

# ENDURANCE

# NEWS

BY HAMMER NUTRITION  
#113 January/February/March 2019  
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*THE NUTRITION & DIET ISSUE...*

---

## **The Balanced Diet Myth**

Why you must supplement

## **Training for Ultra**

Prepare to be inspired

## **Hammer CBD**

Powerful recovery-enhancing benefits

*PLUS...*

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- Premium Insurance Caps
- The New Nutrition Label





## Setting, and exceeding, goals

After riding and running a combination of over 9,000 miles in 2017, Hammer Nutrition Sponsored Athlete, Mitch DeYoung, felt the calling to break the 10,000-mile mark the following year.

Mitch set strict goals, carefully tracked his progress, sacrificed sleep for family time, and focused on nutrition to combat the stress that comes with cycling 10-15 hours a week—while also working full-time and raising a family.

After 11 months and 9 days, and nearly 600 hours of training time, Mitch reached 10K miles, but that did not stop him from getting on the bike! After a short celebration with family and friends, Mitch stayed strong throughout the entire month of December to end the year with over 10,500 miles.

“A few of the products I added to my repertoire this year to really aid in my success and help me continue riding are Hammer Whey Protein, Endurance BCAA+, and Anti-Fatigue Caps. For post workout I have used Recoverite for years and will continue to recommend it to anyone who wants to set themselves up for a successful workout day after day. This year I started using a Globus EMS unit to aid in recovery. There is a lot of science behind how these and similar devices help increase blood flow, flushing out toxins and relaxing muscles much quicker than without the unit.”

**Mitch DeYoung** via *BlogSpot: mtbmitch.blogspot.com*

Mitch DeYoung, hammering it out at the Wausau 24, in Wausau, WI. Photo: xtrphoto.com





## The Nutrition & Diet Issue

If you want to perform better, evade disease, and stay agile well into old age, there is absolutely no replacement for a nutritious, whole food diet. This issue will inspire you to stay the course and ditch the junk food once and for all.

Read more on pages:

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Arizona's oldest mountain bike stage race is best described as three days of racing and one big mountain bike party. Since its start in 1991, the Cactus Cup has grown from 100 riders to 1,000, all while maintaining a local, grassroots vibe.



**28**

We've got two great new additions to our super-effective, ultra-pure line of broad-spectrum, CBD products! *Give these a try; we know you'll love them!*



# Welcome to the 113<sup>th</sup> issue of Endurance News!

Brian and Miles Frank, two generations committed to helping you fuel right and feel great!

Since this is the first issue of 2019, I would like to wish you a happy, healthy, prosperous new year! I'd also like to welcome the several thousand new customers who are cracking open their first issue of this publication! As I am prone to saying, this is a big issue with a lot of useful information and stories from our customers, ambassadors, sponsored athletes, and staff.

2019 marks our 32nd year in business and the 29th year of this publication. That's definitely endurance, if I do say so myself. Unlike other publications and companies, our mission remains unchanged, and we are undaunted in our pursuit to help you be the best athlete and human you can be, from a nutrition perspective. *Food is Your Best Medicine* by the late Henry Bieler, M.D. was the first point of reference for my parents and is still the most valuable book in my library.

My steadfast belief that peak athletic performance and optimal health can only be achieved by consuming a whole foods based diet which minimizes refined

sugar, dairy, wheat, chemicals, and preservatives continues to guide everything we do, every product we produce, and everything you will ever read on these pages.

As I am prone to telling anyone who will listen, you should not have to go on a sugar/junk food binge just because you want to go for a swim, bike, run, paddle, or other form of exercise. To avoid negative health and performance consequences, the nutritional products you use for your training, racing, and adventure pursuits must be consistent with the above dietary philosophy. That is why you can count on Hammer products to allow you to do whatever you want, exercise-wise, without going off the dietary wagon.

When it comes to the flooded sports nutrition market, there really is Hammer and then everyone else selling sugar-based products. Of course, the purveyors of these sugary products deny and obfuscate this reality by telling you the sugar in their products are "carbs."

The same goes for salt! There is no question that high sodium diets are bad for you and over time will damage your health. The competition would like you to think that since you are engaging in endurance activities, oftentimes in the heat, that salt is magically good for you—and the more, the better. I hate to rain on their parade, but there is no tooth fairy, and excessive sodium not only harms your health, it does not allow for your body to function optimally in heat stress conditions.

Let's work together to make 2019 your best year for athletic performance and health. In the meantime, enjoy the read, and pass along the good news about Hammer to all of your family and friends. We make a healthy, low sugar, low sodium product for all of them!

Brian Frank  
Owner/Founder

**On the cover:** Hammer Nutrition Athlete, Benjamin Proko, runs along the western coast of the Island of Hawaii days before Ironman Kona World Championships in Kailua-Kona, HI. Ben has carefully selected his Hammer fuels and supplements to deal with the extreme heat that often affects the world's top triathletes. Photo: Aaron Palaian



# ENDURANCE NEWS

The informed athlete's advantage since 1993

AN EXCLUSIVE PUBLICATION OF:



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## MISSION

Endurance News provides informative and inspirational content to help endurance athletes like you achieve peak performance and health. The views expressed favor a healthy diet, hard training that emphasizes quality over quantity, and prudent supplementation to improve health and performance. Back issues are available at [hammernutrition.com](http://hammernutrition.com)

## OUR GUIDING PRINCIPLES

**Service:** From day one, we've strived to treat each client fairly, honestly, & individually. Your trust is our top priority.

**Education:** We educate and empower athletes with free, easily accessible information on health and performance.

**Principles before Profits:** Profits never take priority over our values. If it says "Hammer Nutrition," it's good for you.

## OUR CORE VALUES

**Innovation:** Our development of new, cutting-edge products and categories has led the field since 1987.

**Product Integrity:** Our consumables are researched, tested, and USA-made to the strictest standards. Read more at [hammernutrition.com](http://hammernutrition.com) "Mission"



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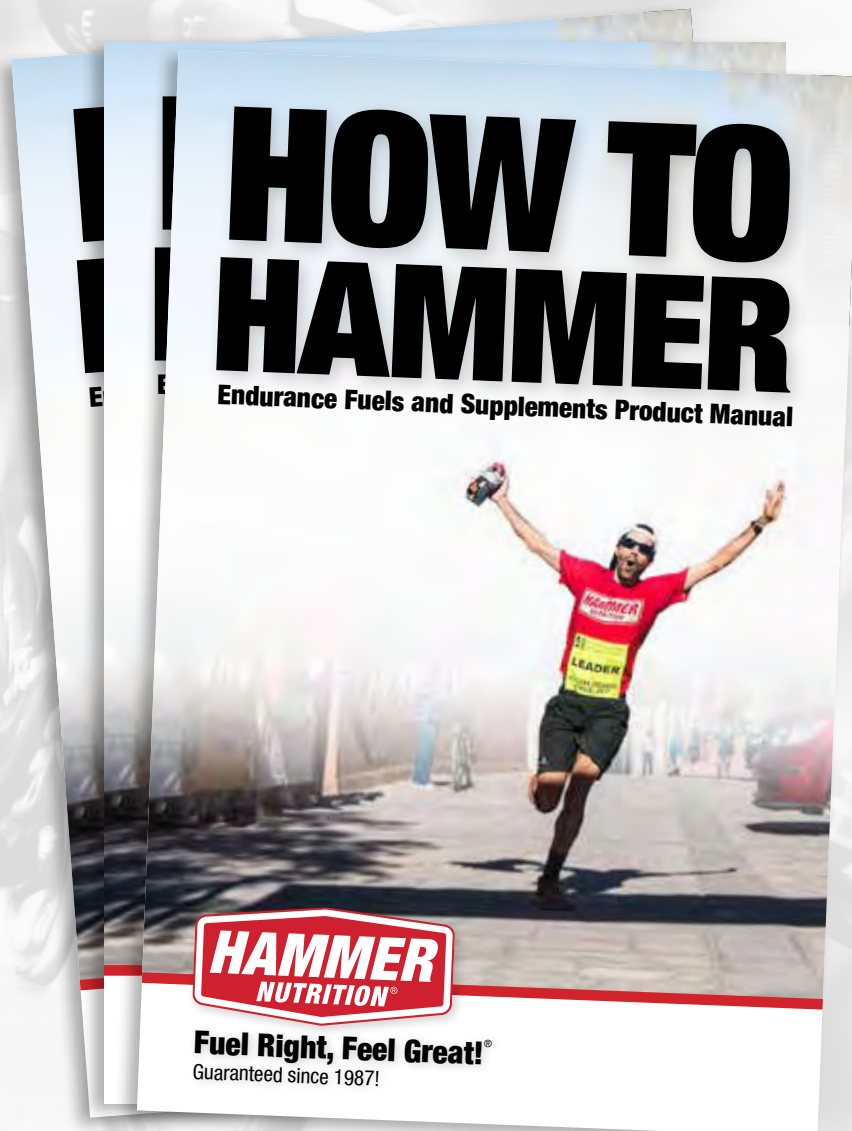
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# Starting Lines

Letters from Hammer Nutrition Athletes & Clients



Australian Ambassador, Clint Burfitt “Everesting” Willunga Hill in Australia to raise money for mental health. Photo: Paul Hambly

“When doing an Everest (8848 meters/29,029 ft of climbing) in over 260kms and 15 hours on the bike, you need the right fueling to get you through! Hammer Nutrition was key to me finishing this massive challenge! The support and info they’ve given me on my nutrition plan was second to none. If you want to ride further, faster and stronger then get on Hammer Nutrition!”

**-Clint Burfitt**

## Phenomenal Customer Support

I’ve been using Hammer products for about two years now and, plain and simple, they work as advertised. In addition to the comprehensive product line, in my mind what really sets Hammer apart from the others is your customer support—which is absolutely outstanding. The fact that a relative newbie like myself can get advice from experts at Hammer demonstrates your phenomenal customer support.

**-Paul McGlynn**

## Above and Beyond

I love Hammer Products—they never upset my stomach and I’ve got a sensitive one. Their products are great and reasonably priced. Plus, you can’t beat the customer service, I’ve never had a company call to make sure I like their products and do I have any questions? What!!! Nice added touch & I’ll continue to use their products. Thanks for going above & beyond!

**-Theresa Vichich-Weber**

## Vegan Praise!

Thank you, thank you, thank you for vegan Tissue Rejuvenator and Recoverite!!!! When you really don’t want to consume animal products for many reasons and you discover how many products have them—even as innocently as a capsule, it’s very frustrating. Thank you for responding to requests and concerns.

**-Leilani Rothrock**



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**letters@hammernutrition.com**

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*-Online Reviewer*



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# #howihammer

HAMMER HAPPENINGS ON FACEBOOK, INSTAGRAM & TWITTER. USE THE HASHTAG TO SHARE YOUR PHOTOS!

@dion\_finocchiaro



Australian athlete, Dion Finocchiaro fuels with Nocciola Hammer Gel during a training run on Mount Etna, east of Sicily, Italy.

Photo: Dion Finocchiaro

@hellb0y73



With Perpetuem in his bottle and a brand-new kit to break in, Clint Burfitt is looking towards 2019 with big goals on the horizon!

Photo: Clint Burfitt

@hoseman16



For Hammer Nutrition sponsored athlete, Zach Hilton, the 2018 season was focused on advocacy work, as he is striving to make his hometown of Gilroy, California a more walkable and bikeable region.

Photo: Zach Hilton

@ivebeen\_framed



To enhance recovery, Hammer Nutrition Sponsored Athlete, Steven Terry, added Hammer CBD to his daily regimen!

Steven uses Hammer CBD to assist in maintaining his training schedule of nearly 700 hours a year.

Photo: Steven Terry

@itsnitram



When Hammer athlete Martin Criminale's sister says she needs a Boston qualifier, she knows she can count on her brother to set the pace. For the 7th time, Martin and Lucca ran the Seattle Marathon and logged yet another qualifier!

Photo: Martin Criminale



# RACE RECIPE

## GABRIELLE SUVER

USAT LONG COURSE CHAMPIONSHIP/MIAMI MAN TRIATHLON



Gabrielle Suver celebrates a strong finish at the USAT Long Course Championship in Miami, Florida. Photo: Michael Suver

### Before:

Fully Charged  
Endurolytes  
Endurance BCAA+

### During:

Perpetuem  
Hammer Gel  
HEED  
Fully Charged  
Endurolytes

### After:

Recoverite

# RESULTS

## 4th Place Age Group

Despite a battle with numerous rainstorms during the event, Gabrielle Suver finished 4th in her age group and qualified for the Long Course Triathlon World Championship in Pontevedra, Spain!

@axelgarond



Hammer Nutrition Vietnam athlete, Axel Garond, met with Brian Frank at a fueling conference during his trip to southeast Asia. Brian was able to share fueling and nutritional guidance to help Axel become an even stronger ultra-runner.

Photo: Hammer Nutrition Vietnam

@jennifercleary.bayliss



When the weather doesn't cooperate, that does not mean that Jennifer Bayliss takes a day off!

Jenn uses the off-season to work on strength training to prepare for a big 2019 season ahead.

Photo: Jen Bayliss

@cxchick



Despite a muddy course, Alex Forte laid down the hammer at the Supercross Cup in the North East Cyclocross Series in Rockland County, NY. While others were affected by the difficult conditions, Alex finished 9th for her first UCI Top 10 finish.

Photo: Barbara Evans



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!



# Winning the Worlds Fueled by Hammer

BY CAROL CRONIN

In almost two decades of working with Hammer Nutrition, I've learned a lot about what I need to consume to keep racing at my best. I won't bore you with the details, but I will tell you this: Hammer products (and all of that education along the way) just helped me win a world championship!

Competitive sailing is a life sport, and except for a small detour to the 2004 Olympics, I've spent most of the past twenty-eight years competing in a double-handed boat called the Snipe. It demands a wide range of skills; to win regattas, you have to be smart, strong, and nimble.

Proper fueling is a basic building block of all these skills, but it's all too easy to either ignore or forget—especially over the course of a multi-day competition. To win at this level, we had to be just as sharp and ready to go on the last day of the world championship as we were on the first day.

As I've refined my personal fueling, I've learned to look around at my competitors in the final days of a long regatta. Though I still feel ready to go and fresh, almost everyone else is visibly fatigued—no matter how fit and strong they were going in.

The 2018 Snipe Women's Worlds was a perfect showcase for the benefits of good fueling. This biannual championship attracted thirty-two boats from ten countries to Newport, Rhode Island. To prepare, I focused on the basics; sail and train hard until a week ahead of the regatta, then taper down to two full rest days just before the event. I also made sure to sleep, eat, and hydrate well before, during, and after the four day regatta.

I consume all-Hammer products on the water. The goal is to stay fueled and hydrated, no matter how hard we work or how long and hot the day of sailing proves to be. Since the time we'll be on the water each day is weather-dependent and therefore unpredictable, it's key to carry extra fuel—but we're on a small, wet, and weight-sensitive boat, so most sailors don't bring enough food or water. My daily rations fit into a life jacket pocket and two water bottles (for more detail, read *Want to Fuel Right? It's Personal* [carolnewmancronin.com/want-to-fuel-right-its-personal/](http://carolnewmancronin.com/want-to-fuel-right-its-personal/)).

The first three days of the regatta were hot and humid, which made Endurolytes Extreme and Fizz the regatta




In 2018, Carol Cronin (Right) and Kim Couranz (Left) became the Snipe Women's World Champions after competing in Newport, Rhode Island! As a team, Carol and Kim have been competing together for over 8 years. Carol's husband, Paul (center), who had the opportunity to coach the crew, noted their ability to work together and remain calm under pressure.

MVPs. Other sailors talked of headaches after sailing; we knew they would have trouble recovering in time for the next day's racing.

## Our consistent results were the direct result of consistent fueling.

The other key to success was taking charge of our own refueling once off the water. There were socials after each day of sailing, but instead of depending on what others provided for food and drink, we made sure to drink our Recoverite as soon as we got off the water—and then we ate a full meal an hour or two after that. On the third day of racing, we were off the water by 3:30pm—a full five hours before the unspecified regatta dinner was served. We consumed an early “first” dinner before going to the party; when we showed up, most of our competitors wore the blank stares of late-stage regatta fueling-fatigue. The next day, we were ready to meet the challenges of the final big-breeze race—and we won the championship on the last leg. “Fuel right today to perform right tomorrow,” as my teammate Kim Couranz says.

We won the Women's Worlds without winning a single one of the nine races, because our scores were the most consistent in the fleet; we counted no finish worse than fourth. We were able to come back from mistakes, and to stay focused even at the end of each long day of a long championship. I believe that our consistent results were the direct result of consistent fueling and hydration. Armed with Hammer products and knowledge, we made it a priority to take charge of our own consumption. And now we've added World Champion to our list of accomplishments this year! 



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Seamus Powell, powered by Hammer, won the 2018 Men’s Enduro in Killington, Vermont. Photo: Zach Faulkner

# Vitamins May Help Lower Pancreatic Cancer Risk

BY STEVE BORN

While vitamin supplements get a routine bashing from many so-called experts (“They’re a waste of money”), and are frequently demonized in mainstream media, science continues to provide evidence that they can provide some pretty profound health benefits.


The latest evidence comes courtesy of a meta-analysis [1] that found an association between higher vitamin intake and a decreased risk of pancreatic cancer. Headed up by Dr. Ying Liu, researchers reviewed 25 studies involving nearly a quarter-million subjects, and analyzed data on intake of vitamins A, B, C, D, and/or E.

**Taking vitamin supplements, far from being “a waste of time and money,” can provide some dynamic health benefits.**

Subjects with the highest vitamin intake in the studies were found to have a 10%-21% lower risk of developing pancreatic cancer (PC) than those with the lowest intake. The researchers’ conclusions: “This meta-analysis found that vitamin intake can decrease the risk of PC, particularly vitamin D and vitamin B12.”

Of course, 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.

But this bit of research—though most likely not mentioned very much, if at all, in the news—provides more ammunition that taking vitamin supplements is far from being “a waste of time,” and can provide some dynamic health benefits. Given that pancreatic cancer, according to research, “is one of the most malignant cancers with a 5-year survival rate of about 5%” [2]—and with this latest study showing an association with vitamins and lower pancreatic cancer risk—it just makes sense to include vitamin supplements into your daily routine.

That’s where **Premium Insurance Caps**, Hammer Nutrition’s potent multivitamin/mineral product, comes in. Formulated to fill in nutrient gaps inherent in the modern diet, Premium Insurance Caps contains high-quality vitamins and minerals at Optimum Daily Intake (ODI) amounts, not the “bare bones” Daily Value (DV) or Reference Daily Intake (RDI) amounts, which are the minimum amounts needed simply to prevent deficiency diseases. 

## REFERENCES:

- [1] Vitamin intake and pancreatic cancer risk reduction: A meta-analysis of observational studies. Ying Liu; Xiaojie Wang; Xuejia Sun; Shengnan Lu; Shi Liu [ncbi.nlm.nih.gov/pmc/articles/PMC5895396/#R1](https://ncbi.nlm.nih.gov/pmc/articles/PMC5895396/#R1)
- [2] Ghaneh P, Costello E, Neoptolemos JP. Biology and management of pancreatic cancer. *Gut* 2007;56:1134–52.

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Taralyn Summers, out for a trail run on Twin Lakes Pass in Brighton, UT.  
Photo: Scott Wesemann

# Economic Nexus

THE INTERNET SALES TAX IS HERE

BY BRIAN FRANK

Last summer, the US Supreme Court handed down its ruling on *South Dakota vs. Wayfair*, and with that decision ushered in a new era in mail order business. What this means to those of you who live in the 45 states with a sales tax is, going forward, when you place an order on our website or any other direct-to-consumer seller, you will be charged sales tax on that order. There are a few states where the sales tax date has not arrived yet, and there are a few more where we do not and will not meet the requirements to trigger “*economic nexus*.”

Historically, a mail order company only had to charge sales tax on orders going to the state in which they operate, and in any other state in which they had a “physical presence.” Originally, “physical presence” meant a store where you could buy the products. So, when I first started Hammer (then known as E-CAPS) and the company was based in California, we charged sales tax on all California orders we shipped. When I relocated to Montana in 1995, we ceased charging sales tax. Then in 2008, in another court ruling, also with the state of South Dakota as the plaintiff, the definition of “physical presence” vastly expanded from a retail store to ANY activity in the state—sales reps calling on stores, sponsoring events, etc.

The new Supreme Court ruling now requires no physical presence in the state, just sales or “economic” activity. While most small mail order companies would never meet the dollar threshold in each state, there is also a second trigger, being the number of transactions in the state. Since the number of transactions for most states is 100, and 200 for a few others, most small-to-medium size companies will fall into this new category and need to start collecting sales tax or face financial ruin due to the assessment of uncollected back taxes by as many as 45 states.

As much as I disagree with the small number of transactions triggering economic nexus (Thank you Alabama, Mississippi, and Tennessee for only using dollar sales as a trigger), I also have a problem with mail order companies selling furniture, stoves, refrigerators and the like online. However, we follow the rules here at Hammer and this is what we have to do.

Nexus will not affect the following states as there is no sales tax:

**Alaska**  
**Delaware**  
**Montana**  
**New Hampshire**  
**Oregon**


Nexus will not affect the following states, as the sales are not enough to trigger economic nexus requiring us to collect and remit sales tax:

**Alabama (trigger amount: \$250K)**  
**Mississippi (trigger amount: \$250K)**  
**Tennessee (trigger amount: \$500K)**

**California**- sales tax collection will begin on *April 1st, 2019*, no foolin’. Stock up before then.

**Colorado**- sales tax collection will begin on *June 1st, 2019*.

**Texas**- sales tax collection will begin on *October 1st, 2019*.

So, if you live in any state other than those listed above, we will likely be collecting sales tax on any phone or web order you place. 





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# The New Nutrition Label— Thankfully, A Year Closer

BY STEVE BORN

It's been about a year since we originally discussed the new nutrition label (see the article from EN #108 at [hammernutrition.com/knowledge/endurance-news/what-the-new-nutrition-label-means-for-you/](http://hammernutrition.com/knowledge/endurance-news/what-the-new-nutrition-label-means-for-you/)), but now that it's becoming closer to being in effect, it's time to review this important information again, especially the all-important "Added Sugars" distinction.

As mentioned in the previous article, the new label will now be required to list *added sugars*, *potassium*, and *vitamin D*. *Calcium* and *iron* will continue to be required. *Vitamins A* and *C* will no longer be required to be listed on labels, as deficiencies of these two vitamins are now rare. Some of the other changes to the label include highlighting *calories*, *servings per container*, and *the serving size*; updating the information in the footnote to clarify the percent Daily Value; and requiring that the *amount* of the mandated vitamins and minerals is listed, not just the percent Daily Value.

## Why listing Added Sugars is so important

The FDA defines added sugars as: "sugars that are either added during the processing of foods, or are packaged as such, and include sugars (free, mono- and disaccharides), sugars from syrups and honey, and sugars from concentrated fruit or vegetable juices that are in excess of what would be expected from the same volume of 100 percent fruit or vegetable juice of the same type."

When you review the new label, you'll see that Total Carbohydrate content is listed, as always. In the previous incarnation of the label, the two components listed underneath were Dietary Fiber and Total Sugars. But that really didn't tell the entire story. That's because, while some of the Total Sugar content in a food source may come naturally as a "part of the whole" in the carbohydrate component, what was missing on the label was the amount of sugar that was ADDED to the product.

The reason why this is important is because naturally occurring sugar, such as the fructose that naturally occurs in a piece of fruit, is a good thing. This is because the body responds much more favorably to a short-chain sugar when it is part of the entire matrix of the carbohydrate source, versus when it's added as a separate entity to a product.

Another example is the maltodextrin that we use in our fuels. This is a starch-like carbohydrate that contains various chains of saccharide molecules, primarily pentasaccharides, defined as "a five-sided complex carbohydrate that has unique properties that allow for maximal conversion to energy." As part of the entire



matrix of maltodextrin, there will always be a small amount of one- or two-chain sugars (monosaccharides, disaccharides). However, because they naturally occur as part of the entire complex carbohydrate structure, and are not added separately, the body is able to use maltodextrin more efficiently as a fuel source.

Part of the reason why is because of maltodextrin's rating on the Dextrose Equivalent (DE) scale. The lower the DE, the quicker it will exit the GI tract and cross the stomach lining, allowing it to be more readily available for energy production. The maltodextrin in Hammer Gel, for example, has a DE of 18, whereas sucrose (table sugar), a sweetener found in many energy gels, has a DE of 100.

Aside from the health issues associated with sugar intake (discussed in a bit), a major problem when short-chain (simple) sugars—especially high amounts—are *added* to a complex carbohydrate product is that these two carbohydrate sources digest in different solution concentrations. Simple sugar matches body fluid chemistry (osmolality) and can only be digested efficiently when it is mixed in calorie-weak solutions of 6%-8%. Conversely, maltodextrin matches body fluid osmolality parameters in more calorie-dense, 15%-18% solutions. Bottom line is that when you combine simple sugars with complex carbohydrates, you compromise-to-negate efficient digestion of either source.

Of course, the greatest issue with simple sugars is that they have no nutritional benefits and add empty calories, and that



## THE NEW NUTRITION LABEL

Continued from previous page


they are consumed in far too great a quantity by the average American. The FDA says:

The scientific evidence underlying the 2010 and the 2015-2020 Dietary Guidelines for Americans support reducing caloric intake from added sugars; and expert groups such as the American Heart Association, the American Academy of Pediatrics, the Institute of Medicine and the World Health Organization also recommend decreasing intake of added sugars.

In addition, it is difficult to meet nutrient needs while staying within calorie requirements if you consume more than 10 percent of your total daily calories from added sugars. On average, Americans get about 13 percent of their total calories from added sugars, with the major sources being sugar-sweetened beverages (including soft drinks, fruit drinks, coffee and tea, sport and energy drinks, and alcoholic beverages) and snacks and sweets (including grain-based desserts, dairy desserts, candies, sugars, jams, syrups, and sweet toppings).

In fact, in addition to supporting the FDA's decision to list Added Sugars to labels, the American Medical Association (AMA), in a recent statement, is urging the FDA "to develop front-of-package warning labels for foods that are high in added sugars based on the established recommended daily value."

In its press release, Dr. Albert J. Osbarh, III, states: "The AMA believes that food packaging should include more transparent information about the contents within our food so the healthy choice can be the easy choice for consumers. When consumers have access to the amount of sugar they are consuming, they may choose foods with less sugar—which can help prevent debilitating chronic medical conditions, such as type 2 diabetes and heart disease which affect millions of Americans."

At Hammer Nutrition, we have never deviated from our position to severely-limit-to-restrict consumption of sugar. Thus, we are eager for the FDA's changes on nutrition labels to go into full effect; you'll then be able to see much more clearly just how many sports nutrition companies add sugar to their products. We also applaud the AMA for their recommendations to the FDA. Arming consumers with this information allows all of us to make better choices in the well as the food we select to consume in our daily diets. 

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Ryan Ingham out on a trail run.  
Photo: Ryan Ingham.



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# Answers to frequently asked questions about Hammer Supplements and Nutrition

BY ENDURANCE NEWS STAFF

**? Your CBD products are listed as “full spectrum,” yet is also stated as 100% THC free. In buying other products, full spectrum has implied trace amounts of THC. Can you please clarify why you use full spectrum and not isolate to describe things?**

All of our CBD products are 100% THC free. However, because of the confusion that may exist in stating “full spectrum,” which could imply that THC is a component in the product, we are now using the term “broad spectrum.” We don’t want to use the word “isolate” because that is just CBD (cannabidiol) only, and does not include the other cannabinoid compounds or terpenes content. “Broad spectrum” conveys that all of cannabinoids—Cannabidiol (CBD), Cannabinol (CBN), Cannabigerol (CBG), Cannabichromene (CBC), Cannabidivarin (CBDv), Cannabidiolic Acid (CBDA)—are present (sans THC), along with all of the naturally present terpenes. 

**? What do you guys think of a high protein/high fat and low carb diet?**

We are not advocates of a low-carb diet for pretty much anyone, especially endurance athletes. Carbohydrates are the main source of fuel to produce energy, and it is our position that when we purposely cut back too much on our carbohydrate intake, it can have a negative impact on performance. We understand that ketogenic diets, at least in the short term, are purportedly beneficial for losing weight; however, there has been an increase in studies that show that this diet is not a healthy practice.


[sciencedaily.com/releases/2018/08/180828085922.htm](https://sciencedaily.com/releases/2018/08/180828085922.htm) – Study author Professor Maciej Banach, of the Medical University of Lodz, Poland, said: “We found that people who consumed a low carbohydrate diet were at greater risk of premature death. Risks were also increased for individual causes of death including coronary heart disease, stroke, and cancer. These diets should be avoided.”

[drmirkin.com/nutrition/keto-diet-may-lead-to-diabetes.html](https://drmirkin.com/nutrition/keto-diet-may-lead-to-diabetes.html) – Dr. Gabe Mirkin writes: “A keto diet may increase risk for developing diabetes by preventing your body from responding to insulin, presumably by causing fat to be deposited in the liver.”

As far as low-carb diets/low carb intake during exercise is concerned, at one site (<https://www.trainingpeaks.com/blog/why-athletes-need-carbohydrates/>), Dr. Rick Kattouf states, “Many athletes avoid carbohydrates in an attempt to teach their body to burn fat as the major fuel source. The thinking has become that consuming carbohydrates and

the ability to burn fat do not go together. The truth is that athletes can burn fat and consume carbohydrates. Always keep this statement in mind, ‘Fat burns in the carbohydrate flame.’ Not only do carbohydrates provide energy for working muscles, they also assist in enabling fat metabolism. In short, carbohydrates need to be present in order for fat to be utilized for energy.”

Research has shown that when carbohydrate levels are low, a substance known as pyruvate—which is formed during glucose metabolism—is unable to perform its job in the process of creating energy using oxygen (i.e. cellular respiration). When pyruvate is unable to perform its tasks, the body’s ability to use fat as a fuel source significantly slows down or halts altogether. This same research shows that without replenishment of adequate amounts of carbohydrates, the body will cannibalize specific amino acids (BCAAs, alanine) from muscle tissues, which not only slows down metabolism, it also causes excess production of fatigue-causing ammonia.

Despite all of the fanfare surrounding the keto diet, we remain 100% convinced that this particular diet DOES NOT enhance exercise performance. We remain equally convinced that carbohydrates are the key component when it comes to fueling your body during exercise, especially in regards to being able to use fat as an energy source most efficiently and effectively. 





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Hammer CBD 25 mg – 30 softgels	<b>\$69.95</b>
Hammer CBD 25 mg – 90 softgels	<b>\$179.95</b>
Hammer CBD Hydro 500 mg - 1 oz bottle Tincture	<b>\$59.95</b>
Hammer CBD 250 mg 1 oz bottle Tincture	<b>\$29.95</b>
Hammer CBD 750 mg 1 oz bottle Tincture	<b>\$59.95</b>
Hammer CBD 500 mg Balm - 2 oz jar	<b>\$49.95</b>

Patent-pending nanoemulsion process increases absorption rate 4-5 times compared to regular full spectrum oil or isolates.



Scott Wesemann in Zion National Park  
Photo: Courtesy Scott Wesemann

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*“Hammer CBD is great! So happy that a reliable trustworthy company is now making this product available! This stuff really helps with soreness! Thanks HAMMER!” - Online Reviewer*

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# High Sugar Intake

## AND ITS NEGATIVE IMPACT ON KEY NUTRIENTS

BY STEVE BORN

*STEVE'S NOTE: All of the articles we produce regarding excess sugar and its negative effects on athletic performance and overall health are important. Researching and writing this one, however, really hit me as to how much of a problem it really is. When you disrupt the body's ability to absorb key vitamins and minerals and/or cause them to be depleted at higher-than-normal levels, that's seriously bad stuff. If you care about your athletic performance and, more importantly, your health, please read this article and do whatever you need to cut back on your sugar intake.*

As if consuming too much sugar doesn't have enough bad things attached to it (and it most certainly does), 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 deleterious effects on the body, interfering with nutrient absorption and causing nutrient depletion is definitely not a beneficial effect and could very well play a role in decreased immunity and other negative health consequences.

Here are the vitamins and minerals that are negatively 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. Further research with Dr. Ely and Dr. Linus Pauling showed a significant difference in vitamin C levels and its beneficial properties in study subjects who reduced their sugar intake.

**VITAMIN D** – Sugar, particularly fructose, has a negative "double whammy" effect on vitamin D. Research has shown that a high intake of sugar increases the production and activity of a specific enzyme that is responsible for degrading vitamin D, obviously a non-beneficial thing. If that wasn't bad enough, sugar—again, fructose in particular—also decreases the production/activity of an enzyme that is necessary to

synthesize vitamin D. The result is decreased vitamin D levels, which suppresses 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!

**MAGNESIUM** – The mineral that one nutritional scientist calls "The key to health and life" is also negatively affected by the consumption of too much sugar. Excessive sugar intake results in high blood sugar and elevated insulin levels. This not only decreases magnesium absorption, it also causes an increase of magnesium excretion by the kidneys. A vicious cycle ensues. Among the several hundred roles it plays in human health, magnesium plays a key role in stabilizing blood sugar. When magnesium is excreted and levels are low due to high sugar intake, blood sugar regulation is impaired, which can lead to even more magnesium being excreted. Because magnesium is so important for nearly every bodily function, the body must have optimal levels of this key nutrient available. Cutting the sugar helps make sure that ingested magnesium is absorbed and that magnesium stores are not depleted/excreted.

**CALCIUM** – Everyone knows that calcium is vitally important for bone health and numerous other areas of human health, but it too is negatively impacted by high sugar intake, primarily because of sugar's negative influence on vitamin D synthesis. 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. Additionally, like magnesium, excess sugar intake increases calcium excretion/depletion, adding further to the problem.




**CHROMIUM** – Along with magnesium, chromium, a trace mineral, is involved in a number of bodily functions, including 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 adds to the already-significant body of evidence that too much sugar is undeniably bad for athletic performance and, more importantly, extremely harmful to overall health. Excess sugar intake is a major factor in heart disease, the number one killer of Americans (an estimated 16 million Americans have heart disease), as well as a number of cancers, Alzheimer's disease, and more.

To maintain optimal health, it is absolutely imperative that we take a couple of drastic steps to decrease our daily consumption of sugar and ensure that we're receiving an adequate supply of vitamins and minerals...

1. Ditch the sugary drinks. They're the largest single source of added sugar in the American diet, and they provide zero benefit to you. While you're at it, make a conscious effort to delete obvious sugar-laden foods such as cookies, cake, and more from your diet.
2. Make sure that you use Hammer Nutrition fuels during your workouts and events. They contain only complex carbohydrates and none of the non-beneficial "ose" simple sugars (glucose, sucrose, dextrose, fructose).
3. Use Premium Insurance Caps daily. Our diets, no matter how good we think they may be, may not provide enough of the micronutrients needed to prevent a deficiency. Then take into account the negative effects that sugar has on the absorption/ utilization of specific nutrients, and it makes supplementing with a potent multivitamin/ mineral supplement—Premium Insurance Caps—every day, not only a wise strategy, but a vitally important one.
4. Supplement with Essential Mg and Chromemate. These two Hammer Nutrition products are the easy way to ensure that you're obtaining optimal amounts magnesium and chromium, two minerals that are crucial for nearly countless areas of human health. 

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*-Online Reviewer*



Fueling with Hammer Gel during a hike to Avalanche Lake - Glacier National Park. Photo: Drew Silvers

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## Product Spotlight

# Premium Insurance Caps

## 5 Reasons Why PICs Should Be Your Multi

BY ENDURANCE NEWS STAFF

For optimal health and enhanced athletic performance, you must aim to consistently consume a high-quality diet—not just for the vitamins and minerals, but primarily for the beneficial phytonutrients, enzymes, and fiber. To augment that, “filling in the gaps” between what your diet should contain and what it actually does provide, daily supplementation with a high quality vitamin/mineral supplement is equally important. Here’s what makes Premium Insurance Caps stand out from the rest:

### 1. *Optimum, not minimum, amounts* -

Unlike many vitamin/mineral supplements that contain inadequate Reference Daily Intake (RDI) amounts of nutrients, Premium Insurance Caps is formulated with Optimum Daily Intake (ODI) amounts of the highest quality vitamins and minerals. Dr. Shari Lieberman hits the nail on the head about why the use of ODI amounts in supplementation is so vital: “RDIs reflect amounts that are adequate to prevent nutrient-deficiency diseases, and are not tailored for individual needs. In order to attain a state of optimum health and disease prevention, we must take into our bodies optimum—not minimum—amounts of vitamins and minerals.”

**NOTE:** Premium Insurance Caps contain superb levels of the B complex vitamins, amounts that replicate many stress support formulas, thus making those products unnecessary in your supplement regimen.

### 2. *Capsules, not tablets* - The nutrients in Premium

Insurance Caps are contained within a two-piece all-vegetable capsule; that means they will dissolve much more rapidly and thoroughly than tablets would,

so your body actually will receive the nutrients you’re consuming. Because tablets can take longer to break down, they often irritate the intestinal lining, causing stomach discomfort. Additionally, tablets can pass through the entire digestive system only partially dissolved, or completely undissolved. Either way, your body does not get the full volume of nutrients you ingested, which means you’re not really getting what you paid for.

### 3. *The most absorbable minerals* - For many minerals, there are several forms available, all with differing absorption rates. Some companies use inexpensive forms of minerals in their products; e.g., magnesium in the oxide form or calcium in the carbonate form. Unfortunately, these less expensive forms are not as well absorbed as other forms, such as the amino acid chelates used in Premium Insurance Caps.

### 4. *Multiple digestive enzymes for maximum nutrient absorption* - It’s not what you consume, it’s what you absorb. To aid the absorption of nutrients, Premium Insurance Caps includes digestive enzymes such as pepsin and papain.

### 5. *Only beneficial nutrients, no “salt and pepper”* - Some companies add auxiliary nutrients at levels that have no real value (what we call “salt and pepper” amounts). For example, some multivitamin/mineral supplements contain only 5 mg of coenzyme Q10 or lipoic acid. Both are fantastic nutrients, but at that level you won’t experience any true benefits. So even though a product’s label may show a long list of auxiliary nutrients, you won’t see results if the amounts are inconsequential. When you buy such a product, you’re paying for a product that has little more than an impressive label. All of the nutrients included in Premium Insurance Caps are at levels that will provide real benefits.



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**“AN ABSOLUTE MUST!”**



*“I LOVE **Premium Insurance Caps** for everyday use! It totally took the place of my old multi vitamin and has a ton of other beneficial ingredients!”*

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# Fuel Right. Eat Right. Feel Great:

## *The difference between fueling right & eating right*

BY DR. KIRSTIN LAURITZEN

Do you work on your nutrition? Or do you work on fueling properly for your training and competitions? Is there a difference between fueling and nutrition? YES. I frequently hear athletes say, “I can eat whatever I want when I’m training, because my nutrition coach said I need to eat 3,000 calories, and I feel great! I’ve set huge personal records!” What these athletes have discovered is the power of fueling properly for their sport, but they are neglecting a very key aspect of fueling properly—actual nutrition. They often see results from fueling properly but don’t change the foods they eat.

Fueling properly during training, competitions, and the off-season can have an incredible impact on the outcome and success of a training year for an athlete. The most popular fueling programs usually involve counting macros (percentages in grams of protein, fat and carbohydrates) and calories to optimize energy input and output. A common saying is, “If it fits in your macros, you can eat it.” And for the most part, it works. Athletes see results in body composition and they see big rewards in their training numbers. So, on the surface, everything seems good.

The biggest issue with this type of fueling is that it continues to promote eating unhealthy foods, which can lead to some of the biggest threats to an athlete’s success: inflammation, illness, and injury. Continuing to eat an inflammatory diet high in processed foods, most products containing wheat and dairy, high sodium foods, and especially sugar can lead to a downhill health spiral. Although the body is quite resilient, if it does not receive the right amount of nutrients in the form of protein, fat, vitamins, and minerals it will deplete its stores and eventually break down. This is often where illness and injury begins.

‘Working on your nutrition’ means learning more about how foods interact with your body—good or bad. It is important to recognize inflammatory foods and what alarm signals your body is sending you when it needs you to eat better quality foods. On the other hand, knowing more about what healthy foods offer sets you up for better training, recovery, and success. For example, certain fruits and vegetables, like citrus and dark leafy greens, generally contain a high amount of vitamin C. Vitamin C plays key roles in boosting your immune system and fighting stress (from daily responsibilities and physical stress from



Ryan Ingham on a 100 mile Endurance run in San Diego, fueled by Endurolytes® Extreme.  
Photo: Paksit Photos

**Healthy nutrition is generally based on a “whole foods” diet. If it comes in a box or a bag, it should be eaten in small quantities, or not at all.**

### **Vegetables:**

Eating a wide variety of vegetables of all different colors should be a part of every single meal in large quantities—almost half of your plate. If you can grow your own for part of the year, you can control the nutrient levels in your plants. Buying organic is also key to reduce your exposure to pesticides.

### **Protein:**

For those who eat meat, it is very important to get as high quality as you can. Protein that is mass-produced in poor conditions actually increases the inflammatory properties of the meat and is less healthy. Look for grass-fed and grass-finished beef, wild game, free-range chicken, and fresh (not farmed) fish such as salmon, cod and halibut.

In many areas there are local farmers where you can buy healthy, well-raised meat. Plus, you support your local farms! Healthy fats are another key factor of nutrition. Proteins for vegetarians can be found in many plants and legumes. If you can find a supplement that provides vitamin B12 through bacteria, the body absorbs it better and can help prevent B12 anemia.

### **Fats:**

You can find healthy fats in most oils like coconut oil, organic olive oil, avocado oil, avocados, almonds, cashews, macadamia nuts, walnuts, pecans, brazil nuts, pistachios, sunflower seeds, chia seeds, flax seeds and more.

### **Fruits and Starches:**

Fruit and starchy carbohydrates are important for healthy nutrition, but they can be kept to a minimum depending on your personal goals.




## FUEL RIGHT. EAT RIGHT. FEEL GREAT.

Continued from previous page

training). It also plays an important role in reducing inflammation for better recovery.

With more knowledge about how foods affect your body, making healthier decisions is easier—like choosing an orange instead of chips for a snack. In addition, when you pair good, healthy nutrition with the principles of fueling properly for your sport, you can create an environment for longevity and for your body to truly thrive.

Hammer Nutrition's products help with both fueling and working on your nutrition. Hammer's grass-fed Whey Protein is perfect to help fuel properly. Although eating actual whole food protein would be ideal post-workout, when you are in a pinch, it is a solid protein powder to have around! Hammer Bars are based on whole food nutrition and are perfect for snacks. HEED and Hammer Gels are a good source of carbohydrates that do not spike your blood sugar and are very useful for fueling well for training and competitions. All of these products also check a lot of boxes for healthy nutrition as well. They are low in sodium and sugar, free of artificial dyes, and are a big support for any athlete wanting to feel good in and outside the gym.

It is important for every athlete to fuel properly and work on their nutrition. Quality food feeds your cells so that you can continue hammering away for many years to come. Fuel right, eat right, feel great. 



Dr. Kirstin Lauritzen, DC is a Chiropractor in Portland, OR. She holds bachelor degrees in Psychology and Neuroscience, Spanish, and Human Biology. Dr. Lauritzen specializes in educating others about nutrition and its importance in life, especially in the lives of athletes. For more information: gym-call.com or find her practice at lauritzenchiropractic.com.

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# The Balanced Diet Myth *and the Case for Supplementation*

BY STEVE BORN

**This is a hot topic for us, one that we've been quite vocal about more than a few times.** Why? Because, even after so many years, we still hear it every day: “I don't need to take vitamins. I eat a good, balanced diet.” And just as it was the case several years ago, it's even truer today—you cannot obtain all of the nutrients your body requires solely from your diet. Here's why:

- There has never been a single clinical study that documents what comprises a balanced diet nor one that has demonstrated one's ability to meet basic nutrient requirements through whole foods alone.
- Studies show that food alone does not supply all the micronutrients we need to prevent deficiency, let alone achieve optimal health. Nutritional scientist, Bruce Ames, bluntly states, “Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food. Inadequate intakes may result in chronic metabolic disruption, including mitochondrial decay.” Another study concluded: “Nearly the entire U.S. population consumes a diet that is not on par with recommendations.”
- Very few of us have routine access to fresh, locally grown foods. Much of our diet comes from foods grown far away, picked when unripe, and then sent packing. Nutritional content is questionable and usually depleted.

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**If you want to look, feel, and perform your best, the first step is always a diet dominated by nutrient-dense whole foods.**

---

- Even if we could obtain all the nutrients we need from our diet, it's highly unlikely that any of us eats an ideal diet as consistently as we think we do. The USDA states: “To promote your health, eat a variety of fruits and vegetables—at least 2 servings of fruits and 3 servings of vegetables—each day” but really, how many of us do that with any kind of consistency? And that figure may be on the low side, thanks to research from Dr. Dagfinn Aune, who concludes “Our results suggest that although five portions of fruit and vegetables is good, ten a day is even better.”

With all this said, please understand that we're not suggesting that you can neglect your diet, take scads of pills, and have all of your nutrient needs covered. Supplements should never take priority over the consumption of a healthy diet. At Hammer Nutrition we emphasize both quality nutrition and supplementation.

**First and foremost**, your primary nutritional goal is to consistently consume a healthy diet, which means:

- Eating whole grains and locally grown organic fruits and vegetables as much as possible
- Avoiding packaged, processed foods and junk foods, and foods containing artificial sweeteners, colors, flavors, and preservatives
- Minimal sodium and low-to-no simple sugars





## THE BALANCED DIET MYTH

Continued from previous page


We believe that the primary reason to try and eat the healthiest diet possible—primarily a variety of fresh fruits and vegetables—is NOT so much for their vitamin and mineral content, but instead for the nearly countless health-benefiting phytochemicals that are only found in fruits and vegetables. For example, research has shown that a naturally occurring flavonoid found in various fruits (mainly strawberries) called fisetin has strong antioxidant, neuroprotective, and cardio-protective properties. Eating lots of strawberries will help you get sufficient amounts of this amazing phytonutrient.

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**There has never been a single clinical study that documents what comprises a balanced diet.**

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**Bottom line:** If you want to look, feel, and perform your best, the first step is always a diet dominated by nutrient-dense whole foods. But that alone will no longer suffice—supplementation has become a part of modern life. To augment the minimal amounts of vitamins and minerals supplied in the daily diet, and to obtain ideal amounts of these vitally important nutrients, you must supplement. If you want to achieve your best performances in your exercise sessions and events—and, even more importantly, enjoy optimal health (not minimal, optimal!)—then daily supplementation is a necessity, not an option.

The best “starting point” for every person—regardless of age, activity level, or dietary habits—is **Premium Insurance Caps**. This wide-ranging multivitamin and mineral complex—discussed more on page 22 of this issue of Endurance News—offers a bountiful array of highly absorbable vitamins, minerals, and key auxiliary nutrients, specifically formulated to fill in the gaps left by the modern diet. A few daily doses of 1-4 capsules are a surefire way to ensure that you have what you need to thrive. 

References available on request



# So Healthy, So Handy!

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Vegan Protein Bar in Kooskia, Idaho Photo: Alex Corbelli

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## Product Spotlight

# Hammer CBD Hydro & Balm

BY ENDURANCE NEWS STAFF

We've got two great new additions to our super-effective, ultra-pure line of broad-spectrum, CBD products! Give these a try; we know you'll love them!

**Hammer CBD Hydro** is a fully water-soluble formula that employs the same nano-sized microemulsion manufacturing process that you'll find in Hammer CBD softgel capsules for superior bioavailability. It's derived from the same organically grown, non-GMO, USA-raised hemp, and is 100% THC-free and completely devoid of heavy metals, solvents, microbes, or contaminants.

The beauty of Hammer CBD Hydro's water-soluble formula is its convenience and versatility. You can take it straight from the bottle or you can add it to water or other beverages and consume as desired throughout your day.

Every bottle of Hammer CBD Hydro contains 30 servings, with each 1-milliliter dropper serving supplying 16.7 milligrams of CBD. That's the perfect amount for those who need more CBD than the 10 milligrams—but not as much as the 25 milligrams—that Hammer CBD Softgels supplies. Even better is that you can adjust the dose to meet your specific needs (or that of other family members or your pets), simply by using more or less than one full dropper.


Only 100% natural, organic, vegan, and preservative-free emulsifiers are used in Hammer CBD Hydro: vegetable glycerin and Quillaja extract—the latter being derived from the soap bark tree (*Quillaja saponaria*), an evergreen tree native to central Chile. Hammer CBD Hydro is unflavored, mixes easily in solution, and does not alter the flavor of what you're consuming.

Topically applied **Hammer CBD Balm** is fantastic for helping alleviate aches and soreness, and for providing effective support for numerous skin conditions such as itching, rashes, eczema, and psoriasis.

A superb carrier agent—medium-chain triglycerides (MCT)—helps maximize skin penetration, which means that a little goes a long way to provide effective relief. Lavender and Eucalyptus essential oils also act as carriers for the phytocannabinoid-rich oil, while imparting a subtly pleasant fragrance.

Simply apply a thin layer of Hammer CBD Balm onto the problem area and massage gently until completely absorbed. For best results, repeat the application another one or two times throughout the day.

Hammer CBD Balm not only has a plethora of uses, it also has a full 18-month shelf life. Keep a jar nearby, storing it at room temperature, and put the soothingly effective Hammer CBD Balm formula to work for you often!

Like all of Hammer Nutrition's CBD products, Hammer CBD Balm is manufactured in the USA, is made from organically grown hemp, and is 100% THC-free. Hammer CBD Balm is also free of heavy metals, solvents, microbes, or contaminants. 







# Deliciously Dependable Hydration



**“I LOVE FIZZ”**



*“I really like how **Fizz** is not too sweet and has just the right amount of flavor. Great during and after a hard workout. Sometimes I even just drink it for a change of flavor from plain water during the day!”*

- Online Reviewer

Mindy Przeor visits the Matterhorn after running the Berlin Marathon. “I can’t say enough about how much I love Fizz for daily use!” Photo: Kris Przeor



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flavors as shown



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# Discontinued Hammer Products


*Modern times are forcing us to re-evaluate slow-moving products and make some tough decisions*



It is much more common for us to introduce new products, but from time to time it is necessary to discontinue existing products. While this is most common with clothing and non-consumable items, modern times are forcing us to re-evaluate slow-moving consumable products and make some tough decisions. I realize this will be unpopular for those of you who love Banana Hammer Gel and like to buy it in jugs, for instance, and I'd like to apologize in advance to those of you who will be affected by these changes.

The driver of these decisions is increased regulatory costs, unfortunately. Due to new requirements for raw materials testing and certification, as well as finished goods testing on every lot, the minimum quantities we can produce has increased by large

amounts. For example, we used to be able to run batches of Hammer Gel jugs 300 units at a time. Our minimum batch size now yields 900 jugs! While this is not a problem with our most popular flavors, it has put us into extended overstock on the slower-moving flavors like Banana, Peanut Butter, and Peanut Butter Chocolate. Since I do not like to hold or send you product that is more than 3-4 months out of production, we find ourselves needing to make these tough calls.

Please find on the next page, a breakdown of discontinued products and estimated out-of-stock dates in our consumer direct channel (if you order from us via phone or internet). Sorry, but we cannot estimate when these items will be out-of-stock on retail shelves. 



**Banana Hammer Gel jugs:**

Estimated out-of-stock mid March 2019.

**Peanut Butter Gel jugs:**

Estimated out-of-stock mid October 2019.

**Peanut Butter Chocolate Gel jugs:**

Estimated out-of-stock late June 2019.

*Note: \*None of these flavors are being discontinued in single-serving pouches!*

**HEED Melon 16-serving container:**

Estimated out-of-stock early April 2019.

**HEED Melon 80-serving container:**

Estimated out-of-stock early February 2019.

*Note: \*Melon singles and 32-serving size will continue to be available!*

**HEED Strawberry 16-serving container:**

Estimated out-of-stock early June 2019.

**HEED Plain 32-serving container:**

Estimated out-of-stock early July 2019.

**Perpetuem Plain 16-serving container:**

Estimated out-of-stock early-to-mid June 2019.

**Sustained Energy 15-serving container:**

Estimated out-of-stock early October 2019.

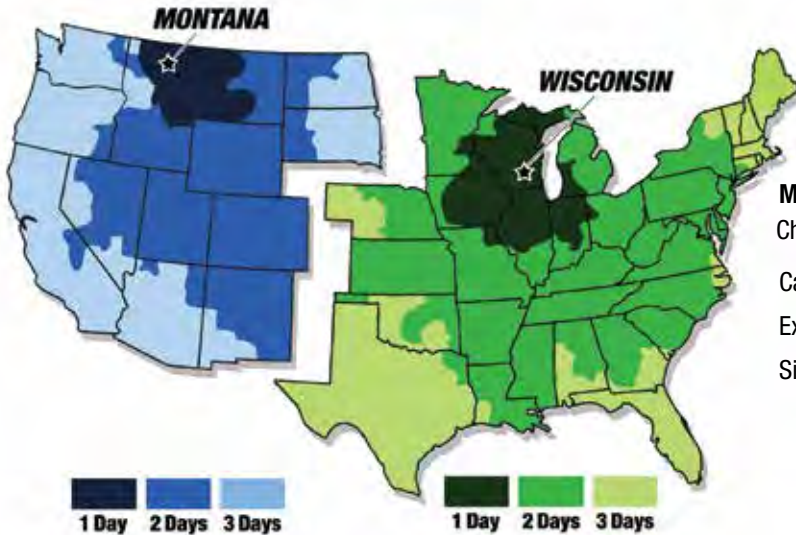
*\*Sustained Energy 30-serving size will continue to be offered through all channels!*

► For more details on these products call **800.336.1977** or visit **hammernutrition.com**

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# SOS Less is Best

## It's NEVER Near-Equal, Equal, or Excess!

### 5 Secrets of Success



### To Fuel Successfully, Less is Better than More!

Hammer Nutrition has been advocating the “less is best” approach for more than 30 years. Proper fueling is achieved by consuming the least amount necessary to keep feeling your best, hour after hour. This philosophy guides all of our fueling recommendations.

What makes us so sure we’re right? Beyond a wealth of scientific research, 30 years of working with thousands of athletes have proven it! Follow this approach and you too will reach your fullest athletic potential, recover well, and feel great every day.

#### Our fueling recommendations:



Calories per hour: 120-180 calories

Fluids per hour: 20-25 oz.

Electrolytes per hour: 1-6 Endurolytes®,  
1-2 Endurolytes® Extreme,  
1-2 Endurolytes Fizz®

Of the many “battle cries” that we’re known for, the one we arguably shout the loudest and with the most frequency is that proper fueling is using a “*less is best*” approach.

At Hammer Nutrition, we consistently deal with many fueling myths, and we’d rate the “replace what you lose” approach as probably the worst offender of all. After all these years, many organizations and alleged experts still continue to recommend that athletes need to replace what they expend during exercise in equal or near-equal amounts, hour after hour. They cite data such as “you lose up to two grams of sodium per hour, burn up to 900 calories hourly, and sweat up to two liters an hour” to defend their position. Even worse, sometimes they don’t give any numeric guidelines, just vague statements like “drink as much as you can.” Sadly, far too many athletes fuel their bodies exactly this way, and they get only poorer-than-expected results or a DNF to show for their efforts.

The fact is that your body is not capable of accepting a fuel donation in amounts that come anywhere near what it’s losing. Yes, the body needs your assistance in replenishing what it loses, but that donation must be in amounts that cooperate with normal body mechanisms, not in amounts that override them.

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

A. Your body consists of an incredible number of remarkably complex and efficient built-in mechanisms, all working synergistically.

B. Via these built-in mechanisms, your body absolutely knows how to take care of itself in a crisis/survival situation; its first instinct is survival. When you start exercising, your body definitely goes into “survival mode.”


When you fuel your body in deference to the wonderfully designed machine that it is, it can’t help but respond favorably and keep doing what you want it to do. Sure, it’s interesting to know things like how many calories you’re burning and how many grams of salt you may be losing; however, that information really isn’t really a factor when it comes to fueling during exercise. What takes priority at that time is not what you’re losing in terms of calories, fluids, and electrolytes, but how much your body can comfortably accept in return from your fuel donation. If your body is going to keep doing what you want it to do, yes, it needs some fueling assistance. However, you need to give your body a helping hand, not kill it with kindness. A quote we use often is one you need to always keep in mind: “When we try too hard to help ourselves, we end up doing more harm than good.”

The true definition of “proper fueling” is to **consume the least amount necessary to keep your body doing what you want it to do hour after hour**. And if by chance you do err on the “not quite enough” side, that’s a much easier and quicker problem to fix than an “uh oh, I took in too much and now my stomach is rebelling” problem. Sadly, many athletes continue to listen to “consume what you lose” propaganda, arguing that nutrients and water need to be replaced immediately. This simply is neither true nor possible; fluids,



calories, and electrolytes cannot be replaced 100%, or even 50%. As a result of following this flawed advice, athletes continue to experience cramping, vomiting, gastric distress, diarrhea, and other problems.

We've been zealous advocates of the "less is best" approach from the very beginning; we've never deviated from this philosophy, and we never will. The reason is simple: because it flat-out works. When you adopt this tried-and-true approach to fueling,

we guarantee that you will feel so much better (no more "{SIGH} Am I going to get sick again during my workout?") and that you will make hugely positive leaps in your exercise performance. 

When:	Hammer Gel	HEED	Perpetuum, Perpetuum Solids, Sustained Energy	Endurolytes, Endurolytes Extreme, & Powder, Endurolytes Fizz	Recoverite & Organic Vegan Recoverite	Whey Protein	Soy Protein	Vegan Protein	Hammer Bar	Whey Bar	Vegan Bar	Liquid Endurance
<b>Pre-exercise</b> (3 hours prior to start)	✓	✓	✓				✓	✓	✓		✓	✓
<b>At the starting line</b> (10 minutes prior to training/completion)	✓	✓	✓	✓								
<b>Less than 2-3 hours</b> (Use consistently throughout, beginning 10-15 minutes into exercise)	✓	✓	✓	✓								
<b>3 hours +</b> (Use consistently throughout, beginning 10-15 minutes into exercise)	✓	✓	✓	✓					✓			✓
<b>Enhance your recovery</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
<b>Increase your daily protein intake</b>					✓	✓	✓	✓	✓	✓	✓	



# When it comes to endurance fueling... **We Wrote the Book!**

Get exclusive answers you need to succeed with Hammer Nutrition's easy-to-read, FREE fueling guide that will help you **Fuel Right, Feel Great!**<sup>®</sup>

- Powerful recommendations
- Concise information
- Time-tested advice



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FROM THE KITCHEN OF  
**LAURA LABELLE**



# Springing Ahead

It is my hope to inspire you to look at cooking and preparing your food as an adventure, not a chore. Sitting here in the pouring rain of a California winter, it's a freezing 54 degrees out, and for me, that's full-blown winter. I sit here and dream of the sight of Spring's yummy, colorful, fresh vegetables. Lots of crispy lettuces and greens will be available in our local farmer's markets, in addition to veggies like asparagus, artichokes, spinach, radishes, rhubarb, sugar peas, leeks and beets—basically, the whole rainbow of veggies. This is the time of year I start to crave salads and fresh, slightly steamed veggies, with a drizzle of olive oil and a splash of fresh herbs. Just add some whole, lean protein to it and you're ready to go—no need for all the carbs we overeat during the wintertime, to bulk up and keep us warm.

This time of year is really great for quick meal prep, as we want more time to begin training outdoors. I suggest browsing through the *In the Kitchen with Hammer Nutrition* cookbook where you can find delicious recipes—setting you up with a few days' worth of meals at a time, so all you have to do is add veggies and presto—you have complete meals that take no more than 20 minutes! Making a meal can be really fun and easy, just appeal to your senses—“Eat the rainbow,” as the saying goes—Try to incorporate as many colors into your veggie array as possible. This will excite your sense of sight and make it more fun to prepare and eat veggies.

Here are some recipes I would suggest trying this spring; Beet and Apple Salad-page 32; Fennel and Orange Salad-page 36; Mediterranean Tuna Salad-page 40; and Watercress Salad-page 52. Add some yummy proteins you can prepare in advance, such as Marinated Flank Steak-page 131; Marinated Chicken-page 142; and so many more delicious recipes!

But you don't have to follow our recipes—Feel free to create your own! Have fun menu planning, selecting and making your food. Enjoy the simple pleasure of knowing that you are able to create delicious, healthy food in your own kitchen that is better than what's prepared at any restaurant in town! You can choose your own organic, local products and know where they came from, exactly how they were handled and prepared. Being able to make and enjoy the best food possible is such a pleasure and so easy!

## HAMMER ON IN THE KITCHEN!



Acclaimed California-based chef Laura Labelle studied at *Ecole De Cordon Bleu* in Paris and received a “Grand Diplome” in cuisine and pastry. She has established two successful ventures, *Cafe Luna* and *Quality Food and Beverage*, and also worked as a personal chef to various celebrities and for *Mix This* music studio. Laura is an accomplished open water swimmer, enjoys practicing yoga and sharing her cooking with family and friends. She and her husband will soon be opening *Le Petite Marche* in Los Angeles.



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- Supports digestive health
- Balances body activity

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*“Before I found Hammer Nutrition, I purchased a vegan protein powder from my naturopath... it didn't taste good and had a questionable protein matrix. I love **Vegan Protein!** I've converted many whey protein advocates to this, and also introduced many vegan friends to it. **It's amazing!**”*

*-Online Reviewer*

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Naomi Haverlick, fueled by Apple Cinnamon Hammer Gel topping out above Lecher Alm, South Tyrol near Gais, Italy. Photo: Jared Vigil



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# Bright & Lively Dishes

ENJOY THESE COLORFUL FLAVORS



## Vegan Mac and Cheese (gluten free)

- |                                      |                         |                   |
|--------------------------------------|-------------------------|-------------------|
| 16 oz pasta of your choice           | 1-2 lemons, squeezed    | <b>Garnish:</b>   |
| 2 cups cashews                       | 1 cup nutritional yeast | nutritional yeast |
| 1 cup baby carrots                   | 2 tsp Dijon mustard     | paprika           |
| Half an onion                        | 1 tsp turmeric          |                   |
| 2 small potatoes (peeled and cut up) | pepper                  |                   |
| 2 cloves garlic (optional)           | cayenne (optional)      |                   |
|                                      | chili flakes (optional) |                   |

Put cashews, carrots, onion, potatoes and garlic in a saucepan to boil in water for 10 to 15 minutes.

Begin preparing pasta as package directs.

Once the cashews carrots, onion, potatoes, and garlic are done boiling, drain and conserve water for later. Now, place boiled ingredients into a blender with a little of the water you previously conserved and blend. Add lemon juice, nutritional yeast, Dijon mustard, turmeric, pepper, cayenne, and chili flakes. Blend again and add water to desired consistency.

Pour over warm precooked pasta. Top with nutritional yeast and paprika for garnish. To rewarm, bake on low.



## Spring Veggies, Chopped

- |                            |                               |
|----------------------------|-------------------------------|
| 1 cup sugar snap peas      | <b>Yogurt Sauce:</b>          |
| 2 celery stalks            | 1/2 cup plain yogurt          |
| 1 red bell pepper          | 2 tbsp olive oil              |
| 1 large cucumber           | 1 tbsp fresh lemon juice      |
| 6 radishes                 | 1 garlic clove, finely grated |
| 1 cup cherry tomatoes      | 1/3 tsp Sriracha              |
| 1 tsp fresh chopped dill   |                               |
| 1 tsp fresh chopped chives |                               |
| 2 tbsp ribboned fresh mint |                               |

Start by washing all the veggies and herbs. While they dry, make the yogurt sauce by combining all ingredients in one bowl. Stir until smooth. Set aside and let rest. Next, chop all the veggies into ¼- ½ inch cubes. Pour yogurt sauce over chopped veggies and mix well.

*This salad is quick, easy, and flavorful. I love to top it with a protein such as grilled chicken, shrimp or steak. Serves 4 as a main dish and 6 as a side.*

These recipes are just a few examples of how you can create a quick, delicious spring meal. Have fun experimenting with proteins and herbs to pep up your meals. **For more inspiration, go to [hammernutrition.com/cookbook](http://hammernutrition.com/cookbook).**

Photos: Endurance News Staff



# Healthy Recipe INSPIRATION

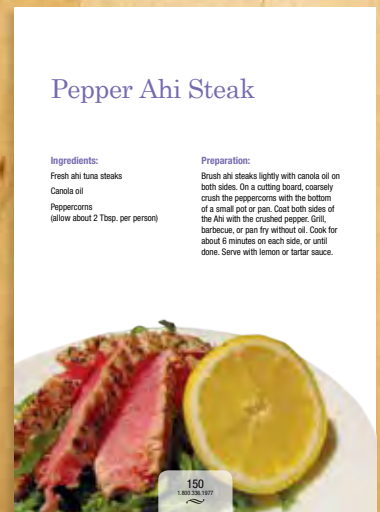
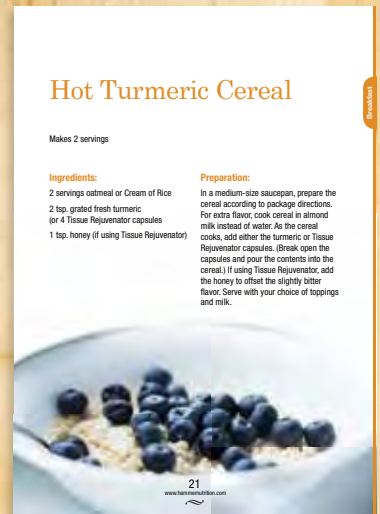
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# Omega-3 Fatty Acids

## A Key Link to Healthy Aging

BY STEVE BORN



It's safe to say that people don't want to just live longer; they want to enjoy a more vibrant and healthy longevity. The good news is that researchers appear to have uncovered a vital link that may help us to enjoy healthier aging.

The authors of a recent US study published in the *British Medical Journal (BMJ)* define healthy aging as “living a meaningful lifespan without chronic diseases and with intact physical and mental function.” The results of this study reveal that higher blood levels of the omega-3 fatty acids found primarily in fish are associated with a greater likelihood of aging without these serious issues.

Researchers analyzed data from over 2,600 healthy adults, average age 74, who took part in the US Cardiovascular Health study from 1992 to 2015. Blood levels of N-3 polyunsaturated fatty acids (PUFA)—eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), docosapentaenoic acid (DPA), and alpha linolenic acid (ALA)—were measured, first when the study began, then 6 and 13 years later.

Over a 22-year period from the start of the study, 89% of the study participants developed chronic diseases and/or experienced various aspects of mental decline. The other 11% enjoyed a longer life free of cancer, heart disease, or other serious physical issues or mental decline. Those participants were the ones that had the highest

blood levels of omega-3 fatty acids, primarily EPA. Compared to those with the lowest omega-3 levels, participants with the highest levels were seen to have up to a 24% decreased risk of unhealthy aging.

It should be noted that higher blood levels of ALA, the plant-derived omega-3, were not associated with this decreased risk of healthier aging. This is most likely because this particular omega-3 needs to be converted into EPA and DHA in order to become active. Unfortunately, this conversion process is highly inefficient in humans, with only about 5% able to be converted into EPA, and as little as 0.5% being converted into DHA. Fish oil


**Healthy aging is living a meaningful lifespan without chronic diseases and with intact physical and mental function.**

is pre-formed and readily available EPA and DHA, no conversion process is required, which is why it is the ideal way to obtain

these all-important omega-3 fatty acids.

Of course, many variables factor into whether or not one enjoys a longer life with less risk of chronic disease or deteriorating mental capacity and capabilities. However, this study suggests that maintaining optimal levels of omega-3 fatty acids may be a highly effective step to take to help ensure a long and healthy life.

As mentioned earlier, these omega-3 essential fatty acids are primarily found naturally in fish; however, consumption of fish two to three times a week, while being an extremely wise strategy, is simply not possible for most of us. And even if it were, finding high-quality fish to consume on a regular basis—given the contaminant levels in today's oceans and other bodies of water—makes reaching that goal even more difficult.

**EndurOmega** supplies your body with the essential fatty acids it needs in a safe and convenient form. It contains molecularly distilled and deodorized fish oil, free from all fishy odor and taste, and tested via third-party independent laboratories to guarantee a potent, pure and safe product. 





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- Enhances brain function
- Stabilizes mood

**"I LOVE THIS PRODUCT"**



*"I use **EndurOmega** daily! I get the omega-3 fatty acids that I need without the terrible fishy aftertaste that you get from other omega-3 products."*

*-Online Reviewer*



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Miles Frank enjoys a gravel ride in the Flathead Valley.

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# AID STATION



## LSA Caps' Broccoli Extract Component Its Benefits Extend Beyond the Liver!

BY STEVE BORN

Every four capsules of **LSA Caps** contains 350 mg of a super-concentrated broccoli extract. Like other cruciferous vegetables, broccoli is a rich source of an organic sulfur compound called sulforaphane, which helps increase levels of detoxification enzymes to protect the liver from damage.

Broccoli also contains another hugely beneficial compound known as indole-3-carbinol (I3C), which has applications for helping protect against numerous cancers, including colon cancer.

First author, Dr. Amina Metidji of the Francis Crick Institute in London, noted that I3C activates a specific protein, aryl hydrocarbon receptor (AhR), which carries signals to immune and epithelial cells (the latter is a type of cell that lines the surfaces of your body: skin, blood vessels, urinary tract, and organs). Dr. Metidji and other researchers determined that AhR is vitally important for repairing damage to the epithelial cells that line the intestinal tract.

According to Dr. Metidji, “We studied genetically modified mice that cannot produce or activate AhR in their guts and found that they readily developed gut inflammation which progressed to colon cancer. However, when we fed them a diet enriched with I3C, they did not develop inflammation or cancer. Interestingly, when mice whose cancer was already developing were switched to the I3C-enriched diet, they ended up with significantly fewer tumors which were also more benign.”

Dr. Gitta Stockinger, senior author and Group Leader at the Francis Crick Institute, states, “Seeing the profound effect of diet on gut inflammation and colon cancer was very striking. We often think of colon cancer as a disease promoted by a Western diet rich in fat and poor in vegetable content, and our results suggest a mechanism

## Coffee Drinkers Enjoy Lower Risk of Diabetes

BY STEVE BORN

The results of a meta-analysis involving nearly 1.2 million study subjects showed that coffee drinkers had a significantly decreased risk of developing type 2 diabetes compared to non-coffee drinkers.

Thirty prospective studies were included in the meta-analysis, and researchers found that participants who had the highest coffee intake (median intake: five cups per day) had a 29% lower risk of developing type 2 diabetes. Compared to non-coffee drinkers, the research showed that for every one-cup increase of coffee consumed per day, the risk of developing type 2 diabetes was lowered by 7% for caffeinated coffee and 6% lower for decaffeinated coffee.

The researchers suggest that coffee's antidiabetic effects are associated with its numerous compounds that influence and affect blood sugar levels. These compounds include cafestol, caffeine, caffeic acid, chlorogenic acid, and more.

The researchers concluded: “Available evidence indicates that coffee consumption is inversely associated with risk of type 2 diabetes. Possible mechanisms behind this association include thermogenic, antioxidative, and anti-inflammatory effects; modulation of adenosine receptor signaling; and microbiome content and diversity.”

This study confirms previous research showing coffee's protective effects against type 2 diabetes. It is yet more research that clearly illustrates the multiple health benefits that may be enjoyed by drinking coffee.

REFERENCE: [academic.oup.com/nutritionreviews/article-abstract/76/6/395/4954186](https://academic.oup.com/nutritionreviews/article-abstract/76/6/395/4954186)




## AID STATION

Continued from previous page

### A roundup of nutritional news, tips and tidbits

behind this observation. Many vegetables produce chemicals that keep AhR stimulated in the gut. We found that AhR-promoting chemicals in the diet can correct defects caused by insufficient AhR stimulation. This can restore epithelial cell differentiation, offering resistance to intestinal infections and preventing colon cancer.”

These findings are, as Dr. Stockinger so appropriately stated, profound in their implications. For activating AhR to help protect against colon cancer, and for so many other reasons, we need to make sure we include plenty of cruciferous vegetables in our diet. In addition to broccoli, other members of this food group include Brussels sprouts, arugula, cabbage, cauliflower, kale, radishes, and more.

To augment our intake of broccoli—providing the body with a potent dose of all its beneficial compounds, including I3C—we strongly suggest daily use of LSA Caps. As we have seen in this and other articles about the nutrients in this unique product, the benefits for LSA Caps extend far beyond liver health! 



# Step up your game with Fully Charged

- Increases energy
- Promotes mental acuity
- Improves power output

## “FORGET THE REST”



*“Fully Charged is one of the best exercise prep products I’ve ever used. Helped me break the plateau I had reached a few years ago and step myself up to the next level of athleticism in my sport. Huge endurance booster, sprint booster, and mental acuity booster.”*

*-Online Reviewer*



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Alexander Terry, Snowshoe Cross training.  
Photo: Rebecca Widener



# Coffee Helps Protect Against Cognitive Declines

## DECREASE YOUR RISK OF ALZHEIMER'S AND PARKINSON'S

BY STEVE BORN

Neurodegenerative disease describes a range of conditions that primarily affect the neurons in the human brain. They are, according to the EU Joint Programme – Neurodegenerative Disease Research (JPND), “incurable and debilitating conditions that result in progressive degeneration and/or death of nerve cells.”

Alzheimer’s disease and Parkinson’s disease are arguably the two most well-known neurodegenerative diseases. According to the Alzheimer’s Association, “An estimated 5.7 million Americans of all ages are living with Alzheimer’s dementia in 2018. This number includes an estimated 5.5 million people age 65 and older and approximately 200,000 individuals under age 65 who have younger-onset Alzheimer’s.” The Parkinson’s Foundation states that “Approximately 60,000 Americans are diagnosed with PD each year,” and that, “Nearly one million will be living with Parkinson’s disease (PD) in the U.S. by 2020.”


As bleak as those statistics are, a sizeable body of research has shown that coffee consumption is correlated with a decreased risk of developing these two diseases [1, 2]. New research [3] now reveals the compounds that may be responsible for this protective effect. Dr. Donald Weaver states, “Coffee consumption does seem to have some correlation to a decreased risk of developing Alzheimer’s disease and Parkinson’s disease. But we wanted to investigate why that is—which compounds are involved and how they may impact age-related cognitive decline.”

Their initial research noted assorted benefits from coffee’s caffeine, chlorogenic acid, and quinic acid components, but none of those were

identified as the primary benefitting agents for protecting against Alzheimer’s or Parkinson’s. The researchers then discovered that phenylindanes, a group of compounds produced in coffee via the roasting process, were responsible for coffee’s cognitive-protective benefits. The researchers found that phenylindanes had the ability to inhibit the clumping of protein fragments known as tau and amyloid beta, which occur in the brains of both Alzheimer’s disease and Parkinson’s disease patients.

While allowing that more research would be needed to confirm just how beneficial phenylindanes’ benefits are, Dr. Ross Mancini remarked, “It’s the first time anybody’s investigated how phenylindanes interact with the proteins that are responsible for Alzheimer’s and Parkinson’s.” Dr. Weaver concluded, “What this study does is take the epidemiological evidence and try to refine it and to demonstrate that there are indeed components within coffee that are beneficial to warding off cognitive decline.”

It is suggested that since roasting increases phenylindane content, dark roast coffee may have more potent effects than light roast.

Coffee. It not only energizes your brain, it provides powerful protection for your brain! 

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- [1] Chuanhai Cao, Li Wang, Xiaoyang Lin, Malgorzata Mamcarz, Chi Zhang, Ge Bai, Jasson Nong, Sam Sussman and Gary Arendash. Caffeine Synergizes with Another Coffee Component to Increase Plasma GCSF: Linkage to Cognitive Benefits in Alzheimer’s Mice. *Journal of Alzheimer’s Disease*, 25(2), June 28, 2011
- [2] [ncbi.nlm.nih.gov/pubmed/11456310](https://pubmed.ncbi.nlm.nih.gov/11456310/)
- [3] [ncbi.nlm.nih.gov/pmc/articles/PMC6194148/](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC6194148/)



■ Fair-trade ■ 100% organic ■ Micro-batch roasted

# 53X11 COFFEE

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53x11 Coffee Mug 15 oz. stoneware mug. Logo front and back. Made in China. \$12.95.

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# Training for Ultra

## *Inspiring you in the process*

BY ALEX CORBELLI

Before reaching the age of 30, Rob Steger was about to be prescribed Lipitor®, a cholesterol-lowering medication not typically taken by young adults. His blood pressure and weight were both steadily rising. Swamped with schooling and a full-time job, physical activity had all but fallen to the wayside, and instead was replaced with 80-hour workweeks and large pizzas. Stress was ravaging his body and his life.

Rob had previously found inspiration from famed ultra-runner, Dean Karnazes. After reading Karnazes's *Ultra Marathon Man: Confessions of an All-Night Runner*, Rob purchased running shoes and tried to run. But he was unable to run one mile without experiencing excruciating pain from shin splints.

Then, in 2015, his father unexpectedly went to the doctor and found out he had a 99% blockage in his heart, which many times can be deadly. Rob would likely have a similar genetic disposition. Knowing he had to make an immediate change to his lifestyle, Rob modified his diet and lost 50 pounds. Within weeks, he had found boundless amounts of energy and wanted to motivate himself to keep the weight off.

Getting out his almost-forgotten running shoes from several years ago, Rob tried running once again. In September 2015, he went for his first run beyond one mile, slowing the treadmill to a stop at the 4-mile mark. The miles kept



building and Rob had found his new passion of testing his limits with distance. So began his journey into the ultra-running community, and what would eventually become *Training for Ultra*.


Pushing through the pain, motivational advice from Dean Karnazes echoed through his mind as Rob continued to put one foot in front of the other. With unmatched dedication, and a new sponsorship from Hammer Nutrition, Rob continued running. He worked quickly up

**Rob published *Training for Ultra* with a single purpose—to inspire YOU to run!**

to marathons, 50K's, 50 milers, 100K's, 100 milers, and eventually the Moab 240, which he completed in October 2018.

As he progressed as a runner, Rob created the podcast, *Training for Ultra*, to share stories, insights, and advice to his ever-growing audience. Speaking with fellow ultra-runners, Hammer Nutrition Founder Brian Frank, and more, Rob and his guests have brought invaluable information to athletes worldwide. Beyond just talking ultra running, Rob has inspired your average runner through action, showing that ultramarathons can be fun, even in the middle-to-back of the pack. After three years and countless hours spent training and racing, Rob published *Training for Ultra: Running Stories from the Middle of the Pack* with a single purpose—to inspire YOU to run!

His time on the trails has taught Rob to set audacious goals, have fun while training, and that limits are many times only within one's mind. He has also found that inspiration has no boundaries, and continues to find it in other athletes of all abilities. Rob hopes that “through sharing a detailed account of my first three years of pursuing running from the middle to back of the pack, it will hopefully show you are capable of much more than you may think.”

To order your copy of *Training for Ultra: Ultra Running Stories from the Middle of the Pack*, head over to [trainingforultra.com](http://trainingforultra.com). 



# Don't Trash the Trails

*Be green while saving green!*

We can't deny the convenience of **Hammer Gel** in the single-serving packets, and they're the easiest way to try a variety of flavors to find the ones you like the most. But they're also more costly, and using them can be a messy ordeal. Worst of all is seeing individual wrappers on the roads and trails.

For clean hands, roads and trails, and a clear conscience, go **GREEN** with the Hammer Gel Jug/Flask combo. It's the **ECO**nomic and **ECO**logical way to meet your fueling needs.

## FLAVORS

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■ Nocciola\*

■ Raspberry

■ Apple Cinnamon

■ Tropical\*\*

■ Vanilla

■ Chocolate

■ Orange

■ Unflavored

\* Ultra Hammer Gels contain high-quality nut protein and fats

\*\* Contains caffeine

## 26-Serving Jug

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\$17.95 ea 3 or more.  
Mix or match flavors.



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Alex Terry running Hope Pass at Continental Divide Trail, Colorado  
Photo: Rebecca Widener



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# You Eat What You Are

BY JOHN KELLY

As a data scientist, I spend a lot of time looking at cause and effect. When it comes to nutrition, we've all heard "you are what you eat," but really I think the opposite is true. Different activities and lifestyles have very different dietary needs, and our decisions about nutrition should focus on that.

These decisions can focus on specifics such as individual nutrients, but broadly speaking, I look at food as having three main purposes: health, performance, and pleasure. How much we prioritize each of those depends very much on our goals. As an endurance athlete, I highly prioritize performance, while also trying to ensure that I'm not doing that at the expense of health.


I've been quite surprised over the years to see how much of an effect nutrition does in fact have on my performance. When trying to reach a peak level of fitness, training always begins to produce diminishing returns at some point. Eating properly can begin to produce similar improvements for much less effort, or improper eating can quickly eat away at the hard-earned gains from training. And it's not a matter of doing one or the other: that will never produce the results of doing both.

But as with most things, it's a balancing act. I do admittedly have a sweet tooth, which I'm not shy about indulging, but in an amount and at a time that is not at the expense of performance or health. Without some amount of pleasure from nutrition, I doubt I would be able to maintain a quality of life and focus that's necessary to perform at the level I desire.

## I LOOK AT FOOD AS HAVING THREE MAIN PURPOSES: HEALTH, PERFORMANCE AND PLEASURE

One thing that I've really enjoyed about Hammer is that it allows me to find that best balance between the three of those. The products are actually enjoyable, while also providing the best possible fuel for me to compete at my full potential. I also trust that they come from a safe, reliable source that won't put my health at risk.

So sure, maybe you are what

you eat. But that's like saying it snowed because you put a jacket on. Choose what you want to be, and then eat what you are. Find the best nutrition plan to achieve the right balance between health, performance, and pleasure, based on your own personal goals and lifestyle. Nutrition is incredibly important. Don't let it determine who you are, though; take control of it and use it to your advantage to help you become what you want to be. 

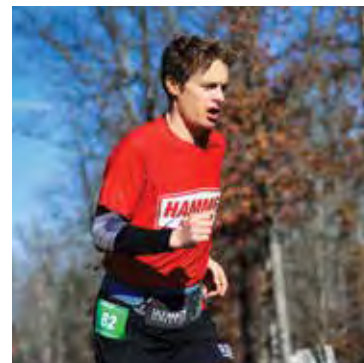


Photo: Gregg Gelmis, WeRacePhotos

John Kelly is an ultrarunning data scientist with a triathlon habit. He has won the Barkley Marathons and finished top 10 in M30-34 at Kona. He also holds a Ph.D. from Carnegie Mellon University and works as the Director of Analytics at QxBranch. This proud father of three (including twins!) resides in Rockville, MD. Follow John's running saga at [randomforestrunner.com](http://randomforestrunner.com).



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3 or more: **\$30.95 ea**



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- Benefits skin & eyes

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- Promotes longevity
- Improves fat metabolism

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## Premium Insurance Caps

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- Boosts energy all day
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# Greener Events Program

for

# 2019

***Event-generated litter is a persistent problem.***

## Hammer Nutrition receives consistent accolades

for superior-quality wholesome products, successful fueling protocols, free education, and “old school” five-star customer service. We’re also known for our event support. Look far and wide and you won’t find any nutrition company that works with as many grass roots events—almost 1,000 in the US alone last year—providing our signature personalized service to event directors and their participants.

However, we are always looking for ways to improve everything we do, including event support and reducing our carbon footprint whenever possible! That’s why in 2019 we’ll be significantly reducing the number of goody bags we provide to events, and the single-serving samples that ride inside.

Even though we provided recycled goody bags and strongly encouraged event participants to not dispose of Hammer Gel pouches on the roads or trails, event-generated litter is a persistent problem. As a result, a number of races that took place in National Forests lost their permits and eventually were cancelled.

**Clearly, a problem exists** and it dovetails in with our desire to be more proactive in conserving resources and protecting the environment. We’ll still be providing some events with our recycled goody bags and samples, but that number will be greatly reduced in 2019 (ten times fewer goody bags and samples than before) with the hopes that it can decrease even more on an annual basis.

In place of the sample-filled plastic goody bags—starting with trail running, gravel grinders, and other events where size and logistics allow—we will be providing reusable containers for use from the start and at on-course aid stations. Hammer Gel jugs and/or coolers filled with HEED will be supplied on course at aid stations.

For these select events, our offerings will look like this:

***Participants will receive one or more of the following at registration/packet pick up:***

- **Hammer Gel flask:** Participants will be able to fill up their five-serving flask from the recyclable jugs provided at registration and aid stations. *One reusable flask = 5 less individual packets!*
- **Specialized 21 or 26 oz water bottle:** Fill it before the start and at aid stations from the HEED coolers.
- **Recyclable bottles of Endurolytes,** instead of sample packets, will be available at the aid stations of many events. A 20-capsule dispenser will be provided for each participant.
- Our new **Hammer logo HydraPak cup** will be unveiled this year and provided to participants at select Hammer Nutrition-sponsored events. This ingenious reusable cup will allow participants to fill up on HEED at all aid stations, which will drastically reduce paper cup waste.

In years’ past, we sponsored well over 2,500 events annually, and provided more than 2.5 million Hammer Gel samples and event goody bags. That kind of support was (and still is) unheard of in the industry, and we received a ton of positive feedback from both event directors and participants. This year, we plan to distribute less than 250,000 bags/samples at events.

***Let there be no doubt, we still “support your sport” like no other company can or will. In 2019, we’re just doing it in a more eco-friendly way.*** EN





# Leave Dehydration in the Dust

**“ESSENTIAL”**



*“HEED allows me to ride without cramping. It’s essential to having a fun day.”*

*-Online Reviewer*



Stacey Mulligan placed 1st solo female at 12 Hours of Albuquerque.  
Photo: Andy Wiedrich



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- Buffers lactic acid
- Promotes oral health

80 Servings	32 Servings	16 Servings	Single-serve packets
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- MANDARIN ORANGE
- STRAWBERRY
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# WE SUPPORT:

Whatever your sport, you'll find plenty of challenging Hammer Nutrition-sponsored events to choose from this fall. We already have more than 160 events on our calendar for the upcoming months, covering practically 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:

Photo: Trans-Sylvania Mountain Bike Epic



## TRANS-SYLVANIA MOUNTAIN BIKE EPIC

5/23/19 - 5/27/19 SPRING MILLS, PA

After being cancelled in 2018, and now under new promotion and direction, the Trans-Sylvania Mountain Bike Epic (TSEpic) is back on, scheduled to begin on May 23. This five-day stage race, often referred to as **"Singletrack Summer Camp,"** takes place in Spring Mills, Pennsylvania.

Ryan Fulton is the new race director, and he's got some great plans for this awesome event: "Central Pennsylvania is a beautiful place and we want to show the world how good it is. Coming in 2020, we're starting the planning to add a trail run stage race to go along with the mountain bike stage race. These will be held the same days to bring more participants into our summer camp family. Our goal is to make these races so exciting that it'll attract the top pros along with the weekend warriors."

When I asked him about the "Singletrack Summer Camp" descriptor, he replied:

One thing that sets our race apart is our home base is a Boy Scout camp. With your registration, you will receive a tent site. Either bring your own tent or use one of the scout tents. We also offer upgraded cabin lodging at a cheap price. Dinner will also be included each night and you have the option to get a breakfast and lunch package to go along with your included dinner. If you don't want to, you don't even have to leave the camp during



Photo: Trans-Sylvania Mountain Bike Epic



***Back in a big way in 2019, with Hammer Nutrition on board!***

the race. The only exception for 2019 would be during stage 3 or stage 1 for the 3-day race. This stage is located away from the scout camp at a different part of the forest. The other four stages will start and finish inside of the scout camp.

Why do we consider this a scout camp? Well after you're done riding the stage, there are plenty of options around the camp to keep you busy. We have rowing, canoeing and paddle boards options at the lake. Or maybe you'd rather hang out in the pool to cool down in. We also have a sand volleyball and a horse shoe pit. And if you can get enough people together, there's a human foosball game you can play.

Needless to say, we're super excited to be partnering with Ryan and his company, Epic Races ([www.epic-races.com](http://www.epic-races.com)) for this year's Trans-Sylvania Mountain Bike Epic. This event will be one of the ever-increasing numbers of Hammer-sponsored events that will employ **Hammer Nutrition's Eco-Friendly "Green Initiative"** product support, which we discuss in more detail on pages 48-49 in this issue of Endurance News.

Keep up to date with this year's Trans-Sylvania Mountain Bike Epic via their Facebook page and the Hammer Nutrition Facebook page.

***For more details or to register, visit [outdoorexperience.org/](http://outdoorexperience.org/)***



# YOUR SPORT




Victor Sheldon tearing it up at last year's Cactus Cup.  
Photo: Lorne Trezise

## CACTUS CUP

3/10/19 FOUNTAIN HILLS, AZ

Arizona's oldest mountain bike stage race is best described as three days of racing and one big mountain bike party. Since its start in 1991, the Cactus Cup has grown from 100 riders to 1,000, all while maintaining a local, grassroots vibe.

Choose to compete in the three-stage enduro, dirt crit, or 40-mile cross-country race, or go for the Cup and compete in all three. Aid stations will be fully stocked with your Hammer favorites so all you have to do is pedal. 


*For more details or to register, visit: [thecactuscup.com/](http://thecactuscup.com/)*



Photo: Saluda Roubaix

## SALUDA ROUBAIX

4/28/2019 BATESBURG-LEESVILLE, SC

Escape the city gridlock and push yourself along 68 miles of rural gravel in central South Carolina at the Saluda Roubaix. Held in early last April, this is a great gravel grinder to kick off your racing season. The course travels through farmlands and dense forests. Best of all, 100 percent of all proceeds from the Saluda Roubaix go to supporting endurance sports educations and activities for members of the United States Armed Forces. 

*For more details or to register, visit: [saludaroubaix.com/](http://saludaroubaix.com/)*

## UPCOMING EVENTS:

### ANTELOPE ISLAND BUFFALO RUN

3/22/19 SYRACUSE, UT

[buffalorunadventures.com/antelope-island-50k](http://buffalorunadventures.com/antelope-island-50k)

### BEHIND THE ROCKS ULTRA

3/23/19 MOAB, UT

[madmooseevents.com/behind-the-rocks-home](http://madmooseevents.com/behind-the-rocks-home)

### HITS NAPA VALLEY TRIATHLON

4/13/19 NAPA, CA

[hitstriathlonseries.com/napa-valley-ca](http://hitstriathlonseries.com/napa-valley-ca)

### OPEN RANGE (GRAVEL GRINDER)

4/27/19 PRATT, KS

[kawsports.com](http://kawsports.com)

### SWIM AROUND LIDO KEY

4/27/19 SARASOTA, FL

[swimwithoutlimits.com/swim-around-lido-key](http://swimwithoutlimits.com/swim-around-lido-key)

### SALUDA ROUBAIX (GRAVEL GRINDER)

4/28/19 LEESVILLE, SC

[saludaroubaix.com](http://saludaroubaix.com)

### 18 HOURS OF FRUITA (MTB)

5/3/19 FRUITA, CO

[18hrsoffruita.com](http://18hrsoffruita.com)

### BLACK FORK GRAVEL GRINDER

5/4/19 GLENMONT, OH

[sites.google.com/site/bfggtest](http://sites.google.com/site/bfggtest)

### CHEYENNE MOUNTAIN ULTRA

5/4/19 COLORADO SPRINGS, CO

[www.treelineracingco.com/ultra](http://www.treelineracingco.com/ultra)

### GIRO BELLO (CYCLING)

6/22/19 SEBASTOPOL, CA

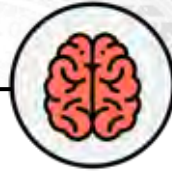
[girobello.com](http://girobello.com)

### OPAL WAPOO (GRAVEL GRINDER)

6/22/19

[opalwapoo.com](http://opalwapoo.com)

**FOR MORE INFORMATION,  
VISIT THE EVENT WEBSITES  
LISTED ABOVE.**



# EXCESS SALT HARMS THE BRAIN

BY STEVE BORN

The research was published nearly a year ago, but its message remains unchanged and vitally important:

***High salt diets can have seriously negative effects on a number of areas of brain function, leading to an increased risk of cerebrovascular diseases and dementia.***

This particular study was conducted by researchers from Weill Cornell Medicine in New York, who used two groups of mice for this study. One group had a diet that was comprised of 4% salt, and the other group's food content consisted of 8% salt. According to the researchers, these amounts "represented an 8- to 16-fold increase in salt compared to a normal mouse diet," with the higher amount (8%) being comparable to a high-salt diet for humans.

After an 8-week period, the researchers used MRI imaging to photograph and analyze the anatomy and physiology of the mice's brains. The negative results they found were astounding:

- **A 28% decrease drop in blood flow in the cortex, the part of the brain associated with thinking and processing information from the five senses**
- **A 25% blood flow drop in the hippocampus, the area of the brain responsible for processing emotional responses and long term memory**


The mice on the higher-salt diet were shown to have a dramatic decrease in the production of nitric oxide, resulting in impaired blood flow in the brain. This translated to the mice developing dementia, as they performed poorer than the other mice on tests such as object recognition and navigating through a maze, while also spending less time gathering materials (and fewer materials) for building a nest.

Interestingly, this decline occurred in the high-salt diet mice regardless of blood pressure. Lead researcher, Dr. Costantino Iadecola, states: "We discovered that mice fed a high-salt diet developed dementia even when blood pressure did not rise. This was surprising since, in humans, the deleterious effects of salt on cognition were attributed to hypertension."

What Dr. Iadecola and colleagues discovered was the high-salt diet increased levels of a protein known as interleukin 17 (IL-17), whose job is to regulate immune and inflammatory responses. However, when levels of IL-17 are too high, that can decrease the production of nitric oxide, which affects brain functions. It should be noted that by discontinuing the high-salt diets and administering IL-17-lowering drugs, Dr. Iadecola was able to reverse this negative process in the mice.

**Based on this study, it's clear that excess salt leads to levels of IL-17 that are too high, which can disrupt and even destroy many functions of the brain.** Just as alarmingly, if not more so, elevated IL-17 levels are also associated with many other inflammatory diseases such as asthma, Crohn's disease, inflammatory bowel disease, multiple sclerosis, rheumatoid arthritis, and more.

According to the Centers for Disease Control and Prevention (CDC), 90% of children and 89% of adults in the US—irrespective of age, race, gender or having high blood pressure—consume more than the recommended limit of 2,300 mg a day for sodium. Most of that sodium comes from salt, but does not include salt added to food while eating.

A massive amount of research shows that excess sodium (salt) is not beneficial for exercise performance and, even more importantly, is harmful for health. To perform at your best athletically, and to help stave off the detrimental health effects of too much sodium, the answer is abundantly clear: Cut back on your salt intake! 



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*“Whey Protein is an invaluable product for me. The protein value, calories, and price cannot be beaten! A tremendous help in recovery, whether hiking, weights, swimming, cycling, running, etc.”*

-Online Reviewer



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<b>FLAVORS</b>	<span style="color: blue;">■</span> VANILLA	<span style="color: brown;">■</span> CHOCOLATE	<span style="color: red;">■</span> STRAWBERRY <span style="color: black;">■</span> UNFLAVORED

- **Maintains & repairs muscle tissue**
- **Strengthens immune system**
- **Accelerates recovery**

Matt Alexander at Mammoth Gran Fondo, fueled by Perpetuem® Solids, Endurolytes® Extreme, Endurance BCAA+, Hammer Gel® and HEED®. Photo: William Clough, Captivating Sports Photos

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# Asia Adventure

BY BRIAN FRANK

Last November, I was fortunate to make the long overdue trip to visit our five International Distributors in Asia. My whirlwind four-week trip took me to Vietnam, Malaysia/Singapore, The Philippines, Hong Kong, Taiwan and a side trip to Cambodia. Besides being an epic adventure, it gave me the opportunity to work up close and personal with each group to help with their replication of our company/branding model in their country. Turns out athletes all over the world love five star customer service, multi-channel buying options, effective non-sugar-laden products, and to be provided with free usage/fueling knowledge to go with it! As a result, Hammer enjoys strong demand and a loyal following in all of these rapidly growing markets!



Hammer Malaysia sponsored GoGetter Triathlon Squad (<https://gogettertri.com>) in Kuala Lumpur.



I talked fueling with Hammer Philippines Ambassador Chloe Ong before a group ride near Manila, about her upcoming Ironman Lankawi event.



Standing room only for Hammer Fueling Seminar in Hong Kong.



Photo op during group ride near Manila.





Some of the Saigon (Ho Chi Minh City) Fueling Seminar attendees mug for the camera.



Overly polite Vietnamese athletes insisted on clapping throughout my seminar.



On top of the Tatun Volcano outside of Taipei, Taiwan.



The 18-20% grades in the mountain around Taipei require diversionary tactics from the pain in my legs!!



# From Our Athletes

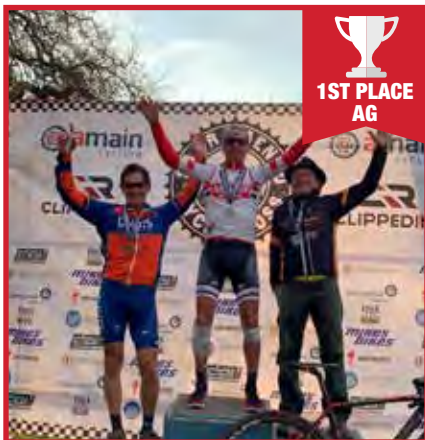
Our “From Our Athletes” section features submissions from athletes at every level, ranging from elite pros who have been competing for decades to beginners completing their very first race. This is just a small cross section of thousands of Hammer athletes around the world who are establishing Hammer’s reputation of having safe, natural, and performance-proven results. Congratulations to everyone here on their accomplishments!



## Ricardo Cuevas

*Ironman 70.3 Indian Wells-La Quinta*  
 After training all year for IM 70.3 Indian Wells-La Quinta, Ricardo finished his year off with a 15 minute personal record! Next year he is aiming to shave off another 20 minutes to finish with a sub 5 hour time!

Photo: Justin Luau



## Matt Trethic

Sacramento CycloCross Series

Matt Trethic pushed his limits to land on the top podium spot two days in a row during a weekend at the Sacramento Cyclocross Series at Gibson Ranch Park, CA. After an amazing series, Matt claimed the overall win, taking a podium spot in every race he competed in!



## Tamera Clifton

Chicago International Marathon

Just 5 weeks before the 2018 Boston Marathon, Tamera suffered a torn meniscus, which required surgery to be resolved. After focusing on rehabilitation and following a strict supplemental routine, Tamera returned to run her second fastest marathon, at the age of 49! Tamera plans on heading to Boston in 2019 to take care of unfinished business!



## Jordan Young

Race 13.1 Baltimore 10K

Although a sprained ankle put Jordan in a walking boot one week before race day, Tissue Rejuvenator played a major role in speeding up the recovery process. Fueled by Hammer Gel, Endurolytes Extreme, and Anti-Fatigue Caps, Jordan finished 6th overall and set a new PR by over 45 seconds! Photo: Elizabeth Young





## Ben Lustgarten

US SuperTour: West Yellowstone

During a solid race weekend in West Yellowstone, MT, Benjamin Lustgarten was able to maintain his lead of 3.5 seconds to take the win in the 15 KM Skate, his first SuperTour distance victory! Ben fueled with Fully Charged, Hammer Gel, and Endurolytes Extreme Powder to remain ahead of his competitors.

Photo: Pepa Miloucheva



## Claire Josquin

Ho Chi Min City Techcombank Half-Marathon

A week after Claire met with Hammer Nutrition founder, Brian Frank, in Ho Chi Min City, Vietnam, she was able to apply some new nutritional techniques to finish as the 3rd place female in the HCMC Techcombank Half-Marathon in Vietnam! Claire used Hammer Gel and Endurolytes to fuel her training and race efforts.



## Margaret Thompson

USA Cyclocross Championship

A close race and an extremely muddy course made for a memorable end to the 2018 USA Cyclocross Championship! Margaret managed to hold on to a close lead to earn a silver medal in her age group! Photo: Mark Fasczewski



## Mindy Przeor

TCS New York City Marathon

After being chosen as one of 50 teachers for the NYC Marathon Teacher Team, Mindy was able to bring a group of 6 students and their families to join her in NYC to run the Abbot Dash 5K the day before the marathon. Mindy and her students were fueled by Hammer Gel as they took to the streets of New York City. Photo: Kris Przeor

## 12 Hours of Racing Calls for the Right Fuel & the Right Recovery

Hammer Nutrition Athlete, Steven Terry rounds a corner while competing in Dawn to Dusk AZ at McDowell Mountain Regional Park in Maricopa County, AZ. Terry and his riding partner, James Webster, worked seamlessly to finish 3rd overall in the Men's Duo Class. *"I used HEED, Hammer Gel, and Perpetuem as my liquid fuel during the race, with Endurolytes Extreme, Endurance BCAA+, and Anti-Fatigue Caps throughout. I started with Fully Charged and added another halfway through the day. Another important product—Seat Saver is always my go to on these long days."* To celebrate the victory, Steven enjoyed Recoverite and Tissue Rejuvenator to ensure a proper recovery after 12 hours of racing!

Steven Terry at Zia Rides Event, Dawn to Dusk at McDowell Mountain Regional Park. Maricopa County, AZ.

Photo: Curtis Gillen Photography





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**Premium, natural ingredients ■ No added sugars ■ Made in the USA**

Unlike the countless sugar-based products out there, every fuel made by Hammer Nutrition is both healthful and effective. That's because we take no shortcuts. Each ingredient is carefully selected and sourced and we refuse to use any added simple sugars or artificial sweeteners.

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## Endurance News

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PAID  
HAMMER NUTRITION  
DIRECT

# Easy, Effective, Complete

# RECOVERY

**"THIS IS MY GO-TO FOR RECOVERY!"**



*"Recoverite is the best—period. Nothing else works as well. I feel fresh and strong the next day. Great taste. Great product! **Highly recommend!**" -Online Reviewer*

- Restores muscle glycogen
- Rebuilds muscle tissue
- Reduces soreness & fatigue



Alex Forte taking a moment to rest and absorb the sunshine during a ride in New York City. Photo: Chris Howell