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**John Kelly**
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PLUS...
- Product Spotlight: Essential Mg
- Cooling, Culinary Coffee
- NSAIDS & Low Back Pain

AND MORE!
Bachelor Party

“This was an awesome day! The guy right behind me is Mark and this was his bachelor party trip! It’s the kind of bachelor party I can get behind,” says Hammer athlete Scott Turpin. “We all flew to Squamish with this peak, The Black Tusk, in mind: 19 miles of trail running, mountain scrambling, glacier lake swimming. Endless fun! Our wedding weekend was fueled by Perpetuem, huckleberry and espresso Hammer Gel, as well as MitoCaps, RaceCaps and Anti Fatigue Caps. Recovery was Recoverite and Tissue Rejuvenator!”

Photo: Dan Noll
Welcome to the 105th issue of Endurance News

As we continue to celebrate our 30 years of Endurance, 2017 is shaping up to be another amazing year of growth, innovation, refinement and wins here at Hammer. This issue is packed full of winning strategies for your diet, fueling and supplement program as well as race wins and encouragement from the field. The more you Hammer, the more you win, in so many ways! Instead of patting myself and my staff on the back for reaching the 30 year milestone, I want to pat you on the back and say THANK YOU! My motto has been “principles before profits” for a long time, but perhaps I should take our Dealer Services Manager, Loren Mason Gere’s advice and change it to “people before profits?” Either way, it means that we are more concerned about doing right by you than we are the bottom line. Over the past three decades, I believe I have proven this to be true and I hope that more brands will see the light and adopt this mentality. I can dream, right!

I won’t ever forget that we would not be here without you and everything we do is ultimately for you and your best interests. How many other brands that you buy and use their products can say the same or have a 30 year track record to prove it? My guess is not many, which is unfortunate.

Through this publication and our other educational publications, you can count on us to continue advocating a healthy diet composed mainly of whole foods, sourced locally whenever possible, and supported by prudent supplementation. We always have and will continue to promote severe moderation of sugar, wheat, dairy, artificial sweeteners, chemicals, additives and preservatives. Without exception, all of our products are in keeping with this enlightened approach to achieving and maintaining optimum health and performance. Combining this dietary approach, our products and our original fueling protocols are a recipe for success that simply cannot be denied. It may not be as sexy or fun as the other brands that are promoting sugar, salt, bacon and beer, but I’m okay with that.

Consumer trends continue to move in our direction. The ever growing demand for non industrial produced foods, organic produce, locally grown food, sustainably produced protein, holistic health alternatives and the avoidance of chemicals, preservatives and the like affirm the rock solid principles on which this publication and Hammer Nutrition were founded.

With new brands and products popping up on a regular basis, how does a brand that is celebrating 30 years on the leading edge of sports nutrition stay at the forefront of the market? Simple: constant innovation while refining and improving existing products simultaneously! From our flagship supplement Race Caps Supreme (reformulated three times since 1987) to one of our newest products, Vegan Protein (introduced in 2014, reformulated in 2016), we never rest on our laurels. In fact, we continuously and simultaneously develop new ground breaking products, while also evaluating every one of our existing products for improvement based on new research and new ingredients that come on the market.

With Hammer, you get the best of both worlds – tried and true, proven effective products from a 30 year old brand and the newest, cutting edge products on the market. Truthfully, our new and existing products outperform the “me too” competitors flooding the market and cluttering up store shelves. Of course, our five star customer service and endless educational resources are just a free bonus!

I’d love your feedback on our products, service and knowledge, so please be sure to let us know what you think! Email support@hammernutrition.com or me directly at suggestions@hammernutrition.com

So, enjoy the read and recycle this issue by sharing it with a friend, or two or three.

Brian Frank
Hammer Nutrition Owner

On the cover: Hammer athlete Thomas Maximus Shahninian on a late afternoon ride on California’s San Juan Trail. Photo: Richie Schley
In this issue, Hammer continues its war on sugar with three new hard-hitting articles.

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Starting Lines
Letters from Hammer Nutrition Athletes & Clients

Race Day Results
The smile says it all. Dusk to Dawn Arizona was only my fifth day back on the bike after four months out of the saddle. I went into the race as a training day with no expectations of how my body would respond to 9:30 plus hours of racing. Thanks to the variety of Hammer products utilized, I felt good halfway through the day and thought I better stay on it, so I did, and finished the day stronger than I started. Without question, I couldn’t have had the performance I did without my fueling & supplement regimen. Hammer On! -Don Moden

Energy Essential
“Endurolytes Extreme is an essential tool while training in the hot and humid conditions that prevail where I hammer, the Gulf Coast of Texas or the mountains in Northern Mexico. They keep me going all day long whether logging miles on long runs or peak bagging under the scorching sun completely cramp free with no side effects. There’s simply nothing better on the market. Hammer on!” -Francisco Garza

Rave Reviews
“Fully Charged is an amazing product. It gives the focus and extra boost I need at the start of my workouts. I love the flavor, the natural ingredients, and the results are indisputable.”
-Brad Tyra

The Right Whey
“Hammer Whey is my go-to meal before bed and sometimes, my post-workout shake. My favorite flavor is strawberry because it has that right taste of sweet, but not a strong aftertaste. Also, it helps with my sleeping. Overall awesome product. Go Hammer Nutrition!”
-Tylor Tarantino
Pure and Simple

“It was a pleasure speaking with fueling expert, Steve Born! Hammer Nutrition employs incredibly knowledgeable individuals who believe in the product and have great customer rapport.

My Tissue Rejuvenator and EndurOmega supplements arrived today! I was amazed, considering yesterday was a holiday. Thank you for the health tips and allowing me the opportunity to sample another Hammer product.

I took a chance the first time ordering, based on the ingredients of the supplement, which were few and “easy to pronounce.” Yes, according to what I have read, one should never put anything in or on your body if there are too many ingredients and you cannot pronounce them. There is truth in this recommendation since I have personally experienced the negatives with prescriptions for my back and steroid induced eczema. After the back injury and downing too many Advil each day without relief and dealing with the side effects, I knew I needed to try another venue. I am so glad I discovered Hammer. Hopefully, I can continue to avoid surgery with the help of Hammer supplements and a dedicated exercise regime.”

-Sharon Collins
DADS HAMMERING WITH THEIR KIDS. USE THE HASHTAG TO SHARE YOUR PHOTOS!

@jeffwattersxxx Getting my new teammate ready for his first #adventurerace in two weeks. #hammernutrition #howihammer

@loren.thompsonafa We found our favorites while shopping @fleetfeetstomo! @hammernutrition #OCR #hammerGEL #HEED #endurolytesEXTREME #Recoverite #howihammer #hammerfamily

@ultra_kel G drinking MY post run Hammer smoothie. Like father like son. #hammernutrition #howihammer #hammerjr

@trainingforultra Fun family time on the trails following my morning run today. We might have a future runner on our hands, he loved it out there. #TrainingForUltra #familyrunningcrew #howihammer
Mike Sigety and Son First evening ride of the year without lights! Thanks for the invite William Christman and all the bike guidance Ron Lippner. I love the awesome Hammer Nutrition clothes and fuels! #howihammer

cat_stadie Even when I’m disappointed in the outcome I love this race. Here’s to always learning from your experiences and coming back stronger the next time. #beboston #howihammer #bostonstrong #pushharderthanayesterday

@trainingforultra Throwback Thursday to a fun Moab finish line with this little guy two weeks ago. He took a bit of a fall into the finish, but was all smiles. #TrainingForUltra #hammernutrition #howihammer

@suzyultra Island bound... #howihammer #runhappy #rudyprojectna #scubainstructor #scubadive #happyplace #triathlonlife #oceanlifestyle

Read about Suzy Degazon on page 72

Keep the conversation going!

Use #howihammer for a chance to be featured on Hammer Nutrition’s social media pages and right here in Endurance News!
California dreaming:
Hammer athlete trains, coaches, & hammers at community events

**BY JESSICA EVANS**

Hammer Nutrition sponsored athlete, Dusty Dustyn delivered the goods at trade shows this spring, first at Ladies LIV Night at Folsom Bikes and at the Slowtwitch Rocklin Event, both held in March in Folsom/Rocklin CA, a hotbed of cycling located in sunny Northern California.

At 65, she recently retired from a fulfilling career as a PE teacher in her rural hometown of Valley Springs. Within days of retirement, she was hired by Total Body Fitness as their head cycling coach for their new program that reaches out to beginning and intermediate gals in preparing them for a metric or full century ride.

“I love sharing my passion for cycling and coaching the basics of shifting, cadence, safety, nutrition, and in finding the joy and freedom I experience every day in my training. In three months, they go from beginner to cyclist and complete a metric or full century. Most repeat the class all year, having found friendships and training partners that motivate them to stay on a new-found healthy lifestyle,” she says.

In March, she hosted a Women’s Cycling Bike Skills Clinic in conjunction with Slowtwitch, an online triathlon magazine founded by triathlete Dan Empfield. Dan designed the original triathlon wetsuit, developed the FIST Tri Bike Fit System, was inducted into the Triathlete Magazine Hall of Fame in 2004, and received the World Open Water Swimming Association’s lifetime achievement award in 2010. Dan started the Slowtwitch tour last year.

Rocklin Endurance Sports is a full-service specialty triathlon and multi-sport retail shop and was one of ten stores nationwide chosen for the Slowtwitch event in 2017. Dusty’s clinic reached 185 athletes and she spoke on building bike skills, confidence, and camaraderie in addition to the importance of nutrition.

Dusty has been racing since age 13, was in the first-ever group of women athletes to earn an athletic scholarship at UCLA where she captained her national championship track team with a 4:53 mile, and went on to win a Pan Am gold in cross country. She has evolved into a nationally ranked cyclist with many achievements, one including winning the Women’s Overall at the 12-Hour Worlds.

“**It’s never too late to be who you might have been.**”

---

**How Dusty uses Hammer Nutrition products to fuel her success:**

- Race Caps (hourly)
- Endurolytes®
- Anti-Fatigue Caps
- Endurance Aminos
- Espresso Gel
- Cranberry Hammer Bar
When not coaching or sharing her Hammer Nutrition secrets at trade shows, Dusty is putting in 250-300 miles a week in preparation for a series of international ultra events this summer, most notably the 12-Hour Worlds, in which she won the women’s overall in 2015, beating competitors in their forties. That was a career highlight in a lifetime of big races and Hammer Nutrition played a key part in her success.

“I love how Hammer staff and Steve Born are available to chat with me when I need to tweak my nutrition plan for the particulars of an event. We all know that elevation, temperatures, distance, and fitness all play into the nutritional requirements of an event. Hammer is always ready to listen and help and the support is really appreciated. I can train and race like a forty year old, and, heck, who wants to race like an old lady?! I’m having a blast,” she says.

Dusty inspires young and old alike to get out there and chase your dreams. “It’s never too late to be who you might have been.”

Dusty Dustyn is a racer, coach, and artist, always sharing her passion for cycling and for the funny side of life. Find Dusty on Facebook: @TbfCycling, @GetOutdoorsNPlay Twitter: #WeRideFaster, #HammerItOldies, or check out her blog: dusty0.weebly.com.
BE A PRO at proteins
Common myths about protein supplementation

BY ENDURANCE NEWS STAFF

One of the most common consumer questions we hear is, “Which protein should I use?” The majority of athletes we speak with want to supplement with protein but are confused by many common misconceptions. Here, we will address some of the most common fueling myths and answer some frequently asked questions.

**MYTH:** Protein supplementation will make you gain weight and stimulates unwanted muscle growth.

**FACT:** The truth is that active people have higher protein requirements because the body needs protein to repair existing muscle tissue. When it comes to high-quality proteins formulated for endurance athletes, think “build” not “bulk!”

**MYTH:** Proteins are only necessary for vegetarians, vegans, and others on restrictive diets with limited protein intake.

**FACT:** The more active you are, the higher your daily protein requirements are. Athletes need to ensure muscle repair, a strong immune system, and overall health. To find out how much protein you require daily, multiply your weight in kilograms by 1.4 to 1.7, depending on your exercise intensity. (To convert from pounds to kilograms, divide by 2.2.)

**MYTH:** Soy protein can be harmful to your health, especially for women.

**FACT:** Consuming GMO-free soy protein generates anabolic sequences desirable for the health-conscious male and female endurance athlete, especially those over age 40. Soy’s phytoestrogen properties block the effects of potent endogenous estrogens, with no known gender effects to males or females.

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**Protein Choices:**

- **Hammer Vegan Protein**
  - Plant-based, soy-free protein alternative
  - Not just for vegans and vegetarians! Recommend to anyone looking for a soy-free, dairy-free quality protein. GMO-free, gluten-free. Great for weight management and increasing daily protein intake.

- **Hammer Soy Protein**
  - A perfect daily protein for overall health and adding to smoothies
  - Soy packs countless health benefits, and the Vanilla flavor is delicious in fruit smoothies. Gluten-free, no refined sugars or artificial ingredients.

- **Hammer Whey Protein**
  - Recovery protein, perfect for the athlete in heavy training season, boosts muscle repair
  - For the athlete who rides, runs, trains hard and wants to boost protein intake and recover faster. Hammer Whey is gluten-free and contains no refined sugars. Virtually lactose-free and fat-free.
Powerhouse blend of quality plant proteins

- Optimize protein intake
- Improve muscle recovery
- Organic protein from pea, pumpkin, and sacha inchi

FLAVORS
- CHOCOLATE
- STRAWBERRY
- VANILLA

24-Servings
$44.95

Our Customers Say It Best ★★★★★

“Best vegan protein powder I’ve tried...
Vegan Protein isn’t as chalky as others I’ve tried. And it is smoother and not a granular. For health reasons I eat a primarily vegan diet, so it’s great to have this. Protein rich, low fat, low sodium, low sugar.”

ORDER TODAY! Use Promo Code EN105RC

Get one FREE Chocolate Recoverite single serving packet, value $3.50
Limit one per customer, while supplies last / Expires 8.9.17
Dietary Supplements
Misinformation and bias, once again
BY STEVE BORN

Supplement bashing isn’t new. In fact, it happens frequently enough that you could probably set your clock to it. OK, perhaps that’s a little over-the-top, but you get the point. Let’s take a look at the latest piece of anti-supplement press, courtesy of an article in the N.Y. Times by Jane E. Brody, entitled “Studies Show Little Benefit in Supplements.”

The article, one of many circulating throughout newspapers and websites throughout the country, discusses a study published in the October 2016 edition of the Journal of the American Medical Association (JAMA) that involved nearly 38,000 people. It showed that the overall use of dietary supplements by adults in the U.S. has stabilized in a time frame beginning in 1999 and extending to 2012 and also showed that multivitamin/mineral use declined from 37% to 31%.

This prompted Dr. Pieter A. Cohen, the writer of an editorial entitled “The Supplement Paradox: Negligible Benefits, Robust Consumption,” to state “for the majority of adults, supplements likely provide little, if any, benefit.” Such a bold claim is getting a lot of attention, potentially undermining the health of the reader should they be convinced.

I would suggest that it’s not so much about the comprehensive nature of the research that is getting attention, but rather the volume and sensationalism in opinionated, one-sided news stories from mainstream media. The kind that comes complete with alarming headlines such as “Enough is Enough: Stop Wasting Money on Vitamin and Mineral Supplements.” When only one side of the story is told or garners significantly greater press coverage, it can be difficult to know if an alternative opinion even exists, let alone understand what it is based on.

Brody wrote, “Knowing that [people] often eat erratically or fail to consume recommended amounts of nutrient-rich vegetables and fruits, a supplement containing a broad range of vitamins and minerals seems the easiest and cheapest way to fill in any gaps. But nutrition specialists point out that no pill can supply all the nutrients found in wholesome foods.”

Exactly. As much as we at Hammer Nutrition know that diet must come first and that supplements can never replace the consumption of the best possible diet, the fact is that no one ever consumes a high-quality diet with much consistency. And even if they did, that still wouldn’t supply enough of the vitamins and minerals they need, not just for helping promote optimal health, but just to prevent a deficiency disease.

Highly respected nutritional scientist, Dr. Bruce Ames agrees. “Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food.”

In “The Real Vitamin & Mineral Book: Using Supplements for Optimum Health,” by Shari Lieberman, Ph.D. she says, “We cannot meet the recommended daily intakes even if we eat the perfect diet. Because of many factors including the loss of nutrients through shipping, storing, and processing, the foods available to us do not contain the amounts of vitamins and minerals they should.”

Here’s our view: We do not believe that optimal health comes solely from a bottle of vitamins. We’re smart enough to realize that it takes a multi-faceted approach to maximize one’s health. Regular exercise, eating the best possible diet, managing stress, and other factors need to be employed as well. And while we adamantly do not believe that taking a handful of supplements ever takes the place of the consumption of the highest quality diet possible, we remain convinced that supplementation is a necessity.

As an athlete/active person, you place enormous physiological demands on your body. Your nutrient requirements just to maintain health are much greater than the average person. But your goal isn’t to just maintain health at a minimally acceptable standard. Your goal is to achieve supreme health. In addition, you want to get the absolute most out of your body so that it can do what you want it to in your workouts and events, while having the most fun and seeing the most success in the process. Hammer Nutrition can help.
"I have been taking three Race Caps Supreme per day for longer than I can remember. I take an extra four an hour before a race and two or three during longer races. I originally started taking Race Caps Supreme because of the CoQ10. That and all of the other ingredients make this an indispensable addition to my health and well being!"

Your Customers Say It Best ★★★★★

- Reduces muscle fatigue
- Enhances energy and endurance
- Increases workload capacity

90 Capsules
$49.95

3 or more
$45.85 ea

Guaranteed to naturally enhance your performance since 1987!

Hammer athlete Victor Sheldon proudly displays his Hammer gear. Photo: Courtesy Victor Sheldon

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Get one FREE Chocolate Recoverite single serving packet, value $3.50
Limit one per customer, while supplies last / Expires 8.9.17

Hammer Nutrition

hammernutrition.com 800.336.1977
In 2006, as a college junior, I decided to “get in shape.” I picked a race and used the popular “couch to 5K” program and finished in about 27 minutes. About a year later, I ran my first marathon. One of my professors cautioned me that most people don’t qualify for Boston on their first try, but that was my goal. Since that first attempt in 2007, I have completed 12 marathons, achieving a Boston qualifying time at each.

I took Pilates for the first time when I was in college too — for course credit! I enjoy the elements of dance that have become part of Pilates over the years and I appreciated the precision that Pilates demands. I began taking it again about the same time I started running, as the gym I joined for treadmill access also offered Pilates mat classes.

However, a move across town and other life changes limited my Pilates practice for several years.

Instead, I kept running and kept increasing my mileage, but I wasn’t doing any of the “extras” a runner needs. Sure enough, I found myself injured in 2010.

It took about two years to overcome a combination of a strained hamstring and bilateral tibial stress fractures. As I got back into competitive racing, I knew I needed to be a more well-rounded athlete. I found a gym that was the perfect fit — plenty of treadmills and lots of Pilates classes!

Pilates is my go-to workout. It strengthens your core, hips, glutes, and back. It makes one a more economical runner and able to hold form over long distances too. This additional strength training has kept me from getting injured again and allowed me to run higher mileages in training and events. My passion for Pilates and firm belief in its benefits led me to become a certified instructor in early 2016. I want my classes to be challenging and rewarding, so clients leave knowing they worked hard and that their body will benefit from it. I really enjoy working with other endurance athletes — people who know they should be doing core work, but don’t know how. One thing I often find in Pilates classes is that my clients are frequently dehydrated. We do a lot of concentrated movements and

How A Pilates Instructor Hammers:
Tracy practices and teaches Pilates about 3 hours a week. In the spring, it can be as high as 6 hours a week on top of her marathon training. Fueling is essential.

**Tracy’s Pre-Workout Fuel:**
An afternoon Hammer Bar snack, then Fully Charged on my way to the gym.

**The Post-workout Recovery:**
Chocolate Recoverite

During Her Workout:
Endurolytes Fizz to ensure my electrolyte levels stay balanced to prevent any cramping while teaching! (I also use Hammer Gels during long runs.)

**Daily supplements:**
EndurOmega, Digest Caps, REM Caps.
I see a lot of foot and calf cramps! I keep Hammer Endurolytes Fizz tabs handy to share with my clients because they have worked so well for me. After a day at work, Fully Charged helps me get through an hour run followed by an hour of teaching and doing Pilates. Recoverite always helps get me ready for the next day’s workload. I also use REM Caps to help me get the rest I need to recover.

I balance working full-time with running 60-75 miles per week and teaching Pilates at least twice a week. I couldn’t do that without Hammer Nutrition! The combination of dedicated run training, consistent Pilates, and Hammer products led to a huge personal best in the marathon this fall of 2:57:03 at the Monumental Marathon in Indianapolis. If you haven’t tried Pilates yet, you should!

What is Pilates?
Pilates is a physical fitness system developed in the early 20th century by Joseph Pilates. His method is described as the “art of controlled movements” and when properly manifested consistently, it improves flexibility, endurance, alignment, coordination, and balance. It is practiced worldwide, especially in Canada and the United Kingdom.

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The Chocolate Milk Lie

By Endurance News Staff

Based on a single study back in 2006 that reported chocolate milk to be a highly effective recovery drink, thousands of athletes have consumed countless gallons of milk, believing that it provides optimal recovery benefits. However, 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.

The nearly 12.5 grams of carbohydrates in 100 calories of chocolate milk is comprised of sucrose, lactose, and high fructose corn syrup (HFCS). Do you really want to put those junk sugars in your body? If you’re at all serious about your overall health, let alone enhancing your recovery, you answer should be a resounding “NO!” 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. Complex carbohydrates (maltodextrin) and a small amount of xylitol—both overwhelmingly better choices than the garbage carbs found in chocolate milk—are the only carbohydrates in Recoverite.

Sure, you get some protein from chocolate milk, but over 80% of it is in the form of casein. Based solely on its bioavailability, casein is a poor protein source for recovery, with a mediocre Biological Value (BV) rating of 77. With Recoverite, you’ll receive significantly more protein per serving 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 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!

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!

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!
SUPER CHARGE
your workout with this new pre-exercise ignitor

- Increase energy and endurance
- Promotes mental alertness
- Helps alleviate muscle soreness

Our Customers Say It Best ★★★★★

“I was so excited to try the new Fully Charged from Hammer. This product is amazing. I used it 25 minutes before going out for a training run. It has a slight cherry flavor, not super sweet. I felt renewed focus and increased energy.”

“I can wholeheartedly recommend Fully Charged! I feel energized and focused, with more “pop” in my workouts. I feel less fatigued during and after the workout.”

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hammernutrition.com  800.336.1977
An important factor for peak performance is proper electrolyte balance. Electrolyte balance is key to everyday health and wellness. Endurance athletes especially need to ensure they are properly hydrated. While many try to simplify this to focus only on salt, your body’s needs are much more complex. You need full-spectrum electrolyte replenishment.

Electrolytes are minerals in your body that have an electric charge. They are in your blood, urine, and body fluids. Maintaining the right balance of electrolytes helps your body’s blood chemistry, muscle action, and many other processes. In addition to sodium, other electrolytes include calcium, potassium, chlorine, phosphate and magnesium. Electrolytes are critical in allowing cells to generate energy, maintain the stability of their walls, and to function in general.

We obtain electrolytes through eating different foods and drinking certain fluids. We lose them naturally throughout the day, especially during exercise. A poor diet, too little or too much exertion, and being sick are some possible causes for an electrolyte imbalance.

There are also perils from excess sodium. Dangers include hyponatremia and dehydration. Don’t attempt to stabilize or gain an advantage strictly through salt. Also, because sodium helps regulate how the body retains water, if one’s diet is too high in salt, the kidneys will release even more water. That further compromises the body’s ability to balance the other important electrolytes, causing other complications.

Depending on the type of electrolyte imbalance, symptoms include muscle aches, spasms, headaches, joint pain, dizziness, and digestive issues. The good news is that Hammer Nutrition products like Fizz and Endurolytes easily help you replenish them.

For a truly satisfying approach to hydration, balance your electrolyte ratios with the full spectrum of minerals and nutrients and avoid the salt trap.
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Connor Baxter en route to a sixth straight Maui 2 Molokai crown. Photo: Karen Baxter

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Connor Baxter en route to a sixth straight Maui 2 Molokai crown. Photo: Karen Baxter
Riding Tips:

Planning and carrying for long solo rides

BY RICHARD WIEGERT

In recent years, a newer form of race event has been gaining more and more popularity. Gravel grinders are endurance events that combine dirt roads, (usually) jeep roads, and sometimes pavement sections. While mountain biking is my first love, I’m hooked on gravel. These events (training too) may be over remote routes. Thus, you are self-supported. Be prepared! These events can be on a gravel, cyclocross, or mountain bike.

The things that orbit the mind when planning a long gravel ride are: weather, conditions, 'load plan,' and of course, fueling. Also, it’s always a good idea to let someone know the route and area you’ll be in.

There is no way to plan for every riding condition. However, if there is a chance of foul weather, take at least a shell rolled up in a pocket. Lesson learned and an old trick: if there is a chance of cold or rain that could affect your toes, a couple small sheets of aluminum foil in your bag can do wonders. Wrap your toes outside of the socks in them and it’ll surprise you how warm this can keep your toes when it’s cold and wet!

Obviously, your load plan will vary depending on distance and conditions expected. I’ll focus on some lessons learned items. In addition to a saddle bag, I’ve found that the Hammer Wrap Pack is a great way to carry extra items and it fits perfectly in a jersey pocket. Here are some other items I suggest to help you plan for long solo rides:

- In addition to CO2, I always carry a small hand pump.
- Make sure your multi-tool has a chain breaker
- Carry extra master links.

- Lever and tube(s). Gravel courses can be rough! Carry at least one (even if running tubeless!), and booting materials. There are commercially made boots, but I’ve found a dollar bill is the toughest.
- Small amount of ‘duct tape’ (see above)
- A few zip-ties, rubber-banded together (trust me)
- Extra cleat screw (again…)
- Whistle

Of course, long rides over remote routes and terrain require a cautious fuel and hydration plan. For bottles or hydration pack, plan your hourly intake rate, and then add 20% (just a recommendation). Nutritionally, take a little extra as well. Lesson learned: in a recent gravel grinder race, I had 10-11 miles to go, and hit something in a creek crossing, causing fatal rips in both tires. I had just consumed my last feed a few minutes prior. I had not planned for the 89 minute hike, with my bike, in bike shoes...not fun and I bonked big time. From now on, I carry an ‘emergency’ Hammer Bar, only to be used as a last ditch.

Whatever your main sport, gravel grinding is a fun, rewarding format of racing when you want to mix it up. Enjoy!

About the Author: Richard is both an endurance athlete and a USA Cycling Pro Race mechanic. He can be reached at rswiegert@yahoo.com or on his Facebook page.
"I ordered the Vanilla Whey Protein and it tastes great. I mix it with a smoothie in the mornings and feel like I have sustained energy all day. I run multiple marathons and ultras a year and train hard in-between. I knew I needed more protein in my diet and the Whey Protein fills in that gap."

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Hammer athlete Zachary Hilton celebrates his climb to the top of Donner Summit. Photo: Courtesy Zachary Hilton

- Easy on the stomach
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Brian Heaphy is a former Navy SEAL Officer and Wilderness Guide who now makes his home in Alaska’s remote upper Yukon River Valley. While practicing a subsistence lifestyle, he photographs “Creation” and writes about “Living On Purpose At The Speed Of Life”®. Brian is a long-time client and supporter of Hammer Nutrition. He uses two of our products exclusively in order to satisfy his needs for reliable fueling during subsistence activities and when pursuing wilderness photography opportunities.

While living and working in one of the most remote and unforgiving environments on the planet, Brian spends extensive amounts of time engaged in prolonged physical activity in temperatures that range from 65 degrees below zero Fahrenheit to 90 degrees above zero Fahrenheit. He travels almost exclusively on foot for a minimum of two to three hours a day in all weather conditions.

Typically alone and far away from any kind of emergency assistance, he leaves nothing to chance with respect to how he fuels his body. Brian relies on Hammer Nutrition to fine-tune his metabolism, help minimize the possibility of injury and illness, and keep himself on the move when things go bad in emergency situations.

Brian’s diet consists entirely of whole, organic “table” foods with the exception of only two items: Unflavored Hammer Gel and Hammer Endurolytes Capsules. He uses these products between meals in order to sustain adequate blood sugar and electrolyte levels. He also uses Hammer Gel flasks in a rather interesting way.

While traveling on foot in extreme low temperatures, Brian fills one flask with Hammer Gel and two or more flasks with water, then he places them in pockets that are sewn onto the inside of his parka (against his body). He says that this is the best way to keep anything in a liquid state while on the move in such extreme conditions and that once he gets his body up to “operating temperature,” he can usually keep the flasks frost-free for as long as is necessary.

Conversely, Brian explains that while most people naturally associate interior Alaska with extreme cold in the wintertime, they don’t often realize that opposite temperature extremes can occur during the summer. That’s when the Endurolytes come in handy for Brian. He considers anything above 55 or 60 degrees Fahrenheit to be “hot.” After a prolonged, six-month winter of deep cold, he says that it doesn’t take much heat to make a locally-conditioned metabolism perspire!

Brian has found a Hammer Nutrition routine that works very well for him. His adherence to it has helped him maintain excellent health and fitness while succeeding in an extremely competitive, international profession. The results speak for themselves. How do you hammer? Send an email to us at photos@hammernutrition.com.
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How to build your own optimal diet

BY BRIAN FRANK

This is an updated version of the article that first appeared in issue #26 of Endurance News in 1999. The subject of what to eat is a complex one that will never see total agreement by all parties. Rather than trying to follow someone else’s paint by numbers diet, the idea is to take some foundational principals and build a diet that works best for you! However, one thing that you must keep in the forefront of your mind is that the quality of every calorie you put in your body matters. There are no “free” calories, so don’t kid yourself into eating junk food. Whether you tend to eat a vegan, vegetarian, Mediterranean, paleo, keto, blood type, plant-based with natural animal products, or any other style of diet, know this: industrially-produced, highly-processed, chemical-laden foods, and sugar are your enemies!

My dietary journey began at a young age with the holistic diet and lifestyle that my mom taught me and has grown over the past 30 years of being an athlete and working with thousands of athletes of every kind. My education and experiences over years of training and competition further galvanized my ideas. Without further ado, here are the concepts that I use to build my own diet.

Fresh, Whole Foods are Good.
Packaged, Processed Foods are Bad

The quality of every calorie you put in your body matters. Generally, if food comes in a box, can, or package, there’s a better choice available. Also, remember that the adverse effects of junk food are cumulative. Little indulgences that may seem infrequent add up over weeks, years and decades and cause a decline in your health.

Calorie Timing

It is better to consume the majority of your calories in the morning and midday hours. You should never skip breakfast because it gets your metabolism fired up for the day. Likewise, eating your last meal by or before 7pm and doing some light exercise afterwards, even a 20 minute walk, will give your body time to metabolize those calories before going into a restive state when excess calories are more likely to be stored as fat.

Variety - Eat a Rainbow

Your body craves and desperately needs the widest variety of foods and corresponding nutrients you can possibly find. The color of each type of vegetable, fruit, protein and carbohydrate is indicative of different vitamins, minerals, enzymes and other nutrients your body needs. If you find yourself eating the same thing for breakfast, lunch and or dinner, you are not eating optimally.

Sugar, Salt, Dairy and Refined Wheat AKA “White death”

The less you eat, the better you will feel, the healthier you will be and the better you will perform, guaranteed!

Protein is Key

Whether you eat plant-based or include animal products in your diet, start with protein. You want a minimum of 1/2 gram per pound of body weight each day to maintain your current level of lean muscle mass. If you are trying to add lean muscle mass and doing the necessary resistance training, your daily protein needs will increase to 3/4 to 1 gram of protein per pound of body weight. In order to accomplish this, you will need to eat a variety of proteins three times each day and possibly a protein rich snack in between meals.

Carbohydrates

The goal is to eat at least 6-9 servings per day of high quality fresh vegetables (locally grown, unsprayed or organic whenever possible). 1-2 servings of fruit should be included as well. The next group of carbohydrates are grains. Oats, various different types of rice and more esoteric grains (like quinoa, barley, millet, rye, spelt, etc.) carrots, bananas potatoes, sweet potatoes, and yams should be the bulk of your starchy carbohydrates. Avoid wheat as much as possible!

Sugar

Sugar is the root of all dietary evil. No matter what type of diet you eat, refined sugar is the resident evil that needs to be extremely moderated. Read labels, as sugar is in almost all packaged and processed foods. It’s also the base of almost all sports nutrition fuels!

Fat is OK

Fat got an undeserved bad rap for a long time. We now know that dietary fat was scapegoated to cover for the evil of sugar for the past 50 years. Of course bad dietary fats should, like trans and hydrogenated, should be avoided, while seeking good ones. Plant
fats like avocado, raw nuts and olive oil are the best and should be incorporated into most of your meals, no matter your dietary style. So, if you have been seeking and buying “fat free” and “low fat” products, you can stop doing that. Fat is a naturally occurring component of all animal proteins, so eat the fat that comes with it too.

**Treats**
Lastly, you have your “treats.” These are the goodies that you allow yourself in extreme moderation as a reward for being such a good eater. It might be something truly wicked like a bowl of ice cream or a fudge brownie or it might be something like a big bowl of wheat pasta or sourdough bread. These treats can be consumed up to once or twice a week, but preferably less.

**Total Caloric Intake**
The more you exercise, the more calories you will burn and thus, the more calories you will need to consume. However, don’t always let your appetite determine your caloric intake. It’s far better to use the scale. Measure your weight at the same time each day and record it in your training diary. Achieving a constant weight is the obvious goal. Counting calories is a distraction that most of us don’t need.

**Weight Loss**
The only way to lose weight is to burn more calories than you consume. That is easy to say and quite a bit harder to actually do. The type of calories and the time of day that you consume them can also contribute to weight loss or weight gain. I have found that the best way to lose weight, is to eliminate some or all of the starchy carbohydrates from your diet. You may feel hungry more often than you’d like for the first 7-14 days, but you will lose fat weight without sacrificing lean muscle mass. Above all, don’t be a slave to your appetite. Remember, it is your eating habits that determine your appetite.

**Weight Gain**
For those needles in the haystack that are actually trying to gain weight, and for the equally rare “hard gainer” ectomorph, make sure your protein intake is up, and you eat starch freely. Also, avoid going for more than three hours at any time without eating. Always consume 100-150 calories per hour during exercise, even if it’s only for 30 or 60 minutes.
30th Anniversary motivational quotes

Hammer Nutrition athletes and customers share personal inspiration for staying active, pushing their limits and reaching their goals.

“Will not be stopped!”
Dusty Dustyn, World 12hour Champion. Hammer Nutrition sponsored athlete since 2015, customer since 2014. Photo: Courtesy Dusty Dustyn

“Run how you feel, not how you want to feel.”
Lance McDermot, Hammer Nutrition sponsored athlete since 2017, customer since 2016. Photo: Courtesy Lance McDermot

“It only hurts while you’re doing it”
Bob Miller, running to overall win in the Turkey Trot 5K. Hammer Nutrition sponsored athlete since 2015, customer since 2013. Photo: Courtesy Rob Miller

“Sailing is the easy part!”

“It’s the hard that makes it great.”
Scott Slind, Hammer Nutrition sponsored athlete since 2016, customer since 2013. Photo: Courtesy Scott Slind

“A body in motion stays in motion.”
Christy Belsom, Hammer Nutrition sponsored athlete since 2013, customer since 2012. Photo: Courtesy Christy Belsom

“Success does not necessarily mean winning all the time. Success is having the courage to face your fears and still having the guts to go on.”
- Steve Born, Hammer Nutrition Fueling Expert Education Specialist, quoting Michael Secrest RAAM Champion
Christine Sublett, Hammer Nutrition sponsored Athlete since 2016, customer since 2015. Photo: Courtesy Christine Sublett

Thank you to our athletes, loyal customers and enthusiastic fans! Whether you’re new to Hammer Nutrition or have been with us since 1987, your journeys inspire us. Hammer on.

“This may be the best day of your life” -KARIN WELLER

“Excellence is a state of mind”

Beverly Enslow, Hammer Nutrition sponsored athlete since 2015, customer since 2008. Photo: Courtesy Beverly Enslow

Christine Sublett, Hammer Nutrition sponsored Athlete since 2016, customer since 2015. Photo: Courtesy Christine Sublett

Karin S. Weller (left) and Dusty Dustyn (right) on a ride in Northern California. Karin Weller is a Hammer Nutrition sponsored athlete since 2016, customer since 2013. Photo: Courtesy Karin Weller

“Never let what you cannot do interfere with what you can do.”

Beverly Enslow, Hammer Nutrition sponsored athlete since 2015, customer since 2008. Photo: Courtesy Beverly Enslow

“Excellence is a state of mind”
What, if any, supplements should I be taking on my rest day? I of course take the Daily Essentials, but should I be taking something else for recovery on non-workout days?

Great question! We definitely recommend taking Essential Mg and AO Booster on a daily basis. The latter not only provides antioxidant support, it has great anti-inflammatory properties with additional benefits for skin, eyes, and more. We also suggest that athletes take Chromemate with their meals because of the important role it plays in controlling blood sugar levels and protecting against diabetes. This is an inexpensive, yet powerful way to enhance glycogen synthesis and storage capabilities. Paraphrasing Dr. Bill Misner, “The anabolic response for converting carbohydrates to muscle glycogen will not completely take place in the absence of GTF chromium (Chromemate). If only a minute amount of GTF chromium is available, only a third of the amount of muscle cell refueling will occur. Consuming a sufficient amount of carbohydrates along with Chromemate will result in a 300% increase in the rate of glycogen synthesis compared to no supplementation.”

What do you recommend for recovering from long races (marathons to 50 miles) in the days and weeks afterwards?

Take one capsule of Boron with your Recoverite. Taking supplemental boron on a daily basis is an excellent idea as this trace mineral plays numerous roles in many general health areas. Boron is also key for restoring exercise-depleted hormone levels to normal, so it’s a “must take” nutrient after a super arduous, hormone-depleting training sessions and races. Tissue Rejuvenator is also a great product for alleviating both muscle and joint soreness and it really shines when used after those long events. Take 2-4 capsules with your Recoverite and another 2 capsules with a later meal to supply your body with a wide range of anti-inflammatory nutrients. Also, among their many benefits, the omega-3 fatty acids in EndurOmega are well-known for their anti-inflammatory effects. Two capsules with your post-workout meal, plus another 2 capsules at another time during the day, is our recommendation for the days and weeks afterwards. Hammer on!

Winning recovery combos:

- **Alleviates soreness**: Tissue Rejuvenator plus Recoverite for relief of joint and muscle soreness
- **Restores hormone levels**: Boron plus Recoverite plus meal to restore exercise-depleted hormone levels
- **Relieves Inflammation**: EndurOmega plus a post-workout meal for the relief of swelling
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Hammer athlete Robbie Swift relies on Hammer for workouts, training, and on race day. Photo: Pierre Bouras

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My husband and I are ultrarunners who have been exploring the wilderness trails around our home in New Hampshire for the past six years. Recently, we’ve found ourselves drawn to the mountains more and more often. Last summer, we discovered the addicting challenge of peak bagging lists. We set about rapidly checking off peaks and in November, we completed our first round of the 4,000 footers of the NH48. But we had only just begun.

Snow brings a new beauty to the mountains and we really wanted to experience these peaks that we had come to love in a totally different setting. So, when December 21st rolled around, we set out to summit all 48 of them again for a single-season round in winter.

We had never done any serious winter hiking before, so this started out as a daunting undertaking and a huge learning experience. By the end, we were old hands and didn’t want winter to end! Our favorite hike was a one-day, 20 mile traverse of the Presidential Range. This route is mostly above treeline, so we were waiting all winter for the perfect weather window and we finally got our chance in mid-February on a perfectly calm, clear, gloriously sunny and warm day – something almost unheard of in the Presi’s!

Our only truly unenjoyable hike was the out-and-back 12 mile bushwhack to Isolation on a drizzly, 50 degree day. The snowpack had loosened up so much that we were post-holing even with our snowshoes, going through a never ending car wash of wet branches, and constantly breaking through snow bridges and falling in streams.

Our most challenging hikes were two back-to-back 23 milers during a cold snap in March. The wind chill on both days was in the vicinity of 45 degrees below zero and it was a constant battle to stay warm. We only had to bail out on one hike: we had intended to do a three day loop of the Pemi peaks, but at the end of our first day we encountered a section of trail on the Garfield Ridge that was impassable. There was snow up to our waists, spruce traps everywhere, and trees bent under loads of snow blocking everything. We couldn’t see any sign of a trail anywhere. We had to turn back and descend to the closest trailhead, then hitchhike back to our car. Our easiest hike was our last one: a 9 mile out-and-back stroll to the summit of Mt. Moriah on the last weekend of winter. It was a pristine day with bluebird skies. We couldn’t have asked for a better finish!

In all, we covered about 248 miles in 10 different trips, most of which were overnights. Sometimes, we set up a “base camp” at a trailhead and returned there to spend the night and sometimes we carried our overnight gear and slept in shelters on the trail. We had a lot of long days. During one two-week stretch in late February, we summited 24 peaks, half of our overall total. It was exhausting! Hammer Nutrition products played a big role in fueling our hikes and helping us recover quickly. If you ever have a chance to visit one of these majestic peaks, you should! Planning ahead with Hammer Nutrition helped us get sky high.

ABOUT THE NH48:
The state of New Hampshire has forty-eight 4,000 footers, a group of mountains mostly within the White Mountains, which are 4,000 feet above sea level.

HOW A HIKER HAMMERS:
• We relied heavily on HEED, Endurolytes Fizz, and Recoverite.
• Tissue Rejuvenator and REM Caps were also important recovery tools.
• We used Hammer Balm liberally on sore muscles and feet!

“Thank you, Hammer Nutrition for making awesome products to help athletes like us do awesome things!” - Leah and Peter Lawry
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Hammernutrition.com  June/July 2017
TIPS FOR A SUCCESSFUL HALF OR FULL IRON DISTANCE TRIATHLON

BY ENDURANCE NEWS STAFF

DAYS LEADING UP TO THE RACE

Avoid the temptation to train too much and/or too close to race day! You will not be able to positively influence your fitness level in the days leading up to the race. However, you can negatively impact your race by training during that time (training meaning anything of significant duration or intensity). As well-known coach Jeff Cudeback states, “The week of any event of this duration should be all about resting up and topping off your energy stores. Training is done to keep the engine lubed and tuned up, nothing more. If you think you’re going to further your fitness through training the week of your key race, you’re sadly mistaken. If you are the type to train right up to the event, you will almost certainly underperform.”

Best performances in long-duration events are achieved by getting to the starting line well-rested rather than razor sharp. In doing so, you may find yourself not hitting on all cylinders during those first few minutes. In fact, you might even struggle a bit at the beginning of the race. However, your body will not forget all the training you’ve done and it will absolutely reward you for giving it the time it needed to “soak up” all of that training. Don’t let your diet deviate too much from what got you there in the first place!

Fluids: Don’t drink excess amounts of water in the hopes of getting a head start on your fluid requirements for the race. Consumption of roughly 0.5 to 0.6 ounces per pound of body weight is a good gauge in regards to how much water you should be consuming daily (example: 180 pound athletes should drink approximately 90-108 ounces of water daily). However, if you’ve not been following this recommendation consistently, don’t start now. This will overwhelm your body with too much fluid too soon, which may increase the potential for hyponatremia.

Calories: Don’t stuff yourself with extra food in the hopes of carbo-loading. The time period for carbohydrate loading (i.e., maximizing muscle glycogen storage capabilities) has, for all intents and purposes, passed. In essence, “carbo-loading” is what you did in the first 60 minutes after all your workouts leading up to the race. That’s when the glycogen synthase enzyme which controls glycogen storage is most active, and that’s how you topped off your glycogen stores. Any excess food you eat in the days leading up to the race is either going to be passed through the bowels or stored in adipose cells. Neither of those things will benefit you.

Sodium: Don’t consume extra sodium (salt) in the hopes that you’ll be “topping off your body stores” prior to the race. Since the average American already consumes approximately 6,000 to 8,000 mg per day (if not more), an amount well above the upper end recommended dose of 2,400 mg/day, there is absolutely no need to increase that amount in the days prior to the race. (Hint: Adopting a low-sodium diet will do wonders for both your health and athletic performance).

High sodium intake, especially in the days leading up to the race, is a recipe for disaster because it will greatly increase the potential for disruption of the hormonal mechanisms that control sodium regulation, re-circulation, and conservation. In the days leading up the race, be especially cognizant of the salt content in your foods, especially if you go out to eat. Restaurant food is oftentimes loaded with sodium, so dining out can dramatically increase your already high salt intake.
Fueling plan for race day:

THE NIGHT BEFORE THE RACE: *Eat clean, eat until you're satisfied, then call it a night.* You can’t positively affect muscle glycogen storage capabilities the night before the race, a time when the glycogen synthase enzyme, which again, is the enzyme that controls glycogen storage, is inactive (hint: that’s why post-workout refueling is so important). Consume complex carbohydrates, some high quality protein, and low-to-no saturated fat, make sure your meal is low in sodium, and be sure to drink sufficient amounts (but not too much) of water. Skip the alcohol, fatty foods, and dessert and save those “rewards” for after the race.

THE MORNING OF THE RACE: *No calories three hours prior to the race.* The first fuel your body will use when the race begins is muscle glycogen. Again, this is why post-workout refueling is so vital. Eating a pre-race meal at the wrong time will negatively affect how your body utilizes its finite stores of glycogen, which will negatively impact your performance.

Don’t sacrifice sleep to eat. A better strategy than eating 1-2 hours prior to the race is to consume 1 serving of Hammer Gel 5-10 minutes prior to the start. That will top off liver glycogen stores nicely (the goal of the pre-race meal) and provide some calories to augment muscle glycogen stores during the swim portion, but without negatively affecting how muscle glycogen is utilized.

30-45 MINUTES BEFORE THE RACE: "Pre-emptive strike" dose of Endurolytes. Taking a dose of Endurolytes before the race will provide electrolytic mineral support for the swim portion, which is a time that fueling (calorie, fluid, electrolyte intake) is obviously not possible.

5-10 MINUTES BEFORE THE RACE: 1 serving of Hammer Gel. Optional if you’ve had a pre-race meal. A wise strategy to employ if you haven’t had a pre-race meal.

AT T-1: “Pre-emptive strike” dose of Endurolytes + drink from multi-hour fuel bottle, washed down with water. A few seconds spent at the transition to replenish electrolytes and consume a few calories will more than repay you during the ride. It allows you to focus solely on establishing a smooth pedaling rhythm during that crucial initial portion of the bike phase. To expedite the process, have the Endurolytes ready in a small container such as a Hammer Nutrition capsule dispenser.

AT T-2: “Pre-emptive strike” dose of Endurolytes. Before you transition from cycling muscles to running muscles, replenishing your body with some electrolytes is a good idea, if your last dose of Endurolytes was 20 plus minutes prior to T2. If it was only about 10-15 minutes prior to T2 you can skip the dose at transition and start taking Endurolytes during the run.

BIKE & RUN FUELING: Calorie requirements fulfilled via Hammer Gel and Perpetuem Solids. This is an excellent, easy-to-carry, easy-to-consume way of fulfilling your body’s calorie requirements. Hammer Gel provides a calorically dense and easily digested supply of calories from complex carbohydrates. Perpetuem Solids, an easy-to-chew tablet, also provides complex carbohydrates. However, as important, if not more so, it also supplies the body with some heat-stable protein to help protect against muscle tissue breakdown.

Hammer Gel and Perpetuem Solids is a perfect combination! Taking capsules of Endurance Amino, which contains significant amounts of BCAAs, will also help prevent muscle tissue breakdown.
NSAIDS & Low Back Pain
NSAID alternatives shown to be safer and more effective

BY ENDURANCE NEWS STAFF

Low back pain is one of the most common reasons for all physician visits in the US. In fact, the American Chiropractic Association estimates that it affects at least 30 million citizens at any given time. Athletes are no exception.

This February, the American College of Physicians (ACP) released new guidelines for treating nonradicular low back pain. Published in the Annals of Internal Medicine, they direct that physicians and patients treat acute and subacute low back pain with non-drug therapies. Examples include superficial heat, massage, acupuncture, and spinal manipulation. The new treatment guidelines also include tai chi and yoga. If drug therapy is desired, physicians and patients should select nonsteroidal anti-inflammatory drugs (NSAIDs) or skeletal muscle relaxants, avoiding opiates.

Interestingly, while NSAIDs are included as one of the ACP’s suggested medical methods, their research-based evidence showed no difference between the medicine and a placebo. Results from their clinical trials also included adverse effects. So if that’s the case, are NSAIDs worth the risk?

These new guidelines follow statements from the Food and Drug Administration (FDA) in 2015. There, the FDA warned that even short-term use of NSAIDs were dangerous and gave such products a “Black Box” warning, the strictest caution label possible. Their warning was based on studies that showed that such drugs increased the risk of heart attack and stroke, and the risk was greater than they had previously disclosed.

Hammer Nutrition has reported on the dangers of NSAIDs in Endurance News before and we constantly monitor this important public health issue. It’s precisely why we offer Tissue Rejuvenator, our healthy, all-natural anti-inflammatory supplement. Tissue Rejuvenator can help your body quell inflammation, repair tissue, and increase mobility safely, naturally, and effectively. Tissue Rejuvenator is also ideal for helping to protect against joint-related injuries, and recovering from them.

Stay in the game safely and experience the results for yourself. Hammer on!
Superior joint support without the risk

Contains Turmeric!
Turmeric, one of the components in Tissue Rejuvenator, in addition to being a powerful anti-inflammatory, is also a well-known antioxidant and anti-carcinogenic agent.

- Anti-inflammatory support
- Promotes joint integrity & mobility
- Allows reduced NSAID use

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High Sugar Intake

Adverse effects on vitamins and minerals

BY STEVE BORN

As if consuming too much sugar isn’t bad enough, did you know that high sugar intake depletes and reduces the absorption of certain vitamins and minerals? It’s true. While we don’t know with 100% precision whether this is the “starting point” for sugar’s negative effects on the body, interfering with nutrient absorption is definitely not a beneficial effect. It could very well play a role in decreased immunity and other health consequences. Here are the vitamins and minerals that are adversely affected by high sugar intake:

**VITAMIN C:** Unlike most mammals, humans are unable to synthesize their own vitamin C. We must obtain it from outside sources. This is because the human body has a mutation in a specific gene that is required for the production of vitamin C from glucose. The reason this is important is because both glucose and vitamin C use the same transporters to enter cells. Research by Dr. John Ely (The Glucose Ascorbate Antagonism theory) has shown that high glucose levels inhibit vitamin C from entering the cells, resulting in decreased absorption of this particular vitamin.

**VITAMIN D:** Sugar, particularly fructose, has a negative “double whammy” effect on vitamin D. Research has shown that high intake of sugar increases the production and activity of a specific enzyme that is responsible for degrading vitamin D. If that wasn’t bad enough, sugar—again, fructose in particular—also decreases the production and activity of an enzyme that is necessary to synthesize vitamin D. The result? Decreased vitamin D levels which suppress immune system functioning, potentially leading to numerous health problems including increased rates of certain cancers. Since it has been suggested that approximately 75% of people in Western countries are deficient in vitamin D as it is, consuming excess sugar only exacerbates the problem!

**CALCIUM:** Everyone knows that calcium is vitally important for bone health and numerous other areas, but it too is negatively impacted by high sugar intake, primarily because of sugar’s negative influence on vitamin D synthesis mentioned previously. Because vitamin D plays a major role in calcium absorption, decreased levels of this vitamin will have a negative “ripple effect” on calcium’s absorption and utilization rates.

**CHROMIUM:** The trace mineral chromium is involved in many bodily functions, especially blood sugar regulation. As is the case with magnesium and calcium, high sugar consumption causes higher amounts of chromium to be excreted, increasing the likelihood of a deficiency. In fact, one study published in the journal, Metabolism: Clinical and Experimental, showed that consuming a diet that consisted of 35% simple sugars increased natural excretion rates by 300%! Depletion of chromium stores contributes to decreased glucose tolerance, which can lead to diabetes.

**SUMMARY:** The negative influence that excess sugar intake has on key vitamins and minerals compounds the existing body of evidence that too much sugar is undeniably bad for athletic performance and, more importantly, extremely harmful to overall health. To maintain optimal health, it is absolutely imperative that we take drastic steps to decrease our daily consumption of sugar. Use Hammer Nutrition fuels during your workouts and events and ensure that you are getting enough of the key vitamins and minerals mentioned above, turn to Premium Insurance Caps to fill possible nutrient gaps. Hammer on!
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Hammer athlete Jessica Culver rocking a trail run. Photo: Courtesy Jessica Culver

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GLYPHOSATE FREE
What methods are you using to take care of your body in order to maintain your level of physical activity and to more importantly, reach your goals?

Does it include massage, a nutrition coach, electrical muscle stimulation, quality sports supplements or chiropractic attention? Everyone has a different personal care routine but sometimes we need a little more information to expand our options.

If you are wondering if chiropractic is something you should consider, let’s talk about how and what it can help. Chiropractic benefits include more than just back pain relief. Although this is a common thought, even supported by research as an effective treatment option for back pain relief, there are many other conditions chiropractors treat. Many chiropractors address all joint pain including knees, hips, and shoulders. Treatment options may include rehabilitation exercises, kinesiology taping, neurology, and nutrition coaching. The key is finding a chiropractor that works as another member of your support team. Someone who knows and understands your goals, your activity level, that can help develop a treatment plan centered completely on your individual needs.

Sports related injuries happen for multiple reasons. One big reason I often see is compensation. These injuries present themselves in many different ways. An example would be right hip pain because of left foot or knee pain. Another example is shoulder, knee, or hip pain because of an issue with alignment of the vertebra and joints in the spine. Muscles tighten up around joints because they adjust to the new position of that joint. We compensate. This leads to altered movement of the body as a whole affecting shoulders, hips, and areas of the spine. In addition, nerves exiting the spine sending signals and feedback to your muscles are affected. Left untreated, these ailments create bad habits and potentially harmful movement of different joints and thus, injury results.

Over 30 million Americans report playing a sport. Over three million of those will report a sports related injury. Finding and adding a chiropractor as your support team can take you to that next level of better health, better performance, better times, better personal records, as well as pain-free and injury-free training.

EMS
Chiropractic medicine and electrical muscle stimulation units work well together especially in the case of recovery and healing injuries. Often you will see EMS units and/or TENS units prescribed by chiropractors to assist with muscle tissue healing. In addition, EMS units are next level recovery for athletes who train hard and consistently. The benefits of an EMS unit include movement of metabolites from the muscles via veins and the lymphatic system. A research article by Warren et al. from 2011 published in the Journal of Strength and Conditioning Research found reduced lactic acid in the blood from EMS recovery compared to active jogging and passive recovery.

Both EMS and chiropractic can help with improving recovery and increasing performance. Making sure you have the right support team to keep you injury free could be just what it takes to bring you to the next level.

Dr. Kirstin Lauritzen is a Chiropractor in Portland, Oregon, a candidate for a Masters in Nutrition and Functional Medicine, she holds bachelor degrees in Psychology and Neuroscience, Spanish, and Human Biology. She has recently competed in several half marathons and is taking on her first triathlon this year. Dr. Lauritzen specializes in educating others about nutrition and its importance in life, especially in the lives of athletes. She’s been hammering since 2011. For more information go to: www.discoverfunctionalnutrition.com or find her practice at www.lauritzenchiropractic.com.

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Research is continuing to show that mitochondrial health is arguably one of the most important keys to achieving your best potential athletic performance. Mitochondria are the primary energy generating organelles in the cell. Even those who understand the importance of proper fueling often fail to realize the key role of mitochondria in athletic performance and overall health.

Highly respected nutritional scientist, Dr. Bruce Ames confirms. “A tremendous amount of dangerous metabolism occurs in the body’s mitochondria that, if left unchecked, can lead to a host of degenerative diseases.”

In his new research, he sought to optimize metabolic function and prevent mitochondrial decay. Ames’ groundbreaking study, done along with Dr. Tory Hagen et al, revealed how two nutrients—ALC and R-ALA—work synergistically to positively influence the health of the mitochondria, the thousands of energy producing “furnaces” in the cells.

The results were truly remarkable. “We fed it to old rats and as a result, three of the four functions (of mitochondria) that decayed with age suddenly became more like those of a young rat,” he said. “Carnitine declines with age, and when we fed high levels to rats, it seemed to alter a number of factors of aging.”

The importance of protecting, and perhaps even improving, the health of your mitochondria and its functionality cannot be overstated. They affect nearly every bodily function and the benefit derived from healthy, fully active mitochondria applies to athletic performance and overall health. Ames’ team research was published in the 2009 issue of Neurochemical Research.

When it comes to nutrient combinations, you’d be hard pressed to find a more potently beneficial one than acetyl l-carnitine (ALC) and r-alpha lipoic acid (R-ALA), the key ingredients in Mito Caps.

Hammer Nutrition director of R&D, Bill Misner, Ph.D., summarizes, “Endurance athletes should realize how incredibly important it is to effect mitochondria. The longer you can stimulate the lifespan or health of the mitochondria, the longer you will live and the better you will perform in endurance events. The athlete who has the most healthy and efficient mitochondria is the athlete who performs at their best.”

Energy Essentials

As the mitochondria age, deteriorate, and/or become dysfunctional, athletic performance declines and the risk for age-related diseases, such as cancer, increases. Fuel your powerhouses with the following:

**ALC**

Like all forms of l-carnitine, acetyl l-carnitine (ALC) is the nutrient the body requires for efficient utilization of fatty acids for fuel. Additionally, ALC appears to reduce the depletion of ATP by forming acetyl-CoA, which one nutritional expert states “is the most important intermediary in the generation of energy from amino acids, fats, and carbohydrates.”

**R-ALA**

An essential cofactor for several multi-enzyme complexes, r-alpha lipoic acid (R-ALA) catalyzes critical energy metabolism reactions inside the mitochondria. R-ALA is particularly impressive, as it is believed to be the only nutrient that functions as both a water and fat-soluble antioxidant, with the ability to quench several different types of free radicals.

**Ascorbyl Palmitate**

The fat-soluble form of vitamin C, ascorbyl palmitate enhances the bioavailability of carnitine, resulting in greater fat utilization capabilities. Ascorbyl palmitate also has antioxidant properties, helping mitochondria work more efficiently and stay healthier.
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“If I could recommend just one Hammer supplement, it would be Mito Caps. Since I first started taking the caps, I’ve felt better. I’m an older athlete and compared to other folks my age, I’m younger! I’m giving credit to Mito Caps for this!”

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Triathlete Howie Nordström hammers through the finish line at Ironman Austria. Photo: Courtesy www.finisherpix.com
Pre-exercise fueling

I often give fueling seminars and am always asked the question, “What is the ideal pre-race meal?” The answer is not simple and is different for everyone. While in Montana, I talked to our fueling experts Brain Frank, Bill Sirl, and Loren Mason-Gere for some insight on how to tackle this question.

First off, “pre-exercise” fueling is not just about the meal before a race, but how you eat or “fuel” on a daily basis. As we make clear, your diet should consist heavily of plant-based, whole organic foods, using proteins and essential fats to bolster what you need. When I say, “plant-based,” I don’t mean vegetarian. I mean most people skimp heavily on vegetables and fruits, with the bulk of their diet consisting of starch and protein.

We actually recommend that 65% of your diet be plant-based, 25% protein and fat, and 10% starch. A plant-based diet offers many vitamins, minerals, and fiber that is essential to optimum body function.

The problem with starch is that your body recognizes it as sugar, and therefore, processes it as such. Most American diets are already very heavy on sugar, so adding an excess of starch only exacerbates this problem. It is important to know what carbs to eat and when is best to eat them. Most processed carbs like breads, pasta, and pastries should be used in extreme moderation. There’s a myth of “carbo-loading.” People think if you eat a huge bowl of pasta or cereal before racing you will have the easiest access to muscle glycogen. What usually happens is you end up with a belly full of hard to digest heavy starch and the inevitable sugar rush and crash. Not at all the intended effect.

Another huge variable is your training goals. Are you bulking up, leaning out, or maintaining? Many people have different objectives. What really makes this complex is your body type, your metabolic type, and what is easy and efficient for your digestion. This is where it really gets tricky and requires you pay close attention to your body. Don’t be afraid to try and find out what works best for you. There is just no “one size fits all” answer. Consider the variables and make the best choices for your body.

Some suggested pre-race meals (3 hours before) include:
• Rice cakes with almond butter
• Cream of rice cereal
• Quinoa cereal
• Hardboiled eggs
• Sweet potato and greens
• Tofu scramble
• Grilled chicken with steamed veggies
• Poached salmon with steamed spinach

If you want to top off your muscle glycogen without raising your insulin or causing digestive disturbance prior to a race, we recommend a Hammer Gel. Have a great race season and don’t forget your Recoverite afterwards!

A rice cake topped with avocado with salmon is a delicious pre-race meal.

Laura Labelle, studied at Ecole De Cordon Bleu in Paris, and is an acclaimed California-based chef. She opened the popular Cafe Luna, was in-house chef for Mix This music studio, and operated her own catering company.
Hammer athlete Steven Terry picks up the pace on an afternoon ride. Photo: Courtesy Steven Terry

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**Green Protein Smoothie**  Makes 1 serving

Ingredients:
- 1 cup shredded, fresh organic kale (loose, not packed)
- 1 cup frozen pineapple chunks
- 1 cup almond milk (or any milk substitute)
- 1 large ripe banana (I like to freeze my banana chunks)
- 1-2 scoops Vanilla Hammer Protein (Whey, Vegan, or Soy)

Preparation:
Blend all ingredients in a blender. Enjoy!

**Beet & Apple Salad**  Makes 6-8 servings

Ingredients:
- 1 small bunch of baby beets
- 1 large Braeburn apple
- 1 large head butter lettuce
- 1/4 cup toasted sunflower seeds

Dressing:
- 3 Tbsp. extra virgin olive oil
- 1 Tbsp. seasoned rice vinegar
- Salt and pepper to taste

Preparation:
Peel the beets and cut them into quarters. Core the apple and cut it into cubes. Combine the salad ingredients in a large bowl, then toss with the dressing and toasted sunflower seeds.

**Salmon Cakes**  Makes 8 small cakes

Ingredients:
- 8 oz. salmon
- 1 whole large egg
- 2 tsp. Sriracha sauce
- 1/2 tsp. salt (optional)
- 1/4 cup chopped fresh basil
- 2 tsp. chopped fresh mint
- 1 cup mashed potatoes
- 3 egg whites, stirred

Preparation:
In a bowl, mix the salmon, whole egg, Sriracha, salt (if using), herbs, and potatoes. Scoop into 2-oz. portions, forming about 8. Roll into balls. Coat each in egg whites and then panko or bread crumbs. Press flat and chill. Cook these on the griddle or frying pan, using a small amount of oil. Drizzle the lightly browned cakes with the sauce, serve.
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Cooling, Culinary Coffee

Loaded with antioxidant power, as well as literally thousands of phytochemicals, it seems apparent that having a couple cups of high-quality coffee daily - caffeinated or decaffeinated - may be a very healthy part of one’s diet. As the weather warms up, here are some new cool ways to enjoy your favorite beverage year-round. Enjoy!

**Dairy-Free Coffee Ice Cream**

2 cups Chain Breaker Espresso  
1 Espresso Hammer Gel  
1 Vanilla Hammer Gel  
3 cans of coconut milk (14 oz size)

Combine ingredients in sauce pan and simmer, stir to combine. Then, refrigerate to chill. When chilled, whip with hand-held blender. Transfer to freezer, wait 4 hours, and enjoy! Makes 6 cups.

**Iced Recoverite Coffee**

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“Not Great” Things That Happen to Your Body When You Consume Sugar

BY STEVE BORN

Most people consume excess sugar without giving thought to what it’s actually doing to their body. Now, thanks to well-known and highly-respected nutritional scientist Robert H. Lustig, MD, MSL, professor of pediatrics in the UCSF Division of Endocrinology, we have a better understanding of some of the damage that sugar inflicts on our body.

Dr. Lustig is the author of the best-selling book, “Fat Chance: Beating the Odds Against Sugar, Processed Food, Obesity, and Disease,” and his must-see 90 minute YouTube video “Sugar: The Bitter Truth,” has been viewed more than five million times. Here, in no particular order, are eight ways that he says sugar negatively affects your body:

1. The learning and memory parts of the brain suffer.
According to an animal study, a diet containing high amounts of sugar, primarily fructose and especially from high fructose corn syrup (HFCS), may negatively impact the ability to learn and remember.

2. You still want to eat.
According to Dr. Michael Roizen, “When you eat calories from healthy sources, they turn off your desire to eat by inhibiting production of NPY (a chemical that decreases metabolism and increases appetite), or by producing more CART (a chemical that increases metabolism and reduces appetite). But high-fructose corn syrup isn’t seen by your brain as a regular food. Because your brain doesn’t see any of the thousands of HFCS-containing foods as excess calories or as NPY suppressants, your body wants you to keep eating.”

3. Accelerated skin aging.
Through the process of glycation, which is considered one of the primary theories for age-related diseases, excess sugar molecules attach themselves to collagen fibers (protein and fat as well), and ultimately cause these fibers to lose their strength and flexibility.

4. Increased fat stores and weight gain.
For many years, the sugar industry paid scientists to minimize the link between sugar and cardiovascular disease, instead promoting saturated fat as the culprit. The largest company in the soft drink/soda industry did pretty much the same thing, paying researchers to downplay the link between sugary drinks and obesity. While the type of fat you eat is still an important factor in determining health, sugar and sugary drinks are the primary risk factors. According to Dr. Lustig, excess fructose is converted into fat in the liver. That causes weight gain and increases the potential for obesity, leading to a higher risk for type 2 diabetes and cardiovascular disease.

5. Your cells take a beating.
Oxidation is a normal function in the process of producing energy. However, according to Dr. Lustig, fructose accelerates this process in our cells, which can cause damage to proteins, tissues, and organs. This increases the risk of numerous health conditions, such as liver disease, kidney failure, and more.

6. You become addicted.
Dopamine is a neurotransmitter that helps control the brain’s reward and pleasure centers. Eating sugar contributes to the release of dopamine. “As dopamine receptor neurons get overstimulated,” Dr. Lustig explains, “the number of receptors to bind to decreases, so you’ll need a bigger hit of dopamine to get the same rush.”

7. Eating to alleviate stress promotes more stress.
Cortisol is referred to as the stress hormone, and sugar can temporarily decrease its levels, which is why it’s easy for many people to go on a sugar binge. Instead of reaching for sugary foods, exercise. It will decrease cortisol and you’ll find that it’s a much better, and healthier, de-stressor.

8. Flash and crash energy
Simple sugars rapidly elevate glucose in the bloodstream, giving you a surge of energy. Unfortunately, that energy is very short-lived and is followed by a dramatic and precipitous drop in blood glucose levels, leaving you feeling lethargic, even sleepy.
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A roundup of nutritional news, tips and tidbits

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In hot conditions, especially beyond a two-hour effort, your body’s core temperature can increase dramatically. Your internal cooling system responds appropriately, producing copious sweat, but unlike your car’s radiator, which recycles its coolant, your sweat evaporates, drips away, and is gone. Evaporative cooling depletes fluids and electrolytes faster than the body can replenish them.

How can you replenish your body, postpone fatigue, prevent dangerous hypoatremia, and reach peak performance?

Take our Race Day Boost during your training sessions and test out your results. That will give you a good idea of how your body responds to it. Then, in the four days prior to your key events, put the finishing touches on your pre-race preparation by loading up with Race Day Boost in either capsule or powder form. The key to Race Day Boost’s effectiveness is sodium phosphate, a compound with a wealth of research that supports its positive benefits for athletic performance. 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) making it a superb ergogenic aid. With Race Day Boost, you’re boosting the performance of your body’s short, medium, and long-term energy production systems. No other product can do that.

Ingredient Spotlight:
Ancient Vegan Superfood

Have you heard of sacha inchi? While almost unknown in the West, this superfood has been part of South American culture for centuries. Sacha inchi is a plant that grows in the highlands of Peru. It has been used as a food source by indigenous peoples in the Amazon rainforest for almost 3000 years.

This nut-like seed is an organic plant source with an amino acid profile as complete as any animal protein. Sacha inchi contains all nine essential amino acids and is considered a complete protein source. Not only does it contain these nutrients, it is easily absorbed without irritation. It has a high BV ranking, quickly giving your body the support it urgently needs. It has high amounts of BCAA (branched chain amino acids) to prevent catabolism (lean muscle breakdown), high levels of aspartic acid to aid in the Krebs cycle, and large amounts of omega fatty acids. These small seeds are having a huge impact in the nutrition world.

You’ll find sacha inchi in our Vegan Protein powder and in four of our Hammer Bar flavors: Chocolate Chip, Coconut Chocolate Chip, Vegan Peanut Butter Chocolate, and our Vegan Almond Cacao. Order today!

Hammer Quick Tips
Beat the heat
Sodium is not the only mineral the human body must monitor levels of when it is overheated, though it also is a survival chemical when volume is compromised. See page 20 for more information on how to beat the heat.
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Hammer athlete Steven Terry fueled exclusively with Hammer during the 10 Hour Dawn To Dusk Arizona Race. Photo: Action Media

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The Addo 100 provides spectacular wildlife encounters along the route. Photo: Sebastian Thompson

This year, Hammer Nutrition sponsored the Addo Elephant Trail Run, an annual endurance race hosted in the heart of South Africa. Addo is the only national park in the world that can lay claim to having the Big 7 (elephant, lion, leopard, rhino, buffalo, southern right whale and the great white shark).

Athletes choose from one of three ultra courses: 44K, 76K, or 100 miles. Participants run on a wide range of terrain including single track trails, 4x4 tracks and old jeep tracks within the park itself, as well as some stretches of dirt road. Five Hammer Nutrition athletes ran in the event. Caitlin Lewis and Kobus Van Zyl signed up for the 100-miler, Roelof Mostert ran the 76K, and Devon Coetzee and Sebastian Thompson ran the 44K distances.

“First things first, running 44K in 41 degree heat is absolutely brutal. My goal going into this race was to get my nutrition perfect, and with a sponsor like Hammer Nutrition SA, I felt like I was in good hands,” said Coetzee. “I ended up finishing 9th overall in a time of about 4:44. As I said, my goal was to get my nutrition strategy right, and I am very happy to say that with the awesome products from Hammer Nutrition, I did!”

Race Stats

370 participants
18 countries
17 aid stations
205 liters of HEED
600 elephants

Hammer athlete Roelof Mostert keeps well fueled while running through the Addo Elephant National Park, South Africa. Photo: Courtesy Roelof Mostert

The Addo 100 provides spectacular wildlife encounters along the route. Photo: Sebastian Thompson
Congrats to Hammer Nutrition Chile and Ambassador Geraldine Becerra Robles! She earned a 2nd Place spot on the podium at the Stgo21K in Santiago, Chile. No matter the country, the language, or the sport, Hammer fuels provide real results! Photo: Courtesy Geraldine Becerra Robles.

Hammer ambassadors Kim Claus Hansen and Beatrice Gaczansky are all smiles at the De Ronde van Vlaanderen. Both athletes pushed hard, fueled by 6 liters of Perpetuem. In the end, it took them about 10 hours of cycling to get to the finish line at Oudenaarde. “This moment felt really great and it was an awesome experience to cycle this famous ‘Ronde’ with so many other motivated and enthusiastic people,” said Kim Claus. Photo: Courtesy Kim Claus Hansen.

Congratulations to athlete Kamil Leniak and Hammer Nutrition Europe! He earned 1st Overall at the Columbus Trail 42K! This was Kamil’s third journey to the fantastic Azores Islands for this epic endurance event. Fueling right and feeling great, Hammer Gels and HEED were the right tools for the job. Congrats, Kamil on your big win! Photo: Jacek Deneka

Jeffrey Ross after a 50K training race in Scotland. Next stop, the Gobi March China, a 250K footrace in the Gobi desert. Photo: Courtesy Jeffrey Ross.
“Quite a race day. I had good legs but if you fall three times, you’re not going to win. Still, it was a great race ‘on the battlefield’ on a tough beach but with good weather conditions. Eventually, I finished 13th on my first beach race. Next year, again!” Says Saskia Veerman. She uses HEED or Perpetuem on her races and training depending on the length and finishes with Recoverite. Photo: Michel Wessels

The 2017 Musical Marathon kicks off! Photo: Krisztian Bezzegh

Hammer Ambassador, Jerry Kenbeek, celebrates a great time at the Allgäu Triathlon. Photo: Ann Kenbeek

Daniel Beresford enjoys a stunning Australian sunset during an evening ride. Photo: Courtesy Daniel Beresford
Congratulations to Noel Ernstzen and Dion Middelkoop of Hammer Nutrition South Africa. Their team of two took 2nd place overall in the Vets Category at the Cell C AfricanX Trailrun 2017. Congratulations on a terrific performance at this 3 day endurance event! We enjoyed following your progress along the way! Hammer on! Photo: Tobias Ginsberg

Hammer Nutrition Chile Ambassador Felipe Danke finished 2nd place overall in the Supercross Nocturno event. Photo: Heis Parra Krouse

Congratulations to Hammer Nutrition Hong Kong (Active Brands Asia Ltd) sponsored runner, Tiff Yam, who completed the Rotary Hong Kong Ultramarathon 2017 as 1st Runner Up in her category! Photo: Courtesy Tiff Yam

Stone Tsang wins the first 70K GREENRACE, part of a series of international trail runs and other events with the ambition of creating ZERO waste. Stone said, “This was a fantastic race course with mostly natural and technical trails. I was so happy to see an organizer make so much effort to be more low impact with its eco footprint. Things are improving here and hopefully more and more race organizers will keep educating as Hong Kong has such a disposable culture and perhaps more races that any city in world.” Photo: Anna Cai
Optimal Fuel

Short-distance vs. long-distance

BY STEVE BORN

One size doesn’t fit all when it comes to endurance fueling. Depending on the duration or type of activity, the nutrients you require for optimal performance vary. Determining how much and what kind of fuel to use during short workouts or all day races can be tricky.

60–90 minutes:
If you’ve been faithful with consistent post-exercise refueling, you’ll have a nice reservoir of fuel (muscle glycogen) available when you start. That means that minimal amount of calories will be necessary during your workout or race. A single serving of Hammer Gel 5 to 10 minutes prior to the start should be all you need. If you want to refuel during the workout or race, Hammer Gel, HEED, or a light mix of Perpetuem will be perfectly acceptable (regarding the latter, see “Special Notes” below).

2–3 hours:
We consider workouts and races in this time range to be in a “gray area”, which means that you can use either a “carb + protein” fuel (Sustained Energy, Perpetuem, “ultra” Hammer Gels) or a “carb only” fuel (HEED, non-protein-containing flavors of Hammer Gel). Base the selection on the following:

• The type of exercise that you’re doing. For example, running is a higher-impact functioning.
• The weather. The hotter the weather, the more compromised the digestive system becomes.
• The terrain. Lots of climbing while on the bike or during a run usually diminishes digestive capabilities somewhat.

3+ hours:
When exercise goes beyond 2 to 3 hours, you need both carbohydrates AND protein in your fuel. This is because during prolonged bouts of exercise, 5 to 15% of your caloric utilization comes from protein. This process, called gluconeogenesis, is unavoidable. If you don’t supply the needed protein in your fuel, your body will literally scavenge it from your own muscle tissue. This muscle breakdown is called catabolism or “protein cannibalization.” It can cause premature muscle fatigue due to excess ammonia production, muscle depletion, and post-exercise soreness. Hammer Nutrition’s protein-containing fuels, Sustained Energy and Perpetuem, are ideal choices for long-distance fueling. You can use them as your sole fuel from beginning to end, or you can use them as your primary fuel for roughly 2/3 to 3/4 of the time, augmented with other Hammer Nutrition fuels.

Remember, no matter the length of your exertion, some universal rules should always apply. Recover right by giving your body more carbs and protein to restock glycogen stores. This will ensure you have them replenished for next time. One should also remember the 3-Hour Rule and pledge to stop eating three hours prior to the event. Together, these fueling protocols from Hammer Nutrition will help you reach peak performance and have your best year yet!

Perpetuem for shorter workouts and races? You bet!
With its complex carbohydrate, protein, and healthy fat components, Perpetuem is best known as the long distance fuel without peer. However, mixed in a slightly lower-calorie amount, Perpetuem is a great fuel for shorter workouts and races. Many athletes have reported to us that they’ve had such good success using Perpetuem as their only fuel for short and long distances. Give it a try!

Remember your electrolytes! Electrolytes are as important as the calories you consume to produce energy. Consistent replenishment of electrolytes is a crucially important component of fueling. For shorter-duration workouts and races, a dose of an Endurolytes product prior to the start may be all you need. If you’re going to be out for more than 2 hours, take a dose every hour during your workout or race, and a final dose after you’re done. Hammer on!
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Our Almond Raisin and Chocolate Chip bars weren’t quite right and we’ve already fixed them with a third generation bar. Now, our 2nd generation bars are on clearance for only one dollar each. If you’re a fan of subtle flavors and great prices, stock up now. When quantities are exhausted, these will be gone for good.

Offer good on Chocolate Chip and Almond Raisin second generation bars only.

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HAMMER NUTRITION

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All athletes want to perform better. Oftentimes, the most overlooked contributor to athletic performance is quality sleep. While many athletes focus on sleeping more, they often neglect the importance of the quality of their sleep. Improved sleep quality can reduce your recovery time, allowing you to train harder and perform optimally.

As an elite ultra runner, I used to think I was getting enough quality sleep. It was not until I had the worst performing year of my eleven year career that I realized that something was wrong. For several months, I consistently felt tired, irritable, and sore. I figured I was overtraining, but my training intensity and volume was similar to previous years and yet still, I was significantly underperforming in training and races. I backed off my training dramatically for eight weeks and focused on just having fun. I got more massages, increased my caloric intake, focused more on recovery, and even increased the duration of my sleep to ten hours a day. However, the overtraining symptoms I was experiencing persisted and got worse.

At the same time, my girlfriend, Lindsey Hintz, an elite road runner, was also having an ‘off year.’ We knew this was not just a coincidence. Even though we both were getting about ten hours of sleep a night, we wondered if improving the quality of our sleep would help. We researched how to do this and realized that we could easily improve the quality of our sleep.

One of the first things we did was begin regularly taking Hammer Nutrition REM Caps. This all-natural supplement contains valerian root and melatonin, helping us fall asleep quicker and deeper. We also began taking Hammer’s Essential Mg, helping relax our muscles even when we sleep.

Finally, we got a ‘Sleep on Latex’ mattress. For us, this mattress was a game changer as it reduced tossing and turning and we didn’t feel when the other person moved in bed at night. The combination of REM Caps, Essential Mg, and a ‘Sleep on Latex’ mattress dramatically improved our sleep quality. In fact, we were both sleeping the best we’ve slept since we were kids.

After months of feeling over trained and tired, we both began to feel much better. We recovered from workouts quicker than ever, aren’t irritable anymore, have more energy, and our overall quality of life has improved. Even though we now sleep eight to nine hours a night instead of ten hours, our training and racing is better than ever.

As coaches, we also recommend athletes take Tissue Rejuvenator to enhance recovery and reduce inflammation as this can also help you sleep better. Consuming a high quality protein before bed such as Hammer Whey Protein can enhance your recovery and improve the quality of your sleep as well. The more you can do to recover quicker, the better you will feel and perform.

Damian Stoy is a professional ultra runner, coach and founder of Wholistic Running. You can learn more about him and his coaching at www.WholisticRunning.com
Sleep through the night

SAFELY AND NATURALLY

Better sleep equals better performance

- Improves quality of sleep
- Enhances growth hormone release
- Supports immune function

Sleep is one of the most important parts of recovery. REM Caps help you get everything you need. The zinc helps the immune system. It’s a win-win.” - Justin

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The San Francisco Deltas

BY ENDURANCE NEWS STAFF

“The San Francisco Deltas have had quite a story so far and it’s only just begun. In May of 2015, the ownership group had the vision to create a team. A year later, it became official: professional soccer has arrived in San Francisco. The Delta’s website launched and their home base of Kezar Stadium was approved. A few months later, they found their head coach and hosted open tryouts. Over 300 players from around the world tried out and in December of 2016, signings of professional soccer players began.

Recovery is a huge emphasis at our club, too. For a post-activity drink, Recoverite ticked all the boxes we were looking for in nutrients and ratios. We couldn’t be happier with Hammer for our team’s supplements.”

“We hope that we can fuel and educate our players with the help of Hammer,” says head coach Marc Dos Santos. “We want to grow and deepen this relationship and take care of the team’s nutrition needs so they can have many great seasons.”

To learn more about their team, their calendar, and to view their team roster, visit sf deltas.com/team. Let’s wish them well! ☝️

“Pre-training: Hammer Gel
“During training: Endurolytes Fizz
“Post-training: Recoverite
“Night/Travel: REM Caps, Essential Mg

Inside the locker room of the San Francisco Deltas professional soccer team. Photo: Courtesy San Francisco Deltas

The 2017 Team. Photo: Courtesy San Francisco Deltas

Hammer Nutrition

Fuel Right, Feel Great!

The 2017 Team. Photo: Courtesy San Francisco Deltas
Team Lupine Racing

Team Lupine had a great race down at Florida Sea to Sea 72HR Adventure Race! They crossed the whole state of Florida under our own power, while pushing thru adversity, and finished 6th in Coed Elite Division and placed 10th Overall.

SunPower Racing / AVRT

Peter Ambril enjoys a Hammer Gel at SunPower Racing’s training camp. Every year, they kick off the road racing season with a mountainous 3 day training camp around the Bay Area, California.

Team Hammer Nutrition

Congrats to Debbie Richardson and Team Hammer Nutrition! They placed 3rd Overall in the Texas Water Safari. This 264 mile, non-stop canoe race is known as “The World’s Toughest Canoe Race.” Competitors follow the San Marcos and Guadalupe rivers to the Gulf of Mexico. Team Hammer also earned 1st Masters! There is no prize money for the winners, just Texas-size bragging rights for the finishers and they sure earned it.

I AM RACING

Patrick Walle won Stage 2 of the Pro 1 race at the Tour of the Southern Highlands Stage Race. I AM Racing is an amateur bicycle racing team consisting of entry level to elite racers. They just completed a team camp in Chattanooga and we wish them the best in 2017.
Whatever your sport, you’ll find plenty of challenging Hammer Nutrition-sponsored events to choose from this summer. We’ve already got more than 160 events on our calendar for the upcoming months, covering pretty much everything associated with endurance, and more requests for sponsorship support are pouring in daily. Here’s just a sampling of the exciting summer events that we are honored to support:

**Dark 2 Dawn (Ultra Run)**
Foristell, MO
Produced by Terrain Trail Runners, this all-night ultra trail run at Indian Camp Creek in St. Charles County, offers a 10K and six-hour timed ultra option. Each race takes place on a wooded singletrack and open field route. The run will be held after the Sunset Sizzler Mountain Bike Race. Camping and breakfast are included.
dark-2-dawn.weebly.com
**June 17, 2017**

**Eastern Divide 50K (Ultra Run)**
Pembroke, VA
Point-to-point race from the falls to the lake and participants are asked to park at Mountain Lake and shuttle in to the Cascades trail head. This Eastern Divide 50K stretches between the Cascades to Mountain Lake. King and Queen of the Mountain prize goes to the first male and female to AS1-200’ four mile. The EDU is a “short course” eight mile race on the final miles of the ultra course.
easterndivideultra.com
**June 17, 2017**

**Lumberjack 100 (Mountain Bike)**
Wellston, MI
100 mile mountain bike race on a 33 mile loop through Michigan’s beautiful Manistee National Forest and Big-M Ski Area. The single track is composed of pack trail, sand, and rolling terrain. Racers will be pushed over 9,000 feet elevation gain.
lumberjack100.com
**June 17, 2017**

**Stovepipe Sprint Triathlon**
Petersburg, IL
This triathlon will include a 500 yard swim in a private lake, 13 mile bike ride on a country road, and a 3.1 mile run through Lincoln’s New Salem State Historic Site. All ages welcome. An awards ceremony will commence after the last runner crosses the finish line.
triharderpromotions.com/stovepipe-sprint
**June 17, 2017**

**Mack Cycle Trilogy Triathlon #1**
Miami, FL
The event will be held at the Miami Marine Stadium. The Mack Cycle Trilogy is the oldest triathlon series in South Florida and includes a Cycle Trilogy Sprint Triathlon/Duathlon and International Distance Triathlon.
triathlontrilogy.com
**June 18, 2017**

**End-Wet (Open Water Swim)**
Grand Forks, ND
The Extreme North Dakota Watersports Endurance Test (END-WET) is a down-river swim ultra-marathon (36 miles as of 2014) where solo or relay swimmers will travel from rural North Dakota into East Grand Forks, MN, on the mighty Red River of the North. The longest swim race in North America!
endracing.com/end-wet
**June 17, 2017**
Our Customers Say It Best ★★★★★

“I used these to help demolish my first 100k over the summer. My race was between 10,000 and 13,000 feet with a total gain of just under 10,000 feet. Endurolytes Extreme helped me maintain proper water and electrolyte balance so that I could not only finish the race but come in second overall (and 1st place female)”

Endurolytes

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Endurolytes Extreme

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hammernutrition.com  800.336.1977
How to have Hammer Nutrition sponsor your next event:

For nearly three decades, Hammer Nutrition has been sponsoring endurance events of all kinds, from ultrarunning and ultracycling to marathons, triathlons, adventure races, and much more. In fact, sponsoring grassroots events is one of our favorite ways to help new and experienced athletes, who don’t already know the benefits of “Fueling right, and feeling great” with Hammer.

Race directors who partner with Hammer Nutrition receive on-course HEED, our healthy and highly effective sports drink, to ensure participants’ success, free goody bags packed with our top fuels and educational brochures, Hammer Nutrition banners; and ongoing support from our team of experts. For more information, email events@hammernutrition.com

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**PENINSULA CENTURY (ROAD CYCLE)**

BAILEYS HARBOR, WI
The only spring Door County century ride. Routes of 25, 50, 62, and 100 miles through northern Door County. peninsulacenturyspringclassic.com  
JUNE 18, 2017

**HILLY BILLY ROUBAIX (GRAVEL GRINDER)**

CORE, WV  
This ride has approximately 70 miles of dirt, mud, gravel and paved roads, one creek crossing and a ton of climbing! Ya.... It is hard! Ya can’t say we didn’t warn ya. bikereg.com/hilly-billy-roubaix  
JUNE 24, 2017

**FUNK BOTTOMS 100K/200K (GRAVEL GRINDER)**

LAKEVILLE, OH  
Events include a single-lap100K race and a two-lap run on the same course for the 200K. Racers will see a total of 7,000 feet of vertical climbing on paved, gravel, and dirt roads. As a self-supporting race, no outside support is allowed. Roads are open and course is not marked. bikereg.com/funk-bottoms-gravel-100200  
JUNE 24, 2017

**GLACIER CHALLENGE (MOUNTAIN BIKE & MORE)**

WHITEFISH, MT  
Between the start and finish line, racers will have biked, paddled and run over 40 miles of beautiful Montana terrain. Racers may enter as individuals, partners and teams up to 7 members for the Glacier Challenge, Triathlon, eight mile run, 10K run or 5K run! theglacierchallenge.com  
JUNE 24, 2017

**BOULDER SUNRISE TRIATHLON**

BOULDER, CO  
10th annual Boulder Sunrise Triathlon. This early summer race features wave starts, well-marked courses, and great race swag. Choose from Olympic distance to a 5K. bbsctr.com/boulder-sunrise  
JUNE 25, 2017

**VERMONT GRAN FONDO (ROAD CYCLE)**

MIDDLEBURY, VT  
Gran Fondos are long distance, mass-participation cycling events, not races, that have become immensely popular in Italy and the rest of Europe and are a fast growing phenomenon in the United States. Recreational and competitive amateur cyclists are welcome. vermontgranfondo.com  
JULY 1, 2017

**GOLD RUSH 1200KM RANDONNEE (RC)**

DAVIS, CA  
Ride 1200 kilometers in 90 hours or less. The GRR is organized under the auspices of the Randonneurs Mondiaux, the worldwide governing body for randonneuring, and will use standard randonneuring pace and regulations. dcbgoldrush.org  
JULY 5, 2017

**IN HOT PURSUIT DUATHLON & ROAD RACE**

BAY ST. LOUIS, MS  
In Hot Pursuit is race number three of The QuadBurners Duathlon and Road Race Series. This event will follow a 2-11-2 duathlon format and there will also be a 4 mile road race option for those only wanting to run. quadburners.com/in-hot-pursuit.html  
JULY 8, 2017

**TIMBERMAN TRIATHLON**

COHASSET, MN  
Timberman takes you into the crystal clear water of Sugar Lake followed by a biking and running course of rustic scenery. timberman.org  
JULY 18, 2017

**TATANKA 100 (MOUNTAIN BIKE RACE)**

STURGIS, SD  
A mass start at the Shrine of Democracy, Mount Rushmore, riders will race for more than 80 miles on mostly single-track legendary Centennial Trail #89. tatanka100.com  
JULY 18, 2017
LET US LEAD THE WAY TO FUELING SUCCESS!

Talk with an expert!
Our client advisors are the best in the business! Call today and we will walk you through selecting the exact products to meet your needs.

★★★★★

Our Customers Say It Best
“Great products, amazing service, and as always, Hammer Nutrition’s fueling advice was ‘spot-on.’”
In 2016, nearly 135,000 diagnoses of colorectal cancer are expected, with an estimated 50,000 deaths occurring. A study in Japan involving over 40,000 men found that those who had the highest intake of magnesium 50% reduced risk of contracting colon cancer. Certainly, magnesium should be looked to as a powerful weapon against this disease.

Another study from the Netherlands showed a 19% reduction in colorectal adenomas (precursors to colon tumors) for every additional 100 mg increase in magnesium intake. The researchers also noted that each additional intake of 100 mg of magnesium corresponded with a 12% reduction in colorectal cancer risk.

As is the case with both pancreatic and colorectal cancer, only a modest increase in magnesium imparts significant cancer risk reductions. Magnesium plays many important roles in so many areas of human health including DNA maintenance and repair, insulin sensitivity, and inflammation. It should come as no surprise that inadequate intakes of this vital mineral is associated with an increased risk of certain cancers.

While vitamin D has appropriately been given “superstar” status in the realm of vitamins, it’s clear that the multiple benefits from magnesium should give it the same status in the world of minerals. In fact, one nutritional scientist even calls magnesium “the key to health and life,” which signifies just how important it is for human health.

Unfortunately, nearly 75% of Americans are deficient in magnesium. While it’s available in certain foods such as nuts and seeds, supplementation with magnesium is an easy way for you to guarantee sufficient amounts. The RDA is a good standard to aim for; however, consuming the Optimal Daily Intake of magnesium (500 - 750 mg), is even better.

With five different sources of highly bioavailable magnesium in easy-to-take capsules, Essential Mg is the ideal way to ensure that you’re receiving enough of this essential-for-life mineral. Get yours today! ☛
EASY TO DIGEST so you can PUSH YOUR PACE

Hammer sponsored athlete Steven Terry met his match at TommyKnocker 10 with what turned out to be a brutal course with much storm damage and 6 river crossings full of ice cold water per lap. Photo: Light Benders Visuals

- Reduces cramps
- Buffers lactic acid
- No sugar “crash”
- Promotes oral health

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Fearless Female Triathletes

BY SUZY DEGAZON

This is the journey of two Indian ladies, Sangeeta Patel and Smita Dhuldhoya. Sang & Smita are both in their early fifties, have no athletic backgrounds, and didn’t always imagine being triathletes. It took eight years from Sang seeing an advert for the women’s Danskin triathlon to it being on a bucket list and then becoming reality. She even inspired Smita to join in the fun! They never lost sight of their dream, but it took a little time before the stars aligned and they found a coach willing to work with them and what they called their “crazy idea.”

That coach happened to be me. I first met Sang one morning at a Competitive Tri-Swim Masters (CTSM), an official U.S. Masters Swimming club. That’s where I swim and sometimes coach the workouts. It did not take long to find out about her dream of doing a triathlon. I was so inspired, I immediately offered my coaching services and the next thing I knew, I was coaching Sang and Smita!

The bike was the biggest obstacle they faced. Imagine learning how to ride a bike in your 50’s!

Stopping and starting were areas they needed work on and reaching for a water bottle never happened, but again, they never gave up and we had some funny moments! They signed up for the Tinsel Tri in Hemet in December of 2016 and we got to work!

I took them to the gym and they ran on the treadmill, did stationary bike, and rowing machines too. As well as going to CTSM, they also went for hour-long sessions with me to the pool to concentrate on stroke and kicking. Their confidence grew. With the exercise, they needed to know how to fuel so they could have the most energy possible and not be so tired. Naturally, I introduced them to Hammer Nutrition! We used HEED during our training and Recoverite...

“The bike was the biggest obstacle they faced. Imagine learning how to ride a bike in your 50’s!”

Photo: Smita Dhuldhoya, Suzy Degazon, and Sangeeta Patel celebrating a well-earned triathlon finish.
afterwards and they enjoyed the education in sports nutrition.

Soon, it was November and the tri was approaching! They wanted to dress up but I figured it would be better to dress up as triathletes and they both surprised me by dressing up as ME! Imagine my surprise and delight when I see them both in my signature pink Hammer tri shorts and top, complete with matching visors! That was a very fun moment and I love them for doing that. They are such great sports.

Race day came and my husband Al offered to chauffeur and be photographer. I did the reverse tri with the ladies. It began with having our legs and arms marked and they were SO excited and nervous. I walked them through racking our bikes and laid out our swim stuff. The National Anthem was sung and the 5K run began. Sang was so overcome with emotion we nearly did not get the 5K finished, but by 3K she had calmed down enough to jog. At that point, we began the 12 mile bike with smiles and high fives.

Watching the two women roll up to the dismount was emotional. It was so powerful to see how far they had come. This was not just a 10 week journey. Remember, this was something that took decades to accomplish. In their Indian culture, they said that academics are valued above athletics, and they are female to boot!

The swim portion was three 50 meter laps. I swam next to them and when we stopped at the walls, I whispered encouraging words. They earned their way to the final steps: the elation, the medals, the smiles the joy! For me as a coach and mentor, and now a friend, I was elated to see the transformation of these two ladies into triathletes. They worked so hard, they believed, and they are Triathletes. What an honor to have been there from start to finish! Well done, Sang and Smita. Hammer on!

About the Author: Suzy Degazon has been competing in multiple sports since 1993 with over 600 races from sprint triathlons, to Ultraman Hawaii, and triple iron distance races. She is a Brooks Inspire Daily running coach, a scuba instructor, and swim coach. She loves to coach all levels of athletes from novice to expert and has been a Hammer Sponsored Athlete since 2001. You can visit her website at www.suzyultrawoman.com
On April 1st, 2017, Hammer Nutrition sponsored athlete John Kelly left the start line on his third attempt at the 100 plus mile, 60 hour ultramarathon trail race, the Barkley Marathons. On April 3rd, at 59:30 in with just 30 minutes to spare, Kelly became the race’s 15th Finisher since 1986.

The Barkley Marathons takes place in Frozen Head State Park, Tennessee. The application process is elusive, only a select few are accepted. Full route disclosure is provided upon arrival and exact start time is announced just one hour prior. Currently, the race consists of a 20-mile unmarked loop. Participants will run this loop five times, will experience 67,000 feet of accumulated vertical climb, and they must finish within 60 hours.

On his blog post titled “2017 Barkley Strategy, Gear, & Nutrition,” Kelly shares how Hammer Nutrition helped him reach his goal:

“After quite a bit of experimenting, I’ve found that Hammer Nutrition works best for me during races in terms of keeping my energy levels steady and preventing gastric distress.”

John and his wife, Jessi welcomed twins into the world during training, making them a family of four. Being a devoted father and dedicated athlete, he implemented an in-home treadmill set to a 20% incline into his routine, along with weekend and commuting runs, biking, and swimming. Managing daily life and training for an ultramarathon requires consistent nutrition and more importantly, recovery.

During the race, athletes had to work through disorienting fog for loop one, 80 degrees with humidity during loop four, and snow and hail reported during loop five. John’s memorable arrival at the finishing gate, wearing a found knit hat and plastic grocery bag says it all.

Kelly’s story is proof that physical strength alone is not enough.
healthy fueling and nutrition strategy for increasing physical strength, assuring proper recovery, and improving mental alertness is essential. To future participants Kelly suggests “doing something that you know you’re going to fail at and see how you react, see how you try to overcome that and be able to build that mental strength to fight through the mistakes that are going to happen. No one is going to have a mistake-free Barkley.”

John also fueled on Anti-Fatigue Caps, EndurOmega, Tissue Rejuvenator, Mito Caps and Race Caps Supreme.

Hammer Nutrition is excited to continue supporting John Kelly as he hammers on in the future.
Is sugar the next tobacco? An increasing number of Western countries have implemented or proposed taxes on unhealthy foods and drinks in an attempt to curb rates of dietary-related diseases. Sugar and soda taxes have been seen in France, Mexico, the UK and some American cities. The guiding principle is that taxing the sugar content of beverages will reduce demand for the products and encourage producers to cut sugar. Will it work?

The relationship between non-communicable diseases and consumption of unhealthy foods and drinks is well known. According to the 2013 Global Burden of Disease study, a global, regional, and national comparative risk assessment of 70 factors showed that in 188 countries, dietary factors contribute to almost 10% of the global disease burden. In America alone, the average citizen consumes 150-170 pounds of sugar a year and the country faces staggering statistics regarding obesity, tooth decay, and diabetes.

However, the cost-effectiveness of such taxes is not well-understood. A new study published in PLOS Medicine by Linda Cobiac, from the University of Melbourne, Australia and her colleagues, sheds more light on the controversial proposals.

In a Cost-Effectiveness Modeling Study published in February 2017, researchers used a population model of dietary-related diseases, health care costs, and food price elasticity to simulate the effect of taxes on saturated fat, salt, sugar, and sugar-sweetened beverages. The taxes on sugar and salt yielded the most improvement in overall health and DALYs (disability-adjusted life years). Scientists concluded that taxes had the potential to improve population health and to reduce health care costs.

Price is a key driver of food purchasing. Researcher behavior in real-world environments and virtual supermarket-type environments show that people reduce consumption of unhealthy foods when the price of these products is increased. Taxing the sugar in sugar-sweetened beverages would not only reduce demand for these products but would also encourage producers to reduce the sugar content. In fact, Nestle, Heinz, and other companies are currently working to reduce the sugar content in their products in response to consumer demand.

Some critics voice concern regarding the danger of job losses due to the introduction of the taxes. University of Cape Town economics professor Corne van Walbeek testified in favor of the proposed sugar tax when it was proposed in Australia this year. In an interview with Business Day, he said, “The tobacco industry made similar alarmist claims in the late 1990s when the government was debating the Tobacco Products Control Amendment Act. Despite these scare tactics, the legislation was passed and the population has benefited greatly. The dire predictions made by the tobacco industry did not come to pass,” Van Walbeek said.

Cobiac’s study concludes by noting that with large multi-national corporations playing powerful advisory roles in the negotiation of international trade and investment agreements, governments may be less willing to implement public health policies and programs that compel action from food manufacturers. Consumers and citizens will have opportunities to participate in the war on sugar.
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For the last thirty years, our athletes have been the heart and soul of Hammer Nutrition. Our mission to bring a unique line of effective and healthy endurance fuels and supplements to the market was founded on the desire to empower athletes and help them reach peak performance. Our “From Our Athletes” section features submissions from athletes at every level, ranging from elite pros who have been competing for decades to beginners completing their very first race. This is just a small cross section of the thousands of Hammer athletes around the world who are establishing Hammer’s reputation for having safe, natural, and performance-proven results. Congratulations to everyone here on their accomplishments. We look forward to hearing from everyone else as they hammer strong in 2017. Best wishes to all!

Joy Braun
Las Olas Triathlon
This is another race where Mother Nature tested my mental strength. Cold rain, wind, and ocean waves hiding the buoys were on the menu for the Multirace Las Olas Triathlon yesterday in Ft. Lauderdale. “Earning 1st place in my age group makes for one happy girl”. I wore my Hammer Nutrition t-shirt for the podium since I am powered by Hammer!

Photo: Joy Braun

Melissa Tanner
Charm City Run
@Never_Missy CRUSHING it for @hammernutrition! She earned 1st female at the Shamrock 5K in Baltimore, Maryland out of 4,530 runners.

Photo: Cory Donovan
Charlene Proctor
Superstars Dancesport Championships
Charlene Proctor and Igor Kiselev competed at Superstars Dancesport Championships, St. Petersburg, Florida in February. In the International Ballroom style, they placed 1st in World Dancesport Series Championships, 1st in Millennium Cup Tour, and 2nd in Open Gold Scholarships.
Photo: Alex Rowan Dancesport Photography, 2017

Naomi Haverlick
Mt. Currahee Ultra X Gravel Grinder
The Assault on Mt. Currahee Ultra X Gravel Grinder is the first in a four-part series. Naomi earned 4th Place Open Woman Overall!
Photo: Courtesy Naomi Haverlick

Coul Hill
The Ridge Circuit Race
Congrats to Coul on his 1st place overall finish in the circuit race at The Ridge and 5th in the Icebreaker Time Trial.
Photo: Collene Hill

Salvador Gonzalez
Coconut Cup Series
“My weekend was awesome thanks to the nutritional supplements from Hammer Nutrition. I got 2nd on the time trial and 1st on my XC race.”
Photo: Filippo Schmitt Barbieri
**Terry Stern**

**Luck of the Irish Tri**

Terry competed in the Luck of the Irish Super Sprint Tri. He finished 3rd overall, finished 1st Master male, finished 1st Grand Master male, AND won his age group! *Thanks, Hammer Nutrition for the Hammer Gel and Fizz: the right fuel to go fast!*

Photo: Lori Stern

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**Alicia Greenwald Schultz**

**Gate River Run 15K**

“Over 14,000 people ran this race. I came in 2nd place in my age group out of 686 and 110th out of 7799 women. I used Fully Charged, Hammer Gel, and Endurolytes before the start and another gel at mile six.”

Photo: Steve Schultz

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**Alicia McCormick**

**Grand National Cross Country Series**

“The Cannonball, Round 3 of the GNCC series was a success! I finished 1st in class and 8th overall out of 215 racers. I was powered by and recovered with Hammer Nutrition!”

Photo: Courtesy Alicia McCormick

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**Connor Baxter**

**APP World Tour**

Connor earned 2nd Place Overall at the first stop on the APP World Tour, an eight event series across the Americas, Asia, and Europe. He won the overall APP World Tour title last year, so its great to see him performing so well. In addition to being included in Endurance News, he was recently featured on the cover of SUP magazine too! Let’s wish him well in 2017!

Photo: APP World Tour
LANCE McDERMOTT
THE BELL RINGER
50K TRAIL RACE

Lance McDermott is all smiles after posting the fourth fastest time ever at The Bell Ringer 50K.
Photo: Jeremy Baker

Four days prior: 4 Race Day Boost, 4 times a day for 4 days.

1 hour prior: 4 Anti-Fatigue Caps, 4 Endurolytes

15 mins prior: 1 Hammer Gel

During:
• 4 Endurolytes every hour
• 2 Anti-Fatigue Caps every hour starting at hour two
• 1 8-ounce bottle with 2 Fizz
• 5 Energy Surge tabs
• 2 Hammer Flasks with 4 Hammer Gels watered down in each, 1 on me and one at the midpoint aid station.

After: 4 Endurolytes

RESULTS

I felt strong throughout the race and never experienced extreme fatigue or cramping of any kind. I had enough energy to push through to the finish. With over 3700 feet of elevation gain over the 50K trail race, there were a lot of steep inclines to take on. I finished 2nd overall for the race, with the fourth fastest time ever for the event.
Melanie Mociun and teammates in outrigger canoe, OC6, just after racing around Angel Island.

Photo: Eva Leska
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Hammer athlete Nick DiNapoli attacking a technical trail. Photo: Courtesy Nick DiNapoli