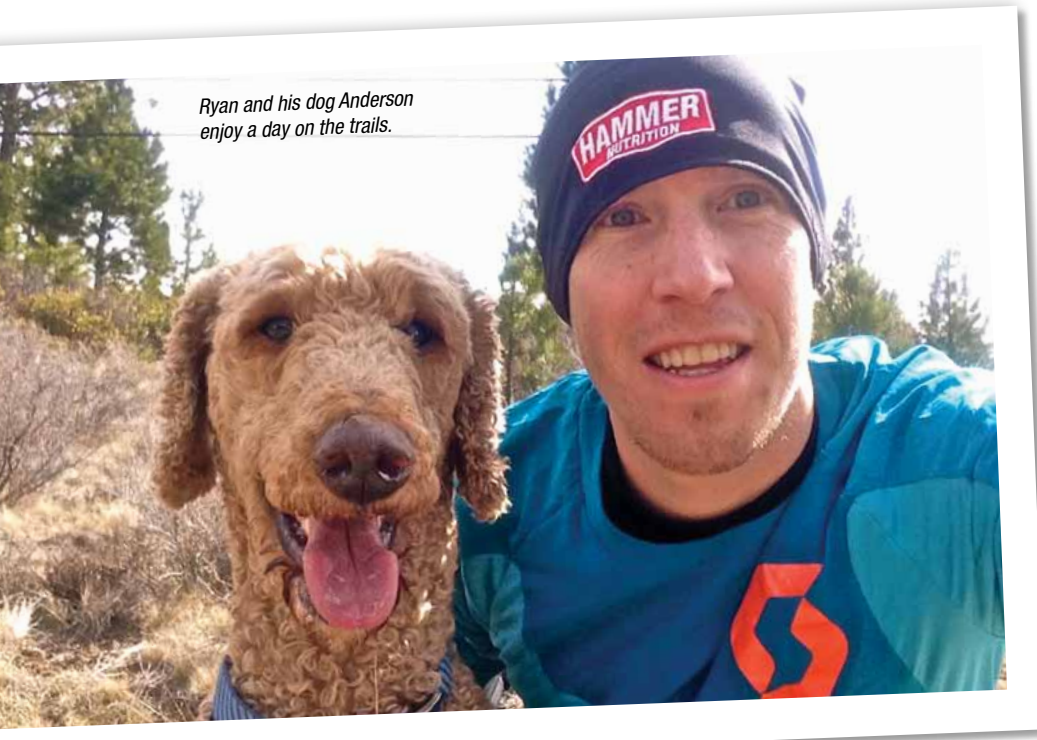
Dr. Ryan Wigness (pictured) is the owner of Whitefish Chiropractic Center in Whitefish, Montana.

Dr. Torben Jensen is the owner of Active Edge Chiropractic in Canmore, Alberta.

Hips, glutes, and lower back



Four fundamentals of efficient running



Ryan and his dog Anderson enjoy a day on the trails.

BY RYAN BAK

Do you ever watch the professional runners at the front of a marathon, or even that local runner who always looks so smooth while running, and wonder what it is that enables them to make running appear so easy and effortless? I am going to share the secret with you. Smooth running is not about your fitness level or speed; it comes down to your running form and efficiency.

There are four fundamentals of efficient running:

- Decreased vertical displacement (up and down movement)

- Decreased impact force when your foot hits the ground
- Decreased contact time with the ground
- Running at 180-200 steps per minute

Too much vertical displacement leads to increased “float” time in the air and slows your forward movement. If you increase your cadence, the frequency of your vertical displacement will minimize and lead to the level head and shoulders of good running form. When your foot hits the ground, the force is many times greater than your body weight, and every extra inch of vertical displacement increases those forces exponentially. As vertical displacement is decreased, impact forces are also decreased. While an increased cadence leads to less vertical displacement and lowered impact

forces, it also leads to decreased contact time with the ground and forces you to properly increase hip flexion and hip extension to quickly propel the forward movement.

It might seem like a lot to concentrate on, but if you simply focus on increasing your cadence to 180-200 steps per minute, the other three variables of efficient running will fall into place naturally. Whether you are running a five-minute mile or a 12-minute mile, you should still maintain 180-200 steps per minute.

Give it a try on your next run. There are gadgets and apps out there that will measure your cadence, but it’s also pretty simple to take a quick measurement on your own. Simply count your foot strikes for ten seconds and multiply by six. If you fall short of the 30 foot strikes you are aiming for in your test period, try to shorten your stride and increase your turnover. Once you get into a comfortable rhythm, take another ten-second measurement and see how you compare. Try this a few times during the course of each run for a few weeks, and watch your natural progression.

Practice the four hallmarks of a good runner and slowly build toward 180-200 steps per minute in your running. As you improve, your form will become smoother and more efficient. As an added bonus, you should find that you are running at a faster average pace with the same or even less effort than before. **HN**

Ryan Bak is a Hammer Nutrition sponsored runner who is working toward the 2016 U.S. Olympic Marathon Team. His current marathon PR is 2:14:17, and he placed 3rd in the 2012 USA 50K Trail Championships.



ASK DR. BILL

From the archives of Bill Misner, Ph.D.

Question

What are the best foods to boost athletic performance, and help prevent cardiovascular disease and hypertension?

ANSWER

Researchers advocate the consumption of a diet high in nitrates—a natural strategy—to help treat hypertension (high blood pressure) and pre-hypertension, and to protect individuals at risk of adverse vascular events like heart attacks.

Additionally, there's been a lot of talk recently about the benefits of beets and beet juice for naturally raising nitrate levels, thereby boosting athletic performance. True, beets and or beet juice have been shown to boost performance; however, when researchers analyzed and ranked the top ten nitrate-rich foods, beets barely made the list:

1. Arugula
2. Rhubarb
3. Cilantro
4. Butter leaf lettuce
5. Spring greens [mesclin mix]
6. Basil

7. Beet greens
8. Oak leaf lettuce
9. Swiss Chard
10. Beets

More than ten years ago, two Harvard studies found that the more fruits and vegetables you eat, the lower your risk of heart disease. The most powerful protector was green leafy vegetables, and now perhaps we know why! *HN*

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Avoiding the painful plague of cramping

BY STEVE BORN

Temperatures have increased, and so too has the potential for experiencing muscle cramping. Very mild cases are usually not much more than a nuisance (though a most unpleasant one), while full-fledged cramping will stop you in your tracks, bringing your workout or race to a screeching halt!

Science has provided a number of theories as to why muscle cramps occur, but no definitive answer(s) has been given. Dr. Bill Misner writes, “The general origin of muscle cramps as defined by sport scientists in human performance laboratories is not well-investigated and is therefore not well-understood.” That’s a bummer because, while over-consumption of fluids or calories will definitely throw a monkey wrench into your exercise session, there’s arguably nothing that’ll ruin your workouts and races more painfully than cramping.

Potential Causes

Clinically, Exercise-Associated Muscle Cramps, or EAMCs, have several theoretical causes:

- Inherited abnormalities of substrate metabolism (metabolic theory)
- Abnormalities of fluid balance (dehydration theory)
- Abnormalities of serum electrolyte concentrations (electrolyte theory)

- Extreme environmental conditions from heat or cold (environmental theory)

Personal Observations and Solutions

In my experience, both as a competitive endurance athlete and in working with thousands of athletes during my 13 years here at Hammer Nutrition, I have noticed that of all the possible reasons for cramping, three main culprits stand out:

1) Too much, too strenuous, too soon

If your muscles are not ready to take on the workload being asked of them—be it intensity or duration—you can almost always expect cramping to occur.

SOLUTION: Gradually increase the duration and intensity of your workouts intelligently. If you overload the muscles via too much duration and/or intensity too quickly, you increase your risk for both cramping and injuries.

2) Improper fluid intake

If you don’t drink enough water or fluids throughout your workout and throughout the day, you will find yourself in a state of dehydration, with cramping as one of the potential unwanted side effects. Conversely, if you over-hydrate, you will most likely suffer the same fate due to overly diluting your blood level of electrolytes (aka dilutional hyponatremia).

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SOLUTION: During your workouts and races, we suggest a fluid intake of 20-25 ounces/hour, plus or minus 3-4 ounces based on a couple of factors:

- Your body weight
- The weather conditions
- How well or poorly you're acclimated to the previous conditions

Throughout the day, in addition to what you consume during your training session, we suggest a fluid intake that is equivalent to 0.5 to 0.6 of your body weight in pounds. For example, a 160-lb athlete should aim to consume 80-96 ounces of fluids daily, in addition to what he/she is consuming during the workout.

Following this equation is more precise and individualized than the generic, one-size-fits-all "drink eight glasses of water daily" recommendation. It's the best way to maintain optimal hydration status without putting yourself at risk of dilutional hyponatremia. One caveat: If you have not been consuming this much fluid consistently, don't start "cold turkey" but rather increase gradually, similar to your training.

3) Insufficient or improper electrolyte intake

If the calories you're consuming can be considered the body's gasoline (what makes the engine run), think of electrolytes as your body's motor oil—they don't make the engine run, but they're absolutely necessary to keep everything running smoothly. Proper functioning of the digestive, nervous, cardiac, and muscular systems is at least somewhat dependent on adequate electrolyte levels, making electrolyte replenishment essential.

Of course, no one wants to cramp, but by the time you get to that point, the performance of those aforementioned bodily systems—especially your muscular system—has already been diminishing for a long time, and cramping is almost always the inevitable outcome. Cramping is your body's painful way of saying, "Hey! I'm on empty! Re-supply me now or I'm going to seize!" It's like the oil light on the dash of your motor vehicle—you never want it to get that low.

Additionally, athletes who don't bother with electrolyte replenishment, or who believe that salt tablets or salty foods resolve the problem, will almost always

suffer from cramping. Salt tablets and salt-laden foods or fuels are poor choices for electrolyte replenishment for two reasons:

1. They provide only two of the electrolytes your body requires – sodium and chloride.
2. They can oversupply sodium, thereby overwhelming the body's complex mechanism for regulating sodium.

Dr. Bill Misner writes, "When a balance of cations (positively charged ions) to anions (negatively charged ions) are managed in the energy-producing cell—assuming the cell has adequate fuel and fluid—such a cell will produce energy at a higher rate than one overdosed by a single cation mixed with an irrational list of anions." Electrolytes perform numerous functions synergistically, so it's important to use a balanced, full-spectrum blend of electrolytic minerals versus just one or two.

SOLUTION: Replenishment of electrolytes—prior to, during, and after your training sessions and races—is as important a part of your fueling as anything you're drinking (to maintain hydration) or eating (to maintain energy production). Make sure you don't neglect this all-important component of athletic fueling!

Summary

Making sure your training is appropriate for your fitness level is vital to help stave off painful, performance-ruining cramping. So too is consuming proper amounts of fluid, both during your workouts and throughout the day.

Taking a dose of one of the various forms of Endurolytes prior to, during, and after your workouts is the ideal way to not only avoid the undeniable, painful annoyance that is cramping, it'll help many important bodily functions work optimally, which translates into better workouts and race results. Now that the hot weather is here, proper electrolyte replenishment is not optional, it's mandatory! **HN**

REFERENCE:

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Hammer Nutrition products that fulfill electrolyte replenishment requirements:

Endurolytes – The original encapsulated product, with a balanced blend of all the necessary electrolytic minerals—sodium, chloride, calcium, magnesium, and potassium—along with beneficial cofactors vitamin B6, manganese, and tyrosine.

Endurolytes Powder – The same formula as the encapsulated version of Endurolytes, but in a powdered form. Designed primarily for athletes who have difficulties swallowing capsules, Endurolytes Powder also contains the amino acid glycine, which has a naturally sweet taste to help take the edge off the salty/bitter taste of the mineral content.

Endurolytes Fizz – Hammer Nutrition's newest form of Endurolytes in effervescent tablet form, in a number of pleasant-tasting flavors. Each Endurolytes Fizz tablet is equivalent to two capsules of Endurolytes or two scoops of Endurolytes Powder.

HEED – Hammer Nutrition's sports drink provides complex carbohydrates for high-quality energy, and the same full-spectrum electrolyte profile as Endurolytes. Each scoop of HEED contains 100 calories and the equivalent of one Endurolytes capsule or one-half tablet of Endurolytes Fizz.

Because so many variables come into play when determining how much electrolytic mineral support endurance athletes need, there is no "set in stone" amount in terms of dosing.

Variables include:

- Biological predisposition in terms of minerals lost via perspiration
- The differences in an athlete's size and fitness
- Exercise intensity and duration
- Heat and humidity
- How well or poorly the athlete is acclimated to the weather conditions

With that in mind, we suggest a starting hourly dose of one Endurolytes capsule, one scoop of Endurolytes Powder, or one-half tablet of Endurolytes Fizz per 50 pounds of body weight, with the understanding that regular testing in training under a variety of conditions—adjusting your dose as needed, when needed—is essential for maximum benefits.

Jason Rogers trains for his Key West to Canada East Coast Ride using only the best sports drink . . . HEED!



You need HEED!

Before you jump on the “latest and greatest” new product bandwagon, or continue to fuel with the “same old, same old” sports drinks that haven’t evolved at all, put some HEED in your water bottle. HEED (High Energy Electrolyte Drink) is everything your body craves without all of the garbage ingredients found in the overwhelming majority of sports drinks.

No artificial colors, flavors, or sweeteners

There are absolutely no general health benefits to be derived from consumption of this junk (but plenty of potential negative effects), so it’s guaranteed that there aren’t any athletic performance-enhancing benefits to be garnered either. It’s not necessary to sweeten a product with artificial sweeteners, nor is it a requirement to color a sports drink with artificial neon colors to know what the flavor is!

No citric acid

When teeth are regularly bathed in a citric acid solution, whether it’s added to stimulate saliva production and provide

a tart taste, or chelated to a mineral (e.g., calcium citrate), permanent damage usually results. Additionally, continuous consumption of sports drinks containing citric acid most often causes significant stomach distress due to raising the acidity levels in the stomach and body.

No refined sugars (glucose, dextrose, sucrose, fructose, etc.)

There are two primary problems with fuels comprised of simple sugars, including a so-called “healthy sugar” like cane sugar, which is simply sucrose (table sugar):

- Simple sugars have severe limitations when it comes to the amount of calories that can be efficiently digested and utilized for energy.
- Simple sugars typically cause wild fluctuations in energy levels, a “flash and crash” type of energy that you definitely want to avoid.

Appropriate amounts of sodium

We are ALL consuming far too much sodium in our daily diet. High-sodium

diets are responsible for a number of health disorders such as congestive heart failure, hypertension, stroke, gastric ulcers, cataracts, stomach cancer, osteoporosis, and migraines. It’s a mystery as to why companies continue to jack up the sodium content in their sports drinks, under the belief that it’s replenishing your electrolytes. What they’re not telling you is that:

- Sodium alone, or sodium and potassium (the usual electrolytic mineral content of many sports drinks), are incomplete and cannot fully satisfy electrolytic mineral requirements.
- By and large, the amount of sodium in a sports drink reflects the amount of simple sugars in it—the higher the sugar content, the more sodium must be present, not so much to replenish sodium losses, but simply to get that sugar-laden mixture through the GI tract with any efficiency.

No inconsequential amounts of vitamins, minerals, and auxiliary nutrients

Why put any “extras” in the product if the amount isn’t going to produce a noticeable benefit? Example: Having 2% of the Daily Value (DV) of vitamin C, a minuscule 9 mg, isn’t going to provide much in the way of benefits, if it provides any at all, with the exception of increasing the cost of the product.

Mild taste

Unlike the over-the-top, syrupy sweet taste of many sports drinks (yuck!), HEED is noticeably subtle and pleasant tasting. Courtesy of the maltodextrin, natural sweeteners, and lack of citric acid, HEED easily delivers the necessary calories and electrolytes without overwhelming your taste buds, damaging your teeth, or upsetting your stomach.

Bottom Line

Based on the overwhelming feedback we’ve received from athletes and active people, they’re sick and tired of putting “garbage in the gas tank” . . . they’re craving an alternative to the syrupy swill disguised as a healthy sports drink. HEED is that unique, healthy alternative, containing nothing but beneficial ingredients (in efficacious amounts) and devoid of all the previously mentioned junk. **HN**

Q:

Do I need to take Endurolytes if I'm drinking HEED?

A: It depends on your body weight and the weather conditions. In addition to its caloric donation (100 calories per scoop), every scoop of HEED contains the equivalent of:

- One capsule of Endurolytes,
- One scoop of Endurolytes Powder, or
- One-half tablet of Endurolytes Fizz

For many athletes, under normal conditions, a scoop or two of HEED in a water bottle will completely fulfill fluid, calorie, and electrolyte needs for an hour, perhaps slightly longer. For certain conditions such as warm temperatures, excessive humidity, or high elevation, the electrolyte profile in HEED will provide an excellent base; additional Endurolytes capsules, Endurolytes Powder, or Endurolytes Fizz will help to completely satisfy electrolyte requirements.

HEED's *unique* and healthy sweeteners

Xylitol

If there's such a thing as a perfect sweetener, xylitol is at or near the top of the list. Xylitol is a natural substance found in a variety of fibrous fruits and vegetables. It is also known as birch sugar, primarily because it is usually extracted/produced from birch trees, though it can also be produced from corn cobs. The human body naturally produces more than 15 grams of xylitol every day through normal metabolic processes. Xylitol is used as a sweetener in HEED; however, it is not a major caloric donor. By weight, it comprises slightly over 7% of the product, but donates less than 5% of HEED's calories. Additionally, xylitol contains fewer calories than other carbohydrates—2.4 calories per gram or 40% less than other carbohydrates.

Xylitol's most unique aspect, however, is its beneficial effect on oral health. Xylitol is non-fermentable and therefore cannot be converted to acids by oral bacteria; thus it helps to restore a proper alkaline/acid balance in the mouth. This alkaline environment is inhospitable to all destructive bacteria and, in fact, studies using xylitol have shown dramatic reductions in tooth decay. That's why you'll find this unique sweetener in gum, toothpaste, and mouthwash, and it's also one of the reasons why we include it in HEED.

Stevia

Another ideal natural sweetener is the extract (steviosides) from the leaves of *Stevia rebaudiana*, a plant native to subtropical and tropical South America and Central America. Stevia's most obvious and notable characteristic is its sweet taste, considered to be up to 300 times sweeter than sugar, which means that minimal amounts are necessary to sweeten a product. Perhaps the most interesting aspect of stevia is that it has no calories or glycemic index rating, and does not affect blood sugar levels. Stevia has been thoroughly tested around the world and found to be nontoxic. It has also been consumed safely in massive quantities (thousands of tons annually worldwide) for the past 20+ years. Research indicates that stevia is safe for diabetics and effectively regulates blood sugar in people with diabetes and hypoglycemia. It is also purported that stevia tends to lower elevated blood pressure while not affecting people with normal blood pressure. Lastly, like xylitol, stevia inhibits the growth of oral bacteria.



Which Hammer Nutrition products can help me regulate my blood sugar?

A question from the Hammer Forum

Question

Other than Chromemate, are there any other Hammer Nutrition supplements that assist in regulating blood sugar during the day? My sugars have been trending toward the higher end of normal, and I want to get on top of this ASAP. Although my diet has not been terrible, it is clear that I need to be more attentive to this. My diet is much better now, but I still want to assist my body naturally.



Join the forum and get your questions answered!

If you're not yet a member of the Hammer Forums, it's easy to join, there's no cost whatsoever, and there's no annoying pop-ups or commercials. Click "Community" near the top of the Hammer Nutrition website home page, and then choose "Hammer Forums" for information on how to become a member.

ANSWER

Chromemate, the trademarked name for chromium polynicotinate (the most bioavailable form of this trace mineral), is definitely the first supplement that one would use to help maintain stable blood sugar levels.

Another product that I believe would be very helpful (for this and many, many other reasons) is Mito Caps, primarily due to its r-alpha lipoic acid component. According to one site I reviewed, this multi-beneficial nutrient "may be critical for not only maintaining optimal blood sugar levels by helping the body to use glucose, but also for supporting insulin sensitivity and key aspects of cardiovascular health, such as

endothelial function."

Another site I reviewed (www.thefoodadvicecentre.co.uk/reference/blood-sugar-balance/) had a lot of good information, including this statement: "To help ensure glucose is used effectively by the body and that cells can use glucose efficiently to provide energy, sufficient intake of B vitamins and magnesium is required." You'll find all of the B vitamins and magnesium in Premium Insurance Caps, Hammer Nutrition's quality multivitamin.

Remember, diet first and supplements second!

I hope this helps,
Steve

NATE'S CORNER

Get the work done before tapering

That big race of the season, the one your whole season is geared toward, should be an exciting time. You've put in the hard work, and hopefully you're ready to put the hammer down. However, the final weeks leading into that big event can be some of the most stressful of the year.

This is when the doubts start to creep in. This is when you start doing things you shouldn't do during a taper. You start pushing harder to make sure you eke out every bit of speed for the race, or you do that "one last" track workout or long ride "just to be sure" your fitness is okay. Problem is, in the final weeks, those workouts are the ones that can cripple your ultimate performance.

If the work hasn't been done before tapering begins, then it's too late. If you're still under-trained—due to recent sickness, injury, laziness, etc.—the only way you're going to get your body totally prepared is by tapering and not by working harder.

I suggest a two-week taper for Olympic distance triathlons and 40K TTs on the bike, or 10K runs. For marathons, Ironmans, and ultra-cycling events, I give my athletes a month-long taper. Weekly volume tapers off dramatically, and the intensity of the hard workouts stays high though the volume of hard work done also decreases. During this decrease in overall work the body takes less time to recover from workouts and, thus, is able to top off its energy system stores—something it can't usually do during hard bouts of training.

Finally, don't misinterpret the "mid-taper blues," a period of time where you can feel sluggish. It's very common to the

taper process. Your body has been used to getting hammered and all of a sudden you're being nice to it. It takes a while for the body to adapt and round the corner. If you encounter the blues, don't panic. You'll rebound quickly. When you do, you should be feeling more energetic, stronger, faster, and confident.

Cutting down on duration, amount of intensity, and possibly the number of weekly workouts is the way to maximize the taper process. Doing that last hard/long workout just to be sure your fitness is okay is not the way to ensure great results.

Happy Training,
Nate Llerandi
HN



Nate Llerandi, Hammer Nutrition-sponsored athlete and longtime ambassador, has been coaching endurance athletes since 1990. He draws from his extensive experience as a world-class triathlete, including ranking as Top American and 6th place in the prestigious ITU World Cup Series. Nate's most recent competitions include the Pike's Peak Marathon, and the Dead Dog Classic Stage Race and Sunshine Hill Climb Challenge road cycling events.



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- Gary R.

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Too much sodium

A real and present danger

BY DR. BILL MISNER PhD

Approximately six out of every ten persons with blood pressure elevated above 120/80 can blame too much sodium in their diet! There is no Required Daily Amount (RDA) for sodium because our diets are ample. An adequate amount of sodium for adults is between 250-500 mg/day. The Tolerable Upper Intake Level (UL) for healthy adults is 2,300 mg/day. [A] The 2005 Dietary Guidelines for Americans recommends an upper limit of 1,500 mg/day for people over 50 and 1,200 mg/day for those over 70. The average American adult consumes 4,000 mg/day. [B] Too much dietary sodium wears on the human body and may result in disease onset in time.

A high-sodium diet raises serum sodium, a condition known medically

as hypernatraemia or hypernatremia. Some researchers believe that only sodium chloride (table salt) is associated with toxicity issues [Wester 1986]. Others argue that too much sodium from the diet is associated with congestive heart failure (CHF), hypertension, stroke, gastric ulcers, cataracts, stomach cancer, osteoporosis, and migraines. CHF patients are advised to reduce their consumption of sodium. (Approximately 57% of CHF patients have elevated muscle sodium levels.)

Researchers believe that sodium elevates blood pressure and is therefore implicated in hypertension [Gordon 1995, Haddy 1995]. This aspect of sodium is still being debated; some researchers believe that sodium has

been falsely “blamed” for hypertension and that the true cause is the chlorine component of sodium chloride. Essential hypertension generally does not occur in societies following diets that provide less than 3,000 mg of sodium (presumably sodium chloride) per day. [C] Hypertension incidence begins to rise with sodium intake exceeding 3,000 mg per day.

In congestive heart failure, the activation of the renin-angiotensin-aldosterone system causes sodium retention, and the secondary hyperaldosteronism may result in elevated intracellular sodium via a direct permeability effect on the cell membrane. In 297 CHF patients (previously treated with diuretics), 12% were found to have abnormally high blood sodium levels and 57% had excessive muscle sodium.

Excess dietary sodium may also be associated with an increased risk of:

- Stroke [Nagata 2004]
- Gastric ulcers [Sonnenberg 1986]
- Cataracts [Tavani 1996]
- Stomach cancer [Joossens 1996]
- Osteoporosis (by accelerating the loss of calcium from the bones) [Devine 1995, Evans 1995, Matkovic 1995, Sellemeyer 2002]
- Migraines [Brainard 1976, Campbell 1951]

Most foods in nature do not contain large amounts of sodium. Humans add sodium for taste and shelf-life preservation if the food is packaged and stored for purchase or preparation. **HN**

References available upon request.

Steve's comments:

[A] In January 2010, the American Heart Association recommended a daily limit of 1,500 mg of sodium per day for persons of all ages, not just for those ages 50 and older, or with heart disease or hypertension.

[B] Research has shown that the average sodium intake for Americans ages two and older is over 3,400 mg per day. That's an absolutely startling and disturbing fact, especially because the starting age is so young!

[C] According to the Centers for Disease Control, 90% of the sodium consumed is in the form of salt.

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"I stumbled upon river run-off while battling a current on the outside of the sets rolling through. I was very happy to have taken extra Premium Insurance Caps (PICs) as they are my line of immune system defense against dirty water. This was a true test, being the first time I've been exposed to this water, in Australia. Thanks to the PICs, I was able to stay in the water without congestion and sinus infection."
- Joanna B.

Photo: Joern Costes

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Strength training with EMS during the competitive season

(Even when injured!)

What will the variety of Compex strength programs do for you? The programs will actually build strength more effectively than you could ever build strength in a traditional weight room setting. Additionally, you'll find it takes less time to recover between strength training sessions. The result is that you'll be able to absorb your Compex strength training and traditional training load throughout the year.

A number of the principles that guide a weight trainer through various phases of training annually can be applied to strength training with a Compex. (These periodized programs are discussed on pages 27-29). However, as endurance athletes, the weight training principles that involve range of motion, kind of contraction, speed of contraction, and firing patterns are of little consequence because they are not specific to endurance sport endeavors. Since training in the weight room to attain these adaptations increases the time to recover between training sessions, some training space used to train specifically for the endurance sport is lost. For this reason, most athletes will weight train in the pre-competitive season and then greatly reduce or stop their weight training altogether as they spend more time with sport-specific training. It's unfortunate, but a good part of the gained fitness is lost when the weight training stops or is curtailed.

And then there is strength training with Compex. The programs for Strength, Resistance, and Endurance have been pre-programmed to take into account:

1. A warm-up phase to increase the mechanical efficiency of a shortening muscle and increase the ability to recruit more of the muscle for the upcoming training session.
2. A contraction and alternating recovery phase repeated for a preset period of time designed to deliver an optimal training load.
3. A recovery phase to shorten the recovery period required before meaningful training can be repeated.

When strength training with Compex, the load on the joints and connective tissue is minimal. Also, there is no cardiovascular load associated with performing these programs. As a result, the recovery from running these programs is quicker than with traditional strength training methods. This allows an athlete to strength train throughout the year, gain and maintain the desired adaptations, and leave more room for the sport-specific training that must be done.

Take a look at the training situations on pages 27-29 that you can use to increase your strength and improve your performance.

[Situation 1]

For those building strength while injured

Compex is a very powerful tool for helping to build strength while injured. The contractions elicited with Compex are not generated instantaneously. This contraction build is not noticed by the practitioner, but the nature of the contraction protects connective tissue and joints. Even with this level of protection, the involuntary contraction can recruit more muscle fibers than are recruited with a maximal voluntary contraction. This allows a 100% healthy athlete to build strength more effectively than they could with traditional resistance training programs. In the case of an injured or rehabilitating athlete, where voluntary nervous signals are hampered, the involuntary signals will get through to rebuild strength and balance in muscle groups.

Here's a simple and very powerful way to proceed:

- Train the muscle groups that have been affected.
- Train the right and left side simultaneously. Recent clinical studies have demonstrated that the affected side will learn from the unaffected side and guide the re-education of the injured area.
- Always balance the degree of contraction on the right and left side. Do this by the look and feel of the contraction.
- No matter what program you use, always take the intensity up to your threshold of tolerance. You'll find that this threshold increases as the program progresses. Continue to find your threshold of tolerance every few minutes. Compex is very powerful. You can contract the muscle to a point that is intolerable. Of course, this level of stimulation is not practical, and yet you cannot hurt yourself with Compex.

Since you can contract more muscle with Compex than you can with a maximal voluntary contraction, you could get quite sore. To prevent this undesirable effect, use an intensity that is below your threshold of tolerance for a few sessions. After running a program for about a week, you can get aggressive with the level of contractions without the downside of delayed onset muscle soreness.

The Endurance program is a slow-twitch (Type I) muscle fiber program, Resistance trains only

intermediate fast-twitch (Type IIa), and Strength trains only dedicated fast-twitch (Type IIb). You use all three during exercise, even ultra-distance events and workouts. Training all three muscle groups is the way to go.

Train the target muscle groups as follows until you are rehabilitated. (At that point you can get on a different plan discussed later.)

- Day 1 Endurance on all target muscle groups
- Day 2 Resistance on all target muscle groups
- Day 3 Strength on all target muscle groups
- Day 4 repeat day 1
- Day 5 repeat day 2
- Day 6 repeat day 3
- Day 7 rest from Compex

This is more strength training than you would want to do if not rehabilitating from an injury. When rehabilitating, traditional training is very limited, so recovery for the next training session is not as big a consideration. Getting stronger so you can return to your normal training more quickly is the focus.

- Week 1 choose level 1 for all three programs
- Week 2 choose level 2 for all three programs
- Week 3 choose level 3 for all three programs
- Week 4 choose level 4 for all three programs
- Week 5 choose level 5 for all three programs

This plan will remove a great deal of the neural inhibition that keeps muscle fibers from getting the signal to contract. Compex will give you a large (even larger than pre-injury) pool of motor units (the nerve cell and the muscle fibers that the nerve cell innervates) that you can incorporate into the unique firing patterns used to swim, bike, run, etc. You'll be stronger, given that it is the removal of a good share of neural inhibition that is far and away the biggest contributor to increased strength.

Compex works!



Compex started working for me right away. Thanks big time! I am on the way to getting my life back. This is priceless!" - Greg Q.

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[Situation 2]

For the healthy athlete looking to build strength continuously throughout the year

- Do Strength for 5 weeks three times per week, spending one week at each of the 5 levels.
- Do Resistance for 5 weeks three times per week, spending one week at each of the 5 levels.
- Do Endurance for 10 weeks three times per week, spending two weeks at each of the 5 levels.

This is the basic 20-week block that anyone can cycle through endlessly with terrific results. Spending more than 8 weeks with either the Strength or Resistance programs results in training for adaptations that have been fully gained for a particular cycle. More than 12 weeks of Endurance training would result in a plateau as well.

If you want to throw in a different cycle from the one above and not just repeat the same cycle, you have a number of viable options. These options all involve a mixed phase of training and introduce more of the maintenance of the adaptations already developed. This maintenance is reflected in training one time per week with a particular program. Here are a few examples:

- 5 weeks of Strength two times per week and Resistance one time per week
- 5 weeks of Resistance two times per week and Strength one time per week

If you want to emphasize endurance instead of strength or resistance, then train Endurance two times per week and either Strength or Resistance one time per week.

For more variability, alternate in 5-week blocks which program you add one time per week to Endurance two times per week. For instance, a 10-week training block could look like this:

- 5 weeks of Endurance two times per week and Strength one time per week, followed by
- 5 weeks of Endurance two times per week and Resistance one time per week

[Situation 3]

For those training more muscle fiber types in shorter blocks

There are two approaches that you can take to achieve this.

3 weeks on and 1 week off

- Train two muscle fiber types three times per week for each muscle group you train.
- Take at least one day off between training sessions for each muscle group.
- After three weeks, take one week off and repeat the cycle.

This three week on and one week off approach can be continued indefinitely.

Here is a specific plan that has worked well for those who have followed it:

- Do Strength and Resistance on the quads and glutes for three weeks, using these programs three times per week with at least one day off between sessions.
- Spend the first week at level one, the second week at level two, and the third week at level three.
- At the end of three weeks, take a week off from Complex strength training with the two programs.
- Start the cycle all over again in the same way. This time, spend the first week at level two, the second at level three, and the third at level four.
- Again, take a week off from Complex strength training.
- When you start the next cycle, start at level three in the first week, level four in the second, and the final level five in week three.

5 weeks on and 1 week off

- Train each muscle group two times per week with at least two days off between training sessions for one muscle fiber type.
- Train a different muscle fiber type on different days two times per week with at least two days off between training sessions.

In total, each muscle group is being trained four times per week by alternating the muscle fiber type trained.

[Situation 4]

For those maintaining (possibly tapering)

If you want to maintain the increased level of recruitment you gained from strength training with Compex, but are not looking for further gains that could impact your sport to a greater extent,

- Train a given muscle fiber type for two weeks at least two times weekly with at least one day off between fiber type training for each muscle group trained.
- After two weeks of training, take one week off.

This is a great approach during a taper. Time your "off" weeks so that on the week before a very important event you are using the Compex for recovery and warming up, but are taking the week off from strength training. If you stop training for more than one week, you will start to lose your increased ability to recruit more muscle fiber.

Basic principles of any EMS training program

As you can see, there is a great deal of variation that can be introduced into crafting a program that will meet your needs. Remember to always keep these principles in mind:

- Train with one program for at least three weeks and not more than eight weeks (Endurance not more than 12 weeks).
- Train with these programs a minimum of two times per week. Three times per week is ideal.
- Take at least 48 hours between training sessions for any muscle group.
- Do not find your threshold of stimulation tolerance during the first three or four sessions. Let your muscles adapt.
- After this, find your threshold of stimulation tolerance and let this guide how forcefully you make the muscle contract.
- Know that this threshold increases during the running of a program, so continuously increase the level of stimulation as the program progresses.

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Over the past 20 years, Compex has become the leader in electrotherapy through extensive research and innovation. Compex's flagship electrostimulation devices are an essential ally to healthcare professionals and the most demanding athletes in the world. For more than 25 years, Hammer Nutrition has been the leader in educating athletes to fuel properly and since 2006 has been the leader in EMS education in the U.S. Together, Compex and Hammer Nutrition are your best choice for all things EMS.

EMS technology is universally accepted and widely used in Europe for physical preparation, muscular recovery, injury prevention, rehabilitation, pain relief, muscular reinforcement, physical beauty, and more.

Whether you are a professional athlete, weekend warrior, or somewhere in between, Compex electrostimulation devices provide a potent tool to enable you to achieve, and even exceed, your highest athletic goals.

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Real Athletes, Real Results!

"Thanks for the great products. I'm looking forward to a great season, thanks in part to the awesome Hammer Nutrition products. Compex has been a big help. You guys rock!" - Mark H.

"I know my Compex is the reason that I'm competitive right out of the shoot after such a lengthy layoff due to injury." - Connie I.

"Thank you so much for the information you sent me about Compex. It is extremely helpful and it explains everything I was wondering about. I also started looking at some of the info in past issues of Endurance News and, as you said, it is where the real info is! It is clear to me that my relationship with

Compex will be an evolving one, and that's a good thing. Thanks so much!" - Mark R.

"I received my Compex yesterday and immediately unpacked and began to use. I tried the massage programs on several different areas and it was great. In the afternoon I was facing a 90-minute lake swim and the water was rough. I decided to try the Pre-Warmup program on my shoulders, neck, and upper back. Typically, the first 20 minutes are a little uncomfortable due to tight shoulders and neck. Today, however, I felt great from first stroke to last and even though the water was pretty nasty, I finished five minutes faster than any other workout this year. Awesome!" - Danny D.

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All models include a muscle stimulator, battery charger, user's manual, instructional DVD, electrode placement guidebook, drawstring bag, electrode lead wires (4X), and gel electrodes.

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Steve's faves : Endurance Amino

BY STEVE BORN

It's hard to believe that Endurance Amino has been in the Hammer Nutrition lineup for over four years. It just doesn't seem like that long ago when Dr. Bill Misner and I were excitedly discussing the International Society of Sports Nutrition's (ISSN) "position stance" about branched chain amino acids (BCAAs) and that they "may improve exercise performance and recovery from exercise."

Dr. Bill encapsulated the benefits of BCAAs clearly in stating, "Branched chain amino acids support endurance performance, improve immune system reaction, and enhance recovery. Physiologists often use BCAAs in various formulations to decrease central nervous system fatigue in athletes. Intake of BCAAs during or prior to exercise may delay exercise-induced or central nervous system-induced fatigue."

In addition to that eye-opening information, I found research suggesting that BCAAs administered during training may not only reduce the perception of fatigue, they may also improve mood and cognitive performance. I thought this could be a real benefit for athletes involved in long distance workouts and races, especially ultra distance races, where racing nonstop throughout the night and early morning hours is the norm.

That was all the spark I needed, and Brian Frank commissioned me to start working on an amino acid formula for Hammer Nutrition. I knew that the BCAAs (l-leucine, l-isoleucine, and l-valine) would be the heart of the product; however, I wanted more than just that component, but without ending up with another pointless "everything but the kitchen sink" product that is a

dime a dozen. The goal was to formulate an amino acid product tailored for endurance athletes, and in early 2009 that goal was realized.

Along with a healthy dose of BCAAs, the Endurance Amino formula includes l-alanine, which the liver can convert into glucose as needed for energy production. L-alanine also aids in the synthesis of pantothenic acid (B-5), necessary for protein, fat, and carbohydrate metabolism. L-alanine is simply a great amino acid for use during exercise!

Last, but certainly not least, Endurance Amino contains reduced glutathione, a tripeptide consisting of the amino acids glutamic acid, cysteine, and glycine. This tremendously powerful nutrient is considered by many to be the most potent antioxidant of all. Dr. Bill writes, "A decline in endurance performance may parallel decline in glutathione concentrations imposed by the aging process. 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."

Endurance Amino contains this amazing nutrient because we're convinced that supplementation with glutathione prior to, during, and after exercise enhances performance, recovery, and general health. This is due to glutathione's free radical neutralization power and the role it plays in the transport of other amino acids.

Ever since its introduction, Endurance



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 regard 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. Afterward, to enhance recovery, 2-4 capsules can be taken with water, Recoverite, or food.

Amino has become a must-have product for endurance athletes. As to why this is so, I believe that Brian hit the nail on the head when he wrote, "Endurance Amino is a potent blend of branched chain amino acids, 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." **HN**

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



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“Endurance Amino is key to marathon training! 18 miler today . . . powered by Hammer Nutrition!” - Laura B.

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The art of the taper

BY BRIAN GRASKY, USAT and USAC Level II Coach

There's a phrase I use regularly: "You don't get faster training. You get faster recovering from hard training." There is a lot of information out there on training, but what about the weeks leading up to a race? What then?

Most athletes go into races over-trained and under-rested. It is a slippery slope—"I didn't perform last time, so I must train harder this time," or "I missed a few sessions, so I have to get them in." In reality, the taper—or lack thereof—has as much or more to do with performance on race day than the training.

The Taper

The taper is a reduction in training load over a period of time leading to an event to reduce fatigue and physiological and psychological stress in order to optimize performance. Insufficient taper, or too much training, leads to fatigue on race day and reduced performance. Incomplete recovery can also lead to reduction in basic organ processes and maintenance of normal bodily functions. Too much taper can lead to reduction in fitness (detraining).

Training load is the combination of intensity, frequency, and volume. Training load going into a taper has a lot to do with the duration and severity of the taper. Each athlete is different and responds to the taper differently, so the following are (tested and accepted) guidelines to be used and tweaked to determine your own best strategy.

Intensity: Training intensity should remain high. Race pace and slightly faster than race pace efforts should be maintained to maintain fitness adaptations and gains made in previous training. It has been tested that a significant reduction in training intensity can lead to detraining and reduced performance on race day.

Frequency: Training frequency should be reduced only slightly, especially if you're quite fit and well trained. This might be difficult, but maintaining your habit of training frequency can lead to better performances when it counts. Highly trained athletes should reduce frequency only 10-20%. Moderately trained athletes can potentially carry more



*The author leads a training camp near Flagstaff, AZ.
Photo : Courtesy of Grasky Endurance Coaching.*

fatigue and can benefit from a greater reduction in frequency, up to 40-50% for more fatigue reduction.

Volume: Volume of training is where the reduction comes in. The majority of athletes, both single- and multisport, have shown the greatest benefit from a 40-60% decrease in training volume. This is not an immediate and one-time step from 100% to 40% volume, but is a gradual decrease over a period of one to two weeks. An overload of training in the four weeks prior to the taper can require a longer taper of up to four weeks, but with normal training a taper of 7-14 days is most beneficial. In the case of a two-week taper, training volume should be reduced roughly 40% the first week, and another 20% (to 60% of original volume) the second week. In the three to four days prior to the event, an additional 20-30% reduction in volume can allow for even further training adaptations and significant fatigue reduction.

Testing has shown the optimal taper duration is 7-14 days, but athletes have shown improvement from a minimal 4-day taper to a 4-week taper. Overloading the training leading to the taper requires more recovery time and more taper. In this case, training volume should be reduced more gradually, resulting in the same 40- 60% reduction over the four weeks.

Nutritional Support

It is important as well that training nutrition be maintained in the taper. It is easy to think that reduced training durations do not require nutritional support. Maintain proportionate use of

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training nutrition (HEED, Sustained Energy, and/or Perpetuem based on your distance and desire) as your body is in “repair mode.” One of the best post-workout recovery strategies is to fuel properly during exercise first. Also maintain post-workout recovery nutrition. The glutamine and whey protein in Hammer Nutrition’s Recoverite goes a long way to promote protein synthesis for muscle repair, increase immune system health, and increased glycogen storage for next workout or race day.

During taper, the immune system can be under attack more than normal as well. Taper means it’s race time, and that could mean travel, new environments, and exposure to more people than typical. As the body is repairing itself, we expose it to new stressors. Immune systems support is vital in taper. Continued use of a daily, sports-specific multivitamin (Premium Insurance Caps is my go-to) can ensure the body’s nutritional needs are being met to support a healthy immune system. A daily dose of Coenzyme Q10 and idebenone from Race Caps Supreme ensures

that you’re getting the energy you need from your food, and that the blood is being oxygenated properly. More energy from your food means more repair and strength in the taper and more energy on race day.

Technology and Sleep

Since a major part of the taper is muscular recovery, there are several tools that can be used to enhance recovery. Massage has been shown to reduce muscle soreness and promote muscular recovery. High-quality compression wear has been shown to stabilize muscle in the repair process, to align muscle fibers more thoroughly, and to reduce inflammation. This decreases muscle damage and recovery time. Massage, even self-massage, after more intense training sessions followed by compression wear is most beneficial. Compression wear has also shown to reduce fatigue and stress, and increase muscle oxygenation in long-duration travel.

Sleep is vitally important in the taper as well. Frequent training and stress reduce basic organ function and body maintenance. Sleep quality and duration are the important variables in the body’s ability to maintain and repair itself, so increased sleep quality and short naps of 30 minutes, in addition to maintaining or correcting circadian rhythms, are essential in recovery and taper.

Neuromuscular Electrical Stimulation (EMS) has also proven effective in reducing recovery time and enhancing taper. Use of recovery programs found in the Compex EMS systems during taper can increase muscle recovery and blood flow, enhancing the recovery effects of the reduction in training. EMS has the added benefit of working the muscles and nerves themselves

without added stress on the body as a whole, so recovery from such efforts is quicker and potentially more thorough. Using Compex as a recovery tool allows for increased blood flow to the muscles while the remainder of the body remains at rest.

A taper increases performance over the short-term, but the time spent in the taper is not building long-term fitness, so tapering should be used sparingly. Choose two or three “A” priority races in your season and taper for those races. Too much tapering means limited training time, so athletes who race frequently will have to train through some lower priority events. In this case, a short 3- to 4-day reduction in training volume will show benefit on race day, but will limit time spent away from quality training. Better yet, plan your periodized recovery weeks around these lower priority races and use them as testing to assess training progress.

With this knowledge, you are now equipped to taper effectively for your next event! Go and reach those goals and set that PR!
HN

Brian Grasky is head coach at Grasky Endurance Coaching, and owner and Biomechanics Expert of Tucson Endurance Performance Center.

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— Brian Bier

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Riders work on their descending skills during a 2013 Hammer Camp in Tucson. Photo : The Cycling House

Cycling skills with Mike Freeman

Improving your descending skills

BY MIKE FREEMAN

Descending is one of the most difficult cycling skills to acquire. To do so properly, you need to overcome the fear of speed. Remember that gravity is your enemy uphill, but is a strong ally going downhill. Many a race has been lost on a long, technical descent. Descents are for making up time, not coasting and recovering. Recover on the flat! A small, skilled descending group can go faster than a single person.

I believe that by improving your bike handling skills and understanding the dynamics of how a bike turns you can greatly reduce the fear of increasing your descending speed. It also requires that your bicycle be in good mechanical condition, including tires, wheels, and brakes. Well-maintained, functional equipment instills confidence.

The following basic drills will hopefully help you instill the confidence needed to improve your descending efficiency and bike handling skills. You'll notice that the word "relax" is an instrumental part of every paragraph. RELAX. It's the key to the whole package!

Basic Skills for Descending

1. Train on familiar terrain, and RELAX. You must do this to practice comfortably.
2. Lower your center of gravity, and RELAX.
 - a.) Stay in the drops, and bend your arms to lower your upper body.
 - b.) Stay seated and put most of your weight on the outside pedal by pushing down on the outside leg.

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"I am hooked on Hammer Nutrition!" - Jerry S.

3. Head and “eyes” up, and RELAX.
 - a.) Don’t target fixate.
 - b.) Look through the turn to where you want to go. Your bike will follow.
4. Braking—RELAX.
 - a.) Do all of your braking before entering the turn, while the bike is upright.
 - b.) Stay off the brakes throughout the turn, especially the front brake. You can apply a little rear brake as necessary as you become more comfortable.
5. Cornering technique and counter steering—RELAX.
 - a.) Arms must be bent to establish proper leverage and lower your center of gravity.
 - b.) Push right to go right, push left to go left.
 - c.) Push on the side of the bars in the direction you want to go. This pressure should be smooth and subtle. Pushing on the bar will begin to lean your bike in the direction you want to go. You can practice this in turns on flat ground. The amount of lean needed is determined by your speed and the curvature of the turn. The faster the speed, the more lean required.
 - d.) Keep your body centered and let your bike move under you.
6. Corner entry and exit—RELAX.
 - a.) Initiating a right turn, start from close to the center of the lane. Counter steer right toward the apex. Bring the bike upright to exit the corner. You will drift back toward the center of the lane.
 - b.) The same technique is used to turn left, except you will start from near the right edge of the road. Counter steer left toward the apex. Bring the bike upright as you exit the corner. Always use caution. Be aware of oncoming traffic that may cross into your lane and any debris that may be present on the roadway.

HN

Terminology & Technique

TARGET FIXATING:

Target fixation occurs when the eyes are focused so intently on a particular object that awareness of other obstacles is greatly decreased. If you look at an object long enough while you are moving, you will steer directly for it and probably hit it unless you divert your gaze. I’m sure most of you have experienced this mental/physical phenomenon from time to time.

Always keep your vision scanning ahead to where you want to be. Look ahead 15 to 20 feet or more. In cornering, pick the point where you want to enter and finish your turn; look there and then beyond. Distance covered at speed comes quickly, so stay focused.

Conscientiously turn your head in the direction of the turn. Don’t rely on just moving your eyes in that direction. You can avoid many bad lines and a possible crash by using this technique.

Practice! You’ll be amazed how smoothly and confidently you can enter and exit a turn at speed.

As you improve your skill and confidence you will undoubtedly find yourself in group situations. Certainly target fixating in these circumstances can be unsafe and slowing.

It’s been some time since I followed a single rider or group on a long, winding fast descending. I did this last weekend and it quickly became obvious that descending by yourself, while improving basic skills, will not develop the skills needed to descend safely in a group or following a single rider.

You can use the anti-target fixation drill listed above to safely descend in a group or simply following a single rider.

Knowing the skill of the person you’re following is a big plus but not always available. That said, my advice is not to fixate on the wheel or rider in front of you. Don’t overlap unless you are passing in a safe area.

Look past the rider in front and pick your own line; it may be the same as his or close to it, but don’t follow the rider’s line.

Pay attention! The rider you are following may be descending over his or her head. If they pick a bad line or miss a line, you could be off the road or into that pothole you surely want to miss.

This skill requires PRACTICE. Keep your head up and focus.

COUNTER STEERING:

All two-wheeled vehicles require leaning to make an efficient turn. This is especially true as the speed of the vehicle increases, although even at slower speeds when you might turn the front end in the direction of the turn, you will experience some lean as the turn is made.

As speed increases you cannot turn the front end to execute a turn—you must lean the bike in the direction you want to go. To initiate that leaning, push forward on the side of the handle bar that you want to turn. Push right to go right. As you push, you will feel the bike start to lean in that direction. I can’t express enough that this motion should be subtle and smooth. If you require more lean to make the turn, continue to push until you can hold the line you want.

Stayed centered and let the bike move under you. Remember: outside pedal and leg down and weighted. As you finish the turn and want to let the bike come upright, just relax the push. Centrifugal force will bring you upright back to center.

Question: Knee in or knee out, pointed into the turn? There are two schools of thought on this. Some say no need to point the knee into the turn. I was taught to point the knee into the turn, and I find that it helps me initiate the turn and keeps me more centered on the bike. Try it both ways and see what fits!

Nothing compares to Recoverite

Not even chocolate milk!

Before you jump on the chocolate milk “bandwagon,” take a closer look at it in comparison to Recoverite. Once you do, it’ll be clearly evident that Recoverite is the true ultimate recovery drink. Chocolate milk simply can’t compare when it comes to maximizing recovery.

Comparison per 100 calories (grams)
RECOVERITE IS THE CLEAR CHOICE!

	Carbs	Protein	Fat
Chocolate Milk	12.43	3.8	4.8
Recoverite	19.5	6.0	0.0

CARBOHYDRATES – The nearly 12.5 grams of carbohydrate in 100 calories of chocolate milk is comprised of sucrose, lactose, and high fructose corn syrup (HFCS). If you’re at all serious about your overall health, let alone enhancing your recovery, you are likely trying to avoid excess sugar and HFCS in your diet.

Not only does 100 calories of Recoverite contain nearly 36% more carbohydrates than chocolate milk, none of them are in the form of simple sugars, lactose, or HFCS. Recoverite contains only complex carbohydrates (maltodextrin) and a small amount of xylitol—both overwhelmingly better choices than the low quality carbs found in chocolate milk.

PROTEIN – Over 80% the protein in chocolate milk is in the form of casein, and the remainder is in the form of whey. Based solely on its bioavailability, casein is a poor protein source for recovery, with a mediocre Biological Value (BV) rating of 77.

You’ll receive significantly more protein in 100 calories of Recoverite than you will with chocolate milk, and you won’t find inferior protein sources such as casein. Pure, 100% whey protein isolate is the **ONLY** type of protein in Recoverite, offering the following benefits:

- The highest BV rating (154) of any protein source
- A greater percentage of the all-important branched chain amino acids than any protein source

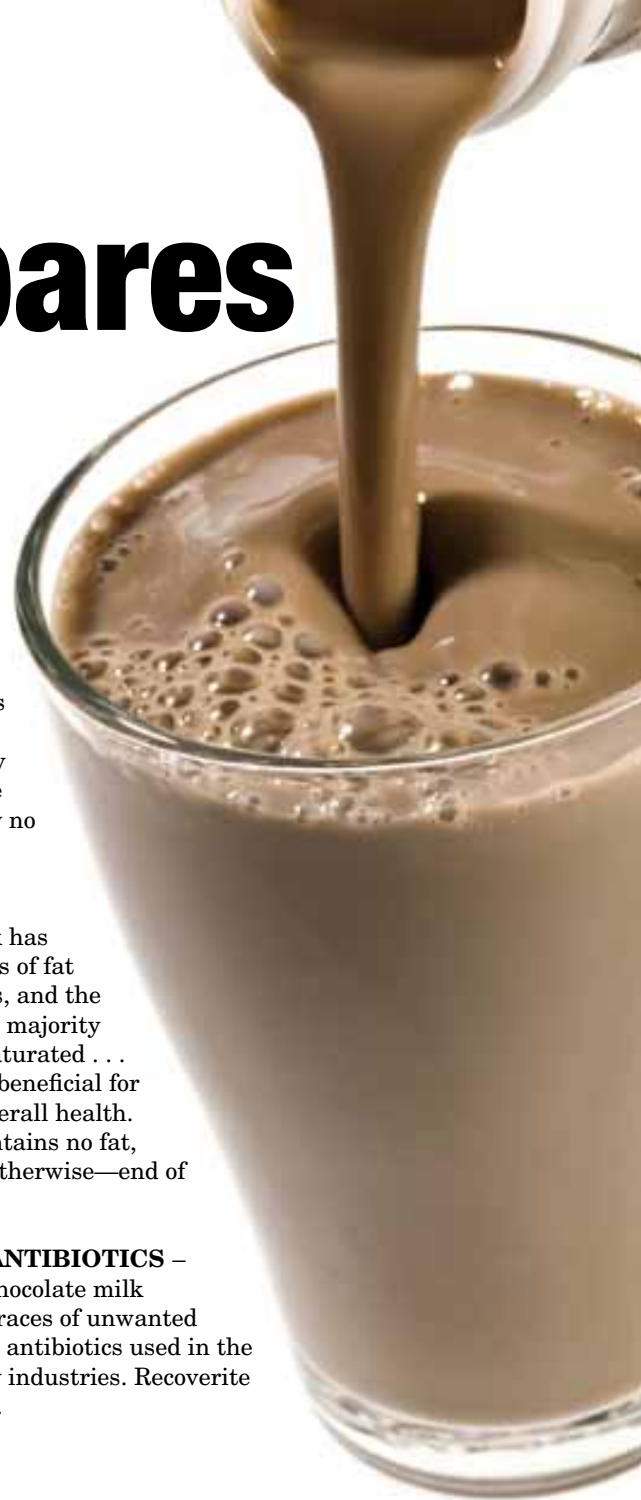
When it comes to optimizing recovery, whey protein isolate has absolutely no peer.

FAT – Whole chocolate milk has nearly 5 grams of fat in 100 calories, and the overwhelming majority of those are saturated . . . definitely not beneficial for recovery or overall health. Recoverite contains no fat, saturated or otherwise—end of discussion!

rBGH AND ANTIBIOTICS – Non organic chocolate milk may contain traces of unwanted hormones and antibiotics used in the beef and dairy industries. Recoverite contains none.

Summary

To get the full value out of all the time and energy you put into your training, you **MUST** put the highest quality fuel back into your body. Because recovery is such a key component of athletic performance, you simply can’t cut corners. When you compare chocolate milk’s profile to that of Recoverite, it’s abundantly clear that there’s really no comparison. Recoverite, not chocolate milk, is the true “state of the art” recovery drink! **HN**



“Recoverite! I definitely recover quicker and feel stronger since I began using it after workouts.”

- Danielle B.



“After a long day, Recoverite replenishes my body with what it needs to recover, making it easier to get back in the saddle the next day and keep my training on track!” - Scott E.

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Role reversal

BY SCOTT GAISER

It was all so familiar—the preparation the evening before, the routine of competition morning, the completion of competition, and the exhausted euphoric feeling that follows. This common routine is one that I, as a triathlete, have shared with my wife many times over the last two decades. Only this time, Heidi was the competitor and I was the spectator and supporter.

Her competition was the five-week CrossFit Games Worldwide Open. Each week a workout routine was posted online, and “CrossFitters” around the world completed it under the scrutiny of a certified coach and/or video camera. Competitor results were posted for the world to see where these athletes ranked among others in their age groups. Members of Heidi’s CrossFit gym gathered on five Saturday mornings for the workouts. Not only was I curious to observe, I sensed Heidi would appreciate my attendance. Heidi has spent more than her fair share of time at my hundreds of races. For the first time, Heidi was the competitor and I was the supportive spectator, feeling as much pressure as if I was treading water waiting for the start of Ironman World Championships. I was proud of the strength and fitness this 49-year-old mother of two had achieved in a relatively short time.

Above: Scott and Heidi at the finish line of the 2012 Ironman Coeur d'Alene. Below left: Heidi hammers out pullups during the CrossFit competition. Below: Heidi signs the judges' form post-competition. Photos : Courtesy Scott Gaiser



There are some spectator/supporter moments, from a competitor’s point of view, that stand out in my mind from my past two decades of competition. I was hopeful that by remembering some of these experiences, I could become the best possible spectator/supporter/spouse.

During high school basketball, shooting was never my forte. My mother was in her own right an expert on sports spectating. When it comes to basketball, she truly knows the game. She even read the bestseller *Psycho Cybernetics*, with intentions of providing her 17-year-old son with helpful advice in what probably was the “real” reason for his poor shooting. Even though her comments were well meaning and may have unlocked the mental block which could have made me the next Michael Jordan, because this information came from my mother, I was far from interested in listening. When it comes to family, it’s best not to coach, unless you are actually the coach. Even if what you have to say is correct and could be helpful,

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chances are it will be received with more irritation than appreciation.

Often during the run of an Ironman I hear my name along with encouragements such as "Looking good, Scott!" or "Scott Gaiser, great pace!" These comments do have a positive effect on my energy and at that moment, I get a good feeling about myself. Compliments and words of encouragement can have a real positive effect, especially when the competitor is struggling or in pain.

During one Boulder Peaks Triathlon, I was fighting both the Colorado elevation and a monstrous climb in the bike course. Making things worse was the guy in the Superman outfit yelling motivational clichés through a bullhorn. He was loud, annoying, and far from motivating. Don't make a scene; it is about the competitors, not about you. Cheer with honest excitement, but stay in control. This is their day, not yours.

So with these in mind, as Heidi struggled to complete as many clean and jerks as possible, I saw that she could use more legs in her lift, and it was all I could do to keep my mouth shut. "Looking good" and "You're doing great" were the wiser choices. As the time expired, I was there with a bottle of Recoverite, a high five, and a congratulations. **HN**

**A note of love and appreciation to my mother who was wonderful spectator and supporter throughout my life and to my wife who has endured many years of endurance races and long hot days at Ironmans.*

Do's and don'ts for spectators:

- | | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------|
| Be on time: | Make every effort to be there if it is a first or special event and you know they would appreciate your attendance. |
| No downers: | Keep the vibe positive and stress-free. Don't go to the event if you truly don't want to be there. |
| Keep it positive: | Use only encouraging words or praise. |
| In the end: | Be at the finish line. |
| Loud and clear: | Remember body language and/or facial expressions can speak louder than words. |
| Respect the space: | Understand pre- and post-race routines, the need for time alone, or the desire to talk to other competitors. |
| No coaching: | Keep your advice to yourself unless you are asked. |
| No Superman outfits: | This is their day, not yours, so don't make a scene. |

After a long day in the saddle . . . *Relax, recover right, and enjoy the view!*

"On my bicycle tours, the carrot on the stick at the end of the day is my Recoverite. It motivates me because it tastes good, and when I wake up the next morning my muscles are ready for another day in the saddle."

— Adam Bradley, enroute through Kootenay National Park, B.C.



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The link between salt and autoimmune disease

BY STEVE BORN



There is no question that the overwhelming majority of us are consuming too much salt, which has been proven to be connected with a number of negative health-related consequences. (See Dr. Bill Misner's article, "Too Much Sodium – A Real and Present Danger," found on page 24 for more information.) Another frightening health risk factor from excess salt intake may be added on to the ever-growing list: autoimmune diseases such as multiple sclerosis.

Maintaining a healthy existence requires a "balancing act" by the body, especially when it comes to immunity from diseases. If immune system functioning is inadequate, the opportunity for sickness and infection increases. Conversely, when the immune system is overactive, it produces too many immune cells, increasing the potential for healthy tissue and organs to be attacked—the body literally starts attacking itself. This condition is called autoimmunity, and diseases such as multiple sclerosis (MS) and others are linked to it.

Three studies published in March 2013 in the journal *Nature*, borne from the research of Dr. Hongkun Park, have found a possible link between salt consumption and the increased production of a specific immune cell that is involved in autoimmune diseases such as MS. While all of the studies used mice as test subjects, the results may have implications for humans as well, because excess amounts of this particular cell—a type of T helper cell known as TH17—are involved in the development of autoimmune disease in both mice and humans.

In a nutshell, the studies found that:

- A. Too much salt increased the production of TH17. When too much of this particular cell is produced, there is also an increase in an inflammatory protein called interleukin-17 (aka IL-17 or IL17-A), which may in fact be the chief culprit.
- B. When a high-salt diet was fed to the mice, they developed a disease that was very similar to human MS, with salt accelerating the progression of that disease.

Does this research mean that salt, in and of itself, can cause humans to get an autoimmune disease? It's too early to tell, partly because there are numerous factors that are involved in

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autoimmune diseases like MS. Still, the results of these studies on the effects of excessive salt consumption are disturbing and justify the need for more research. According to one of the researchers, Dr. Vijay Kuchroo, "Salt could be one more thing on the list of predisposing environmental factors that may promote the development of autoimmunity."

Dr. Bill Misner weighs in on these particular studies:

Salt (NaCl) is a necessity requirement at around 300-500 mg daily for healthy life activities. It is premature to state that salt alone causes autoimmune disease. Nevertheless salt excess, coupled with exposure to other harmful substances, may be determined in future research findings.

The researchers also stated that Vitamin D deficiency, infection, and smoking may precipitate excess salt in diet to trigger those predisposed the autoimmune disorder MS.

Researchers associate the onset of MS with:

- Carbon monoxide from air pollution
- Excessive accumulation of homocysteine
- Excessive exposure to pesticides
- Excess methanol content from aspartame
- Peroxynitrite free radicals
- Estrogens dominance or a high estrogen-to-progesterone ratio
- High levels of Tumor Necrosis Factor-alpha (TNF-a) due to Human Herpes Virus Type 6
- Excessive levels of Platelet Aggregating Factor (PAF)
- Excessive consumption of saturated fatty acids (meats, dairy, cheese)
- Excessive arachidonic acid (animal byproducts)
- Dairy products/cow's milk
- Excessive consumption of palmitic acid
- *Chlamydia pneumoniae*
- The Epstein-Barr Virus
- *Mycoplasma pneumoniae*
- Human Herpes Virus Type 6 (HHV-6)
- Borrelia burgdorferi infection
- Excessive exposure to lead and mercury
- Excessive accumulation of aluminium
- Mercury amalgam in root canal fillings
- Malabsorption syndrome
- Hepatitis B vaccine
- Food allergies to dairy products, cereal grains, and legumes
- Excessive generation of free radicals

This shows a trend to overload the immune system with a difficult burden to balance all of the above 24 invasive species. Whether excess salt is the "straw that broke" the immune system's control for health, or provoked it to turn against itself, no one has concluded. However, considering all the other things humans add to a high-salt diet, it is not too far-fetched conjecture. **HN**

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As a vegan athlete, I appreciate your understanding of our specific needs. This is one of the reasons I turn my friends on to Hammer Nutrition!"

- Mario L.

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PIT ROW

Enduro rider shoots for 72nd career win

Hammer Nutrition-sponsored rider Mike Lafferty is an 8-time AMA National Enduro Champion with 71 national Enduro career wins. Mike is currently considered to be a front runner to win the 2013 national championship.

At an age when most racers have long since retired, Lafferty continues to find the speed and fitness to match to the

younger generation of factory riders. "My nutrition and fitness program has evolved to meet the rigors of modern-day enduro racing. I rely more on fuel, recovery, and dietary supplements to help achieve and maintain the level of fitness needed to compete at the national level. Hammer Nutrition products are an essential part of that. Usually on race day I switch bottles up between HEED and Perpetuem. On hot



Photo : Trail Rider Magazine/Kevin Novello

summer days I add Endurolytes Fizz to every bottle. I add Huckleberry Hammer Gel to bottles if I'm starting to feel drained on long race days."

Racing Enduros with Hammer Nutrition

I have always wanted to make it to the AA class (the highest level regionally) in our enduro series, and nutrition seemed to be one aspect that a lot of my competitors overlooked. During a visit to a local bike shop, the topic of hydration came up, and shop owner Lee Rogers mixed a water bottle with a packet of HEED for me to try.

During those next few weeks I researched Hammer Nutrition



Hammer Gel fuels Zack to a win at the Sandy Lane Enduro. Photo : Art Pepin.

and even discussed the product with a dietician, who highly recommended it. I soon was mixing up my first packet of Recoverite after a tough six-hour enduro. As a college student at Penn State and racer in the ECEA Enduro Series, a hectic lifestyle does not leave much time for soreness, fatigue, and sluggishness.

Prior to Hammer Nutrition, I had no real idea of what my body needed to stay fueled and had trouble with headaches, fatigue, and extreme soreness following a race.

With the help of a dietician and Hammer Nutrition's helpful website, I devised a plan. I initially started with Recoverite, and then added Hammer Gel to my routine. My favorite is Vanilla. At a race, I bring Hammer Gels with me and eat one after each section. During the time I was transitioning onto this routine, I put in my best enduro finish and was able to win the ECEA A-200 Enduro Championship.

I'm thankful for the products Hammer Nutrition has brought to the market to enable riders like myself to reach another level.
- Zack Huberty #323

Christine Werley

I had a great, very busy weekend at the racetrack. This was also my first opportunity to put Hammer Nutrition's product line through its paces:

- A Hammer protein shake with almond butter, a banana, and a scoop of instant coffee started my day.
- I took recommended doses from my Daily Essentials kit throughout the day.
- After each session, I popped an Endurolytes Fizz into some water.
- In the afternoon, I gulped down some Hammer Gel just before each race (30 and 25 minutes, respectively each day), and then after had a serving of Recoverite in addition to another Endurolytes Fizz.

How did I feel? LIGHT YEARS better than after a normal day at the track. I was tired, but definitely not dehydrated or completely tapped. I found it interesting how awful some of my fellow racers looked after the last race yesterday afternoon. They were flushed, eyes were glazed over, etc. I was able to get home



Christine races at a local track.
Photos : Jeff Werley

(an hour's drive), and look through photos, data, and video—all before heading to bed. In all, I think this was a great test and testament to Hammer Nutrition products.

I had some great on-track results too: a 2nd place finish and three 3rd place finishes (out of four races). Like I said, it was a great weekend at the track.



Christine and her car. Photo : Jeff Werley

Destry Abbot



This was my first time racing the Glen Helen 6-Hour and after all the rain they were receiving, I knew it was going to be awesome. I was part of a three-man team along with Gary Sutherlin and Mark Tilley, and we ended up winning overall by around six minutes. Now I'm starting to think that we need to do the 12-hour race and go for the overall Endurance Championship for 2013!

I can't thank Hammer Nutrition enough. I absolutely love the products and wouldn't be using any of them if I didn't think they were the best!

-Destry Abbot

Are you ready for race day?

Robert Strand is here to help!

Bob Strand is all business at the 2012 USMS Spring Nationals.
Photo : wadleyphotography.com

If you see Robert Strand at a swim meet, keep your distance. The usually approachable Bob is a different guy on race day. A fierce competitor, he becomes extremely focused and introverted before his race. He adheres to a ritualistic warmup, double-checks his heat and his goggles, and then shows up to his lane early . . . to observe.

This formula has been a key reason why Robert Strand has consistently earned a spot as one of the top master's swimmers in the world. A member of the International Swimming Hall of Fame, Bob has set over 175 world and national records, and shows no sign of slowing down. He loves to compete and has made it his business to understand the unique dynamics that converge on that all-important "Race Day."

So much time and energy is spent preparing for competition—countless hours of physical training, honing of technical skills, and visualizing the win. It is equally important to anticipate and prepare for the unique dynamics of the race day itself. "Regardless of all the training you do, the ability to bring your mind and body together at that exact moment for your race is the essential combination for success," adds Bob.

Recognizing the importance of paying attention to all of the elements of race day, Bob has partnered with Hammer Nutrition to

develop a dynamic presentation that he is taking on the road beginning in June. Even though Bob's primary sport is swimming, the content of "Race Day" applies to all serious athletes.

Some of the topics discussed in the session are: What kind of competitor are you? Do you have realistic expectations? What is holding you back? How should you deal with fellow competitors? How can you channel your excitement/nerves on race day?

A passionate ambassador for Hammer Nutrition, Bob will also discuss how he relies on these products to fuel him during race day. "I always rely on Hammer's great supplements the day of competition. Race-day products like HEED and Recoverite all contribute to my overall mental and physical state of mind. Once you have established that these products are beneficial to you, they become part of the mental/physical machine that assists in bringing mind/body together." Competition is serious business,

but Bob makes it fun in his session by combining his athletic insights with humor and entertainment. He incorporates video of athletic performances/achievements from around the world, which will inspire awe, excitement, and even tears.

Hammer Nutrition is proud to be the title sponsor of Robert Strand's Race Day. It is a partnership that combines the leader in athletic nutrition with a star athlete and performer—both experts on race-day preparation and achievement. Together, their goal is to share the secrets of success on the day of competition and see athletes accomplish their very best on that all-important day. **HN**

Want *Race Day* to come to your local team?

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1.800.336.1977 and talk with a Client Advisor

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Subtotal _____

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See chart on reverse

TOTAL _____

Method of Payment (circle one)

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Card # : _____

Exp. : _____ Verification # : _____

Signature : _____

Client # : _____

Name : _____

Address : _____

City, State, Zip : _____

Phone : _____ Email : _____

2013 Price List

Endurance Fuels

Endurolytes - 4 Capsule Sample	\$1.05
Endurolytes - 120 Capsules	\$19.95
	3 @ \$17.95
Endurolytes Powder - 150 Servings	\$19.95
	3 @ \$17.95
Endurolytes Fizz - 13 Tablet Tube	\$4.95
	3 @ \$4.75
Endurolytes Fizz - 25 Wrapped Singles	\$12.95
	4 @ \$10.00

Fizz Flavors : Grape, Grapefruit, Lemon-Lime, Mango

Hammer Bar	\$2.50
	12 @ \$2.40

Hammer Bar Flavors : Almond-Raisin, Cashew Coconut Chocolate Chip, Chocolate Chip, Cranberry, Oatmeal Apple

Hammer Whey Recovery Bar	\$3.50
	12 @ \$3.25

Hammer Whey Recovery Bar Flavor : Peanut Butter-Chocolate

Hammer Vegan Recovery Bar	\$2.95
	12 @ \$2.75

Hammer Vegan Recovery Bar Flavors : Almond Cacao, Chocolate Peanut

Hammer Gel - Single Serving	\$1.40
	12 @ \$1.30

Hammer Gel - 26 Servings	\$19.95
	3 @ \$17.95

Hammer Flask - 5 Servings	\$1.95
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Hammer Gel Flavors : Apple-Cinnamon, Banana, Chocolate, Espresso, Montana Huckleberry, Orange, Raspberry, Tropical, Unflavored (26-serving only), Vanilla

Hammer Soy Protein - Single Serving	\$2.95
Hammer Soy Protein - 24 Servings	\$31.95
	3 @ \$29.95

Hammer Soy Flavor : Vanilla

Hammer Vegan Protein - 26 Servings	\$44.95
	3 @ \$42.95

Hammer Vegan Flavors : Chocolate, Strawberry, Vanilla

Hammer Whey Protein - Single Serving	\$3.25
	6 @ \$2.95

Hammer Whey Protein - 24 Servings	\$39.95
	3 @ \$37.95

Hammer Whey Flavors : Chai (24-serving only), Chocolate, Strawberry, Unflavored (24-serving only), Vanilla

HEED - Single Serving	\$1.95
	6 @ \$1.80

HEED - 32 Servings	\$28.95
HEED - 80 Servings	\$54.95

HEED Flavors : Lemon-Lime, Mandarin Orange, Melon, Strawberry, Unflavored (32-serving only)

Perpetuem - Single Serving	\$3.25
	6 @ \$2.95

Perpetuem - 16 Servings	\$28.95
Perpetuem - 32 Servings	\$47.95

Perpetuem Solids - 6 Tablet Tube	\$3.95
	3 @ \$3.50

Perpetuem Solids - 90 Tablets	\$37.95
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Perpetuem Flavors : Caffé Latte, Orange-Vanilla, Strawberry-Vanilla, Unflavored (16-serving only)

Recoverite - Single Serving	\$3.25
	6 @ \$2.95

Recoverite - 32 Servings	\$54.95
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Recoverite Flavors : Chocolate, Citrus, Strawberry, Vanilla

Sustained Energy - Single Serving	\$3.25
	6 @ \$2.95

Sustained Energy - 15 Servings	\$32.95
Sustained Energy - 30 Servings	\$54.95
	3 @ \$51.50

Sustained Energy Flavor : Unflavored

When ordering multiple single-serving sizes of a product, you may mix and match flavors.

Endurance Supplements

Anti-Fatigue Caps - 90 Capsules	\$18.95
	3 @ \$16.95
AO Booster - 60 Capsules	\$32.95
	3 @ \$28.95
Appestat - 90 Capsules	\$27.95
Boron - 90 Capsules	\$14.95
Chromemate - 100 Capsules	\$13.95
Digest Caps - 60 Capsules	\$16.95
Endurance Amino - 120 Capsules	\$29.95
Endurance Amino - 240 Capsules	\$52.95
Energy Surge (ATP 100) - 30 Tablets	\$17.95
	3 @ \$15.95

Mito Caps - 90 Capsules	\$24.95
Phytomax - 90 Capsules	\$22.95
	3 @ \$19.95

Premium Insurance Caps - 120 Capsules	\$19.95
Premium Insurance Caps - 210 Capsules	\$33.95
PSA Caps - 60 Capsules	\$24.95
	3 @ \$22.95

Race Caps Supreme - 90 Capsules	\$47.95
	3 @ \$44.95

Race Day Boost - 64 Capsules	\$17.95
Race Day Boost - 32 Servings	\$19.95
REM Caps - 60 Capsules	\$19.95
	3 @ \$17.95

Super Antioxidant - 60 Capsules	\$32.95
	3 @ \$27.95

Tissue Rejuvenator - 120 Capsules	\$28.95
	3 @ \$26.50

Xobaline - 30 Tablets	\$9.95
	3 @ \$7.95

Carlson Salmon Oil - 180 Capsules	\$19.95
iFlora - 60 Capsules	\$25.95

Kits

Complete Powder Sampler Kit **\$29.95** Save **\$13.30**

1 packet of each flavor of Recoverite, Sustained Energy, Perpetuem (excluding unflavored), HEED (excluding unflavored), Whey (excluding unflavored and chai), and Soy.

Hammer Gel Sampler Kit **\$7.95** Save **\$4.65**

1 pouch of each flavor, 9 total.

New Product Sampler Kit **\$9.95** Save **\$2.45**

1 packet of Vanilla Recoverite, 1 packet of Strawberry Whey, 1 Chocolate Peanut Vegan Recovery Bar, 1 Almond Cacao Vegan Recovery Bar.

Long Fueling Starter Kit **\$84.95** Save **\$21.30**

1 jug of Huckleberry Hammer Gel, 8 pouches of Hammer Gel, 6 packets of Sustained Energy, 6 packets of Perpetuem, 3 packets of Recoverite, 1 bottle of Endurolytes, 1 Capsule Dispenser, 1 Flask, 1 Water Bottle, and a Product Usage Manual.

Short Fueling Starter Kit **\$74.95** Save **\$15.70**

1 jug of Huckleberry Hammer Gel, 8 pouches of Hammer Gel, 12 packets of HEED, 3 packets of Recoverite, 1 bottle of Endurolytes, 1 Capsule Dispenser, 1 Flask, 1 Water Bottle, and a Product Usage Manual.

1-Month Daily Essentials Kit **\$94.95** Save **\$11.90**

1 PIC (210), 1 Race Caps Supreme, and 1 Mito Caps.

3-Month Daily Essentials Kit **\$269.95** Save **\$50.60**

3 each of PIC (210), Race Caps Supreme, and Mito Caps.

Race PR Kit **\$49.95** Save **\$4.90**

1 each of Race Day Boost capsules, Energy Surge, and Anti-Fatigue Caps

Body Care

Cool Feet 0.1 oz.	\$1.50
Cool Feet 2.7 oz.	\$15.95
Hammer Balm 0.3 oz.	\$4.95
Hammer Balm 1.5 oz.	\$21.95
Hammer Balm 4.0 oz.	\$34.95
Hammer Lips 0.15 oz.	\$2.95
	6 @ \$2.75

Hammer Lips Flavors : Wildberry, Wintermint

Pelle Eccellente 0.3 oz.	\$3.95
Pelle Eccellente 2 oz.	\$19.95
Pelle Eccellente 4 oz.	\$32.95
Seat Saver 0.3 oz.	\$2.95
Seat Saver 2.0 oz.	\$12.95
Seat Saver 4.0 oz.	\$19.95
Soni-Pure 2.0 oz.	\$9.95

Complex Units & Accessories

Compex Sport Elite	\$849.00
Compex Performance U.S.	\$579.99
Compex Edge	\$399.99
SPORT ELITE, PERFORMANCE U.S., & EDGE ACCESSORIES	
Charger	\$44.99
Battery Pack	\$49.99
Snap Cables (4)	\$59.99
Snap Electrode Pads (4X - 2"x 2")	\$14.95
	6 @ \$13.50
	12 @ \$12.50
Snap Electrode Pads (2X - 2"x 4")	\$14.95
	6 @ \$13.50
	12 @ \$12.50

Quick Start Guide for Sport Elite	\$14.99
Quick Start Guide for Performance U.S.	\$14.99
Multimedia CD for Sport Elite	\$14.99
Multimedia CD for Performance U.S.	\$14.99
Belt Clip	\$9.99

SPORT CLASSIC & FITNESS CLASSIC ACCESSORIES

Charger	\$19.99
Battery Pack	\$39.99
Pin Cables (4)	\$39.99
Snap-On Conversion Cables (4)	\$44.99
Pin Electrode Pads (4X - 2"x 2")	\$9.99
	6 @ \$8.95
	12 @ \$7.95
Pin Electrode Pads (2X - 2"x 4")	\$9.99
	6 @ \$8.95
	12 @ \$7.95

GENERAL ACCESSORIES

Electrode Placement Guide	\$9.99
Spectra Conductivity Gel (8.5 oz.)	\$7.95
Spectra Conductivity Gel (2 oz.)	\$4.95
Drawstring Bag	\$19.99
30-Minute Consultation	\$49.95
60-Minute Consultation	\$79.95
Advanced Consultation	\$60.00/hour

2013 Price List continued

Voler Men's Cycling / Tri Clothing

Sleeveless Jersey	\$39.95	s-xl
Short Sleeve Jersey	\$39.95	s-xl
Long Sleeve Jersey	\$59.95	s-xl
Wind Vest	\$43.95	s-xl
Wind Jacket	\$69.95	s-xl
Thermal Vest	\$72.75	s-xl
Thermal Jacket	\$99.95	s-xl
Cycling Shorts	\$68.95	s-xl
Cycling Bibs	\$72.95	s-xl
Compression Bibs	\$89.95	s-xl
Cycling Skinsuit	\$99.95	s-xl
Arm Warmers	\$29.95	s-xl
Giordana Cycling Gloves	\$23.95	s-xl
Aero Shoe Covers	\$19.95	s-l
Thermal Booties	\$29.95	s-l
Downhill/BMX Jersey	\$45.95	s-xl
Cyclocross Skinsuit	\$124.95	s-xl
Tri Top	\$42.95	s-xl
Tri Shorts	\$42.95	s-xl
Tri Skinsuit	\$98.50	s-xl

Bergamo Men's Cycling Clothing

Hot Weather Short Sleeve Jersey	\$49.95	s-xl
Hot Weather Long Sleeve Jersey	\$59.95	s-xl
Premium Cycling Bibs	\$89.95	s-xl
Knee Warmers	\$18.95	s/m, l/xl
Leg Warmers	\$21.95	s/m, l/xl

Voler Women's Cycling / Tri Clothing

Short Sleeve Jersey	\$39.95	s-xl
Long Sleeve Jersey	\$59.95	s-xl
Wind Jacket	\$69.95	s-xl
Cycling Shorts	\$62.75	s-xl
Cycling Bibs	\$66.95	s-xl
Arm Warmers	\$29.95	s-l
Tri Top	\$42.95	s-xl
Tri Shorts	\$42.95	s-xl

Voler Kid's Cycling / Tri Clothing

Cycling Jersey	\$27.95	s-xxl
Cycling Shorts	\$27.95	s-xxl
Tri Top	\$27.95	s-xxl
Tri Shorts	\$24.95	s-xxl

Socks

Men's Cycling Socks	\$5.95	m-xl
Women's Cycling Socks	\$5.95	s-l
Unisex 4" Compression Socks	\$13.95	s-xl
Unisex 12" Compression Socks	\$24.95	s-xl

Running Gear

Cool-Tee	\$27.95	s-xl
Long Sleeve T-shirt	\$29.95	s-xl
Singlet	\$24.95	s-xl
Trail Shirt	\$24.95	s-xl
Men's Running Shorts	\$29.95	s-xl
Women's Short Sleeve	\$27.95	s-xl
Women's Running Shorts	\$29.95	s-xl
Women's Running Skirt	\$49.95	xs-xl

Casual Wear

Men's Est. 1987 Hooded Sweatshirt	\$39.95	s-xl
Men's Est. 1987 Long Sleeve	\$19.95	s-xl
Men's Est. 1987 Short Sleeve	\$14.95	s-xl
Men's Baseball Short Sleeve	\$14.95	s-xl
Men's Retro Surfer Short Sleeve	\$14.95	s-xl
Women's Est. 1987 Hooded Sweatshirt	\$35.95	s-xl
Women's Est. 1987 Long Sleeve	\$19.95	s-xl
Women's Est. 1987 Short Sleeve	\$14.95	s-xl
Women's Yoga Pants	\$24.95	s-xl
Kid's Est. 1987 Casual Tee	\$14.95	2-12 <i>even</i>

Headwear

Pace® European Cycling Cap	\$12.95	os
Pace® Mesh Helmet Liner	\$12.95	os
Race Ready® Mesh Cap	\$12.75	os
SweatVac® Ventilator Cap	\$13.95	os
SweatVac® Winter Beanie	\$19.95	os
Halo Headband	\$12.95	os
Halo Headband II	\$12.95	os
Halo Protex	\$21.95	os
Halo Antifreeze	\$16.95	os
Baseball Cap	\$19.95	os
Headsweats® Visor	\$14.95	os
Reversible Knit Beanie	\$12.95	os
Latex Swim Cap	\$3.95	os
Silicone Swim Cap	\$9.95	os

Swimwear

Men's Briefs	\$34.95	28-34 <i>even</i>
Men's Jammers	\$34.95	28-34 <i>even</i>
Women's Swimsuit	\$59.95	28-36 <i>even</i>

Tents

Racing Team Tent	\$675.00	10'x10'
Semi-Custom Tent	\$795.00	10'x10'

Accessories

Hammer Gear Bag	\$64.95	
Bike Mount Flask Holder	\$12.35	
Double Clip Flask Holder	\$10.75	
Blender Bottle	\$7.95	
Fizz Water Bottle	\$2.95	21 oz.
Hammer Water Bottle	\$3.50	24 oz.
Nalgene Bottle	\$8.95	32 oz.
Polar Water Bottle	\$10.95	24 oz.
Small Purist Water Bottle	\$8.95	22 oz.
Large Purist Water Bottle	\$10.95	26 oz.
Hammer Flask	\$1.95	
Gel-Bot Soft Flask	\$9.95	
Tattoos	\$0.35	
Wrap Pack	\$8.35	
Hammer Patch	\$1.45	
Sticker Pack	\$0.50	
HEED Cooler	\$39.95	5 gal.
Pint Glass	\$3.75	
Sport Towel	\$2.95	
Beach Towel	\$29.95	
Hammer Sack	\$8.95	
Hammer Banner	\$25.95	
Bike Mount Tri Box	\$14.95	
Bike Mount Seat Bag	\$14.95	
Gel Pump	\$5.95	
Capsule Dispenser	\$0.50	
Quick Coin	\$0.95	
Large Capsule Organizer	\$4.35	
Small Capsule Organizer	\$2.95	
Zip-Lock Capsule Bag	\$0.10	

Books

Endurance Athlete's GUIDE to SUCCESS	\$7.95
Fuels & Supplements	\$4.95
Consumer Education Guide	\$2.95
Product Usage Manual	\$1.00
Food Is Your Best Medicine	\$7.95
Healing Back Pain	\$11.95
Healthy Bones	\$11.95
Killer Colas	\$12.95
Suicide by Sugar	\$12.95
Treat Your Own Back	\$9.95
Treat Your Own Neck	\$9.95
Water: The Shocking Truth	\$11.95

53x11 Coffee

The Big Ring 2 oz.	\$2.95
The Big Ring 12 oz.	\$13.95
The Chain Breaker 12 oz.	\$13.95
The Down Shift 12 oz.	\$13.95
The Early Break 12 oz.	\$13.95

53x11 Brew Essentials

Porcelain Coffee Brewer	\$19.95
Bistro Electric Coffee Grinder	\$34.95
Bistro Electric Water Kettle	\$44.95
Chambord French Press	\$49.95
53x11 Coffee Mug	\$12.95
Natural Brown Filters (40)	\$2.95
Single Cup Top Brewer	\$4.95

53x11 Cycling Clothing

Short Sleeve Jersey	\$39.95	s-xl
Long Sleeve Jersey	\$59.95	s-xl
Wind Vest	\$43.95	s-xl
Wind Jacket	\$69.95	s-xl
Thermal Vest	\$72.75	s-xl
Thermal Jacket	\$99.95	xs-xl
Cycling Bibs	\$72.95	s-xl
Arm Warmers	\$29.95	s-xl
Cyclocross Skinsuit	\$124.95	s-xl
Cycling Gloves	\$23.95	s-xl
Premium Wool Socks	\$12.50	s-xl

53x11 Tri Clothing

Tri Top	\$42.95	s-xl
Tri Shorts	\$42.95	s-xl

53x11 Casual Clothing

Red Tee	\$14.95	s-xl
Black Tee	\$14.95	s-xl

53x11 Headwear

Euro Cycling Cap	\$12.95	os
Helmet Liner	\$14.95	os
Mini Cycling Cap	\$14.95	os
Headsweats® Visor	\$19.95	os

Hammer Nutrition and 53x11 Coffee Clothing Return Policy

Aside from trying on an item for fit (with protective undergarments), all clothing returns must be in new and salable condition, with original tags attached, and enclosed in the original packaging. Clothing items do not qualify for a return or exchange if they have been used, washed, or had the original tags removed. Special Note: Swimwear will be fully inspected upon receipt and a return/exchange may or may not be granted, at the discretion of management.

Apparel Sizing Charts

VOLER / Men's Cycling and Tri Clothing					
Height	Waist	Inseam	Chest	Weight	Size
5'4" to 5'8"	29-31	9	35-37	120-145	Small
5'7" to 5'11"	32-34	9.5	38-40	145-170	Medium
5'10" to 6'2"	35-37	10	40-42	170-190	Large
6'1" to 6'5"	38-41	10.5	42-44	190-220	XL
6'3" and up	42-45	11	44-46	220-250	XXL

VOLER / Women's Cycling and Tri Clothing					
Height	Waist	Hips	Bust	Weight	Size
5'2" and under	22-24	31-32	30-32	95-115	XS (0-2)
5'1" to 5'5"	25-27	34-36	32-34	110-120	Small (4-6)
5'4" to 5'8"	27-29	36-38	34-36	120-145	Medium (8-10)
5'7" to 5'11"	30-32	39-41	36-38	140-165	Large (12-14)
5'10" and up	33-35	42-44	39-41	160-185	XL (16)

Voler Team Apparel offers "European" sizing, which is smaller than U.S. sizing. When choosing Voler racewear, you should go up one size if you are unfamiliar with the smaller European sizing. Likewise, if you are between two sizes, choose the larger size.

VOLER / Kid's Cycling and Tri Clothing					
	Small	Medium	Large	X-Large	2X-Large
Age	6-8	8-10	10-12	12-13	13-14
Waist	18-20	20-22	22-24	24-26	26-29
Weight	55-65	65-75	75-85	85-100	100-120
Height	40-45"	45-50"	50-55"	55-60"	60-65"
Chest	25-27	27-29	29-31	31-33	33-35
Inseam	7	7.5	8	8.5	9

GIORDANA / Cycling Gloves	
Size	Measurement
Small	7-7.5"
Med.	8-8.5"
Large	9-9.5"
XL	10-10.5"

Measure around the widest part of the hand, not including the thumb.

DEFEET / Cycling Socks		
Sock Size	Men's Shoe	Women's Shoe
Small	NA	6-8
Medium	7-9	8 1/2 - 10 1/2
Large	9 1/2 - 11 1/2	11 - 13
XLarge	12+	NA

SWIFTWICK / Compression Socks		
Sock Size	Men's Shoe	Women's Shoe
Small	3-5 1/2	5-7 1/2
Medium	6-9 1/2	8-10
Large	10-13	10 1/2-14
XLarge	13 1/2-16	14 1/2-16 1/2

RACE READY / Men's (Unisex)		
Waist	Chest	Size
26-29	34-36	S
30-33	37-39	M
33-35	40-42	L
35-37	43-45	XL

RACE READY / Women's			
Dress Size	Waist	Size	Unisex
Size 4-5	24-27	S	XS
Size 6-8	27-29	M	XS or S
Size 9-12	29-31	L	S or M
Size 12-14	32-34	XL	M or L

BERGAMO / Premium Bibs and Jerseys				
Height	Chest	Waist	Hips	Size
67.5-69.5	34.5-36	30-31.5	34-35.5	Small
69-70.5	36-38	31.5-33	35.5-37	Medium
70-71.5	38-40	33-34.5	37-38.5	Large
71.5-73	40-41	34.5-36	38.5-40	X-Large

Bergamo garments fit a little snug. If you're not sure what size to get or if you're between sizes, please order the next size larger.

AMERICAN APPAREL / Women's Yoga Pants				
	S	M	L	XL
Size	0-2	4-6	8-10	12-14
Waist	25-26	27-28	30-32	33-35
Inseam	30	32	33	34

American Apparel garments fit snug to flatter almost any body type. If you're not sure what size to get or if you're between sizes, please order the next size larger.

DISTRICT THREADS / Women's Sweatshirt				
	S	M	L	XL
Size	3-5	7-9	11-13	15-17
Bust	30-32	33-35	36-37	38-39

BELLA / Women's Tee Shirts				
	S	M	L	XL
Size	0-4	4-8	8-10	10-12
Bust	31-33	34-36	37-39	39-41

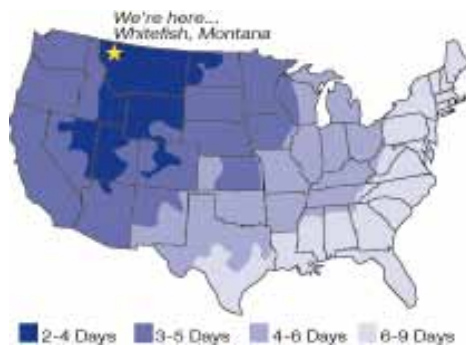
AMERICAN APPAREL / Men's Tee Shirts				
	S	M	L	XL
Chest	39-41	41-43	43-45	45-47
Pant	30-31	31-32	33-34	34.5-35

HARDCORE SPORTS / Women's Swimsuit					
	28	30	32	34	36
Size	5/6	5/6	7/8	9/10	11/12
Bust	33	33	35	36 1/2	38
Waist	25	26	27	28 1/2	30
Hips	35	36	37	38 1/2	41
Torso	58	61	63 1/2	66	68 1/2

Bust: Measure the fullest part of chest going over shoulder blades at back. Waist: Measure narrowest part of torso. Hip: Measure around fullest point of the hip point of shoulder, run keeping tape parallel to the floor. Torso: Start at high back to starting point.

HARDCORE SPORTS / Men's Brief and Jammer				
	28	30	32	34
Brief	28	30	32	34
Jammer	30	32	34	36

Waist: Measure about 1" above the natural waist or just above the hip bone. Jammers: The jammers are made to fit snug and add compression to the thigh.



Shipping Information

Time in transit for packages shipped via ground delivery will range from 2-9 business days, depending on the carrier and distance in transit. If you must have your package by a certain date, call or email to determine whether ground shipping or one of the air delivery options will work best for your needs.

Special Shipping Notes

All orders to Alaska and Hawaii ship via USPS Priority Mail. 2-day and next day air are also available to some locations in these states. Published rates will be charged based on weight and zone of delivery address.

Military Addresses

APO, AE, AP, etc. are sent via USPS mail service. USPS Priority Mail rates will be charged for these shipments.

In a Hurry?

3-day, 2-day, and overnight delivery are available, calculated based on package weight and zone of delivery address, and will be billed at published rates.

International Orders

We ship orders to over 25 foreign countries on a regular basis. Call or email us for a quote on shipping.

Order total	Ground FedEx
\$0 to \$39.99	\$4.95
\$40 to \$99.99	\$7.95
\$100+	FREE!

Get the VIP treatment

Join the Hammer VIP Program today!



Receive a **FREE Hammer Nutrition clothing kit** with your first VIP order!

Select one of our sport-specific kits:

- cycling jersey and shorts
- tri jersey and shorts
- running top and shorts
- swimwear with a swim cap and a large towel

Ask a Client Advisor for more information.



What is it?

The HAMMER VIP Program offers the ultimate in convenience and VIP treatment with scheduled shipments and discounted pricing.

How does it work?

Call our 800# to have one of our friendly Client Advisors help you select the correct Hammer Nutrition fuels and supplements to meet your needs and goals. We'll then ship your products every 90 days (free ground shipping!) without you ever having to pick up the phone again.

An advisor will also call or email you approximately ten days before your scheduled ship date to see if you'd like to add anything to your order to take further advantage of free shipping and discounted pricing.

Call Katey to sign up for the Hammer VIP Program and start saving today!

What do you get?

- 1 - A special team of advisors assigned to your account and special access to our experts.
- 2 - Automatic resupply of products every 90 days.
- 3 - On your first VIP order, we'll send you a clothing kit for FREE. Ask your advisor for details.
- 4 - On your second VIP order, you'll receive a FREE softgoods item of your choice, up to \$20 in retail value.
- 5 - FREE goodies on every future shipment as well.
- 6 - Discounted pricing, exclusive offers, and much, much more!
- 7 - FREE ground shipping on all automatic shipments and one fill-in order per quarter.

*Sorry, international clients are not eligible for these programs; only valid for U.S. residents.

**You are free to cancel your participation in this program at any time, however some limitations on the free gifts apply. Monthly shipments must be > \$50, quarterly shipments > \$150. See website or ask your Client Advisor for complete details.

**Don't wait any longer,
become a **VIP** today!
Call 1.800.336.1977**

Get Rewarded

with our Athlete Referral Program

Write your name and client number on the cards, and give them to your endurance athlete friends or acquaintances. When a friend you refer to us places his or her first order and mentions your name or client number, everybody wins! Tell enough friends and you may never have to pay for your product . . . how great is that?

It's a win-win-win situation!

- They receive a 15% discount on their first order!
- **You get 25% of their order subtotal credited to your account!**
- We get another satisfied client!

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A Few Restrictions

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Why do I want a blended coffee?



BY PHILIP HOWETH



The rich history of coffee dates as far back as the 15th century. From its origins in Ethiopia, to the Indonesian islands and over to Central and South America, the coffee plant has made its way around the globe. Within these diverse regions, we consumers are blessed with a variety of flavor profiles that are often at the opposite ends of the spectrum. While Sumatran coffee from Indonesia boasts a smooth, strong body with low acidity and perhaps an earthy character, you will find a bright, lively, clean flavor to most Central and South American varieties. Each regional coffee stands well on its own; however, blending such varieties together can result in an incredibly well-balanced cup. 53x11 displays a perfect

example of this with The Early Break!

The Early Break is a blend of Central, South American, and Sumatran beans. Five different countries come together to offer you incredible flavor in a medium roast. The diversity and different characteristics of these territories result in a perfectly cohesive blend. This blend is ideal for a medium roast. The individual characteristics are still apparent and the cup has a nice, nutty finish.

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- Nancy M.

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From the kitchen of

Laura Labelle



Summer salad

2 organic Hothouse cucumbers, peeled and chopped in to chunks
1 cup cherry or grape organic tomatoes*
4 oz. crumbled feta cheese

Dressing

¼ cup minced red onion (optional)
1 teaspoon dry chopped dill
Juice of one large lemon
2 tablespoons olive oil
Salt and pepper to taste

Toss all ingredients with dressing, and enjoy!

**Select tomatoes depending on the season, whichever are freshest. I have been using tiny cherry tomatoes, but sometimes I use chopped Heirloom or Roma in the winter.*

Kale salad with peanut dressing

1 bunch Kale (I like the frizzy kind)
¼ head green cabbage
1 large carrot
1 large crisp apple (whatever is in season)
¼ cup chopped peanuts
2 green onions
1 small bunch cilantro

Wash and dry all veggies and herbs. Shred kale, cabbage, and green onions. Grate the carrot, and cut the apple into small, thin slices. Combine all ingredients and sprinkle with peanuts.

Dressing

¼ cup peanut butter
½ cup orange juice
1 tablespoon soy sauce
1 teaspoon chili flakes

Combine ingredients until smooth and creamy. Mix well into salad

I serve this salad as is or with grilled steak, chicken, or tofu.

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The author on his way to a 5th place AG finish and a spot in Kona at the 2012 Ironman Lake Placid. Photo : Illiana Miranda-Schwarze

Performance peaking for your 'A' race

BY STEPHAN SCHWARZE

The following provides some ideas and guidelines for planning and getting ready for your best 'A' race.

1. Training and Season Planning

When you set up your race season, decide which will be your important races, and make sure you can dedicate enough focus to those races during the weeks and months leading up to them. For successful races you need to make training one of your priorities in life. Your mind needs to be focused on it. Don't make the mistake of making training your first priority all year. Among the age group athletes who I coach, the ones with the most successful races have their mind on training and racing in phases, and therefore train very hard and dedicated for some months. The rest of the year, while still training, their primary focus is on work, family, or other things.

2. Shifting Point – Two Months Out

About two months before your main event should be a shifting point in your training. While early season volume and steady efforts are important, now you want to focus on getting very comfortable with race pace efforts. What works well for me when I train for Ironman races is

- a. Longer 20-40 minute (slightly shorter for running) interval sets at race pace intensity. Goal is to "dial in" race pace, and make it feel comfortable within a few weeks.
- b. Shorter 3-10 minute efforts above race pace intensity.

The objective here is to work on high-end intensity so that race pace does not feel like your "top end" speed anymore.

The overall training volume in these last eight weeks should start decreasing. Hard efforts are really strong and focused, while the easier workouts are purely recovery efforts. Don't make the mistake to push constantly in easier workouts or you will be too fatigued for your race pace training. It's either really hard or really easy now—no gray area in between.

Aside from the actual workouts, pay extra attention to nutrition and sleep. Make sure to get enough sleep, ideally eight hours. Use race-day nutrition in training. Taking fuel in during long, easy training is generally easy. Getting your body adjusted to taking food and digesting during higher efforts is more challenging. Practice this in training as you get close to race day. Use "premium fuel," like your favorite Hammer Nutrition products.

3. Highest Volume Just Before Tapering

For Ironman training, the highest weekly volume is generally 6-8 weeks out before an A race. I usually recommend to have the longest single workouts 4-5 weeks out. But make sure to have extra rest before and after those long days to properly recover so that you will quickly be able to get back into quality workouts.

Taper for long distance races, like Ironman triathlons, is typically between 2-4 weeks long. It depends on each athlete's age, experience, and training. The key to remember: taper is

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not the same as recovery!

4. Mental Preparation

Peaking mentally is just as important as peaking physically. A few helpful points:

Remember that in the last days before a race you will not be able to make up for any training that has not been done. You won't fix things now, but often athletes break things in these days because of outside impact on their minds. Don't surround yourself with other athletes all day who just talk about their training and how they will approach the race. The risk of getting doubts and questioning your own race preparation is too high. Focus on some quiet time spent with family and friends who talk "non-race" business, reading a book, or catching up on other things you neglected in the training weeks leading up to the race.

If you compete within the last eight weeks before your 'A' race, take these preparation races serious enough to do well—you want to make sure to build confidence. It's much better to go into your 'A' race after a few strong, successful training races than after some mediocre racing attempts.

Visualize race day! On the day before the event, relax somewhere and think through race day and everything you put into getting there, and what to expect. Think through the course, your nutrition plan, and most importantly through some "what if" scenarios in case something goes wrong. Going through this in advance will calm you down and help to avoid surprises and situations that you are not mentally prepared for on race day.

5. Race Day

Know your weaknesses and strengths! Don't expect miracles to happen in a race, and be aware of your weaknesses and strengths to avoid disappointment and stress during the race. For example, I know swimming is my weakest discipline. Instead of being frustrated with my time and placement every time I exit the water, I learned to accept that I am a weak swimmer. I do not let a bad swim time "mess with my mind" anymore, but instead I see the positive—more people to pass on the bike or run.

Overcome weak points. There are always tough spots in races, especially in longer events. That's when it gets painful. First, be prepared for this in advance and EXPECT these phases to come. Racing is tough. If you don't hit these spots you may not be pushing hard enough. Second, instead of getting frustrated in such situations, strive in them. Look around you: most likely everyone around you hurts as well. Try to cope with tough race conditions better than anyone around you—a strong mind can overcome a temporary weakness.

Happy racing! Peaking at the right time for a race is one of the toughest challenges in endurance training. **HN**



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ATHLETE SPOTLIGHT

CASEY MCKINNEY

BY VANESSA GAILEY



*Casey McKinney feels great after Ironman California 70.3.
Photo : Denise McKinney*

Our Athlete Spotlight in this issue is a member of two brotherhoods, both requiring the core values of commitment and courage: the U.S. Marine Corps and the community of competitive endurance athletics. These demands led Casey McKinney to fuel with products that work as hard as he does—Hammer Nutrition—and to ultimately become a Hammer Nutrition sponsored athlete.

EN: When you compete in running and triathlon events, you represent not only Hammer Nutrition as a sponsored athlete, but also the U.S. military community as a career military professional. What is your current job with the military?

CASEY: I am an Aviation Ground Electronics Maintenance Officer. In short, I supervise and coordinate the installation, operation, and maintenance of Marine Corps aviation command and control systems.

EN: Your race résumé shows that you are typically among the top military finishers at events. Do you feel that your military training and background has helped you excel in these sports, or has the added responsibility and commitment made it more of a challenge?

CASEY: The responsibility and commitment as a Marine takes a special mental toughness beyond just physical ability. As a career Marine, I've spent the better part of my adult life living and working in not so comfortable environments, which I feel provides me with a mental edge to push through anything. Work-related commitments, such as deployments, certainly take priority over triathlon training, but the challenges we face provide opportunities to gain strength beyond just what running, biking, and swimming provides.

EN: Share your first triathlon experience with us. Was there a certain aspect of the sport that you struggled with most, and how did you overcome it?

CASEY: My first triathlon was Ironman Kansas 70.3 in 2009. I didn't set out to complete a 70.3 as my first triathlon. I had returned from deployment a few months earlier and joined a triathlon club, and the Kansas race was a major club event for the year. A few athletes and friends encouraged me to compete,

but the kicker was my wife, Denise. She told me, "Don't be chicken. You can do it, just go!"

Up to this point I had been a runner for my whole life, had been cycling for two years, and picked up swimming the year before. My biggest struggle, still to this day, is cycling. I don't know that I've overcome my cycling weakness as I'm not yet satisfied with how I perform during races. A mark of experience, whether as a leader of Marines or as an age group athlete, is recognizing your strengths and weaknesses, and working on those weaknesses while not allowing your strengths to atrophy.

EN: What has been your most challenging race, and why?

CASEY: My most challenging race was Superfrog in 2012. The 1.2-mile ocean swim was tough, and to make it harder the swim was two loops. We had to exit the water, run along the beach, and swim back out through the surf a second time. But the hardest part of the day was the run; approximately 6 of the 13.1 miles were through the soft sand at high tide. To date, that is the most challenging run I've ever done.

EN: What motivated you to start competing, and how do you maintain that motivation to keep pushing yourself?

CASEY: I've always been competitive and used to compete in team sports, but was always injuring one body part or another. So I switched full time to endurance sports. As for motivation . . . it's the guy in front of me. I have to pass him! I also enjoy the health benefits of living this lifestyle. But my primary motivator is Denise; she supports my endeavors 100% and I love hearing her yelling at me at races!

EN: One of your 2013 races was the Carlsbad Half Marathon in February.

How did the race go for you, and how do you use these early season races to fine-tune your triathlon training for the year?

CASEY: The Carlsbad Half Marathon was fantastic. I set a PR and beat my goal time by a couple of minutes. I typically focus on running in the winter months and register for a late winter full marathon or a couple of half marathons as a way to keep myself honest. With all of the holidays, it's too easy to get a bit lazy and eat way too much, but with a race on the horizon I keep motivated to train.

EN: We're featuring Hammer Nutrition's race-day performance supplements in this issue of EN. What's your pre-race and race-day supplement strategy? How does this strategy differ from your tactics used in your early days of racing?

CASEY: My pre-race supplementation consists of Race Day Boost and Anti-Fatigue Caps. During the race I use Anti-Fatigue Caps and Endurolytes. When I started racing, I didn't think about performance supplementation—I would only take whatever was on the course. I've learned that just like training plans, supplementation is very individualized and each athlete needs to find what works best for him or her through practice. Hammer Nutrition's "Little Red Book" Product Usage Manual should be a required download for any endurance athlete. It's a great resource.

EN: How did you discover Hammer Nutrition products, and how long have you been incorporating them into your training?

CASEY: I started cycling, and I immediately realized I needed something to get me through longer rides. A friend and fellow triathlete suggested Hammer Nutrition products. His rationale was simple: "They don't use sugar, and you'll last longer." At the time I didn't know the difference, but he was a front-of-the-pack type athlete, so I listened. I've been a faithful Hammer Nutrition user since 2007. Some of my favorites are HEED, Perpetuem, Hammer Gel (especially Espresso!), and Hammer Whey.

EN: Are you a member of any military athlete clubs or organizations? Is there an athlete community within the military that you would recommend to new military members as a way to find

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resources, events, etc.?

CASEY: I've been a team member of the Camp Pendleton Triathlon Team for the last two years. Athletes are a peculiar bunch. For some reason, we freely discuss our training and fueling methods with the very same people we compete against, which makes for a tight-knit community, I believe! Within the Marine Corps, our bases have excellent athletic programs. They offer everything from individual endurance events to team sports. I'm stationed at Camp Pendleton, CA, and our events are open to the public as well, which provides a great opportunity for the Marines and locals to mix it up athletically.

EM: Hammer Nutrition offers a military discount program to assist all active military members with affordable,

effective fueling. We hear quite frequently from these folks, especially those stationed in hot climates, that our products make a significant difference in their comfort and performance. Do you have any fueling or nutrition advice that you would like to share with them, based on your experiences in both military and endurance sports?

CASEY: Rule number one, proper hydration! Without proper hydration, fueling will not matter. Don't dehydrate or overhydrate, find your effective sweat rate, and practice replenishment with that in mind, but know that you cannot consume as much as you'll lose while training or racing. HEED is perfect for this important need; I can't say enough good things about it. In my professional life, ensuring proper hydration is essential to mission accomplishment; we undergo incredible physical stresses and cannot perform at our optimal level without good hydration. **HN**



Casey McKinney heads out of T2 during Ironman California 70.3. Photo : Denise McKinney

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L-Carnitine is good for your heart

Media bashing is unfounded

BY STEVE BORN

Recently there has been some negative press on l-carnitine in the news. In a nutshell, the results of this study, published online in the journal *Nature Medicine*, suggest that orally dosed l-carnitine is metabolized by intestinal bacteria to produce a substance called trimethylamine (TMA), which is further metabolized into trimethylamine-N-oxide (TMAO). It is theorized that TMAO prevents excess cholesterol from being excreted, thus allowing it to infiltrate artery walls. This process is being studied as a possible culprit for increased risk of cardiovascular disease.

Sounds a bit scary, doesn't it? But does that mean that l-carnitine supplementation puts you at risk? Let's take a closer look at l-carnitine, this recent study, and its implications.

First, however, it's important to keep in mind the axiom, "If a little is good, a lot is not necessarily better." Even the basic substances required for life can be overdosed or under-dosed, contributing to harmful life-threatening consequences. Examples of excess or depletion extremes are water, sodium, and carbohydrate substances:

- Water depletion/dehydration can

kill you, but too much water ("water intoxication") can also be just as lethal.

- Too little sodium is known as hyponatremia, a life-threatening emergency. Too much sodium results in hypernatremia, which also has potentially fatal consequences.
- Too much sugar or carbohydrates has been associated with diabetic issues, yet when the blood glucose turnover is excessive, consuming carbohydrates during exercise is safe and recommended.

Essential for athletic performance, heart health, and more

L-carnitine is a natural substance found in food; however, it is not considered an essential nutrient because the body can make it from the amino acids lysine and methionine. L-carnitine is the nutrient that transports fatty acids to the mitochondria for use as a fuel source, and research shows that muscle carnitine levels are rapidly depleted during exercise, even moderate exercise.

A number of published studies have

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shown that l-carnitine supplementation supports exercise performance. Athletes require more carnitine than they are capable of producing endogenously (inside the body). L-carnitine may be particularly important during periods of intense exercise, as it may help to reduce post-exercise lactic acid accumulation and may increase maximal work output. It may also preserve muscle glycogen levels during exercise.

As reported in the majority of studies, an increase in maximal oxygen consumption and a lowering of the respiratory quotient indicate that dietary l-carnitine has the potential to stimulate lipid metabolism (e.g., the utilization of fatty acids for fuel). Treatment with l-carnitine has also been shown to induce a significant post-exercise decrease in plasma lactate, which is formed and used continuously under fully aerobic conditions. Data from preliminary studies have indicated that l-carnitine supplementation can attenuate the deleterious effects of hypoxic (low oxygen) training and speed up recovery from exercise stress. Recent data have indicated that l-carnitine plays a decisive role in the prevention of cellular damage and favorably affects recovery from exercise stress. [1-7]

In addition to its benefits for brain, body composition, and mitochondrial health, l-carnitine is essential for normal heart function. [8, 9]

So what does this particular study mean for me?

While this study is certainly intriguing, it's important to keep in mind that the study subjects—both humans and mice—were given “chronic” amounts of l-carnitine. While we do not know how much was given to these test subjects, previous research done on humans suggests that a very large amount of l-carnitine—2 grams, three times daily (6 grams total/day)—is required for significant increases of plasma TMAO. Other dosages (0.0g, 0.5g, and 1.0g) administered three times daily—a total of 0.0g, 1.5g, and 3g total per day—showed **no change in plasma increases of TMAO.**

REFERENCE: Bain MA, Milne RW, Evans AM. *J Clin Pharmacol.* 2006 Oct;46(10):1163-70. Disposition and metabolite kinetics of oral L-carnitine

in humans. Sansom Institute, School of Pharmacy and Medical Sciences, University of South Australia, Adelaide, SA 5000, Australia.

Conclusion

Athletes can safely consume l-carnitine in supplement form to justify replacement. If you are consuming supplemental l-carnitine, we recommend keeping your totals in the range of 2,000 mg per day. A non-athlete who consumes large amounts of meats that contain l-carnitine does not need to supplement this substance. Animal meat not only generates bodily carnitine increases, it also generates a protein structure that drives weight gain, growth factors, and plaque formation. If not derived from naturally raised grass-fed animals, there are other harmful substances found in meats that over time may prove harmful to health. Overall, we recommend not overconsuming substances from the animal kingdom that drive cholesterol accumulation on artery walls.

L-carnitine levels in foods (per 100 grams)

- Lamb – 190 mg
- Beef – 94-145 mg
- Pork – 28 mg
- Poultry and seafood – 1.6-6.4 mg

L-carnitine in Hammer Nutrition products

- Mito Caps – 125 mg/capsule
- Perpetuem – 25 mg/scoop
- Perpetuem Solids – 6 mg/tablet
- Sustained Energy – 16.6 mg/scoop

HN

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FROM OUR ATHLETES



Above: Judy as this issue's cover girl!

Left: Judy enjoys another beautiful day training at a Hammer Camp in Tucson.
Photo: The Cycling House

Fueled by the heart

BY JUDY ROSE

My story is about joy. I would never have guessed that I would find joy in the sport of triathlon. For starters, the idea of open water swimming made triathlon seem completely unapproachable for me. Curiosity got the best of me, however, and a friend and I participated in a triathlon together with the pact that he would not leave me on the swim and I would not leave him on the run. Working together, I was able to complete my first triathlon.

Years later, I finished another triathlon on my own, and I will never forget how proud I was getting out of the river, shouting, "I did the swim! I did the swim!" It didn't matter that I was one of the last participants out of the water.

As I reflect on my journey of triathlon, I am struck with how triathlon isn't just

about swimming, biking, and running. Triathlon weaves and highlights my mental, physical, and emotional attributes (the helpful and not so helpful) throughout the process of planning, training, and racing:

Overcoming obstacles. If it's not one injury, it's another, or fear of another, and there's always the challenge to "fit it all in" with work, family, and other interests. Being honest about what is getting in the way, looking at your fears, being humble, and asking for help are constant themes within my triathlon tapestry. I brainstorm on how to overcome my obstacles or perceived obstacles and always end up with the question, "Am I willing to make even the smallest of steps to move to a better place?" Sometimes I move eagerly, and sometimes I'm just not ready.

Grace. Enjoying triathlon without losing myself completely is a challenge. I have

the ability to focus and do what it takes to reach a goal, so sometimes I forget how much I also love hiking, heading into the mountains with my XC skis, digging in the garden, or simply walking the dog.

Hammer Nutrition. I am proud to wear Hammer Nutrition tri clothing, and I smile with the idea that Hammer Nutrition is "my" team. I am not an elite athlete, but the people associated with Hammer Nutrition make me feel like one. I never wanted to wear a "team kit," because I felt they stood out a bit too much for me; I always say I am just a regular working girl who enjoys triathlon. However, after meeting the good people from Hammer Nutrition at a Hammer Camp four years ago, I purchased my first cycling kit from Hammer Nutrition and later purchased a Hammer tri kit.

Hammer Camp is one of the highlights of my year. I originally went for the cycling and didn't think that I would care much about the products. After the opportunity to experiment and converse with Hammer Nutrition experts, I now have a group of products that work for me, including Compex. I have come a long way from the early days when my husband would nearly force me to take Endurolytes. I still go to Hammer Camp for the cycling, but the people are what make it extraordinary. I wear the "kit" to celebrate my friendship with Hammer Nutrition and the wonderful people I have met.

Racing. I was afraid that when I arrived at 2012 Age Group National Championships in Burlington, VT, I would feel like I didn't belong. However, once I arrived, I felt proud of the work and the fun I had in getting to the starting line, and was a bit in awe of how far I had come. I belonged!

Gratitude. The gratitude that I feel at times is the greatest and most welcomed surprise—for my fortitude, health, abilities, support of my family, and the many acts of kindness I have encountered along the way. Mostly, I feel grateful for my family and how triathlon is a thread that has brought us together in support of one another.

When the nerves are running high and things don't go quite right, I start to wonder, "Why race? Is this really fun?" Still, as long as I continue to feel joy and gratitude along my journey, I'll keep striving for my perfect race. **HN**

“I’m very proud of them!”



Top left: Kathy and Tim, pre-race. Top right: Dedication. Kathy and Tim do a 5-hour beach training run in the snow with a northeast wind howling behind them. They had to run the beach to avoid the ice beneath the snow. They started many of their runs at 4 a.m. and then would both go to work! Bottom left: Kathy, overcome with emotion, crossing the finish line at 5 a.m. Bottom right: Kathy and her husband.

I wanted to share some photos of my friends Kathy Farmer and Tim Radigan, loyal Hammer Nutrition customers. You sent lots of free stuff for them in one of my recent orders. They finished their 100K early, early in the morning. They started their race at 3 p.m. March 10 and finished in 13 hours, 9 minutes. I’m very proud of them!

Kathy was very nervous and called me two hours before the race, asking how to mix her gel flask because her brain had run off without her!

I hope you feel the emotions in the pictures like I did. Thank you for your support and for giving them the wonderful tools to train and run with. Thank you!

- Mary Luton

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The atypical [Hammer] athlete

For 2013 we've introduced a new column to Endurance News, highlighting some of the less conventional ways athletes are using our products. From professionals in the firefighting business, to adventurers doing things the rest of us only dream about, Hammer Nutrition products are used far and wide. Beyond the bike and the running shoes, here are a few examples of the "atypical athlete."

[Robby Swift]

This was the highest scoring move of the event, and according to the judges, the best pushloop forward ever completed. Windsurfing is the only sport where you can do a whole backwards rotation and then a forwards rotation in the air, and only five people have ever done it. It was pretty cool to land one during that contest!

- Robby Swift, professional windsurfer and Hammer Nutrition-sponsored athlete

Left: Robby Swift throws a perfect pushloop at a storm chaser competition in Brandon Bay, Southern Ireland. Photo : John Carter



[Doug Mumaw]

David Woolley and I have been performing since 1989 as “Dirk and Guido: The Swordsmen!,” a sword-fighting comedy show at renaissance festivals from Maine to California. We have performed over 10,000 sword fights, swinging three-foot steel knives at one another’s heads with speed and precision. This is my job! Since I entertain outdoors, challenging weather conditions are part of my work place. Physical fitness for these activities is a full-time job as well.

The middle of a high-speed sword fight is no time to bonk or experience a reduced level of muscular control due to electrolyte loss. When the television weather person is warning people to stay inside and avoid the crushing heat, I am on stage doing aerobics and leaping about in a tight-fitting costume while swiping playfully at my partner’s head with a 33-inch rapier blade.

Fueling with HEED is how I maintain high energy and mental acuity throughout my performance day. We deliver four shows a day on Saturday and Sunday, which requires that I be as physically and mentally able at 5:30 p.m. as I was at 11 a.m. There can be no bonking! HEED provides the fuel, and my training provides the strength and vigor.

I was introduced to Hammer Nutrition by my brother Brian, an Ironman triathlete. He convinced me to try my hand at a series of sprint triathlons. Witnessing how well the products worked in preparing me for an endurance event, I decided to use Hammer Nutrition for my professional efforts and am amazed at the results.

Smart training and Hammer Nutrition help keep me fit and energized to bring my characters to life wherever and whenever I am needed.

Douglas Mumaw
Actor/Educator



More atypical [Hammer] athletes on page 68!



Layne and Harley at City of Rocks in Idaho.

[Layne Simmons]

I wanted to introduce myself and thank you very much for your wonderful products. I am a runner and triathlete, but I also endurance race my horses and have just started doing ride-and-tie events. In these events, one horse and two people run over trails to the tune of 10-35 miles. It is crazy-intense-fun, and Hammer Nutrition products have gotten me through. I have completed five marathons, numerous half marathons, one full distance Ironman, and over 4,400 competitive endurance horse miles from 25-mile events to 100 miles in one day. I've been racing for over 16 years and have several horses.

I can tell you that with horse events, people spend months worrying about how they will keep their horse fueled and hydrated, but often seem to forget about taking care of themselves. It never ceases to amaze me! I have shared Hammer Nutrition products with as many endurance riders as I can, and you would not believe the following that you have in this small community! Once I tell them that I got through the entire Ironman 140.6 on nothing but your products, they are hooked. I have never had any metabolic issues while using your products—which is more than I can say for my horses! My only question is, when will you come up with a line for the equines in my life?

Thank you very much,
Layne Simmons

[Daniel Palitza]

The day of my black belt test was long and brutal. It was a test not only of my mind and body, but also of my spirit. Six of us tested at the same time. One person was knocked unconscious in the last five minutes, and two of my fellow students were so wracked with cramps that they could barely stand to spar at the end. They collapsed in pain after the test was over. But thanks to Hammer Nutrition and the help of my friends, I sailed through the test and was ready to keep going. I had no cramps and was still on my feet at the end.

For me, black belt is not the finish, it's a stepping stone. It's not something you stop at, like a park bench, but something that propels you towards your next destination in life. This coming year I plan to run in the Rock 'n Roll Marathon in San Antonio, and I'm going to continue my martial arts training and go for my Second Degree Black Belt!

Sincerely, Daniel Palitza



Daniel's fueling for five hours of black belt testing

- 9:30 Water/Hammer Gel/Xobaline (Vitamin B12)
- 10:10 Perpetuem and water
- 10:45 Hammer Gel Espresso and water
- 11:30 1/2 Hammer Bar/water/2 Endurolytes
- 11:55 Water and 2 Endurolytes
- 12:05 Bottle of HEED plus Endurolytes Fizz and 1/2 Hammer Bar
- 1:30 Bottle of HEED and Hammer Gel Espresso
- 1:55 Finished!
- 2:05 Recoverite
- 2:25 Water with Endurolytes Fizz
- 3:00 Hammer Bar



Left: Daniel poses with his daughters, Becca and Katie. Above: Daniel receives his black belt.

Are you an atypical Hammer athlete?

Send us your story, and you might be featured in the next issue of Endurance News! [athleteupdates@hammernutrition.com]

“More companies should care like this!”



Paul Lasko enjoys a training ride.

After I tried a Cashew Coconut Chocolate Chip Hammer Bar, I thought it was about time to make my first order with Hammer Nutrition. I've known about them since I started cycling and never really took the opportunity to get anything until now. I had a couple bouts of strep throat last October (yeah, twice in the same month!), and since then my digestive system has been all wacky. To this day, I still have sensitivities to certain foods like pasta and salad. I decided to order Digest Caps as well as the New Product Sampler Kit to try some Hammer Nutrition fuels.

A somewhat unexpected thing about this order is that it shipped very fast, and the items were expected to arrive within 8 business days. However, the first completely unexpected, and surprising, thing is that I just received a phone call from an unknown number, and on the other end was a gentleman from Hammer Nutrition asking me if I had any questions about my order. I did tell him the short version of the somewhat embarrassing story about why I'm ordering the Digest Caps (the strep and all), and asked if that would be a suitable product. He suggested that the stronger iFlora product would probably have been a better choice, and recommended I do the two caps per day dosage with Digest Caps. He was really

nice and sounded very knowledgeable about the products.

The other unexpected thing is this: When I read the receipt for the first time and saw about 20 total items on there, I nearly had a heart attack, thinking there was an error. But a lot of the prices were marked as \$0.00! Hammer Nutrition included a whole bunch of other free product samples to try out. Free stuff is always good. That's pretty awesome, and I'm already impressed with their over-the-top customer service. I think they really care.

More companies should do this. It's great when companies care. They make you feel welcomed as a customer and it really instills a good company-customer trust relationship, which leads to loyal customers . . . and hopefully podium wins.

- Paul Lasko

More superlative customer service . . .

*“Just wanted to let you know that I was **super impressed with the service I received.** I'm training for Ironman Lake Placid and because of your great customer service and care I will use only Hammer Nutrition products for my training and race day. Thanks again!”*

- Isaac R.

*“Wow! Just received my first order from you guys. Not only did I get a follow-up phone call after I ordered, I got a bunch of free samples with my order. **Awesome! Totally impressed!** I buy a lot of supplements, and this is the first time that has ever happened.”*

- Tamara C.

*“You guys are great! Thanks for all the education. **You have a new customer for life!**”*

- Jason A.



Where are they now?

Catching up with Wayne Kurtz #3316

Interview by VANESSA GAILEY

For the past 26 years and counting, we've had the pleasure of getting to know some incredible athletes, people who we not only consider longtime clients, but longtime friends as well. Our 215,000th client placed an order in March, and while we celebrate the new customers, it is also always fun to catch up with those athletes who've been with us since the early days of Hammer Nutrition.

It might be possible to "catch up" with this issue's longtime Hammer Nutrition client, but keeping up with him is a different story. The epic challenges that Wayne Kurtz trains for exceed the standard definition of "ultra"—Deca, Double, and Quintuple Ironmans plus 24-hour running races. For more than 27 years—and 23 of those fueled by Hammer Nutrition—Wayne has been adding to his list of firsts. His current endurance goal is aptly named the 48 Hours of Dreadmill. But we'll let him tell you about that . . .



Wayne at the 2010 Virginia Double Iron.

You're an accomplished athlete, training guide author, coach, and founder of several race-specific websites. All of your achievements point to the fact that you are passionate about endurance sports and you aren't afraid of a challenge! Before we dive in and discuss the current challenge you are training for, how did you discover your love for competition and ultra distance challenges?

It all started 27 years ago when I saw a brochure at our local park about an upcoming triathlon. As a competitive swimmer and baseball player, I had always enjoyed competition. It is part of my personality. So I trained for that triathlon, and since then I have competed in hundreds of races. The mental challenge of pushing beyond in ultra distance events has become my personal passion.

Your order history with Hammer Nutrition dates back more than 23 years. Where did you hear about Hammer Nutrition (then E-Caps)?

It's been a long time—I did not know that it was that long ago! If I remember correctly, I saw an advertisement in a magazine about the products. I remember Race Caps Supreme as my first order, and I have been using Hammer Nutrition ever since. I have been a walking testimonial of your great products for so many years, especially to many of my athlete friends in Europe where I do a fair amount of racing.

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Wayne prepares for the "Dreadmill"

- continued from page 70

Your idea of ultra racing extends far above and beyond what most athletes consider "ultra" to be. What is your longest (time or distance) challenge to date?

The Deca Ironman triathlon distance has been my longest event (24-mile swim, 1,120-mile bike, 262-mile run), which took just over 10 consecutive days to complete. I have also completed two Deca Ironman races with the one-per-day format (one Ironman per day for 10 days), with a personal best of 142 hours. I have also done dozens of 100-mile and 24-hour running races, nine Double Ironmans, one Quintuple Ironman, and over 60 lifetime Ironmans.

Speaking of ultra accomplishments, that leads us to your next challenge, the 48 Hours of Dreadmill. Share a bit about that event and how you plan to fuel for this long sustained effort.

The Dreadmill started as just an idea among friends who were considering a 24-hour treadmill run. I mentioned that we should attempt 48 hours just to make it extra tough. Our goal in doing so is to create awareness of fitness and what is possible, along with raising some funds for our favorite charities. The boredom, thus the name "Dreadmill," will be a significant challenge. I'll be "racing" other ultramarathoners who are making their two-day Dreadmill attempts in England and Canada. One of my goals is to try to run more miles than my friend Steve Harvey, who'll be starting at the same time on a treadmill in the United Kingdom. Two Canadian friends will do treadmill runs then also, but not for as long a time. My training has been focused of course on more treadmill running—personally I very rarely run on a treadmill, only when traveling for business on occasion—and I have been building up some longer runs.

My Hammer Nutrition formula will be the same, consistent for all my long distance races: two or more Endurolytes (will monitor this as the sweat loss will be significant), one

Endurance Amino, and one Anti-Fatigue Cap per hour. Perpetuem is my primary fuel, plus I will take several shots of Hammer Gel per hour and will include HEED for some variety throughout the run. I hold to my Hammer Nutrition formula for all races and it works for me!

What Hammer Nutrition products do you feel make the most impact on your endurance abilities?

I feel that Perpetuem is the product that keeps me moving along the most. Also, Endurance Amino has been great with respect to helping me maintain day-after-day endurance events and reducing significant muscle fatigue.

Your 2013 race schedule culminates in Italy in September. Tell us a bit about that event.

On September 8, I will be competing in the first-ever Triple Deca Ironman, attempting to set a Guinness World Record along with the other athletes in this event. It's 30 Ironmans in 30 days in the one Ironman per day format. This will push endurance to the maximum level, and the key is to be able to finish the race every day in 24 hours. It does not seem that difficult or impossible a feat, as we normally grind out 13- to 14-hour Ironmans in a day, but over 30 straight days, who knows!

One of your mantras is "Inspire others to go beyond." When did you decide to take all that you've learned and turn it into a coaching career?

The whole focus of RaceTwitch.com, EnduranceRacingReport, Beyond The Iron, and Never Say "I Wish I Had" were purely a personal "give-back" to the sport that has been such an amazing experience to me. I have met some incredible people around the world with this passion for endurance sports and want the sports to continue with the future generations. Helping others with ideas, process, and plans to accomplish their goals has been incredible. I continue to train with a coach and a long-term Hammer athlete, Nate Llerandi. We have been working together for a long time, so I am a big believer in having knowledgeable people around me as we can never know everything. It's my mindset of being a life-time learner.

What motivates you to keep pushing the limits of what is possible? And lastly, what is your first advice for someone who is considering attempting an ultra marathon or triathlon for the first time?

I thrive on pushing to see how far I can take my body and mind, and always ask myself the question, "What's the worst thing that can happen?" As my book title states, I will not say the words, "I Wish I Had." Advice . . . the key is to clearly establish written goals with timelines to ensure that they are not just dreams. Do some research, build an aggressive but realistic plan, and make it happen. **HN**



Balancing act

BY STEVE HEATON

Until three years ago, I had always struggled with how to eat on and off the bike to support all of the hard effort I put into cycling. Then, one seemingly devastating day turned into a life-changing event. I was on a mountain bike ride with friends having a great time, only to end up in the hospital with dislocated shoulder. This was the first time in my life that I have been injured. During the downtime, a friend recommended Tissue Rejuvenator to promote recovery, and that's when I discovered Hammer Nutrition, which helped with my injury and impacted my training significantly.

I had always started my exercise feeling sluggish, which lasted almost an hour before I felt I was able to push myself, due to eating within the hour prior to training. I now realize that, even after I felt ready to ride hard, I was on an energy rollercoaster battling my digestive system. About 90 minutes into exercise, I would eat half of a bar or some carb drink, and then much later maybe the other half of the bar or a gel. My energy was all over the map, and on really hard days or races (1.5 hours into exercise) I would cramp severely on a regular basis, to the point that I just gave in and thought of it as part of my experience. On the weekends, to socialize post-ride, I would stop for a pastry and coffee, feeling I had earned it. By the time I returned home, I would bonk from the sugar crash and need a nap. My weekends would end up consisting of riding and sleeping, and getting nothing else done. Life was out of balance.

As a cycling coach, I preach the importance of “life balance” and how it's the key to success in cycling. This balance comes in many forms: balanced meals off the bike, juggling family time, being present at work with good energy, staying on top of all the little

projects or errands in life, and enough exercise to meet your goals. I had yet to find the balance in nutrition during training.

Once I began to follow Hammer Nutrition's fueling guidelines—no eating three hours before and getting 200-280 calories an hour in gel or carbohydrate drink during exercise—my life began to change. I found balance! I had steady, consistent energy levels during exercise. I stopped the post-ride coffee and pastry, and replaced it with Recoverite. I no longer needed a post-ride nap. BUT the most exciting and life-changing part was that my cramps literally went away and my recovery was much quicker. I'm able to include a higher level of training sooner than in the past. I'd been training 10 hours a week on average for the past 20 years. Fast forward to now . . . I'm literally in the best shape of my life at 47 years old. I'm riding longer, harder, and faster than when I was in my late 20s, without increasing the time I allocate to exercise. Basically, the “life balance,” as I call it, is in place, and I owe it to Hammer Nutrition for offering me the opportunity to learn more about my body.

Three years ago, just before my peak fitness, I hit the reset button after dislocating my shoulder. I took the opportunity to change my ways and, with Hammer Nutrition direction, seriously focus on my weaknesses. I put together a three-year plan that guided me to the level of fitness I'm at today. So far this year I have reached my goal, not only in my fitness but in entering races with the complete confidence that I can win. I have won every race that I set out to in the early season—5 out of 5—and I helped the team win a few others. I'm on track for many more wins going forward this season. I get very excited every time I cross the line first, as if it was the first win of my life, no matter how big or small the race. Very few people ever get the chance to stand on the top step, and I'm getting more than my share . . . and with a focus on “life balance,” I'm enjoying every bit of it. **HN**

The author on his way to a win at the Madera Stage race Criterium. Photo : Daly Costanza

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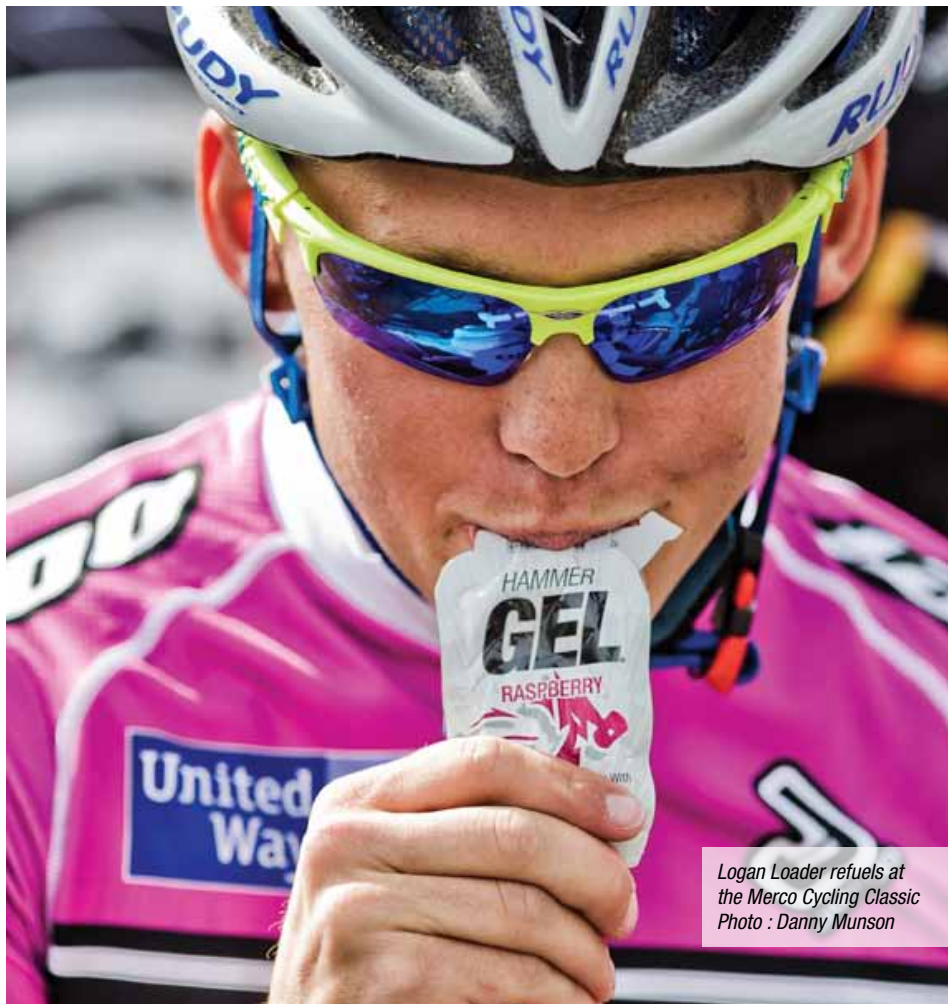
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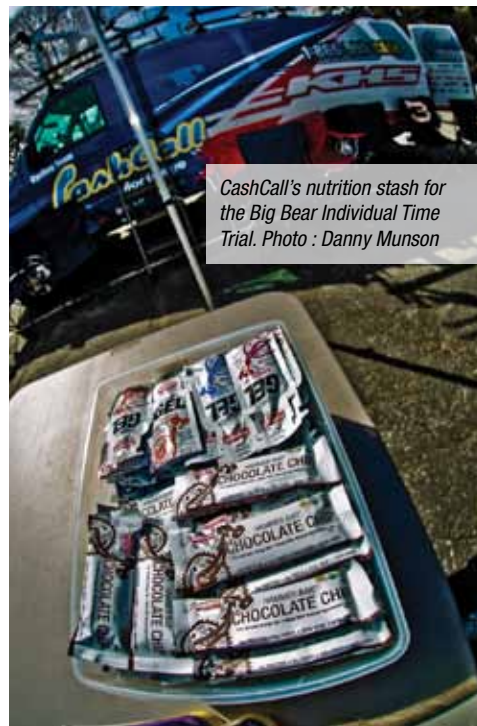
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Hammer Nutrition-sponsored teams



Logan Loader refuels at the Merco Cycling Classic
Photo : Danny Munson



CashCall's nutrition stash for the Big Bear Individual Time Trial. Photo : Danny Munson

CashCall Cycling

BY LOGAN LOADER

On February 28, the CashCall Cycling Team began racing the Merco Cycling Classic in Merced, CA. This event covered four days and included two road races, an individual time trial, and a criterium. With so many disciplines of cycling combined into one race, the fuel and nutrition from day to day changed throughout the event.

During the road races, which were on the first and fourth days and covered 82 and 120 miles respectively, I chose to primarily fuel myself with Hammer

Bars along with Perpetuem. During a long day on the bike, I like to consume a filling, slower-burning product that will last throughout the day and won't leave me hungry.

For the 12-mile individual time trial and the 75-minute criterium, however, I usually consume Hammer Gels on the bike for a quick-acting and powerful fuel. For these shorter events, I don't need the food to last the whole day as much as I need something that is light and easy to digest, while giving enough energy

to help with the shorter, intense efforts needed.

One thing that doesn't really change day-to-day is my recovery drink. My favorite is Citrus Recoverite. I chose Recoverite is because I can tell a noticeable difference in muscle soreness.

I have been really impressed by the wide range of gluten-free options that Hammer Nutrition offers. As an athlete who prefers a gluten-free diet, it can sometimes be hard to find a quality product that tastes good, refuels the system, and is gluten-free.

The Merco Cycling Classic was a very successful event for the CashCall Cycling Team. I won the Young Rider's Jersey, while my teammate Michael Weicht won the Sprint Jersey. On the last stage of the event, teammate Michael Olheiser won the Most Aggressive rider jersey! We were all fueled by Hammer Nutrition to make an excellent start to the 2013 racing season! **HN**



The Team COC car.
Photo : Hunter Zeising

A way to support your ‘Charity of Choice’

BY REBECCA KOTCH

You probably know that since 1987 Hammer Nutrition has provided the highest quality, all-natural products specifically engineered for endurance athletes. Hammer Nutrition helps serious athletes reach their highest level of performance and health—pre, during, and post events. What you may not know is that Hammer Nutrition also helps organizations that support these athletes. In 2013, Hammer Nutrition offered their sponsorship support to Charity of Choice, a rapidly growing social community whose online fundraising platform helps individuals and causes with pre, during, and post fundraising events. Charity of Choice assists individuals or entities in setting up a personalized site to raise money for their cause of choice. Charity of Choice allows their personal network to see who supported their sporting initiatives, personal passion points, or causes.

Charity of Choice’s cycling team, Team Hammer Nutrition/Charity of Choice, is a master 45+ team that is competitive

both on and off of the bike. With 58 wins in 2012 and 21 already this year, these guys also mean business for cause. Each team member rides for a desired cause and encourages others to do the same, including team captain Hunter Zeising, the creator and founder of Charity of Choice.

After running the Echelon Gran Fondo series for three years benefiting regional cancer centers, Hunter realized that many of the participants had very specific causes they wanted to fundraise and create awareness for. Why not give people the ability to put their fundraising efforts where their mouth is and to help create awareness for their preferred cause and through their favorite sport? Thus Charity of Choice was born and has raised over \$1.2 million for about 100 charities. “We found that athletes all had their own favorite causes they wanted to support, no matter when or where they happened to compete—to be able to fundraise around any event, not just a prescribed

charity event, was a novel idea”, said Hunter. “

It does not stop there. There are over 1.3 million charities in the United States generating \$300 billion in donations annually. According to Hunter, “Money isn’t everything. It’s the ability to have a personal platform to spread the word about these many causes, and what Charity of Choice can do is allow someone to connect their initiatives via their own network, and through hundreds of thousands of others.”

While online fundraising is not new, many of the event-based fundraisers are for one specific charity that has a start and finish date with a required dollar amount to raise. “One and done,” as Hunter puts it. “Charity of Choice lets you do any event for any cause, within a system that builds a continuum between charity, donor, and fundraisers. So while you are running your next ultra, or training for your next double century, think about what nonprofit you would like to support, and turn your training miles into money by setting up your very own Charity of Choice fundraising page.”

HN

Australia

Tour South West with Team Hammer Nutrition Melbourne

BY LUKE GILLMER, Hammer Nutrition Australia sponsored athlete

There's a time of day that's very unfriendly, before the sunrise when a cold mist hangs around the city. Nobody likes to see it, let alone go out into it dressed in little more than a thin lycra layer of clothing for protection. But, as a dedicated team, we awake pre-dawn, pull on our Hammer Nutrition jerseys, and brave the conditions. By day, we're school teachers, landscapers, students, and salesmen. But pre-dawn we are transformed into a juggernaut of grafting lungs and legs. Pedaling through the suburbs of Melbourne, you'll find us in a hard training ride or at some of Melbourne's multitude of criteriums or road races.

Having already taken a number of wins in local B grade and Masters A grade events, we decided to tackle a bigger challenge and take the team away from our familiar training and racing environment. We needed to push the limits of what we think we're capable of, which led to our entry into the B Grade division in the Tour of the South West in Victoria, Australia.

Like pro cycling teams, our members each have a special role to play: Paul and Dean (sprinters), Gareth (General Classification specialist), Matt (time trials), Joe (climbing), and Luke and Swanny (domestiques).

The Tour of the South West is staged over two days in April, and the weekend event attracts entries ranging from amateurs to cyclists of international standing. The opening stage is an 82K road race—short but tough climbs, and likely to be windy as hell. Stage two is a fast, flowing, undulating 12.7K individual time trial circuit, sure to showcase a sprinter's strengths. Stage 3 is an hour-long criterium, providing an exciting finale to the tour.

Race Nutrition

We used Hammer Nutrition products to fuel this new challenge for the team. During the race we had Hammer Gels and Perpetuem. With the short turnaround between stages, on day one we had Hammer Whey Recovery Bars so we could easily access these right after the race when we needed them. For race hydration, most of the team used water or HEED in their bottles and Endurolytes to provide minerals. A lot of this strategy was adapted after seeing Hammer Nutrition author and



Top: Matt Ledger, Luke Gillmer, and Joe Murphy at the top of Mount Baw Baw, considered the hardest climb in Australia.

Bottom: Matt Ledger and Joe Murphy make the climb look easy.

fueling expert Steve Born speak about nutrition in Melbourne in 2012. He had a lot of great ideas and helped make things seem very simple. We are lucky to have the full range of products from Hammer Nutrition and feel this is a huge advantage for us. **HN**

Japan

The 2013 triathlon season got off to an interesting start for three Hammer Nutrition sponsored athletes in Japan. When Stephen Armes (pictured bottom right), his son Erik (pictured above), and Paul Smith (pictured bottom left) competed in the Toyosaki Sprint and Olympic Triathlon in March, the forecast called for winds and rain, but gave them quite a bit more.

Paul competed in the Sprint distance tri, finishing just behind 16-year-old Erik, who already has a long race résumé full of overall wins and other accomplishments in adult competitions. "The winds picked up strongly just as I arrived in the parking lot, so I mentally prepared myself for less than desirable results. On the bike, the conditions were horrible with constant heavy rains and strong gusty winds that completely changed directions halfway through, but I quickly passed all of my competition except Erik. Barely five minutes after I finished my run and landed 2nd place overall, a terribly strong monsoon came through and wreaked havoc on the area," Paul shared.

Though Stephen didn't get to defend his 2012 overall Olympic race win, he had a strong race until it was cancelled. "Erik was able to complete the Sprint race before the weather rolled in and was the overall winner. I was in 2nd overall in the Olympic distance, and 40 seconds down from the leader at mile 23 on the bike. Unfortunately, due to winds in excess of 50 mph and heavy rains, the race marshals pulled us off the course for safety reasons," Stephen said. "It was great for Erik to take the win, and I had a blast, albeit windy race," Stephen said. "I was looking forward to defending the title . . . but weather dictated otherwise."



Malaysia

I've been one of the top Ironman triathletes in my country, Malaysia, since 2011. I have raced more than 40 Olympic distance triathlons in Malaysia and nearby countries, and am also one of the Top 3 marathon runners in the veteran category here. I receive Hammer Nutrition sponsorship from Hammer Malaysia. I read *The Endurance Athlete's Guide to Success* (twice) and downloaded many issues of *Endurance News*. Simply love it, tons of information! I'm still learning the products and will keep contacting your Client Advisors with questions. I'm taking this opportunity to thank Hammer Nutrition Malaysia's Ms. Liz for her competent advice on the products and diligently working out the nutrition plan for my race day. In addition, the people at Hammer Nutrition U.S., and specifically Levi's replies, have been very professional. I'm glad to be part of the family.

My next nutrition tests are Challenge Taiwan 226 in May, Ironman Austria in June, and Ironman Western Australia in December. I'm going to use Hammer Nutrition solely!

- Richard Tang



Days of 'Epic' racing

BY BRIAN RODDY

My wife, Carrie Ward, is the adventurous sort, so when Rolf Prima's South African distributor suggested that we field a team for the 8-stage Cape Epic mountain bike race in South Africa, Carrie was all ears. I had read about the Cape Epic but never seriously considered doing it. It is one of the world's biggest races, and this year's event attracted top competition, including the 2012 Olympic Gold, Silver, and Bronze medalists in mountain biking, as well as the reigning World Champion.

We formed two teams: Carrie's brother Adam Ward and I, and Carrie and dark30 Sports owner Steve Cash. We knew we would not be at the front of the race, but we are solid riders and wanted to do what we could. Most importantly, we wanted to all finish the race. We covered 430+ miles with over 51,000' of climbing over the eight days.

From the outset, we knew the race was going to present some challenges different from what we were used to. Not only is it an event that requires speed, endurance, and recovery, it is also in Africa in the early fall with temperatures soaring to over 100 degrees and little shade. We started training in earnest late last summer, but the bulk of our riding was in the Oregon cold and wet of winter. This posed the biggest hurdle: how do you train and test your nutrition when the race is going to be 60 degrees warmer than your training conditions?

The good news is that we had all been using Hammer Nutrition for years to fuel us through endurance events such as Ironman triathlons, ultra marathons, long distance MTB races, high-altitude climbing, and other events that are sufficiently long and taxing. We knew what Hammer Nutrition products worked well for each of us. In long events, body chemistry changes and part of a good nutrition plan is properly managing those changes.

The Plan: We are fans of Hammer Gel, Perpetuem, Endurolytes Fizz, and Endurolytes. I am pretty heat-sensitive, and I churn through electrolytes quickly. My plan was to use Endurolytes Fizz and supplement as needed with Endurolytes. This combination has served me well for years. Adam, Steve, and Carrie planned to use

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Adam Ward enjoys the scenery of South Africa.



Above: The two-person team of Brian Roddy and Adam Ward.

Right: Carrie Ward recovers after a stage day at Cape Epic.

Photos : Courtesy of Rolf Prima





Photo : Carrie and Steve finish another day of riding.

- continued from page 78

Fizz as their electrolyte source. Steve, Carrie and I planned to use Hammer Gel and Hammer Bars for fuel. Adam has found he performs best with Hammer Bars and Perpetuem. For recovery, we all planned to use Recoverite.

The Key: Diligence: The races where I've done well are the ones where I planned the race and then raced the plan. It was easy to get distracted, and I had to put myself on a timer to eat so that I got enough calories but not too much. Diligence in recovery is just as important. Adam was the epitome; each day

at the finish line, he immediately poured a packet of Recoverite into a bottle of water and downed it—he swears by it for recovery.

The Race: This is a tough race, and the planners pride themselves on making this race brutal. Beforehand, we studied the route and knew certain days were going to be tougher than others. The 92-mile day with 8,000' of climbing sounded like a brute, especially on the heels of the previous day of 63 miles with 8,000' of sandy climbing. Those were days two and three—five more days of similar terrain followed. Each night we sat in our tents and planned out our nutrition strategy, and each day the planning got easier as we adjusted to the climate: Hammer Bars and Perpetuem in the morning with some of us moving to

Hammer Gel later in the day. Endurolytes Fizz all day, every day! I might even go so far as to title this report "How Fizz saved our race." Electrolytes were the key ingredient in switching from cold training to hot racing, and Fizz was an easy, tasty way to get electrolytes in.

Throughout the race, we saw some amazing parts of the countryside that even the South African racers said they had never seen. We also had multiple major mechanicals and even a bout with a stomach virus that was going around. Overall, it was a great experience; we met great people, tested our endurance (mental and physical), and we ate a lot (and I mean a lot) of Hammer Nutrition products! **HN**

RUNNING BETTER THAN EVER THANKS TO ENDUROLYTES!

"With 1-2 Endurolytes Fizz in my water bottle on my two-hour training rides, my legs aren't cramping and I don't feel that heaviness after climbing! Fizz also saves me from cramping in the pool. And in my last race, I ran better than ever, thanks to Endurolytes Fizz."

—Karen Chequer-Pfieffer

MSRP
 \$4.95 - 13 Tablet Tube
 \$4.75 - 3 or more
 \$12.95 - 25 Wrapped Singles

Flavors: Grape, Grapefruit, Lemon-Lime, Mango

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CH

Hammer Nutrition sponsored events

One of the clear indicators that the busy season is upon us is the noticeable increase in the number of events that we're sponsoring. Hammer Nutrition pretty darn busy all year long supporting events, but by June things are definitely revving on high. From June 1 through July 7 we're sponsoring nearly 250 events, with more being added daily. (We receive about a half dozen requests every single day!) We're talking about 40 or more events per weekend . . . now that's a lot of events!

Here is just a portion of the events Hammer Nutrition is sponsoring over the next several weeks:

6/1 – Mohican Mountain Bike 100

Loudonville, OH

6/1 – The Wildest Ride in the West (Road Cycling)

Auburn, CA

6/1 – Golden Gate Dirty 30 (Ultra Running)

Black Hawk, CO

6/2 – The Oregon Gran Fondo (Road Cycling)

Cottage Grove, OR

6/2 – Tejas Triathlon

Sugarland, TX

6/2 – Swim Fest at Fort Ritchie

Cascade, MD

6/8 – Liberty Triathlon

Independence, MN

6/8 – Michigan Mountain Mayhem (Road Cycling)

Boyne City, MI

6/8 – 12 & 6 Hours Of Temecula (Mountain Biking)

Temecula, CA

6/8-9 – Del Valle Open Water Festival (Swimming)

Livermore, CA

6/9 – Cutting Edge Half Classic (Triathlon)

Effingham, IL

6/9 – Racing for Recovery Triathlon

Sylvania, OH

6/15 – Mt. Evans Ascent (Road Running)

Idaho Springs, CO

6/15 – Pat Griskus Olympic Triathlon

Middlebury, CT

6/15-16 – National 24-Hour Challenge (Ultra Cycling)

Middleville, MI

6/16 – Stoopid 50 Backcountry Race (Mountain Biking)

State College, PA

6/16 – Tri One On™ The Hempstead Harbor Tri (Triathlon)

Port Washington – NY

6/21-23 – Mt. Hood Cycling Classic (Road Cycling)

Hood River, OR

6/22 – Old Gabe 25K and 50K (Ultra Run)

Bozeman, MT

6/22 – HP Networking Coolest 24 Hours (Mountain Biking)

Cool, CA

6/23 – Golden Gran Fondo (Road Cycling)

Golden, CO

6/23 – “Oh My Goddard!” Sprint & Olympic Distance Triathlon

Warwick, RI

6/24-28 – Gold Rush Randonnée (Road Cycling)

Davis, CA

6/29 – Tupper Lake Tinman Triathlon

Tupper Lake, NY

6/29 – Black Hills 100M/100K/50M (Ultra Running)

Sturgis, SD

6/30 – Iron Mountain 100K (Mountain Biking)

Damascus, VA

6/30 – Vermont Sun Triathlon

Salisbury, VT

6/30 – Riverside Duathlon

Little Rock, AR

7/6 – A Tri in the Buff (Triathlon)

Buffalo, NY

7/6 – Afton Trail Run 25K and 50K (Ultra Running)

Afton, MN

7/6 – Test of Endurance 50M & 100K (Mountain Biking)


Blodgett, OR

7/7 – JCC Scottsdale Firecracker Adult & Youth Triathlon & Duathlon

Scottsdale, AZ

7/7 – Whaling City Triathlon

New Bedford, MA



Racers hit up the aid stations for HEED during the Hammer Nutrition-sponsored Tucson Bicycle Classic.

To stay up to date on what events we're sponsoring, go to www.hammernutrition.com/calendar. From there, you'll find more information about each event, including their website, specific location, and what Hammer Nutrition is providing.



Overall female winner Suzy Degazon celebrates a successful 50-mile run at the Beyond Limits Ultra Race.

Hi Hammer Nutrition,

First, I can't thank you enough for your support of Beyond Limits Ultra! Having Hammer Nutrition's support was a huge perk (especially since Ken and I both use the products personally). And then the excitement kept going when a woman I absolutely love and adore, Suzy Degazon, showed up in the Hammer Athlete Education Series with the photo from our inaugural race! I love that she is wearing all of her Hammer Nutrition gear and holding our race awards and sporting our medal!

BLU was a bigger success than we ever imagined.

All my best,
Stephanie Kundin
Beyond Limits Running

GOOD to the last BITE

Hammer Vegan Recovery Bar . . .
Wow! I give that one a big **THUMBS UP** and I'm not vegan! I like their consistency and "easy chewing" aspect. Great stuff! My diet is organic, gluten-free, and about as "clean" as you can possibly get. I appreciate that with Hammer Nutrition products there's no worry about what's in the products!



— MARY L.



- 14 grams of vegan protein per bar
- GMO-free, soy-free
- Gluten-free



MSRP
\$2.95 - 57g Bar
\$2.75 - 12 or more*
*Mix and match flavors
Flavors: Chocolate Peanut,
Almond Cacao

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By the Numbers

BY VANESSA GAILEY, Hammer Nutrition sponsorship coordination team

They're everywhere! From your local mountain bike races to Ironman events, 100-mile trail runs, and beyond, Hammer Nutrition-sponsored athletes have kicked off the 2013 summer racing season with podium finishes across the country. We have representatives competing in kayaking, open water swimming, tennis, rock climbing, ultra running, martial arts—the list of sports disciplines goes on and on.

Every Monday, the Hammer Sponsorship Coordination Team comes in to an email inbox full of race reports from the previous weekend. These recaps and personal accomplishments are a great way to begin each week, especially when

reviewed with a cup of freshly brewed 53x11 Coffee in hand! When looking at our athletes' collective results by the numbers, it is indeed impressive, a true testament to the great effects of fueling right.

Whether you are a sponsored athlete or not, email us with your training and race successes. Throughout the year we will be recognizing you all through "By the Numbers," celebrating Hammer Nutrition athletes who demonstrate our shared commitment to a healthy, fit lifestyle.

We look forward to hearing from you all as you help us set a PR in our podium count for 2013! *HN*

Send news of your successes to athleteupdates@hammernutrition.com

Highlights:

AZ Devo Junior Development Team - 1st place 5-person coed team at 24 Hours of Old Pueblo

Taylor Robert - 2nd place Pro at Enduro Del Verano, Argentina

Destry Abbott - overall winner at John Burr 6-Hour Endurance race

Dirk Himley (Team Hammer/COC) – overall AG stage winner at Madera Stage Race, with team member Cale Reeder as 2nd place AG stage winner

Michael Gibson – 2nd place AG at U.S. Biathlon Nationals in both Pursuit and Sprint

Keith Wong (Echelon Velo VuMedi) – 2nd place overall GC and KOM at San Dimas Stage Race

Suzanne Endsley – 1st place AG at Ironman 70.3 Oceanside

Susanne Endsley, Ironman 70.3 Oceanside.
Photo : Dale Hernandez-1DKPIX.COM.



2013 By the Numbers

Month	Podiums	AG wins	Overall wins
Mar.	83	34	19
Apr.	102	38	18

"My solid age group win at 70.3 Oceanside was the result of a nutrition plan filled with Hammer Nutrition, including HEED, Hammer Gel, and Perpetuem. These great products fueled my win, secured my slot to the 70.3 Championships in September, and helped me set the run record for my age group!"
- Suzanne Endsley



Hammerbuck\$ winners clockwise from top left: Jodi Ruby, Sean Lewis, Stacey Sweetser, Jack Kelso

HAMMERBUCK\$

Turn race day into **payday!**

Almost \$40,000 in cash and credit awarded in 2012 . . .
you could be next! www.hammernutrition.com/deals/hammer-bucks/

Hammerbuck\$ winners in 2013



Photo : Greg Smith

Reilly Smith
Ironman 70.3 Texas
1st 30-34
Ironman 70.3 California
2nd 30-34

\$1000 cash
\$500 cash

*"The Hammerbuck\$ program is like nothing out there. It speaks volumes for a company caring about their athletes. You allow me to do what I love—travel the country and distant parts of the world to train and race on a tight budget. Hammer athlete for life."
-Reilly Smith*

From our athletes

Catching up with the stars of tomorrow



Space Coast Youth Multi-Sport.
Photo : John Miceli



Space Coast Youth Multi-Sport

Across the state of Florida, Team Hurricanes competitors decked out in Hammer Nutrition kids tri clothing are toeing the line this race season, as part of Hammer's sponsorship support of this hard-working junior triathlon team. Kids ages 5 and older train and race year-round as members of the Hurricanes, a USAT official club through Space Coast Youth Multi-sports. With more than 40 club members, they kicked off their racing program in March and will attend events through October, including IronKids in Orlando, Star Kids Triathlon, Heartland Kids Tri, and Sunrise Series Kids Triathlon.

Carolina Heat

The Hammer Nutrition-sponsored Carolina Heat won the March Madness Tournament, thanks to Hammer Bars and HEED. We had back-to-back games both days.

Thanks!
Greg Spindler



Anthony Miceli

My son loves endurance sports and is an amazing young triathlete and remarkable martial artist, and gymnast. He wore his Hammer Nutrition kit at the StarKid Triathlon. Every time I think I couldn't be prouder, he proves me wrong.

- John Miceli




Jeremy & Thompson

When our son spotted another "Hammer" athlete at a youth triathlon this past weekend, he thought that was super awesome. Jeremy Hall (left) and Thompson Jones (right) each took 2nd place in the first race of the Greensboro Youth Triathlon 7.03 Series.

- Avery Jones

"Thank you guys for all that you do!" - Chris R.



Melissa accompanies her son Keller on his first OBRA cross country mountain bike race.

Family Matters

Sharing a love for sport

BY MELISSA NORLAND

Melissa Norland is an XTERRA Off-road triathlete with 13 XTERRA races and countless MTB events on her résumé. She and her family travel throughout Oregon during MTB race season; she completed the 2012 season as the Cat 1 expert female points winner.

When my children set up mock 50K, XTERRA triathlon, and cyclocross race courses in the yard after returning home from these events, it is a clear indication that they are inspired. We ring the cowbell as Alleck and Keller round the corner for another lap, and have fun with the “aid stations,” where we offer HEED and Hammer Bars.

When the boys were young, Trevor and I pushed them in the stroller or pulled in them in a bike trailer during workouts. And as they grew, their abilities evolved and we adjusted our family outings to accommodate these new abilities and interests. What began as simple rides around town have become multi-hour excursions on forest trails. Training and racing with children is a balancing act. Trevor and I are committed to sharing this lifestyle of activity, nutrition, and community with our children, while at the same time striving for our individual athletic goals. At many races my boys are on the finish line as I cross, with their bikes ready to ride the course. As

I painfully ride past the food tables and fellow racers communing after the race, there is just no way I could say no. I love watching the boys smile as they bomb down a section of trail, or as they grit their teeth while climbing a steep pitch.

Our family loves Hammer Nutrition products, which are very much a part of our training, family, and racing balancing act. Our favorites are Melon HEED, Strawberry Recoverite, and Montana Huckleberry Hammer Gel. I love hearing my boys burst through the door after school asking for a Hammer Bar as a snack. Keller’s favorite flavor is Cashew Coconut Chocolate Chip, and Alleck loves Oatmeal Apple.

My kids are inspired and motivated by seeing Trevor and I train throughout the weekdays and compete on the weekends. We are excited for what lies ahead, as Keller is interested in racing in the junior OBRA mountain bike series this year. We will continue to evolve as a family, and support one another in achieving our goals. **HN**

FROM OUR ATHLETES



Hannah Stedge

I had a great month of training in March. At my month-end fit test, I saw improvements: I improved my running pace per mile by 20 seconds. In my 30-minute bike test, I improved my power by 20%. In swim training, I've been working on my breathing technique, and that has helped increase my speed in my workouts.

I purchased Perpetuem a few weeks ago and used it on my long bike ride last week. It worked great! I didn't lose energy, and it kept me from getting hungry as well. I plan on also using it on my long runs. My favorite product is still Recoverite though. I told my husband that if there was one product I could use solely, it would be Recoverite! I really feel that it helps my muscles recover quicker and be ready for my next workout. I use it every day. My running friend is also planning on purchasing Recoverite because I gave her a scoop of mine and she was converted instantly!

- Hannah



John Storkamp

I finished the Iditarod Trail Invitational 350 in seven days, and I am not sure if this is something to be proud of (or another reason to question my sanity) but I took approximately 150 Hammer Gels during the race in addition to other solid foods, equaling about 4,500 calories per day! Here I am at Rainy Pass (mile 185) wearing my Hammer Nutrition visor!

- John



Major Taylor Development Team

Major Taylor Development Team of Brooklyn, NY, gets some winter training in on the summit of Kitts Peak near Tucson. From left to right: Lorenzo Brown, Malik Graves-Pryor, and Patrick Merosier.

Leoni Campbell

Perpetum Solids—AMAZING! I received my first tube as a free gift on a Hammer Nutrition order when they were first released. That weekend I stuffed them in my jersey pocket for our annual 4th of July Ride in the mountains of eastern San Diego County, CA. For 70 miles of riding with 6000' of climbing, the protein was needed. They were a perfect addition to my nutrition plan, and I felt great the entire ride. My dad is rather old school, and he enjoyed them too. I think he actually bought into the idea of nutrition on that ride.



This year we opted to go on an "adult" spring break. A friend and I met up in Spokane, WA, and headed to the eastern side of the Cascade Range. We spent a couple days in the backcountry snowshoeing and camping. Perpetum Solids performed superbly. For gloved hands in the cold, the container is easy to open and the tablets do not freeze, making for a quick bit of fuel on the go. Perpetum Solids are a great go-to source of protein for athletes on the move for sustained periods of time in austere conditions. Thank you, Hammer!



Mitch Hoke

Hammer Nutrition-sponsored Team Kenda/Felt was in Fontana for the third stop in the Pro XCT Series. Fontana also offered a Triple Crown contest, where the person with the best results from the XC, Super-D and Short Track took home the Triple Crown title and some extra cash. Mitch won the title, anchored by his 5th place in the XC and 6th in the Super-D. In the XC, Mitch was the 3rd place U.S. finisher, behind two former Olympians.

Satisfy the need for a **SOLID** performance!

“I have been looking for a product just like Perpetum Solids for a long time. They are the perfect, and I do mean perfect, product for long bike rides and prerace snacks. Sometimes only a solid food can satisfy my pre- and mid-race hunger, and that is exactly where this product shines. I'm a **BIG FAN** of Perpetum **SOLIDS!**”
— Bryan B.

special offer!

Purchase a 6-tablet tube or a 90-tablet container of Perpetum Solids, and get another one FREE! No limits! Ad Code EN85PS. Offer expires 7/4/13. Valid while supplies last.

- Consistent, stable energy
- Easy to digest
- Minimize lean muscle tissue cannibalization

MSRP

\$3.95 - 6 Tablet Tube
\$3.50 - 3 or more
\$37.95 - 90 Count Container

Flavors: Caffe Latte,
Orange Vanilla,
Strawberry Vanilla



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FROM OUR ATHLETES



Zahira Rivas

For the second year I was the overall female finisher at Club de Pesca 25K Beach Run in San Felipe, Baja California, Mexico. I super love your products!

Zahira's list of accomplishments include:

- Mexicali Paul Ayusso Duathlon
 - 3x overall winner (2009-2011)
- TriRock Olympic Triathlon San Diego
 - 2nd overall (2010)
- Mexicali Marathon
 - 1st place division (2009-2011)
- Mexicali Half Marathon
 - 1st place division (2009-2013)
- Rocky Point Triathlon
 - 1st place division, 3rd overall (2010-2012)
- San Felipe Olympic Triathlon
 - 1st place overall men and women (2012)



Denise Terry

I ran a last-minute 5K race a few weeks ago with a 7-second PR, finishing 4th female overall and 2nd in my age group. I'm finally feeling like my old self! I also recently added some Hammer Nutrition supplements to my training, and I'm really glad I started using Digest Caps. I've noticed a difference in my skin. After really intense training, I had some crazy things go on that my doc thought were related to my immune system being knocked down. Within days of using Digest Caps, I noticed improvements and with continued use, it's completely gone.



Raymond Fortner

It was nice to get my first race of the season under my belt. It was a very warm 85 degrees for the Big Sandy Race on a relatively exposed course. Endurolytes and Endurolytes Powder were mandatory for me to manage cramping. A double concentration of HEED in the hydration pack and Hammer Gel kept me feeling strong. I finished 2nd place in my AG in Expert Men's category.

Send us your news today at
athleteupdates@hammernutrition.com



Gilson family

We depended on Hammer Bars during our seven-day kayak expedition through the remote Belilieu Islands, often eating as many as 4-5 per day! This photo is our rest stop after a treacherous 3-hour crossing of the Dugong Channel in the open ocean, giving everything we had to avoid the impending five-knot current with the receding tide. All the triathlon training paid off so that we could enjoy the adventure of a lifetime. I would have appetite refusal on any other energy bar. Thanks!
- Brad

Alex Gilson, triathlete and swimmer
Leighann Gilson, event organizer
Brad Gilson, triathlete and race organizer
(and 2012 LOTOJA champion!)



Noah Adams

Noah, a motorcross friend of mine, just got into mountain biking and got a podium right off the bat at the Cannondale Triple Crown. He uses all your fuels!
- Jimmy O'Neal



Photo : Helen Wanamaker

Tyler Coplea

Hammer Nutrition-sponsored cyclist Tyler Coplea placed 7th at the Santan Crit, racing Cat 2/3.

FROM OUR ATHLETES



Photo : Helen Wanamaker

AZ Devo Junior Development Team

We did a mountain bike clinic with our team riders and other juniors out here in Arizona. Riders learned handling skills, training advice, nutritional tips (featuring Hammer Nutrition products) and trailside repairs. In this photo Clayton Stone works on cornering skills, with Recoverite serving as a cone for us and a reminder of the reward at the end of the day.



Photo : www.hllcrestphoto.com

Daniel Seiger

I recently raced in the Hammer Nutrition-sponsored New Jersey Ultra Festival. Of course, Hammer Nutrition was the fuel to a successful day. For my 50-mile race, I had Endurolytes capsules, assorted Hammer Gels, Strawberry HEED, and Cranberry Hammer Bars.

The day started off with just below freezing temperatures. I downed a Hammer Bar and a bit of Strawberry HEED, and took my place on the starting line. I quickly found a comfortable rhythm and tried to complete as many miles as I could before the trail would eventually thaw and create a very muddy, slow-going trudge. Despite the cool weather, I found that two Endurolytes every 10 miles and a Hammer Gel every 5 miles was the perfect combination. These accompanied with HEED every mile for the first half of the race and then every two miles after that was the perfect combination of calories, protein, and electrolytes. Despite the wet and muddy conditions, I was able to easily maintain a 7:18 pace, winning the 50-mile race in 6:05. Thank you Hammer!



Melanie Mociun

Melanie placed 1st in her age group at the Marin County Swim's Olympic Distance Open Water event



Jeanine Spence

I recently completed my fastest double century in Solvang, finishing as the 1st place woman and 10th place overall. My time was 10:20. As usual, I used two scoops of Sustained Energy and one scoop of HEED per bottle, and tried to drink one bottle every 90 minutes. I was also taking Endurolytes and Anti-Fatigue Caps. Hammer Gel gave me the extra energy to climb the hills, and I followed up the ride with a bottle of Recoverite. I felt great the next day!



Photo : Jenny Lyle

Mike Lyle

1st place overall - Lopez Lake Sprint Tri near Arroyo Grande, CA.



Tyler Miller

I was lucky enough to spend my spring break with my family in Moab, UT. Having never been, I can honestly say that this place is insanely fun. We rode five days in a row and logged more than 18 hours on the trails. This was a ton, but a consistent regiment of HEED, Hammer Gel, Hammer Bars, Hammer Whey protein, Endurolytes, Endurolytes Fizz, and Hammer Whey Recovery Bars made it all possible. The legs held up and I felt super strong all week!



FROM OUR ATHLETES



"Killer Bee's" wounded warrior charity ride. Photo : Monique Young

Glenn Young

I just placed my quarterly VIP order and anticipate that some of my friends will be calling to join the program soon! My primary fuels during long rides are Perpetuem and Endurolytes. I experimented with the Cranberry Hammer Bars during a couple of training rides to add some flavor to my riding diet. (Wanted to be sure they did not create any stomach issues.) Worked perfect, so I will be adding them to my very long training rides. Summer is almost here, so I will be having a fresh fruit smoothie with Hammer Whey Protein after long training and running sessions!

Perry Solomon

I made it to the top of Haleakala yesterday fueled by HEED, Perpetuem, Endurolytes, and Hammer Gel. The wind was howling, it was 45 degrees, and I was glad to descend! Five hours up, 90 minutes down. Hammer Nutrition rules!



David Cole

Thanks, Hammer Nutrition, for helping me place 21st (2nd in my age group 40-44) in the 15-mile Iron Warrior Dash 2013.



Melanie placed 1st in her age group at the Marin County Swim's Olympic Distance Open Water event

Mike White

Five of us left the cold, wet April weather of Michigan for a 100-mile ride along the Natchez Trace Parkway. As you can imagine, we were a little concerned about completing 100 miles this early in the season. Thanks to your products, we all finished feeling better than expected and were smiling at the end. We consumed Sustained Energy, Perpetuem, HEED, Hammer Gels, Hammer Bars, and Endurolytes, and topped it off with a cool bottle of Recoverite at the end.



Ashley Wojtowicz, Robin Buckles, Vanessa Barbosa

I ran the Holo Wahine 5K along with two other athletes (and now new Hammer Nutrition enthusiasts) that I coach. I ran a PR, good enough for 2nd place in my age group, and Ashley and Vanessa placed 1st and 3rd in their age groups with PRs too . . . all thanks to the help of Espresso Hammer Gel and Race Day Boost!

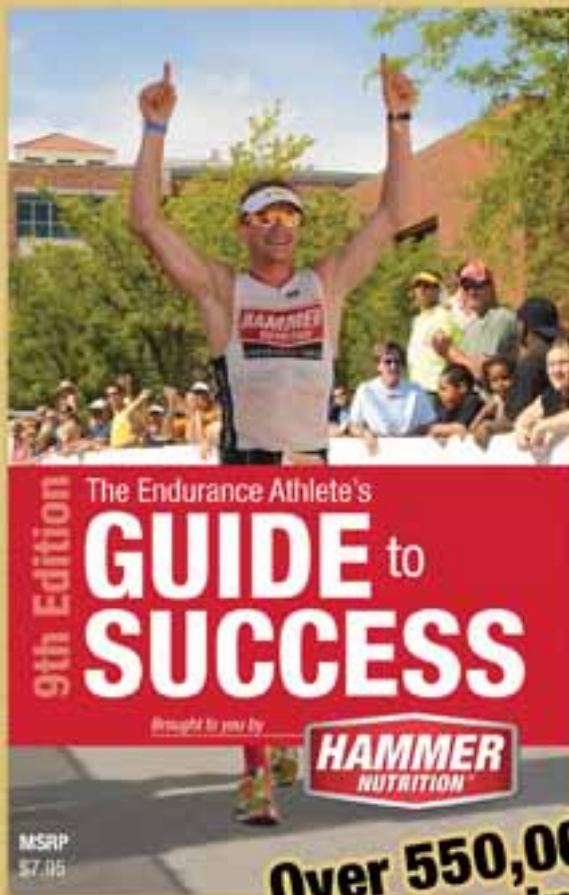
I love your products. With my own training for 70.3 Ironman, teaching spin class four times a week, running my own coffee business six days a week, and coaching . . . I need all the help I can get!

Hammer on!
- Robin Buckles

"I'm reading The Endurance Athlete's GUIDE to SUCCESS.

It is extremely helpful!"

- Greg S.



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- Rationale behind the Hammer Nutrition products
- 144 pages

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“Why we *love* the Hammer VIP



“My husband and I train using only Hammer Nutrition products, and last year we started the VIP program.

HEED, Hammer Gel, Endurolytes, and our absolute must-have, Strawberry Recoverite, are what we use for training for and competing in Ironman 70.3 and marathon races. Thank you, Hammer Nutrition, for making such great products. We highly recommend them to all athletes!”

- Anne Reed, VIP customer

“Hammer Nutrition is the best. Since I started the VIP Program, I have beat at least a dozen of my all-time personal bests.”

- Jared Johnson, VIP customer

“I have been a member of the Hammer Nutrition VIP program for over ten years.

The convenience of having your favorite Hammer Nutrition products shipped to you on a regular basis can't be beat. It's easy to modify your quarterly shipments too. I simply respond to the email I receive prior to shipping and modify my order as necessary. I love the discounted prices! As an added bonus, every month I receive a cool free gift for being a VIP athlete. These are not cheesy goods either; they're high-quality items such as socks, visors, water bottles, or Hammer Bars (to name just a few). Do yourself a favor and join the VIP program. It's a no-brainer way to foolproof your nutritional plan.”

- Jeff Cuddeback, VIP customer

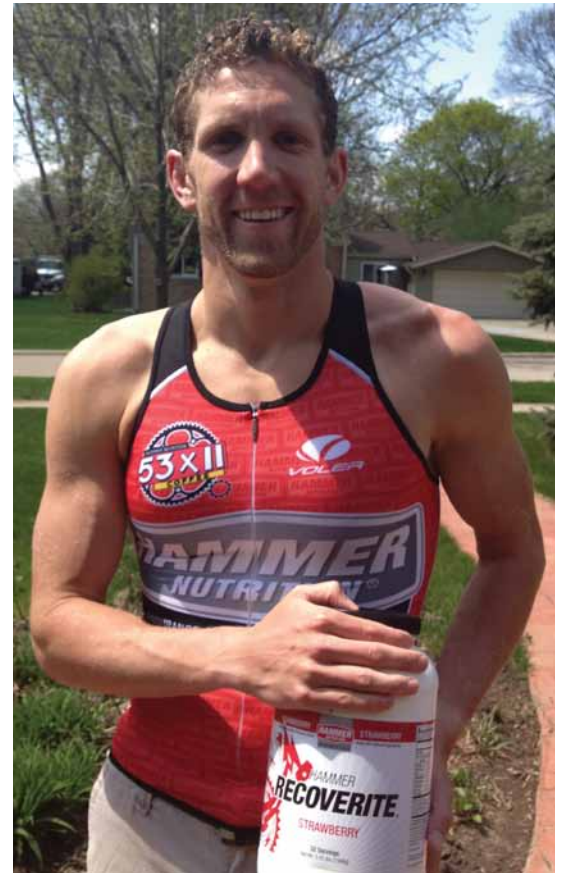
3 Time Ironman Age Group world record holder
5 Time World Champion (ITU, 70.3, and Ironman)

Program!"

"For the last 18 months, I've taken Recoverite after hard workouts. I wanted to see just how effective it is, so I staged a little test. For six weeks, I did very similar workouts each weekend (long, difficult ride on Saturday followed by a 105 minute endurance run on Sunday). On weeks 1, 3, and 5, I took Recoverite after my Saturday workout. On weeks 2, 4, and 6, I did not. I was astonished at the difference in my Sunday runs! On average, I was able to run about 1/2 mile farther on the days after I took Recoverite than the days I didn't! I found my muscles to be much less sore, more responsive, and my run much more enjoyable.

After these amazing results, I've since started taking Recoverite after every workout, and I'm definitely seeing the benefits!"

- Taylor Ames, VIP customer



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Join the Hammer VIP Program today!



What is it?

The HAMMER VIP Program offers the ultimate in convenience and VIP treatment with scheduled shipments and discounted pricing.



FREE clothing!

Receive a free Hammer Nutrition clothing kit with your first order! Select one of our sport-specific kits: cycling jersey and shorts, tri jersey and shorts, running top and shorts, or swimwear with a swim cap and a large towel. Ask a Client Advisor for more information.

How does it work?

Call our 800# to have one of our friendly Client Advisors help you select the correct Hammer Nutrition fuels and supplements to meet your needs and goals. We'll then ship your products every 90 days (free ground shipping!) without you ever having to pick up the phone again.

An advisor will also call or email you approximately ten days before your scheduled ship date to see if you'd like to add anything to your order to take further advantage of free shipping and discounted pricing.

*Sorry, international clients are not eligible for these programs; only valid for U.S. residents.

**You are free to cancel your participation in this program at any time, however some limitations on the free gifts apply. Monthly shipments must be > \$50, quarterly shipments > \$150. See website or ask your Client Advisor for complete details.



Call Katey to sign up for the Hammer VIP Program and start saving today!

What do you get?

- 1 - A special team of advisors assigned to your account and special access to our experts.
- 2 - Automatic resupply of products every 90 days.
- 3 - On your first VIP order, we'll send you a clothing kit for FREE. Ask your advisor for details.
- 4 - On your second VIP order, you'll receive a FREE softgoods item of your choice, up to \$20 in retail value.
- 5 - FREE goodies on every future shipment as well.
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- 7 - FREE ground shipping on all automatic shipments and one fill-in order per quarter.

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Call 1.800.336.1977



ENDURANCE NEWS

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Use the #1 sports drink and enjoy:

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- Natural ingredients

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\$1.80 - 6 or more
\$26.95 - 32 Servings
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Melon, Strawberry, Unflavored



FREE BONUS!

Receive four single-serving packets of HEED with each 32- or 80-serving container you buy. No limit.
Ad code EN85H. One packet of each of the four flavors included. Offer expires 7/4/13. Valid while supplies last.



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