

ENDURANCE

NEWS

BY HAMMER NUTRITION
#123 January/February/March 2021
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Best Results of 2020

Podiums and records fueled by Hammer

Intermittent Fasting

How fasting applies to endurance athletes

PLUS

- **Phytomax is Back!**
- **No Hesitation, Get a Consultation!**



NEW YEAR, NEW KIT

Riding down an empty Pacific Coast Highway in Carlsbad, Hammer athletes Victor and Piper Sheldon break in their brand new 2021 Hammer cycling kits on a couples ride. This premium-quality performance wear is crafted by Voler in California. You'll see fresh designs on all our new performance wear, including Cycling, Triathlon, Running, and Outerwear. Our Men's / Unisex kits come in Retro Red, and our Women's kits come in a teal color palette called Montana Sapphire. The graphics for the new year were designed in-house and feature hand-drawn artwork from Montana artist and musician, Elliott Abbott. Besides his illustration skills, Elliott (*right*) also plays the bass with The Lucitones, a high-energy rockabilly/punk rock band from northwestern Montana.



Photo: Wildglass Photo

Endurance News depends on authentic photos from our readers and your photo submissions are always welcome! To be featured in the next issue of Endurance News, email your hi-res photos to photos@hammernutrition.com.

Welcome to the 123rd issue of Endurance News!



Ready or not, 2021 is here and we are striding into our 34th year of business and 28th year of *Endurance News*. Those are some big numbers, yet I feel the same renewal of energy and excitement when I look on the horizon, as I did in the beginning, despite the world we live in today. My laser focus continues to be aimed at helping you be the best version of you possible. That means improving existing products, our web site, accessibility and of course developing cutting edge new products.

PHONE AND LIVE CHAT

Ever notice how it's getting harder and harder to find a company that will provide you with a number to call and when you do, you get put on hold or reach an auto attendant?! Not Hammer. I spent a good bit of time in the call center during our 32nd Family and Friends sale because that's when we

hear from so many of our legacy clients that have been with us for decades—They know that friendly, informative people are available to help decide which products are best for you to get out on the road again as quickly as you can jockey a mouse. If you are a newer client who has never called us, make sure you read the articles on **page 50**.

In this issue of *Endurance News*, you'll find articles that detail these things as well as great stories from our clients, ambassadors and sponsored athletes from all over the world. Take special note of Dean Karnazes' article on **page 30**.

Speaking of Dean, I am very pleased and excited to announce that after over 12 years of working loosely together, Dean has joined the Hammer Nutrition family in an official capacity. Our mutually shared passion for helping athletes achieve their personal best in sport and life makes this an amazing and natural fit.

In addition to being a brand ambassador and spokesperson, Dean will be joining our advisory panel, writing articles for *Endurance News*, including our new weekly digest, sharing stories and insights as well as assisting in guiding our messaging across all platforms and channels, as well as joining our R&D team. A podcast is also in the works and planned for 2021. Great things are going to come from this partnership for

years to come, and I am eager to see them come to fruition.

NEW PRODUCTS

2020 was a light year for new products by our standards; Cherry Bomb HEED®, ChitoLean, and Doggy Daily Essentials (We did also redesign our CBD 500 mg balm package, add CBD softgel samples, 30 mg CBD balm sample, too). However, this year you will be seeing at least three new supplements—a multi-source vitamin C, a vitamin D3/K2 softgel, and a revolutionary new product that reduces insulin surges and the resulting resistance. On the fuel side, you'll see our first meal replacement product. Stay tuned.

INTERMITTENT FASTING

Continuing our deep dive into diet and nutrition topics, we are pivoting away from Keto to an introduction to intermittent fasting. Dr French's article on **page 24** is where we are starting. In future issues of *Endurance News*, we'll be expanding our article formats to allow for these important subjects to be adequately addressed. That will also spill over into our new "Endurance News Weekly" articles that Steve, Dr. French, Dean, and I will be writing.

Wishing you much happiness, health, and well-being in 2021!

Enjoy the read and pass it on!

Brian

ENDURANCE NEWS

The informed athlete's advantage since 1993

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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.

OUR GUIDING PRINCIPLES

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

Education: We educate and empower athletes with free, easily accessed 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 our complete mission statement online at hammernutrition.com/company/mission-statement



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

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In this issue, learn training tips for your best season yet!

Read more on pages 20, 24, 32, 38, and 40

ON THE COVER: Dean Karnazes powers through sub-zero temperatures of "The Last Desert" in Antarctica during Racing The Planet's 4 Deserts Ultramarathon. Photo: Racing The Planet



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Phytomax is back in stock and ready to help support your athletic and health goals! Ask any Phytomax "junkie", and they'll tell you that this is unquestionably a must-have, must-use supplement.

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34 YEARS OF HAMMER NUTRITION MEMORIES

Bob Scott crosses the finish line at IRONMAN World Championship in 2009. Look back at decades of memories from E-Caps and Hammer on page 52.

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“I think you dropped this.”

Robert and Jill Miller - A Hammer Nutrition love story



It was a paceline group that sparked the first interaction between Robert Miller and Jill Allardyce. Jill was a serious runner and new triathlete, and Bob was a seasoned runner and cyclist. These group rides had excellent elevation and were phenomenal training for cyclists and triathletes alike. On a specific ride, when the two first met, Jill was in the paceline ahead of Bob when a **Hammer Gel**[®] fell out of her pocket. Bob was in the back at the time, slowed up and effortlessly scooped up her gel to hand to her as they fell back from the pack. Jill wasn't really sure who he was—it was hard to see with his

decked-out matching Hammer race kit, glasses, helmet and full red spandex uniform.

But she did take notice of his big smile and words to her,

“I think you dropped this.”

The next time these two met in person was just a few months later when they were both signed up for a duathlon/triathlon where Hammer Nutrition was a sponsor. Bob was also personally sponsored by Hammer Nutrition. They went separately, along with a group of friends to a campground just a few miles from the race site. There, Bob shared some racing tips the night before with Jill and gave her a few **Race Caps Supreme** to try. The following day at the race, Bob took 1st overall in the duathlon, and Jill took 2nd place overall female in the Triathlon. The two began texting each other and just a week later, they started dating and talking every day. That was back in 2014.

They both have sons the same age, shared many interests and a love for life. They continued dating and just a year later, moved in together and began training seriously. Bob had already achieved All-American status for duathlon when he

met Jill, but Jill subsequently achieved All-American and became a Hammer Sponsored Athlete with Bob's coaching and help using Hammer.

The couple continued Hammering, racing, loving, got engaged in 2019, and married in 2020. At the altar, Bob smoothly dropped a Hammer Gel at Jill's feet and repeated the same words he said years ago: “I think you dropped this.” Her smile was priceless! He sealed it with a kiss and she said,

“I DO!”

EN

CONGRATUALIONS!

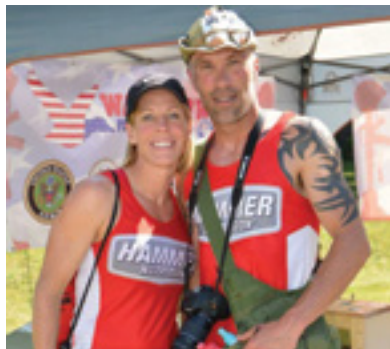
Bob and Jill Miller





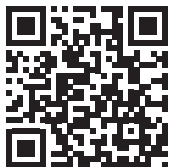
HOW TO HAMMER

ESSENTIAL KNOWLEDGE



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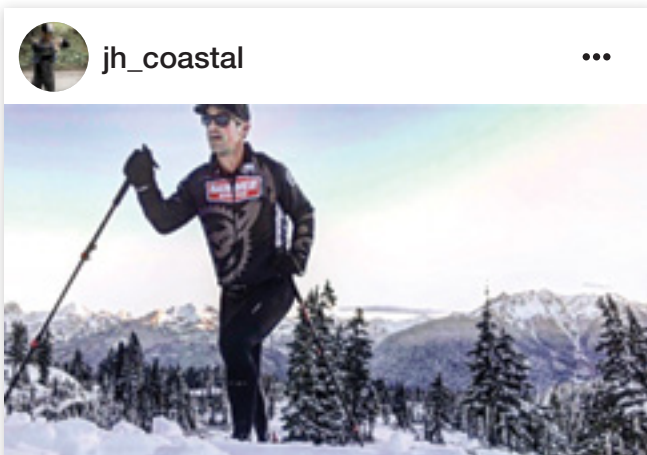


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#howihammer



UW Madison Tri Team Just another friendly reminder on why to pay dues: Sponsors! We have many incredible sponsors, so thanks to Hammer Nutrition for helping us keep the cost down for our amazing sport.



Josh Henrie With big goals for next year, I took my new snowshoes for a spin today in fresh snow in the mountains! The adventures to be had this winter is unstoppable. Love it up here. Sunrise was amazing.



Curtis Weir I was able to reach many new personal bests, my fitness is better than it's ever been and I have pedaled 3,000 miles and still have 1 month to go. Thank you to everyone that has helped me spin these miles I couldn't have done it without ya!



Jeremy Heath Race gear ready for tomorrow's 25K at Pass Mountain. Cue pre-race nerves and anxiety... but also all the excitement! Let's do this!

NAOMI HAVERLICK

Upstate CranksGiving Enduro



"Got the opportunity to race in such a rad place. Made some mistakes but also got a couple PRs. Most importantly, I met my biggest goal which was to HAVE FUN! The venue and weather were perfect; the best Upstate NC CranksGiving yet. Mega thanks to Jarret and all the volunteers for putting on the race! Stoked to have Hammer fuel me and took 4 out of 5 stage wins and 1st place overall for the masters women category."

Photo: Icon Media Asheville

FUELING RECIPE

PRE-RACE

Endurance BCAA+, Anti-Fatigue Caps, and Raspberry Hammer Gel®

DURING

Strawberry HEED®

RECOVERY

Chocolate and Strawberry Recoverite® mix

RESULTS

1ST PLACE
Masters Women

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



hammerocrteam

Hradec Králové, Czech Republic



Brano Behul "Baby, it is important to keep the balance," or 2020 shown in one photo.



olly_stone



Olly Stone Hammer Nutrition just came out with a Doggie Daily Essentials CBD supplement. Perfect for keeping my two healthy.



MECHANICS & CREW ARE ENDURANCE ATHLETES

THE PRO CIRCUIT STORY

by BRIAN FRANK

We are entering our 2nd year of sponsoring the Monster Energy Kawasaki Pro Circuit Motocross Team—not the riders, but the mechanics and crew. I am really excited about this first of its kind program: sponsorship for the unsung heroes of motorsports!

These folks are endurance athletes hiding in plain sight, whose fueling and energy needs have gone largely unaddressed or even completely ignored—until now. There’s no way of knowing how many races have been lost from mistakes made by mechanics who were “bonking”,

but it’s not a small number. When I worked with riders, this is where I saw the biggest potential for improvement.

These dedicated team members work from 6 AM Friday morning until 10 PM Saturday night, almost nonstop. Sunday is a travel day, then it’s back to the shop for more long hours to get ready for the next race weekend. If you think they are doing it for the money and the fame, guess again. The dedication and passion they showcase makes me want to help them even more.

Helping athletes of every size and shape performing every type of sport imaginable has been my passion for 34 years now. Finding and helping neglected

and or misinformed athletes in need and applying my knowledge and products to help them get to a better place still brings me the most satisfaction. Which is why I am so pumped about this initiative. The feedback and reaction from the crew members is all positive. Now, they know they have the fuels, nutrition, and knowledge to do their job to the best of their abilities and they like that!

Innovation and creativity at Hammer Nutrition is not limited to just developing vastly superior products, it’s applied to everything we do, including sponsorship. The idea has been in my head for years, maybe decades. From my first Supercross race in 1989 in an

The Pro Circuit team wearing custom Hammer kits made by Squadra: (left to right) Norm Bigelow, Colter Ahrens, Schnikey, Olly Stone, Victor Sheldon, and Bobby.

Not Pictured: Mitch Payton (owner), Zach White (manager), Jacob Martin, and Matt Goodbred.

Photo: Pro Circuit Racing



official capacity supporting the Team Kawasaki riders, it was obvious that the mechanics and crew work long hours behind the scenes to get their riders, or drivers, on the podium. Over the past 33 years, the budgets have increased and there are more people than ever involved in a winning effort, meaning more work for everyone.

When seeking a partner to create this unique program, Mitch Payton and his Pro Circuit team was the obvious choice. He is a legend in Motocross/Supercross as a pioneer in the development of aftermarket parts for motocross bikes, most notably exhausts, engine mods, and suspension upgrades. Victor Sheldon, our moto maven and all-around

SoCal brand guru, also put in a good word for us with his long-time friend! When asked recently about the partnership, Mitch had this to say “Hammer has always taken good care of my riders, I personally like and use their products, so it was a no-brainer when Brian suggested sponsoring me and my team. My guys work so hard, it’s great for them to be getting this special attention.”

Mitch was one of the leading visionaries that helped bring motocross from small budget to national TV coverage, corporate, mainstream America. He is also known for building the best team and crew to support the new talent that he has a special knack for finding. So much so, that pretty much every up-and-

The Hammer Nutrition badge makes its debut on Pro Circuit tool boxes at A1 SX in January of 2020.
Photo: Pro Circuit Racing

coming rider’s dream is to get the call from Mitch to be invited to join his team. His track record for finding future champions is unmatched. He has helped riders to numerous National and Supercross Championships during his career as a team owner.

This story will continue to be reported in upcoming issues of *Endurance News* and on our social media platforms. The next issue of *Endurance News* will feature our partnership in big league motorsports endurance racing. **EN**



RACE CAPS SUPREME

**34 years later,
it still sets the
standard for
enhancing energy,
endurance,
and recovery.**

by STEVE BORN

In 1957, Dr. Frederick Crane made one of history's most important nutritional discoveries while isolating compounds from beef heart mitochondria: a quinone now known as Coenzyme Q₁₀ (CoQ₁₀), a member of a class of cyclic organic compounds. Dr. Crane's discovery sparked Dr. Peter Mitchell's Nobel Prize-winning research showing that CoQ₁₀ is a naturally occurring nutrient that produces ATP (energy) at the cellular level, energy that the body requires to stay healthy and optimize all of its functions.^{1,2}

Ever since Dr. Crane's and Mitchell's landmark research in the late 50s/early 60s, countless studies have been done on CoQ₁₀, which is classified as ubiquinone, from the word "ubiquitous," CoQ₁₀ was given this name because it is present in every cell in the body,

Nutritional scientists are universally in agreement about the importance of CoQ₁₀; here are just a couple comments:

"Without CoQ₁₀ or a good substitute, human life quickly ends."

- James South MA

"That CoQ₁₀ plays a crucial role in aging is beyond doubt. The same applies to CoQ₁₀'s role in the immune system. And there is a vital connection between the immune system and aging that cannot be ignored."

- Emile G. Bliznakov MD

"CoQ₁₀ is energy on call. I have long considered CoQ₁₀ a wonder nutrient because of its ability to support heart health."

- Dr. Stephen Sinatra

"Ubiquinone (CoQ₁₀) is possibly the hub around which life processes revolve in the human body."

- Dr. William V. Judy

"For enhancing both athletic performance AND overall health, consistent supplementation with Race Caps Supreme is a no-brainer strategy."

Along with its many benefits for numerous aspects of human health, CoQ₁₀'s energy-producing properties, along with its antioxidant capabilities, make it an ideal nutrient for naturally enhancing athletic performance and recovery. 34 years ago, most people had never even heard of CoQ₁₀, let alone understood its multiple benefits for athletic performance and overall health. One company, however, Hammer Nutrition (known as E-CAPS back then), was already "in the know" about this remarkable nutrient, harnessing the power of CoQ₁₀ (ubiquinone) into a product called "Race Caps."

It didn't take long for the word to get out that a truly effective, safe, and perfectly legal endurance-enhancing supplement was finally available. If you were a serious endurance athlete in the late 1980s and 1990s, Race Caps was a part of your arsenal. In the coming years, athletes and non-athletes became more informed about the plethora of benefits attributed to CoQ₁₀, and CoQ₁₀ supplements became more readily available. Hammer Nutrition continued to blaze the trail. In 2003, while other companies were still trying to play catch up, we reformulated a great product into something even better and renamed it Race Caps Supreme. A great product had become even better, so a new name was in order: Race Caps Supreme.

WHAT ABOUT UBIQUINOL?

"That's all great," you may be saying. "But what about this 'new' CoQ₁₀ called Ubiquinol? I heard it's better than the 'old' ubiquinone CoQ₁₀. What's the deal?"

All good questions, and here's some information to help answer them:

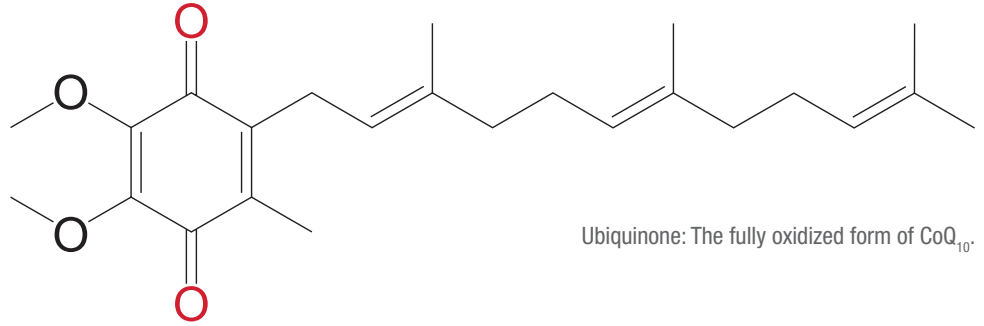
- **Both are CoQ₁₀.** Ubiquinone is the oxidized form of CoQ₁₀ and ubiquinol is the reduced form of CoQ₁₀.

- Until 2007, ubiquinone was the only form of CoQ₁₀ on the market. Since then, a patented technology was developed to produce the active and trademarked form of CoQ₁₀ called ubiquinol. As a result of the development technology and patent, **ubiquinol is more expensive than ubiquinone.**
- There has been significantly more research on ubiquinone than ubiquinol. According to Dr. William V. Judy, "Hundreds of clinical studies show that **ubiquinone is effective and is still the choice of practicing cardiologists.**"
- CoQ₁₀ in the body continuously shifts between the two forms. **No matter which form of CoQ₁₀ you take, your body will convert it to the other form as needed.**
- While ubiquinol is suggested to be a better-absorbed form of CoQ₁₀, at least one study has shown that higher absorption to not be insignificant. The researchers concluded **"...the difference in the bioavailability of comparative ubiquinol capsules was not statistically significant in comparison [to standard ubiquinone capsules].** It is important to also highlight that we did not observe significant differences between formulations in the redox status of the absorbed CoQ₁₀, which indicates that CoQ₁₀ appears in blood almost exclusively as ubiquinol, even if consumed as ubiquinone."³
- **It is generally accepted that ubiquinol supplements do not get absorbed as ubiquinol,** according to Dr. Judy, the body absorbs it mostly as ubiquinone because the gastric system oxidizes ubiquinol to ubiquinone before absorption."⁴
- Most absorption differences between ubiquinone and ubiquinol are minimized or even resolved with the inclusion of a patented black pepper extract, known as Bioperine[®], which is found in Race Caps Supreme. **Research shows a 30% increase in absorption when administered with Bioperine[®].**⁵
- **Ubiquinol do not appear to be as heat-stable as ubiquinone supplements.** That's one reason why Race Caps Supreme contains dry ubiquinone; it's a much better option for use during prolonged bouts of exercise, especially in the heat.

Continued on next page

RACE CAPS SUPREME

by STEVE BORN

Continued from previous pageUbiquinone: The fully oxidized form of CoQ₁₀.**HIGHLY ABSORBABLE
AND SO MUCH MORE!**

In addition to its CoQ₁₀ and Bioperine[®] components, Race Caps Supreme contains much more than the standard ubiquinone or ubiquinol supplements, to increase endurance, recovery, and general health benefits.

IDEBENONE

An analogue of CoQ₁₀ (the "good substitute" that James South mentioned earlier) and a superb complement to CoQ₁₀, with some suggesting it may be even more powerful than CoQ₁₀. One nutritional scientist explains, "Idebenone supplies all of the same benefits as CoQ₁₀ plus some distinct advantages and features based on its more complex chemical structure." These include:

1. Improved cognition and mood, reduced damage from Parkinson's disease and Alzheimer's disease, and a role in the prevention of damage caused by excitotoxins (a class of substances produced from the consumption of substances such as MSG and some artificial sweeteners) which can impair neuronal functioning.
2. Improvements to liver mitochondrial function, which suggests that it would support and enhance the detoxification functions of the liver.
3. Perhaps the most remarkable feature of idebenone is its unique ability to operate under hypoxic (low oxygen) conditions, helping to produce energy and maintain high energy levels without creating free radicals. In other words, under the same cellular low oxygen conditions that can cause CoQ₁₀ to act as a pro-oxidant, idebenone helps prevent free radical damage while still supporting ATP production.

VITAMIN E

Energy production is not a completely "clean" process; a naturally occurring and unavoidable metabolic by-product is the free radicals that can cause tissue and cellular damage. That's why vitamin E is a vital component in the Race Caps Supreme formula. Vitamin E is a powerful antioxidant that, along with CoQ₁₀ and idebenone, helps neutralize the free radicals naturally produced during energy production. Vitamin E has numerous health benefits as well, especially in the cardiovascular and circulatory systems.

Research in animals has shown that supplementation with vitamin E alone reduces inflammation by lowering the levels of C-reactive protein (CRP). Higher levels of CRP are associated with an increased risk of cardiovascular problems. Co-supplementation with CoQ₁₀ significantly enhances this anti-inflammatory effect of vitamin E.⁶

OXY-ASSIST

A unique blend of nutrients that combine to enhance oxygen utilization, optimize fat burning, increase energy production, and buffer against acid buildup.

1. **Trimethylglycine (TMG)** helps convert fatty acids to energy. It has been used to treat muscular weakness and degeneration, due in part to its role in transporting oxygen to muscle tissues. TMG is also a powerful antioxidant that helps lower elevated levels of homocysteine, which is implicated in cardiovascular disease.
2. **Inosine** helps increase the oxygen-carrying capacity of the blood, allowing more oxygen to be delivered to working muscles, thereby reducing fatigue.

“CoQ₁₀'s energy-producing properties and antioxidant capabilities make it an ideal nutrient for naturally enhancing athletic performance and recovery.”

KREBS CYCLE INTERMEDIATES

Supports the Krebs cycle process (AKA the citric acid cycle or the tricarboxylic acid cycle) of energy production by supplying precise amounts of malate, citrate, aspartate, lysinate, and glycinate, chelators for the minerals calcium, magnesium, and potassium. Another Krebs cycle intermediate, alpha-ketoglutarate, is included as well.

ENZYME BLEND

Race Caps Supreme's unique **Enzyme Blend (protease, amylase, glucoamylase, lipase, cellulase, phytase, maltase, and sucrase)** helps ensure proper digestion and absorption of the nutrients.

SUMMARY

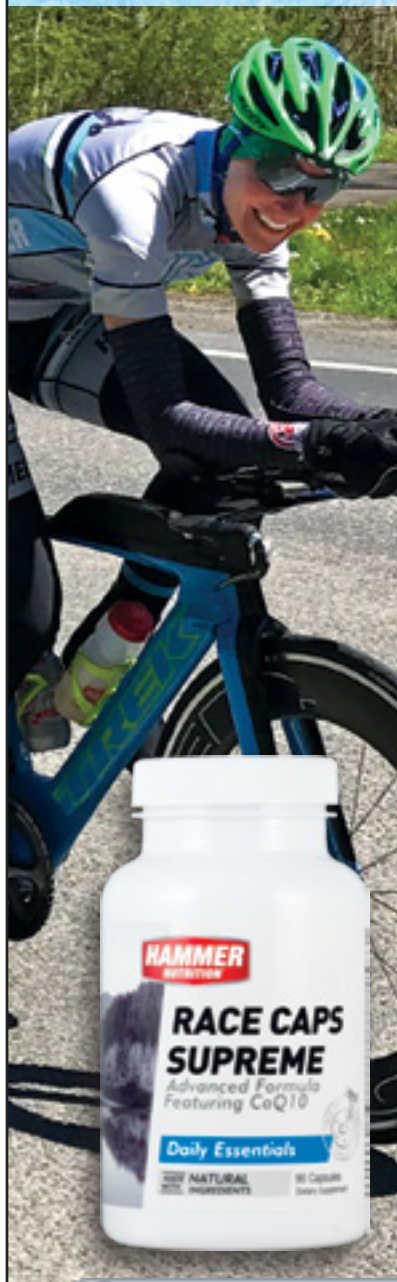
Race Caps Supreme supplies so much more than stand-alone ubiquinone or ubiquinol CoQ₁₀ supplements. The extraordinary combination of "super nutrients" found in Race Caps Supreme helps maintain consistent and efficient energy production, while also supporting enhanced recovery. For 34 years and counting, the athletic performance benefits supplied by Race Caps Supreme continue to be completely unmatched by any other athlete-specific supplement.

Perhaps even more impressive are the product's health benefits.⁷ For enhancing both athletic performance AND overall health, consistent supplementation with Race Caps Supreme is a no-brainer strategy. We firmly believe that all people would benefit from this product and it's an absolute essential for athletes. EN

References available upon request

RACE CAPS SUPREME

The original endurance supplement, and still second to none!



“GREAT TO HAVE FOR HARD RIDES!”

“Race Caps Supreme is like an insurance policy for my stamina. It keeps my energy levels right on target.”
- Online Reviewer

- Prolongs endurance
- Helps increase energy
- Supports vascular health
- Enhances cognitive function

90 Capsules 3 or more
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Jen Reschke makes her mark at the Strava Time Trials, where she came in 4th overall against an all male competition field. Jen also set both the 10 and 20 minute all-time power records!
Photo: Stella Reschke

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2020 MOTO HIGHLIGHTS

RICKY TAYLOR & HÉLIO CASTRONEVES

2020 IMSA Champions

Ricky and Hélio became champions of the 2020 IMSA WeatherTech SportsCar Championship, including race wins at 4 out of 11 rounds: Laguna Seca, Road America, Atlanta GP, and Mid-Ohio.

Ricky and Hélio are seasoned professionals, but when they're behind the wheel, any momentary mistake in fueling, hydration, or electrolyte intake can make or break a race. They use an extensive Hammer lineup, including **Liquid Endurance**, **Hammer Gel®**, **Endurolytes Extreme Powder**, and **Fully Charged** during long hot stints, both for Endurance 12- and 24-hour racing and shorter races up



to 3 hours. Regardless of the challenge, **Recoverite** and **Hammer Bars®** are a must in between sessions.

For 2021, both racers will join Wayne Taylor Racing—powered by Acura Motorsport and Konica Minolta—fueled by Hammer Nutrition yet again.

*“Compared to last year when we didn’t do anything during pitstops, using the **Hammer Bomb (Fully Charged + Endurolytes Extreme Powder + Hammer Gel + 4 oz water)** was the perfect solution, and probably the biggest improvement for the team at sprint races and Endurance races alike. Dialing in our fueling took away so much mental fatigue late in the race, and helped Hélio and I hit our marks every time we jumped into the driving seat.” - Ricky Taylor*

Photos: Wayne Taylor Racing

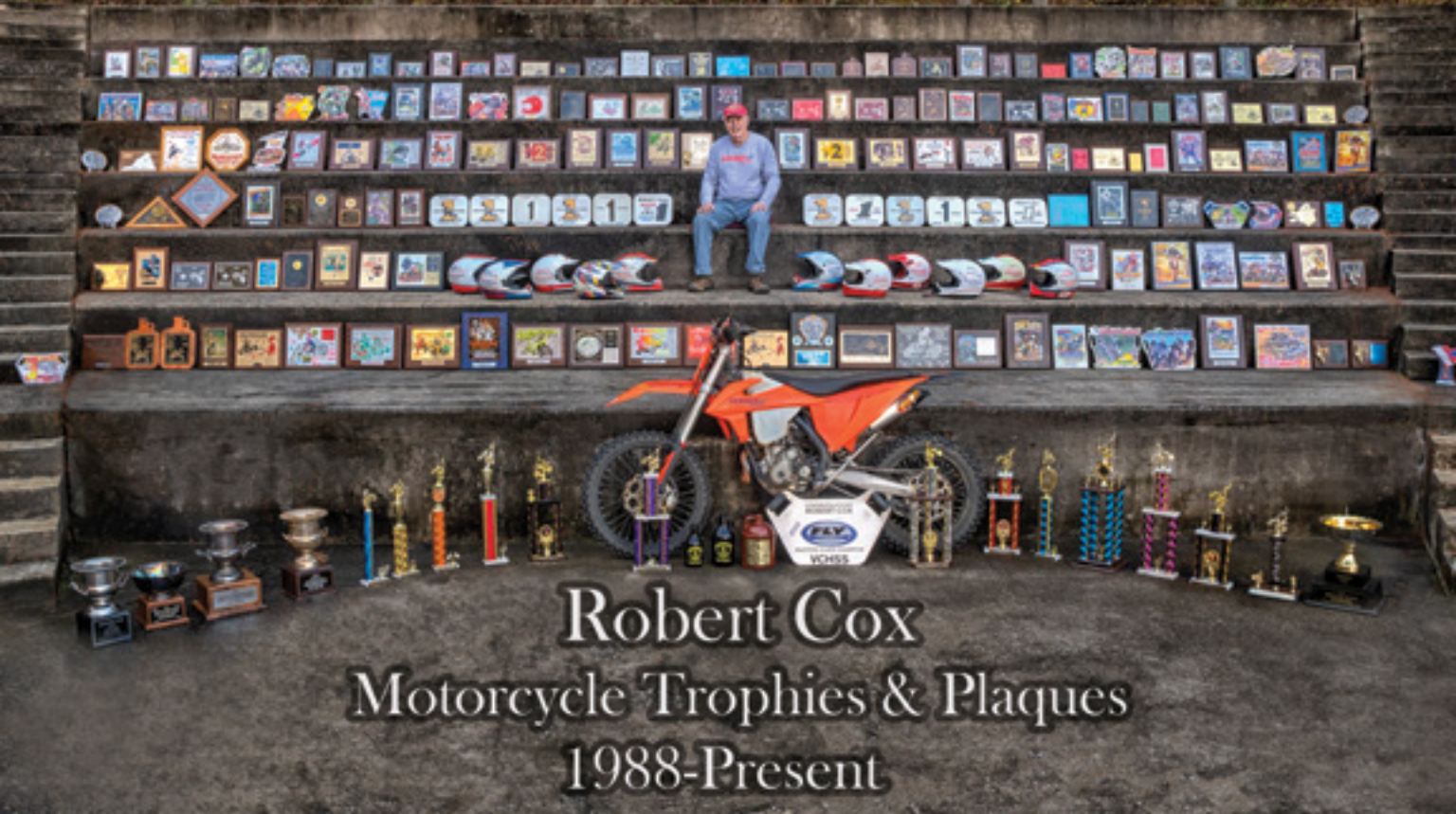
OLIVER ASKEW

1st Place - RoK the Rio

A big congrats to Oliver Askew on his win at the 2020 RoK the Rio in fabulous Las Vegas! Professional IndyCar driver Oliver Askew went back to his early days of racing Go-Karts at the end of the season. The hot sun on the tarmac at the Rio Hotel in Las Vegas had him drinking **Endurolytes® Extreme Powder** all day, before taking a scoop of **HEED®** prior to the main. Right after the podium, Oliver mixed up some **Vegan Recoverite®** to finish the day. Special thanks to Team GFC/Squadra Trackmagic/Formula Works/Swedetech Racing Engines.

Oliver takes victory in Rok Shifter and Rok GP in Las Vegas.
Photo: CanadianKartingNews.com





Robert Cox Motorcycle Trophies & Plaques 1988-Present

ROBERT COX

"If you want to be healthy and win, you need Hammer Nutrition."

Robert Cox learned how to ride a motorcycle around the time he learned how to walk. Since then, nothing has been able to tear him away from 2 wheels. For a gentleman with a lifetime full of competitive racing, Robert is exceedingly humble and reserved about his many wins and accomplishments in Motocross, Enduro, Hare Scrambles, Hill Climbs, and many others.

Hammering since '88, he has relied on Hammer fuels and supplements.

Even today, in his early 70s, Robert rides his motorcycle everyday and goes to the gym 5 or 6 days a week. Keep Hammering Robert, you're a legend!

ROBERT'S HAMMER PRODUCTS:

Hammer Gel, Premium Insurance Caps, Race Caps Supreme, Fully Charged, Whey Protein, Perpetuem®, Tissue Rejuvenator, Recoverite, Endurolytes Extreme, Vegan Protein Bars, 53x11 Big Ring Coffee, and Hammer CBD

Photo: Dawson Photography Inc.



TAYLOR ROBERT

2020 Worcs Moto Champion

*"It felt so good to win back to back WORCS Championships! With a lot of the rounds moved to mid-summer, I relied heavily on **Liquid Endurance** and **Endurolytes Fizz** leading up to races. Even in 108 degree heat on race day, my hydration and nutrition was solid with **Endurolytes Extreme**, **Lemon Lime HEED**, and **Huckleberry Hammer Gel** taking me all the way to the finish."* Photo: Mack Faint



PHYTOMAX IS BACK!

by STEVE BORN

We are excited to announce that, after a far-too-long hiatus, Hammer Nutrition's green superfood, Phytomax, is back! And not a moment too soon! Thousands of clients relied on this product to (among other things) bridge the gap between what we should be eating vegetable-wise and what we actually are consuming. After an incredibly lengthy search, we were able to find a manufacturer that can provide consistent supplies of premium-quality product.

WHY PHYTOMAX?

The USDA's Food Guide Pyramid recommends 3-5 servings of vegetables daily, but it's almost guaranteed that none of us comes close to that. While we all must maintain a consistent focus on consuming as many whole vegetables as we can on a daily basis (whole fruit as well), we also need an inexpensive, easy-to-use product to reach our optimal amount. Three capsules of Phytomax will provide higher quality vegetable nutrition than blue-green algae, spirulina, chlorella, wheatgrass juice, barley grass juice, or any other similar product. In addition, Phytomax is a concentrated source of enzymes, phytosterols, and phytonutrients, all so important to overall health but no longer available in appreciable amounts from our food supply.

WHAT IS PHYTOMAX?

Phytomax is the name we gave the supplement we produce from *Hydrilla verticillata*, a wild, rooted plant that grows throughout the South. The *Hydrilla* used in Phytomax is harvested from unpolluted fresh waterbeds in Florida, its processing preserves the enzymatic profile. It is free of toxic waste byproducts found in competitive products that are harvested from polluted lakes (such as Klamath Lake in Oregon). This makes Phytomax one of the few green products with both enzyme integrity and purity. And because the *Hydrilla* plant is rooted, it easily accesses the high amounts of organic minerals, vitamins, enzymes, and trace micronutrients found in the prehistoric lakebed's soils.

HOW IS PHYTOMAX PRODUCED?

After harvesting "live" *Hydrilla* by cutting the plant just above its root structure, it goes through a five-stage pressure wash, which includes an ozone injection for removing bacteria and microorganisms. That extract the raw foods found within the plant's green stems, stalk, and leaves. A drying process is then applied using jet turbine blowers at a maximum of 88 degrees to remove the moisture without damaging the "living" enzymes and rich nutrients stored in the harvested plant. After drying, the *Hydrilla* is fine-ground, encapsulated, and bottled to prevent degradation or contamination.

PHYTOMAX BENEFITS

Alkaline food

- Hydrilla has a pH of 8.5 or higher, which makes it an alkaline food source to help offset the acidic pH generated during exercise.

Antioxidant power

- Hydrilla is an excellent source of superoxide dismutase (SOD), a very powerful antioxidant.

Outstanding source of chlorophyll

Chlorophyll benefits:

- Helps control hunger and cravings to assist in weight loss
- Helps control body odor
- Promotes healthy skin
- Helps cleanse the body by binding with environmental pollutants such as toxic metals and carcinogens—chlorophyll stimulates liver detoxifying enzymes
- Promotes the production of red blood cells
- Helps promote quality sleep—chlorophyll-rich foods such as Phytomax, spirulina and chlorella (both of which are in Hammer Vegan Protein), and leafy green vegetables are very helpful for obtaining quality sleep

Contains gamma linolenic acid (GLA)

- An essential fatty acid that helps alleviate aches and soreness

Good source of B vitamins

- Including vitamin B12, which is normally challenging for vegetarians/vegans to obtain

Good source of many minerals

- Including calcium, magnesium, and potassium

Loaded with beneficial complementary nutrients

- Including enzymes, phytosterols (good for healthy cholesterol levels), and numerous phytonutrients

SUMMARY

Though considered by many to be nothing more than a noxious weed, very few plants possess the nutrient/phytochemical density that Phytomax's Hydrilla verticillata does. A daily dose of 3-6 capsules will ensure you're getting enough of the vegetable nutrition that our modern-day diets rarely supply. Ask any Phytomax "junkie" (and there are lots of them!), and they'll tell you that this is a must-have, must-use supplement. Phytomax is ready to help support your athletic and health goals! **EN**

PHYTOMAX

Phytonutrient dense powerhouse



"PHYTOMAX IS A DAILY NECESSITY"

"I began using Phytomax on training days, felt great, and had plenty of energy on the bike. It has clearly helped my energy and alertness!" - Online Reviewer

- Superior phytonutrients
- Helps boost energy
- Strengthens immunity



90 Capsules **\$22.95**



Hammer athlete **Patrick McBride** ripping some forest trails on a training ride.

Photo: Amy J Reinert

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You ask, we answer

CLIENT QUESTION

Is there a product or combination of products that you recommend for supporting proper blood pressure regulation or helping to lower slightly high blood pressure?

ANSWER

Aside from adopting some “good for blood pressure” lifestyle changes such as

- Lowering daily calorie intake
- Reducing sodium intake while concurrently consuming sufficient amounts of dietary potassium
- Avoiding NSAID medications
- Dropping a few pounds
- Exercising regularly
- Managing stress

...and more, here are some Hammer Nutrition products that contain nutrients that are good for your heart and help lower elevated blood pressure.



RACE CAPS SUPREME

Our #1 supplement for cardiovascular health, as it contains Coenzyme Q₁₀ (CoQ₁₀). This profoundly beneficial nutrient is considered to be the most important “heart health” nutrient there is. Research shows that it has anti-hypertensive properties, which makes it very helpful for managing blood pressure. One reason CoQ₁₀ has such potent effects on blood pressure is its effect of increasing nitric oxide, thus improving

vasodilation. Another is its ability to protect nitric oxide from degradation due to free radicals. CoQ₁₀'s synthetic variant, idebenone, is also in Race Caps Supreme, and it too is suggested to play an important role in cardiovascular health.¹⁻⁴

SUGGESTED DOSE: 1-2 capsules in the morning; 1 capsule at lunch/early afternoon.



ESSENTIAL MG

Magnesium supports optimal blood pressure by improving the function of endothelial cells, which play important roles in maintaining many aspects of cardiovascular health. Magnesium also acts as a natural calcium channel blocker and vasodilator, both of which are involved in lowering elevated blood pressure. Research has shown that people with high blood pressure have lower intakes of magnesium than those with normal blood pressure. Studies have also shown that low magnesium intake is associated with a higher risk of developing heart disease and dying from that health condition. Research suggests that a daily intake of 500 - 1000 mg of magnesium lowers systolic (upper number) and diastolic (lower number) blood pressure levels.⁵⁻⁸

SUGGESTED DOSE: 2 capsules, 2-3 times daily is an excellent dose, with higher amounts of 3 capsules 3 times daily being acceptable.



ENDUOMEGA

Contains the omega-3 essential fatty acids EPA and DHA, which supply many benefits including helping to lower and normalize blood pressure. Studies showing fish oil's beneficial effects on blood pressure and cardiovascular health are so numerous that only a fraction can be mentioned here. One review of 36 different trials that used fish oil supplements to treat hypertension found that fish oil reduced both systolic and diastolic blood pressure.¹⁹ Another analysis of 70 randomized controlled trials found that fish oil supplements reduced both systolic and diastolic blood pressure.²⁰

SUGGESTED DOSE: 2 capsules 2-3 times daily.



CLEAR DAY

Though many consider Clear Day to be an allergy relief supplement—and it is indeed excellent for that—there are nutrients in the product that have beneficial effects on blood pressure and cardiovascular health. The olive leaf extract in Clear Day is outstanding for many areas of human health, including lowering blood pressure. Olive leaf extract contains compounds called secoiridoid glycosides, which inhibit angiotensin-converting enzyme (ACE). That halts the production of an enzyme known as angiotensin II—which narrows the blood vessels (causing the heart to work harder) and releases blood pressure-raising hormones. The veins and arteries relax, helping to lower blood pressure.⁹ Studies on rats showed that olive leaf extract effectively lowered blood pressure even after the rats were given chemicals that induced high blood pressure.¹⁰

Clear Day also contains a nutrient called quercetin, which alleviates allergies and reduces aches and soreness (the latter is why it's in Tissue Rejuvenator). Numerous studies show this particular plant flavonoid lowers blood pressure through multiple mechanisms, including functioning as an angiotensin receptor blocker (ARB).¹¹⁻¹⁷

Additionally, Clear Day contains Japanese knotweed extract, which is a source of the polyphenol known as resveratrol. A meta-analysis of six studies showed that 150 mg of resveratrol daily significantly reduced systolic blood pressure.¹⁸

SUGGESTED DOSE: 2 capsules twice daily will supply excellent amounts of all the nutrients in Clear Day, including 900 mg of olive leaf extract, 800 mg of quercetin, and 600 mg of Japanese knotweed extract (supplying 200 mg of resveratrol).

EN

References available upon request

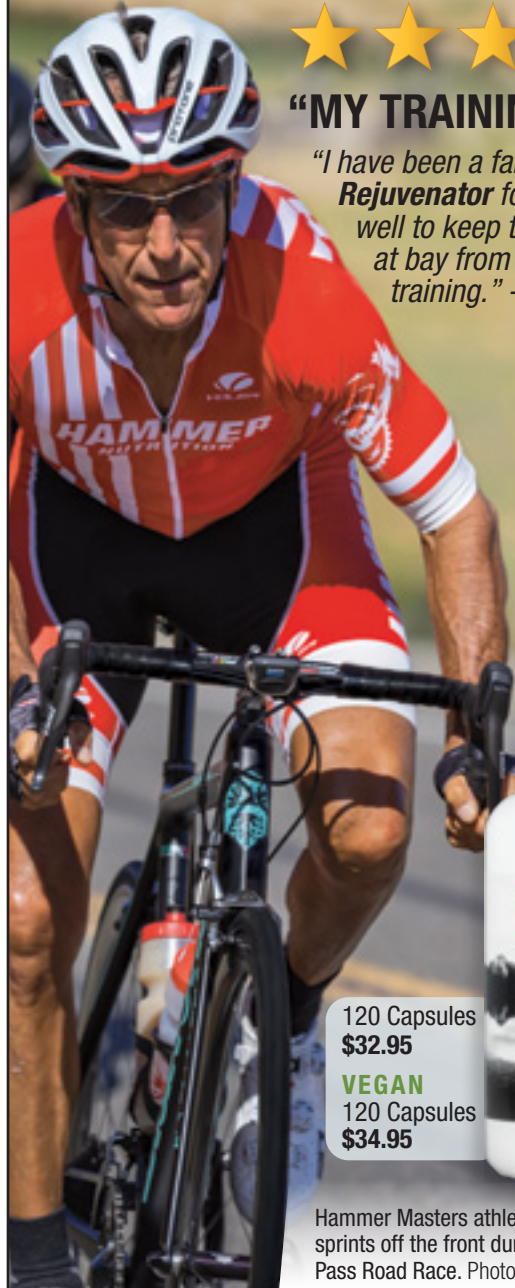
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Hammer Masters athlete **Matt Trethric** sprints off the front during the Patterson Pass Road Race. Photo: Katie Miu

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MITO CAPS

17+ Years Later and Still State of the Art

by STEVE BORN

It's hard to believe it has been nearly two decades since Hammer Nutrition introduced one of its most important products ever, one that benefits both athletes and non-athletes alike. Yet I still remember not only that launch date, but also the remarkable study that went into the formulation. To this day, with tons of incredible research pouring in on a regular basis, I still think that the research of Dr. Bruce Ames was some of the most eye-opening ever.

The end result of that research, as well as a ton of time spent on product design, led to an extraordinary supplement that we called Mito-R Caps, which stood for Mitochondrial Regeneration Caps. And while that was a pretty cool name, too many people were mistakenly

calling it Mitro Caps, Motor Caps, or something along those lines. As a result, we dropped the "R" from the name and simply called it Mito Caps, "Mito" being short for mitochondria.

Let's look at some key elements regarding mitochondria and mitochondria functioning:

1. Mitochondria are the energy-producing sub-cellular structures, the "furnaces" where food and oxygen are converted to energy—ATP.
2. Energy production creates free radicals, which damage mitochondria DNA.
3. Mitochondria function decreases and free radical production increases with age. It's kind of a "double whammy:" an ongoing, continual process that means damaged mitochondria DNA increases and accumulates with age.
4. The resulting decay in mitochondria functioning, along with increased production and accumulation of free radicals, has obvious negative effects on athletic performance: the body's ability to make energy decreases, yet the number of free radicals increases.
5. Even more importantly, mitochondria aging and decreased function result in poorer health even to the point of diseases such as heart disease and brain disease.

Dr. Ames and his associates were searching for plausible causes of age-related sicknesses and focused their efforts on the mitochondria. In a press release, Dr. Ames called mitochondria the "weak link in aging." He said,

*"Evidence has been piling up that deterioration of mitochondria is an important cause of aging."**

In a study of the mitochondria of rats, the researchers found that compared to the mitochondria of younger, 2- to 4-month-old rats, a sizeable percentage of the mitochondria of older, 24- to 28-month-old rats were oxidizing, decaying, and becoming dysfunctional. The researchers then fed the older rats two nutrients—acetyl-L-carnitine and alpha-lipoic acid—both of which are normally found in the body's cells, but whose levels diminish with age. After roughly a month's time, they re-examined the older rats' mitochondria, and the results took them by surprise.

Dr. Ames stated,

"Not only did the older rats do better on memory tests, but they also had more pep, and the energy-producing organelles in their cells worked better. With the two supplements together, these old rats got up and did the Macarena. The brain looks better, and they are full of energy—everything we looked at looks more like a young animal."

2003

Endurance News #39



More about this unique and hugely beneficial product can be found here:




One of the associates, Dr. Tory Hagen, added,

"We significantly reversed the decline in overall activity typical of aged rats to what you see in a middle-aged to young adult rat 7 to 10 months of age. This is equivalent to making a 75- to 80-year-old person act middle-aged. We've only shown short-term effects, but the results give us the rationale for looking at these things long term."

BOTTOM LINE

Ames' groundbreaking research showed that the combination of alpha-lipoic acid and acetyl L-carnitine "tuned up" the energy-producing organelles that power all cells, the mitochondria. These two chemical nutrients improved mitochondrial activity and thus cellular metabolism and increased levels of various chemicals known to decline with age, including ascorbic acid (vitamin C).

Mito Caps contain both acetyl L-carnitine and r-alpha lipoic acid (more bioavailable than "regular" lipoic acid) along with several complementary/supportive nutrients, all designed to improve the health and functioning of the mitochondria. Protecting it from deterioration optimizes both athletic performance and, more importantly, overall health. I have gone on record as saying that Mito Caps is arguably the most important product we produce and that everyone—athlete and non-athlete alike—will benefit from its daily use. If you're not on Mito Caps, you need to be! 

References available upon request

DAILY ESSENTIALS KIT

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- Improve immune function
- Accelerate recovery

Superior benefits for athletic performance and overall health

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Dion Finocchiaro sets the new Australian 50K track record at the 50K Lockdown Challenge! Fueled with Hammer, including Hammer Gel®, Race Caps Supreme, and Race Day Boost, his winning time was 2:50:49, with a pace of 3:24 min/km. Photo: Tim Bowman



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INTERMITTENT FASTING

PART 1 by DR BAYNE FRENCH MD DC

Fasting has occurred in numerous cultures and religions for thousands of years in a voluntary way. Muslims, Hindus, Buddhists, and Catholics fast routinely. Hippocrates and even Benjamin Franklin fasted regularly. It has also been practiced for millions of years in an involuntary way, AKA starvation. We as humans are perfectly suited to go without eating for long periods of time with a high level of function and the ability to fight, travel, build, and enjoy a little romance along the way

But for most people, missing a meal equates to a medical emergency. Charles Morse (Anthony Hopkins) said in *The Edge* “what one man can do another can do.” What one person can do in regards to fasting, either now or 100,000 years ago...another can do. It just might take some practice and adaptation.

But why would you want to? Because it’s trendy that’s why! Yep, there is a very hopeful trend

in how we view optimal human living, based largely on how our cellular machinery works. And I’ll guarantee you this...the Ancients did not eat breakfast, snack, lunch, snack, dinner, dessert, and then more snacks. In both obese individuals and those with optimal weight, I have seen a myriad of health benefits and reversal of numerous diseases simply by limiting carbs and going without eating for periods of time. It seems daunting but it is very doable, and several regimens may be tried and tailored for preference.

It is widely recommended that before embarking on a fast you consult your doctor. I do not disagree, but it is laughable advice! You will most likely be asking questions for which they have no useful answers. Most medical providers just don’t know much about fasting. (Or health, wellness, and sound human nutrition.) You might hear that fasting can result in “malnutrition”. Or here’s a



Ultrarunner **Steven Terry** does most of his training in a fasted state and uses strategic carbs from Hammer during high-intensity training loads and racing.

“This plan works for me and I do cycle carb periods in to take a break a few times a year. My events are also much longer and lower intensity so teaching my system to work in a fasted state works for my body and what I do.”

Photo: Let’s Wander Photography

good one, fasting will result in “muscle wasting.” We are physiologically perfectly suited for fasting and it is very safe. There are certain diseases that can make fasting dangerous, like Type II diabetes that requires insulin or other blood sugar lowering medications; these can cause hypoglycemia, and medical advice should be sought to reduce risk. **However, as with most things involving health and wellness, educate yourself and take command of what you want to do and why. Do not rely on anyone else when it comes to your health.**



WHAT IS INTERMITTENT FASTING?

Intermittent Fasting (IF) is the absence of eating: choosing to withhold food despite its availability. There is no standard duration or generally accepted superior method, though we'll cover several regimens later in this article. Basically, the entire idea is to withhold food to allow the obesity hormone insulin to suppress low enough, for long enough, that we start to burn our fat stores. *Time-restricted eating* is a term commonly used and is synonymous with IF.

In the last 10 years or so, IF has become mainstream. Dr. Michael Mosley's TV documentary and book *The Fast Diet* started the current popularization. *The 5:2 Diet* by Kate Harrison followed. Other authors and athletes started blogs and wrote books. Dr. Fung's *The Obesity Code* provides an outstanding

evidence-based summary resource on fasting.

We are perfectly designed to transition between a feeding state and a fasting state. You could spin a bottle and it would point to a problem with humanity (right now I am really fighting the urge to digress), but one major problem is that we simply vehemently avoid going without food. The need to regularly eat is deeply ingrained in our culture. And this faulty notion is widely propagated by stunted nutritional "experts" and advisory "authorities."

Unless somebody has already mastered LCHF (low-carb high-fat) eating, with every meal and snack the very potent anabolic hormone insulin is being spiked. This spike help converts blood sugar into our meager storage form of carbs, glycogen. When the liver becomes replete with glycogen, which is pretty easy to do, the rest of the blood sugar is converted to FAT in a process called lipogenesis. This fat is stored in the liver (Fatty

Liver Disease, a pandemic), and numerous other deposits in the body (Obesity, a pandemic). This process is reversed with fasting. Insulin levels plummet, glycogen is quickly used up and now hunting season is officially open on fat stores.

Consider the notion of the physiologic dial. It is either pointed to high insulin, fat storing, feeding state or to a low insulin, fat-burning, fasting state. Our survival-focused primitive brain that unfortunately is at the helm of our metabolism certainly wants the dial pointed to the former. If your goal is leanness, mobility, and disease prevention then getting that dial to point to the latter and remain there for extended periods of time is highly advisable. Thanks to our amazing survival hardwiring it won't go there on its own. We need to make it move by HOW and WHEN we eat.

Continued on next page

INTERMITTENT FASTING PART 1

by DR BAYNE FRENCH MD DC

Continued from previous page

Over the last 100 years, numerous studies of IF on animals have shown remarkable improvements in aging and life span. Initially thought to be primarily from reduced production of free radicals and weight loss, numerous other cellular phenomena are now known. In an excellent review article in the New England Journal of Medicine last year the authors state,

“Intermittent fasting elicits evolutionarily conserved adaptive cellular responses that are integrated between and within organs in a manner that improves glucose regulation, increases stress resistance, and suppresses inflammation.”

They continue:

“Periodic flipping of the metabolic switch not only provides the ketones that are necessary to fuel cells during the fasting period but also elicits highly orchestrated systemic and cellular responses for carry over into the fed state to bolster mental and physical performance as well as disease resistance.”

Dr. Yoshinori Ohsumi is a smart guy and I’m told a good fly fisherman. He was the recipient of the 2016 Nobel Peace Prize in Medicine for his discoveries of the mechanisms of *autophagy*. This concept of “self-eating” was first observed in the 1960s. Each cell in our body has the capability of destroying its own contents and recycling them. Dr. Ohsumi’s discoveries open



“Fasting seems daunting but it is very doable and several options and regimens may be tried and tailored for preference.”

the door for a new paradigm of understanding about how the cell responds to a host of physiological processes and stressors like starvation and infection, and how autophagic processes are involved in conditions like cancer and neurologic disease. As the New England Journal of Medicine review article describes, autophagy is greatly enhanced during IF. With fasting, our cells become more adept at cleaning themselves and recycling components.

In my last article about ketogenic eating, I described some health benefits of ketones. To review, ketones are not just

World Champion paddler and Hammer Athlete **Vic Allen** finds intermittent fasting effective for his early morning workouts, especially high-intensity training. However, Vic uses Hammer fuels during his events and **Recoverite®** to refill the tank afterwards. Photo: Annie Allen

“Remember that what works for me may not for you” - Vic

a fuel source but are potent signaling molecules. They regulate the activity of many proteins and molecules that are known to influence aging, health and disease. IF allows for fat burning (beta oxidation). When this occurs ketones are formed, which contribute significantly to the health benefits of tossing out the breakfast cereals.



INTERMITTENT FASTING BENEFITS

- Reduced inflammation
- Longevity
- Weight loss
- Improved insulin sensitivity
- Reduction in medication
- Improvement or even reversal of type II diabetes
- Enhancement of cellular signaling an activation of autophagy (cellular cleansing)
- Freedom and liberation from food dependency
- More time and productivity
- Saves money
- Generation of ketones

IF SUGGESTIONS

Strive to increase the amount of time spent in a fasting state. Many people find with a little bit of practice, breakfast can be routinely skipped and two delicious, nutrient-dense, low-carb high-fat meals per day can be eaten, and snacking basically eliminated.

No breakfast, a later lunch, and a larger dinner seems to maximize fasting's benefits for most people.

A great way to start is to first investigate LCHF eating. Then slowly move the first meal later in the day.

Many neurological and hormonal forces within the body all conspire to elevate insulin levels. Why? Because it's an anabolic, survival hormone, and our brains really, really want us to survive. Consumption of a LCHF diet has a powerful impact on insulin secretion, metabolism, and overall health. The addition of IF further accentuates these effects. Many authorities, including Dr. Fung, feel it is the most powerful modality to reduce insulin, thus allowing the burning of fat. And it's entirely within our control. Your control. EN

References available upon request

Part 2 of this article will appear in *Endurance News* #124. You can read the article in its entirety at hammernutrition.com.



Dr. Bayne French MD DC is Hammer Nutrition's medical advisor. Along with an MD from the University of Washington, Dr. French brings over 20 years of health experience, with a focus on wellness, to the Hammer team. Dr. French currently works at Glacier Medical Associates and is double board certified in Family Medicine and Obesity Medicine. Bayne picked up obstacle course racing in 2013. He won the Masters division of the Bigfork, MT Spartan Beast (2016) and the Monterey, CA Spartan Super (2016). He competed in the Spartan World Championship Ultra Beast in 2016 and earned a 2nd place finish in his division.

THE ENDOCANNABINOID SYSTEM

The Gut's Role in Brain Function and Mood Regulation

by STEVE BORN

We're all familiar with the immune system and the importance of maintaining its vitality so that we can enjoy optimal health. One system that is not as well known but is at least equal in importance is the endocannabinoid (pronounced: en-doh-kuh-NAB-in-oyd) system, or ECS. Found in humans and all other vertebrates (animals with a backbone and a skeleton), the ECS has been defined as a complex cell-signaling system whose main function is to “maintain bodily homeostasis—biological harmony in response to changes in the environment.”¹

Though the particulars involving the ECS are complex, it plays a crucially important role in our health and well-being because it regulates many key aspects of our biology and helps maintain the stability of our internal environment. Research has shown that the ECS is involved in “a wide variety of processes, including pain, memory, mood, appetite, stress, sleep, metabolism, immune function, and reproductive function.”^{2,3}

At this point, you may be asking, “I thought this article was going to be about brain function and mood regulation. What does the endocannabinoid system have to do with those?” The answer is a resounding “Plenty!” Keep reading.

The bacterial population in the gut, known as the gut microbiota, is the largest reservoir of bacteria in the body. An ever-growing body of research strongly suggests a link between the health of the gut and a number of health conditions, including those involving many aspects of brain health.

A recent study on mice has revealed that chronic stress causes an imbalance in the gut and damages the gut microbiota, leading to depression and depressive-like behaviors. The researchers found that the primary reason for this is a reduction in the number of cannabinoids produced by the body (endocannabinoids) in the hippocampus, a region of the brain involved in the formation of memories and emotions. As these cannabinoids are vital for maintaining many areas of brain health, including mood, an absence of them—courtesy of an imbalanced/damaged gut microbiota—was found to result in depression.⁴

The scientists also identified some bacterial species that are significantly reduced in animals with mood disorders. When they gave the depressed mice oral doses of strains of *Lactobacillus*—especially *L. plantarum* (found in *Digest Caps*)—it restored normal levels of endocannabinoids, thereby alleviating the depressive-like behaviors.

One of the researchers, Professor Gérard Eberl, states, “This discovery shows the role played

by the gut microbiota in normal brain function. If there is an imbalance in the gut bacterial community, some lipids that are vital for brain function disappear, encouraging the emergence of depressive-like behaviors. In this particular case, the use of specific bacteria could be a promising method for restoring a healthy microbiota and treating mood disorders more effectively.”

SUMMARY

This remarkable, eye-opening research reveals the connection between the gut and the brain and how maintaining a healthy “environment” in the gut is vital for many aspects of brain health. These include the all-important ECS, in particular the endocannabinoid receptors (e.g., Cannabinoid receptor type 1, or CB₁) that reside primarily in the brain.

There are a number of things we can do to maintain optimal gut health, including reducing stress, getting sufficient sleep, cutting out sugar/eating a healthy diet, staying sufficiently hydrated, taking a probiotic supplement such as **Digest Caps**, and more.

Regarding the ECS, it's important to know that both external and internal influences affect its performance and that your body often needs a little help. Supplementing with Hammer Nutrition's premium-quality CBD products will most definitely help in maintaining healthy ECS function. EN

References available upon request

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- Soothes soreness



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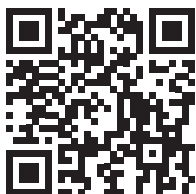
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Fueled with Hammer, **Mark Aldridge** makes running in spikes look effortless along the snowy trails of Utah. Photo: Keith Fearnow

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DEAN KEEPS HAMMERING



Photo: Corey Rich

by DEAN KARNAZES

Standing at the starting line, I felt bloated, my stomach overstretched. Perhaps it was to be expected. For dinner the night before, I'd eaten an outsized bowl of pasta. That could have been part of the problem. The other part quite possibly could have had to do with my breakfast earlier in the morning, which consisted of a bagel with cream cheese, a bowl of oatmeal with brown sugar, and a stack of pancakes smothered in maple syrup. I needed the carbs, or so I was told, in preparation for the nine-mile race I was about to run.

The gun went off, and the pack surged forward. Everything went reasonably well for the first few miles. And then, quite abruptly, my condition began to deteriorate. My legs suddenly felt heavy, and my mind was in a fog. What was going on? I'd trained diligently for the race so I knew that wasn't the cause. The only reasonable explanation, I thought, was my diet. I hadn't consumed enough sugar.

By mile six, I found myself reduced to shuffling, the spring in my legs all but sprung. At mile seven, I started walking. The final couple of miles were spent in a humiliating walk/run just trying to get to the finish line. Next time, I thought, I should put more brown sugar

in my oatmeal and more maple syrup on my pancakes. Such a rookie mistake I'd made.

This is what we endurance athletes were brainwashed to believe back then. Carbo loading was essential for peak performance so I continued down this path of pancakes and pasta.

Then, much to my delight, Gatorade started flooding the airwaves with their ads promoting the importance of carbs in an easy-to-consume beverage. In one 16 oz serving of Gatorade, I could get 34 grams of sugar. Perfect! I started swigging Gatorade by the case.

It's surprising that I was able to keep going as long as I did. Not knowing any better, I thought I was doing everything perfectly. In 2008, I signed up for the 4 Desert Challenge. The format of these races was multi-day, six stages, typically 250 km in total, across the hottest, driest, windiest, and coldest deserts in the world. Oh, and they're self-supported, so you must carry everything you need in a pack (you are allotted a daily ration of water, thankfully).

Armed with my canisters of powdered Gatorade, I took up the challenge. During the Sahara Race, a particularly grueling run across endless mountains of soft and shifting sand, I found myself falling to pieces during the fifth day of racing, the notorious "long

stage," which at this event was a hundred scorching, merciless kilometers. At the midpoint, I found myself in lockstep with another athlete, Ryan Sandes of South Africa. We decided to share some miles together; and, as we ran, it was clear he had a reserve of energy, where I was slowly unraveling. On top of bonking, the sugary and overly sweetened Gatorade was making me nauseous.

"Would you like to try some of this?" Ryan offered graciously.

"Sure," I said, having no idea what it was but knowing that nothing could be worse than what I was consuming. I unscrewed the cap from his flask and squeezed a swig in my mouth. Wow! It tasted different from anything I'd tried before. Slightly sweet, but not overpowering, and smooth and silky on the palate.

"What is this?" I asked him.

"It's called Perpetuem, by Hammer Nutrition."

That single slug of Perpetuem sustained me for an amazing duration. I was hooked.

I used **Perpetuem**® for the remaining races in the series and ended up winning the 4 Deserts Challenge. I also began to educate myself on proper fueling strategies rather than relying on glitzy TV commercials to tell me what to drink.

Turns out, not all carbs are created equal. Simple sugars, like those used in Gatorade and other so-called “sports drinks,” can do more harm than good. They can cause your blood sugar levels to spike, and the corresponding release of insulin can ultimately reduce the amount of energy available, resulting in a crash. Nothing like hitting the wall because of a sports drink that’s supposed to help you!

Hammer Nutrition products like **Perpetuem** and **HEED**[®] contain complex carbohydrates that are more slowly broken down and absorbed than simple sugars. This results in a longer lasting and more sustained release of energy.

Many of you reading this are wondering, “Why is Dean telling us this? It’s common

knowledge, sports nutrition 101.”

I only wish everyone had this information. I’ve probably talked to more runners than anyone on earth (with the humble exception of Bart Yasso). My job entails traveling from one race and running event to the next, meeting and talking to people, giving talks, and signing books. It still amazes me how many people are unaware of the perils of refined sugar (even those running ultramarathons!).

And this is precisely why I am so pleased to be joining the Hammer Nutrition family as an ambassador. Not only do I use and believe in Hammer Nutrition products, but I also want to help educate and inform fellow athletes about the importance of proper hydration and fueling strategies. Also,

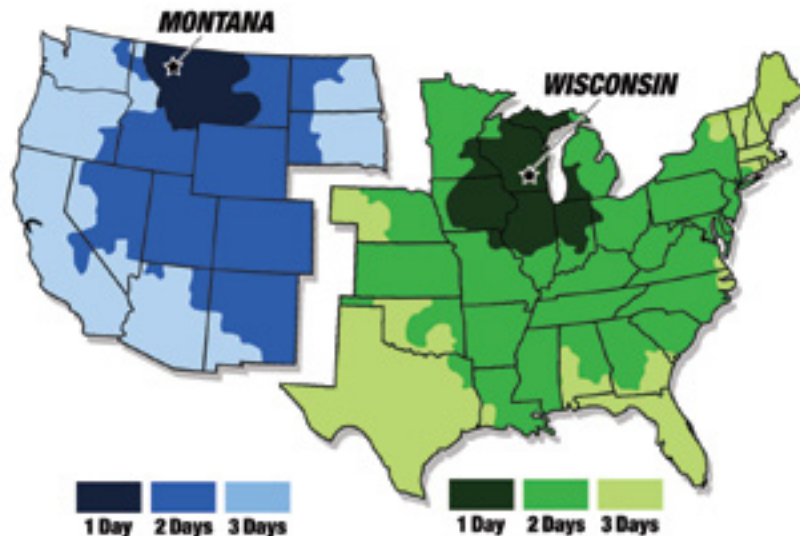
beyond fueling and hydration, Hammer Nutrition offers the highest quality supplements available to endurance athletes, and I always learn something about supplementation with each new issue of *Endurance News*. Hammer Nutrition truly is a single source destination in my quest toward becoming my best animal.

As we move into 2021, I’m looking forward to the future with promise and enthusiasm. We’re transitioning into a post-Covid-19 world, and the days ahead are looking brighter. There will undoubtedly be challenges yet to overcome, but Hammer Nutrition gives me the strength and endurance to keep hammering. **EN**

Yours in running and life,
Dean Karnazes

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SOS 5 SECRETS OF SUCCESS FOR ENDURANCE FUELING

#1 Pre-Exercise Fueling



Many an athlete has paid a hefty performance price for mistakes in the area of pre-exercise fueling. No more! In 34 years, we've yet to have one athlete tell us our pre-exercise fueling recommendations didn't work. Actually, we've heard nothing but glowing reports from athletes who are blown away by how much better they feel and how much more endurance they enjoy.

For higher-quality workouts and better race results, consistently apply these time-proven "Dos" and "Don'ts" right away!

1. DO finish all calorie consumption 3 hours before exercise begins

Weeks of consistent training and immediate post-workout refueling builds and maximizes your stores of muscle glycogen, the first fuel the body uses when exercise begins. Because your glycogen supply is limited, you'll want to use it very efficiently. Eating less than 3 hours prior to the start of exercise promotes faster depletion of muscle glycogen and inhibits fat utilization, both of which will negatively affect your performance.

2. DON'T sacrifice sleep to eat

Muscle glycogen levels remain intact—not one calorie has been depleted—even after a full night's sleep, so it's unnecessary to intentionally wake up early just to eat. Instead, if eating a pre-exercise meal 3 hours prior is not logistically feasible, consume a small amount of fuel

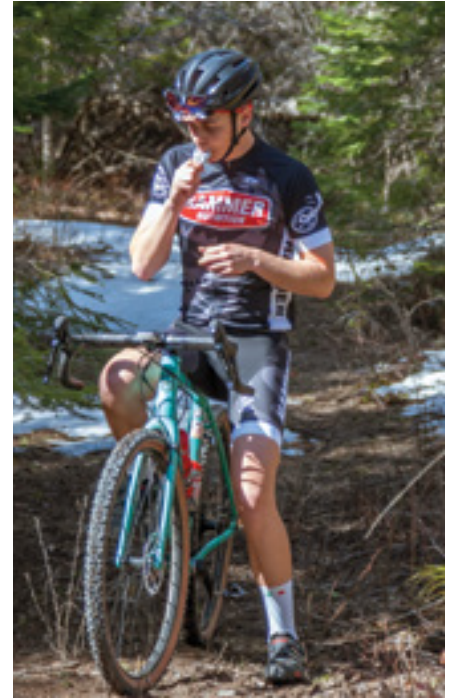
such as **Hammer Gel**® about 5 minutes prior to the start. By the time those calories are ingested, insulin is released, and blood sugar levels are elevated, you'll be well into your workout or race, and glycogen depletion rates won't be negatively affected.

3. DON'T overeat

The goal of the pre-exercise meal is to top off your liver glycogen, which has been depleted during your sleep. Accomplishing this doesn't require the consumption of a mega-calorie meal. No more than 300-400 calories is needed. You can't add anything to muscle glycogen stores at this time (you'll just be topping off liver glycogen stores), so stuffing yourself is counterproductive, especially if you've got an early morning workout or race.

4. DO avoid simple sugars, high fat, and high fiber

Give your body the right fuel, which means complex carbo-



Miles Frank pre-fueling his ride with Hammer Gel

hydrates and perhaps a small amount of protein. Simple sugars (sucrose, glucose, fructose) provide unwanted junk calories. Avoiding fat-laden and high-fiber food minimizes the potential for stomach distress and unscheduled bathroom breaks during your workout or race.

5. DO stay properly hydrated

Consume between 10-17 ounces of water (don't forget to include a serving of **Fully Charged!**) each hour prior to the start. Finish your fluid consumption about 20-30 minutes before you start to allow time for a quick bathroom break.

6. DO take your first dose of Endurolytes or Endurolytes Extreme 15-30 minutes prior

This will cover your first hour's requirements for electrolytes, allowing you to focus on getting into a nice smooth rhythm when you begin. EN

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Mitch DeYoung placed 3rd AG at the Fast Fitty Gravel race. He fueled on Caffé Latte Perpetuem®, Cola Endurolytes® Fizz, Anti-Fatigue Caps, Endurance BCAA+, Race Caps Supreme, Fully Charged, and Recoverite®. Photo: Jack Kunnen

FROM THE KITCHEN OF
LAURA LABELLE

New Beginnings

Well 2020 was a very challenging and crazy year for most of the world, one I think is better behind us—everyone having been affected in one way or another. I try to focus on the positive. I've used this time to concentrate on boosting my family's immune systems and self/family care by making sure we have the highest quality nutrition. Keeping healthy, taking our vitamins and supplements, and also taking time to cook and exercise for optimum immune support. What we eat remains an integral part of the equation. Cooking has been more fun during these times and something to look forward to, rather than just trying to “get done.” Looking through cookbooks for inspiration and sharing favorite recipes with family and friends has been a constant source of great entertainment and reward.

I prefer to make more comfort foods in the colder months like soups and stews, or even some healthier baked goods. *In the Kitchen with Hammer Nutrition* is packed full of such recipes for you to try and enjoy. In non-pandemic times, with our busy lives, we were lucky to have family dinners twice a month. In the last seven months, my family has enjoyed getting together for dinner four or five nights a week! I will always be grateful that we were able to carve out family time, and have these months of preparing and eating healthy cuisine. We have used this time as a huge reset in terms of diet and meal sharing. While many of us now work at home, eating at home instead of on-the-go is not as challenging as before and we can make healthier choices. We have also enjoyed exercising outdoors, hiking, biking, and fitness at home.

It's a new year and there is so much to look forward to with lots of delicious wholesome meals and interesting foods to make for

optimal health. I'm excited to feed my growing family to insure their immune systems are as strong as possible and we all feel our best. Yes, I said *growing* family as I became a mother in law and a grandmother all in one year! I gained a son who helped bring me a little angel grand baby, Maxime. I stayed with my daughter and her new family to cook for them. It was a really fun project to research the best foods for recovery and lactation support. It was also so wonderful to have the time to cook the most wholesome and nutritious foods for a mother recovering from birth and feeding a new human. Seeing my daughter and her baby so healthy and vibrant was very rewarding. Here are two of our favorite New Year's recipes that everyone will enjoy, whether you are looking for something quick and yummy, are recovering from a cold, or just boosting your immune system to give your body optimal ammunition for its best performance. These recipes are packed full of protein and nutrients, and they are fast and easy to prepare.

Enjoy and keep on Hammering!

EN



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

for various celebrities and for *Mix This* music studio. Laura is an accomplished open water swimmer and enjoys practicing yoga and sharing her cooking with family and friends.

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FROM THE KITCHEN OF **LAURA LABELLE**

Mochi Cakes

DRY INGREDIENTS

1 lb box mochiko flour (or another kind of rice flour) (about 3 cups)
1 ½ cups coconut sugar (you can choose your sugar type)
1 tsp baking powder
¼ tsp salt

WET INGREDIENTS

1 can (13 oz) coconut milk
1 can (13 oz) water
1 Tbsp vanilla
3 eggs
9 Tbsp melted butter or coconut oil

PREPARATION

Preheat oven to 400 degrees. In a bowl, mix dry ingredients. In another bowl, mix wet ingredients. Then mix both dry and wet ingredients together and pour into well-greased muffin pans. You can fill almost to the top as they don't rise much. Bake for about 40-50 minutes till golden. Remove from the oven and allow to cool for at least 20 minutes. Makes 24 mini cakes.

Seaweed Soup

This is a typical Korean recipe that I have made my own.

PRESOAK

1 cup dulse dry seaweed
1 ½ oz kombu seaweed

SAUTÉ

2 Tbsp sesame oil
1 onion chopped
6 cloves peeled garlic
1 lb ground wagyu beef

ADD

2 qt beef bone broth
1 cup chopped shiitake mushroom
3 Tbsp soy sauce
Salt

PREPARATION

Soak the seaweed in cold water according to package directions (about 5 to 10 minutes). Then drain and rinse thoroughly. Set aside.

In a large pot, sauté the onions, garlic, and beef in sesame oil. Add the additional ingredients. Simmer for 20 minutes. Then add the seaweed. I like to chop the kombu before adding it to the soup as it is long and difficult to eat whole. Simmer for an additional 20 minutes and then add salt to taste.



New Beginnings



○ Mochi Cakes



Seaweed Soup ○

PRESEASON TRAINING

Your quick guide optimizing performance and avoiding injury

by DR KIRSTIN LAURITZEN DC MS

As we all enter into preseason training excited for races after a rough year of rescheduling and cancellations, there are a few things we can prioritize to help get to competition day with healthy, injury-free, well fed bodies.

PRIORITY #1: STRENGTH TRAINING

For all athletes, strength training is vital for performance, healthy bones, muscles, and joints and plays a large role in injury prevention. For women specifically, lifting heavy weights helps promote bone health and stronger muscles, which translates to less osteoporosis after menopause.

PRIORITY #2: FOCUS ON FOODS THAT ARE NUTRIENT-DENSE

Foods like liver, grass-fed and finished beef, wild elk/deer, fresh caught/not farmed fish, and a wide variety of colorful plants support the foundational nutrients that each of your cells need in order to keep all of your tissues and joints

healthy. On the other hand, sugar, food dyes, food coloring, processed foods, and refined oils are pro-inflammatory and low in nutrients; they will have a negative downstream effect on overall health and performance.

PRIORITY #3: MANAGE YOUR STRESS

Training and exercise for athletes is often part of a daily or weekly routine, and will also help lower stress. Just be aware that your routine can also be a cause of stress if you aren't managing your nutrition properly.

In addition, psychological and emotional stress can increase your risk of injury, something to consider after a tough year. A study published in 2014 in the Military Medicine journal found that higher personal and occupational stress was associated with higher risks of injury.

As you head into your preseason this coming year, develop a daily stress management routine that

includes good quality sleep, deep breathing, daily meditation, and/or visualization.

Preseason training is a great time to prioritize strength training, a balanced and supportive nutrition routine, and stress management practices for a successful competition season. Keep Hammering! EN

Benjamin Lustgarten training in the mountains of New Zealand. Photo: Akeo Maifeld-Carucci



Dr. Kirstin Lauritzen DC MS is a Functional Medicine Practitioner in Portland, OR. She specializes in helping athletes overcome chronic illness, optimize their nutrition, and lower their risk of injury. She loves to educate athletes about nutrition and its

importance in training and life. She holds a Doctor of Chiropractic, a Master of Science in Human Nutrition and Functional Medicine, two Bachelor of Arts degrees (one in Psychology and Neuroscience and one in Spanish), and a Bachelor of Science in Human Biology. She is a triathlete and CrossFit athlete. She has also been Hammering since 2011 and is training for a full IRONMAN in St. George, Utah. **For more information, check out her website: gymcall.com.**

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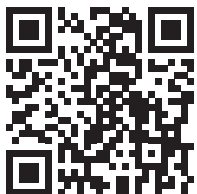
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Monique Jacques kept a steady pace with reliable energy and no crash throughout the Sycamore Island Run, placing 3rd in her age group. Photo: Juan Esparza Loera

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Carbo Loading? The Time Is Now!

by STEVE BORN

It's probably around the first part of February as you read this article, and with many of your key events not happening for several weeks to months (definitely months, here in Montana), you might be thinking, "Carbo loading? Now? Are you crazy?"

Hear me out, I have no doubt that, if applied consistently, you will experience noticeably higher quality in your training leading up to your events, as well as better performance in the events themselves. And you'll also be doing something equally if not more important: recovering optimally between workouts leading up to your races.

In my opinion, the right way—no, make that the only way—to truly "carbo load" is to do it g-r-a-d-u-a-l-l-y. Think of it this way: When you start your training season, you don't bust out with super long runs or rides, hill repeats, and high-intensity speed work from the get-go, do you? No, you do base miles and then gradually increase the duration and intensity of your training so that your body becomes accustomed to the stress you put on it, developing fitness as the weeks go by. Additionally, you don't wait until the week before an event to start training, do you? Of course not!

These examples can be applied to "carbo loading" as well, which is more appropriately defined as maximizing muscle glycogen stores.

MUSCLE GLYCOGEN? WHAT'S THAT?

When you begin a workout or event/race, the primary fuel your body uses for the first 60-90 minutes or so is known as muscle glycogen, a glucose polymer (complex carbohydrate) that contains tens of thousands of glucose units arranged in branched chains. As your stores of muscle glycogen become depleted, your body switches over to burning fat reserves along with carbohydrates and protein consumed during exercise. You've only got a finite amount of muscle glycogen, but its importance is hard to overstate. In fact, several studies have shown

that the pre-exercise muscle glycogen level is the most important energy determinant for exercise performance. Bottom line: If you want to have the best event/race possible, you want to start it with as much muscle glycogen "on board" as you possibly can.

MAXIMIZING GLYCOGEN STORES IS SO EASY

Here's all you need to do:

1. **Train intelligently and consistently.**
2. **"Refill the tank" with high-quality carbohydrates and protein ASAP after all your workouts.**

That's it! That's what "carbo loading" is all about. It is NOT what you eat (or how much) in the week before the event/race, and it is NOT what you eat (or how much) the night before the event/race. It is the REPLENISHMENT of carbohydrates and protein in the first 60 minutes (the sooner the better) after all your workouts in the weeks and months leading up to the event/race.

Recall what I said earlier about training—you don't try to gain all your fitness all at once, and you don't wait until the week before your event/race to go after the fitness you need. The same thing is true about maximizing muscle glycogen stores ("carbo loading"). It is a gradual process, that takes several weeks to happen, so it can never be achieved in the last week leading up to an event/race.

HOW IT ALL WORKS

Along with insulin, which regulates blood sugar levels of ingested carbohydrates, an enzyme known as glycogen synthase converts carbohydrates from food into glycogen and stores it in muscle cells. This also drives the muscle repair and rebuilding process. However, to maximize the recovery process, you need to take advantage of glycogen synthase when it's most active. Replenishing carbohydrates as soon as possible after exercise, when the body is most receptive to carbohydrate uptake, maximizes both glycogen synthesis and storage.

Intake of protein along with carbohydrates is also extremely important in the glycogen restoration process. Protein, of course, is required for muscle tissue repair and for supporting strong immune system function. And research has shown that “the addition of protein to [a] carbohydrate supplement increased the rate of glycogen storage by approximately 38% over the first 4 hours of recovery.”

The phrase “striking while the iron is hot” applies to many aspects of recovery, especially muscle glycogen synthesis and storage. That’s why, before you get out of your sweaty cycling kit, before you hit the shower, before you do your stretching, and before you get horizontal and take a nap, put some fuel back into your body. You will take advantage of the glycogen synthase enzyme when it’s most active and enjoy a HUGE advantage over those athletes who either blow off post-workout refueling or wait too long to “refill the tank.”

SUMMARY

Training causes physical stress and depletion. Recovery is when adaptation to that stress occurs; it involves improvements in muscle tissue rebuilding, glycogen storage, and immune system functioning. After a hard training session, your body is basically saying, “If there’s another workout like this tomorrow, I’d better be prepared.”

You can give yourself a major advantage in all your training sessions if you take the time to put some quality nutrition into your body as soon as possible after all your workouts.

A high-quality solid food meal or a high-quality carb + protein recovery drink such as Hammer Nutrition’s post-workout fuels **Recoverite** and **Organic Vegan Recoverite** (or **Hammer Whey Protein/Organic Vegan Protein** + a quality carbohydrate source) will help you “refill the tank,” effectively replenishing and maximizing muscle glycogen stores. That, in my opinion, is the true definition of “carbo loading,” and the time to begin the process is now. Your body will thank you, and the improvements in your workouts and events and races will be your proof. EN

Reference available upon request

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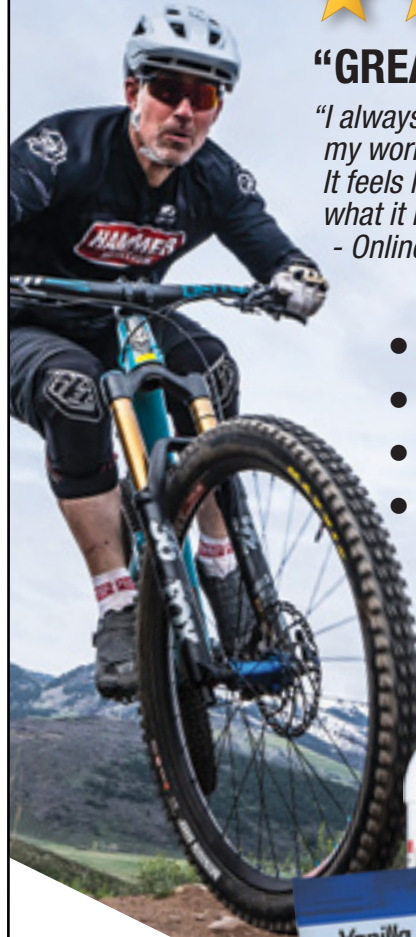


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Thorn Bickel serving up extra whip at Trailside Park, UT! Whether he’s training or competing, Thorn uses Hammer fuels and supplements to help him achieve peak performance. Photo: Ron Winsett



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Miles and Valentina warm up with 53x11 Coffee on their evening ride using our USA-made insulated travel mugs.

Drinking Coffee May Be Key to Longer Life

by STEVE BORN

As I was reviewing the many articles we've written regarding the benefits of coffee drinking, one from 2018—and the research behind it—stood out. After going through the research again, I felt strongly compelled to share this remarkable information once more.

In August of 2018, the findings of a major study were published in *JAMA Internal Medicine*, a prestigious peer-reviewed medical journal. "Association of Coffee Drinking with Mortality by Genetic Variation in Caffeine Metabolism" involved nearly a half million men and women in the United Kingdom's massive Biobank population-based study. **The results showed a strong association between coffee intake and longevity.**

Over a five year period, the study participants provided data on their diet and coffee consumption. Biological samples were analyzed to determine genetic variations that indicated how fast or slow caffeine was metabolized. Subjects were followed for an average of ten years. The re-

search concluded that, compared to non-coffee drinkers, even less than one cup of coffee daily was associated with a 6% reduction in premature mortality. That percentage increased with a higher intake of coffee:

- **1 cup was associated with an 8% lower risk**
- **2-5 cups were associated with a 12% lower risk**
- **6-7 cups were associated with a 16% lower risk**

Even as many as 8 or more cups daily had a lower risk (14%) of premature mortality. One very interesting fact the researchers found was that one's caffeine metabolism—a genetic trait—did not impact the health benefits of coffee. Additionally, the study showed benefits for regular and decaffeinated coffee alike, indicating that compounds other than caffeine may be responsible.

The lead author, Dr. Erika Loftfield of the U.S. National Cancer Institute, suggested that the mechanisms for coffee's positive influence on health and longevity include improvements in inflammation, liver enzyme

levels, insulin sensitivity, and cellular function. Dr. Loftfield concluded, "These results provide further evidence that coffee drinking can be part of a healthy diet and may provide reassurance to those who drink coffee and enjoy it."

This is not the first study to suggest a connection between coffee consumption and longevity. In a 2018 article in *Endurance News #81*, Neal D. Freedman, Ph.D., states, "Coffee is one of the most widely consumed beverages in America, but the association between coffee consumption and risk of death has been unclear. We found coffee consumption to be associated with lower risk of death overall, and of death from a number of different causes. Although we cannot infer a causal relationship between coffee drinking and lower risk of death, we believe these results do provide some reassurance that coffee drinking does not adversely affect health."

READ MORE

Endurance News #81



What we originally wrote in the *Endurance News #112* article is still completely accurate: "If you're a coffee drinker (and you're choosing coffee from good sources), you can rest assured that your morning ritual is indeed supporting your health and wellness." **EN**



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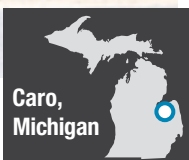
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Daniel Curry

1. How did you get into racing?

In 2013, I actually started with the idea to cross train for ATV racing. I quickly realized that this is what I wanted to do more! I started racing duathlons for four years as my main sport, with cycling and running as other races for some variety and the ability to focus on that specific discipline. In the last two years, I have transitioned into just cycling and ultrarunning primarily.

2. How did you hear about Hammer?

Hammer Nutrition has sponsored Tri to Finish events since I started racing. Bob Miller, fellow Hammer athlete, showed me the advantages of using more than just gels. And it has taken me to the next level!

3. Favorite Hammer Fuel?

HEED® for cycling for sure. Cherry Bomb is my new favorite. **Apple Cinnamon Hammer Gel®** for running.

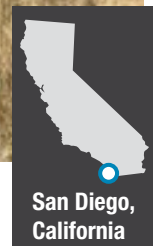
4. Favorite Hammer Supplement?

I really see the most benefit from **Anti Fatigue Caps**. I use this with **Endurolytes® Extreme** consistently in training and races.

5. What keeps you motivated?

Family and being outdoors! I love to see my wife and children looking up to me when I am training daily and being my cheering support at most of my races! And I never get enough of enjoying mother nature.

Daniel gets in a chilly but fast 50 miler from Munising to Grand Marais near Lake Superior. He fueled with Hammer Gel, Hammer Bars®, HEED, Endurolytes, and Recoverite®. Photo: Quinn Curry



Sarah Tomal

1. How did you get into racing?

It all started when a friend asked me to run a 5K back in 2012. I was not an “athlete,” mostly hated running, and sweating in general wasn’t my favorite. But I agreed to run, and I surprisingly enjoyed it. From that one 5K fun run, over time things snowballed into half marathons, marathons, OCR, and ultras. Invite others into your adventures, you may just change their life!

2. Favorite race venue and why?

It’s hard for me to pick just one favorite, but perhaps the most memorable was the Spartan Ultra WC course in Iceland back in 2018. Racing in the Icelandic wilderness in the middle of December, for 24 hours, in mostly darkness and new-to-me elements was an experience I’ll never forget!

3. I can’t leave for a race weekend without:

A pep talk from my running coach and my family and a positive, enthusiastic outlook! To me, mindset is every-thing in ultra.

4. Favorite Hammer Supplement?

I love **Endurance BCAA+**! It helps give me a boost during my long efforts (especially when I pair it with **Anti-Fatigue Caps**) and aids in my recovery so I can keep hammering!

5. What keeps you motivated?

The drive to be a better athlete—and a better person—than I was yesterday, and to help others see that they can do “impossible” things, too.

Sarah during a long training run on the Pacific Crest Trail focuses on effort control: 4 miles easy effort, 4 miles marathon effort, and 4 miles sub-marathon effort. Photo: John Tomal

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Fantastic kit for a great price!”*
- Online Reviewer

- American-made
- Exceptional quality
- New colors for 2021

Women's
Montana Sapphire

Men's / Unisex
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Cycling wear from **\$49.95**

Triathlon and Outerwear from **\$29.95**



Victor Sheldon, XC and MTB national champion, puts his new Hammer kit through the paces along the California coastline. Photo: Wildglass Photo

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CONTINUE TO STAY HEALTHY

by STEVE BORN

While most of us are wanting a lot of what made 2020 such a challenging year to go away forever, one of the most important lessons we can take away is the importance of taking care of our immune system.

As you focus on your upcoming season, we hope that you'll read/re-read all of the articles in our "Stay Healthy" blog series. "10 Tips to Stay Healthy Now and All Year Long" are arguably the most important, so here they are again.

STAY HEALTHY BLOG SERIES



1. Wash your hands with soap and hot water frequently.

This is the beginning of infection control. Thoroughly washing with soap and hot water greatly promotes the destruction of germs, which avoids transmitting them to yourself or others.

2. Eat a healthy diet, containing a variety of whole plant foods.

There are countless, health-benefiting compounds (phytonutrients) in whole fruits and vegetables and the best way to obtain maximum amounts is to "eat the rainbow": consume fruits and vegetables in a range of colors.

3. Supplement your diet with a variety of antioxidant nutrients.

Supporting strong immunity requires the intake of a wide range of free-radical neutralizing antioxidants. **Premium Insurance Caps, Race Caps Supreme, Mito Caps, Super Antioxidant,** and **AO Booster** should be daily "staples" in your supplement program.

4. Use Hammer Whey Protein regularly.

Whey protein is a rich source of glutathione, considered by many experts as the number one antioxidant of all. Additionally, whey protein contains immunoglobulins that help stimulate immune function.

5. Take a probiotic supplement (Digest Caps) daily.

The Greek physician, Hippocrates, once stated, "all disease begins in the gut." When the healthy bacteria in the digestive system are destroyed, it allows undesirable bacteria to flourish and compromise digestive function, nutrient absorption, and immunity. Taking a probiotic daily helps tip the scales in favor of the "good guys."

6. Protect and support your liver with LSA Caps.

The liver works hard enough as it is every single day to remove harmful toxins and bacteria in the blood. It has to work even harder when our immune system is being taxed. Among the multi-beneficial nutrients found in **LSA Caps** is NAC (n-acetyl cysteine), a superb precursor for bodily production of glutathione.

Hammer athlete **Mindy Przeor** takes in the view while running through the Grand Canyon. Photo: Kris Przeor

7. Take Clear Day every day, not just during allergy season.

Though known primarily for powerfully alleviating allergy symptoms, **Clear Day** contains four nutrients that many nutritional experts consider to be immune system “superstars.” Read more on pages 38-39 in *Endurance News #118*.

8. Making sure you're drinking sufficient amounts of pure, clean water.

Take your body weight in pounds and multiply by 0.5 to 0.6. This is the number of ounces of fluids you should drink every day, preferably pure, clean water.

9. Exercise regularly to reduce stress.

Exercise is one of the very best ways to boost immunity and reduce stress. Get outside whenever possible; the fresh air will do wonders for your mood. Vitamin D is also extremely important for your immune system and generously supplied by the sun. You can meet your vitamin D needs with **Premium Insurance Caps**, accompanied by a stand-alone vitamin D supplement.

If you do take a vitamin D supplement, make sure you're also taking magnesium, such as Hammer's **Essential Mg**. Magnesium is required to activate the enzymes involved in vitamin D metabolism, to realize its full potential.

Hammer CBD and **Essential Mg** are two Hammer Nutrition supplements that should also be in your daily regimen, to help address stress and counter its effects.

10. Get adequate amounts of sleep.

Hammer CBD and **REM Caps** are two outstanding products that will greatly assist you in improving sleep quality and duration.

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“BEST OMEGA 3 SUPPLEMENT EVER!”

“Many thanks once again to Hammer Nutrition for making another product that consistently rises above all else available!” - Online Reviewer

- Helps support vascular health
- Supports healthy joints
- Enhances brain activity



180 Softgels **\$29.95**

Matt Sommer crosses the finish line with energy to spare at the North Face Endurance Challenge. Photo: The North Face



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SUPPLEMENT PROTOCOL FOR YOUR BONES **PART ONE**

by STEVE BORN

Over the years, I have been saddened to receive emails from members of the Hammer family who have fractured/broken a bone (or bones), thus preventing them from training or competing, and sometimes preventing them from doing much of anything. These athletes/active people reached out to me because they wanted to do whatever they could to expedite their recovery and get back into action as soon as possible.

That's where this protocol comes in. Believe me, I've done a ton of research on this topic, mainly because I hate to see athletes out of action for any notable length of time. On a happier note, I have been blessed to receive emails from clients who faithfully followed this supplement program and wanted to let me know it worked "better than I ever imagined."

This supplement program will also benefit those of you who are trying to protect against osteoporosis or have been diagnosed with low bone density. As is always the case when discussing a medical condition, please consult with your health care professional before starting on a supplement program, especially if you're currently taking a prescription medication.

Part Two of this article will explore the scientific studies and research behind each of these supplements. Read Part Two in *Endurance News #124*.

Enough talk! Here's the protocol.

1. Essential Mg

All the nutrients vital for bone health, magnesium is arguably the most important one of all.

DOSAGE SUGGESTION: The government-set Recommended Daily Allowance (RDA) for magnesium is 420 mg a day for males and 320 mg a day for females. A more appropriate amount to aim for, however, is the Optimum Daily Intake (ODI) standard of 500-750 mg of magnesium.

2. Boron

Boron is vitally important for maintaining and improving bone health because of the role it plays in assisting with the bone-building effects of calcium, magnesium, phosphorus, and vitamin D.

DOSAGE SUGGESTION: 1 capsule, once or twice daily.

3. Selenium (found in Premium Insurance Caps and LSA Caps)

The roles that this trace mineral plays in bone health are complex, but it is believed that a portion of its importance comes via its antioxidant properties.

DOSAGE SUGGESTION: More is not better with selenium, so don't exceed 400 mcg on a daily basis. Some foods—mainly fish such as tuna and halibut—supply some selenium, while Brazil nuts are the richest source of this trace mineral (1 ounce contains 544 mcg). Four capsules of Premium Insurance Caps (57 mcg) and four capsules of LSA Caps (100 mcg) daily will supply you with an ideal amount of selenium.

4. EndurOmega

Research on the omega-3 fatty acids found in fish oil (EPA and DHA) shows that they have powerful anti-inflammatory and antioxidant effects.³ This makes fish oil an ideal candidate for inclusion in a bone-strengthening/anti-osteoporosis regimen, given the role of inflammation in osteoporosis.⁴

DOSAGE SUGGESTION: 2 softgels, 2 - 3 times per day with food.

5. Hammer Whey Protein and Organic Vegan Protein

Numerous studies document the acceleration of fracture healing with even a modest 10- to 20-gram increase in protein intake.

OTHER SUGGESTIONS

• Vitamin D

There is a wide range in the amount of vitamin D one needs to take daily to maintain optimal levels, but the general consensus is 2000 IU - 4000 IU daily.

• Vitamin K2

This is tremendously important for a number of areas in human health, including bone health.

• BioSil

A silicon supplement made by Natural Factors. I recommend using the liquid form instead of the encapsulated version, because I believe it works better. Note that the liquid form has a terrible taste, so mix the drops in a bit of juice.

EN References available upon request

ESSENTIAL MG

The undisputed wellness superstar



"I DEFINITELY WILL ALWAYS BUY ESSENTIAL MG"

"Wow! This is the most essential of all time! Essential Mg is surely the best source of magnesium. I'm sold for sure and won't go a day without it!" - Online Reviewer

- Helps relieve muscle tightness
- Supports blood glucose levels
- Assists in deeper sleep cycles

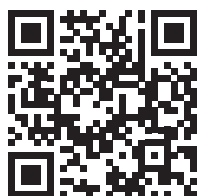


120 Capsules
\$19.95



Hammer staffer **Ginjer Yachechak** represents with an impressive 3rd place solo female at the last ever 24 Hours of Round and Round in Spokane, WA.
Photo: Miles Frank

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NO**HESITATION!****GET A FREE****CONSULTATION!**

by STEVE BORN

The time to call or email us for fueling advice is **BEFORE** your event, not afterwards!

In my latest blog, “Serving You for 33 Years and Counting!”

I wrote,

“If you need help with some technical questions, or fueling advice, you can talk directly with me via phone or email, and I will be pleased to spend as much time as it takes to address your questions. This is the main thing I’ve been doing at Hammer Nutrition for over 20 years, and it’s what I enjoy doing!”

The reason I bring this up is I receive far too many post-race fueling failure emails/calls from clients whose event was hampered or ruined (a DNF is no fun at all). Every time, I cringe and wonder why didn’t they reach out **BEFORE** their event!

Getting a free email or phone consultation is a good idea at any time, but especially so if you’re going to be doing something different or longer than your comfort zone or experience allows. This is what I do for

those wise enough to access this invaluable resource!

Prior to discovering Hammer, I made every mistake in the book when it came to fueling. Some of the mistakes were so disastrous that they nearly cost me my life. I offer my wealth of knowledge and experience freely, all you have to do is ask.

I want to see you succeed! So, if you have questions about your fueling/supplement program for your training sessions and events, shoot me an email at sborn@hammernutrition.com and let’s get things squared away. If you prefer to have your consultation via phone, just email me and we’ll schedule a call. Simple!

One of the things that sets Hammer Nutrition apart from the rest is our personal approach. There is always someone available to help you—all you have to do is ask.. Superior-quality products AND the support to help you achieve your best results. Remember, we’re here and we’re at your service! **EN**

**LIVE CHAT
WITH HAMMER,
SINCE 1987**

Long before there was the Internet and live chat on page, we offered live chat via analog phone systems. Back then, you could call in and speak directly with me or one of my staff. Oh, wait, you can still do that today! Now that we have the Internet and live chat, we do that too and we do it really well. Unlike most companies that use bots or outsource their web site live chat feature, we do it all in-house, just like everything else.

If you prefer to place your orders via our website instead of calling, but have questions from time to time, you can now instantly chat with a friendly, knowledgeable staff member at HQ in Montana, including Steve Born. Yes, Steve does live chat all day. Available



(above) Brian Frank catching up with legacy clients during our Family and Friends Sale.

(left) Steve Born giving expert advice over the phone to a Hammer client.



every single day during business hours, Hammer staff can quickly answer all your questions about ordering, fueling, and nutrition.

To begin, find the Live Chat bar at the bottom right corner of your browser window. This also works on your phone!

Real person, chat now



5 WAYS TO CONTACT HAMMER

There are 5 ways to get a Hammer consultation and they are all quick and easy:

- Call **800.336.1977**
- Email support@hammernutrition.com
- Live Chat at hammernutrition.com
- Message us on **Facebook**, **Instagram**, or **Twitter**
- Visit Hammer headquarters in **Whitefish, Montana**

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“THANKS HAMMER!”

“I definitely notice the difference and take them as part of a daily routine along with exercise to stay healthy.”

- Online Reviewer



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- **Boosts immunity**
- **Helps alleviate post-workout discomfort**
- **Benefits skin and eyes**

Riley Connell cycling down a favorite local route in Whitefish, MT.
Photo: Drew Silvers



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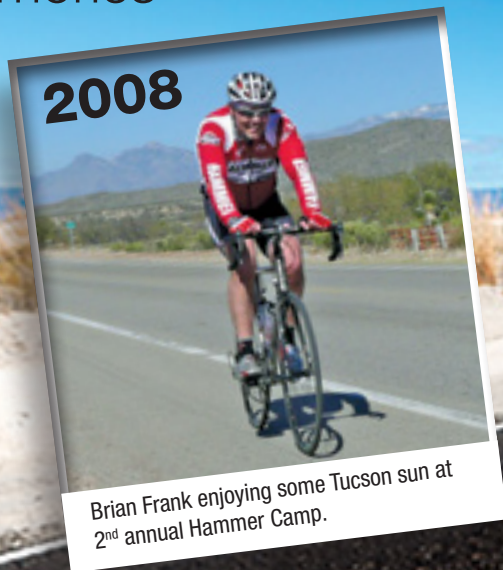


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LOOKING BACK

Hammer Memories

34
YEARS



Brian Frank enjoying some Tucson sun at 2nd annual Hammer Camp.



Hammer expert contributor Dean Karnazes makes light work of the trails during NFEC. Photo: The North Face



Another satisfied customer! Hammer fueling expert Steve Born, happy to advise a Hammer fan at Interbike Moab.



Kate Compton crosses the finish line victorious at Cross Nationals.

MITO CAPS

Still state of the art!

Nearly 17½ years ago, Hammer Nutrition introduced one of its most important products ever, one that benefits both athletes and non-athletes alike. **Mito Caps** was designed to address and improve the health and functioning of the mitochondria, for protection from deterioration. Read more about its benefits on **page 22**.



LOOKING AHEAD

Here's to 34 More!

2008

Amanda McIntosh hammers through deep snow trails in the warm spring sun. Photo courtesy of Amanda McIntosh

2013

Miles Frank starting an attack at the Sea Otter Classic.

2010

Hammer legend Ben Parsons celebrates a first place win at the Butte 100. RIP, we miss you!!

2005

Dean Miller, Dan Durland, and Scott Daub show off their winning hardware at the Leadville Silver Rush.



2007



2010



2016

1ST • KORINTHOSZ 160K2ND • ULTRABALATON TRAIL 109K1ST • SZÖLLÖSKÖR 100K2ND • NN ULTRABALATON 220K

ZOLTÁN CSÉCSEI

24HR Ultra-Running National Championship

Zoltán Csécsei (Zoli) did a great job at the 24-hour Ultra-Running National Championship, which was held in Balatonalmádi instead of Balatonfüred (due to the COVID-19 pandemic). The sportsman set a new national

record with 277,484 kilometers. On the track (with a level difference of four and a half meters per lap) his average pace was 5.11 minutes/km.

"The weather was pretty good, but I suffered a lot in the last four hours due to the non-running, paved track. The others told me that I am capable of doing 280 kilometers, and I also think that my body could have done it, but because of the hard track, I thought that the Hungarian record will be enough. I will have better results elsewhere."

This was his third race over 100 kilometers in October, following NN UltraBalaton (220 km) and Ultrabalaton Trail (109 km). With his fresh victory, he not only broke the Hungarian record (276,222) set earlier by Tamás Bódis in Albi, France, the Hungarian runner now leads this year's world rankings.

Zoli got his energy from Hammer Nutrition's **Perpetuem®**, **Hammer Gel®**, **Endurolytes® Extreme**, **Anti-Fatigue Caps**, and **Endurance BCAA+**.

Photos: Hammer Nutrition Hungary



DION FINOCCHIARO

Australian 50 km Track Record

Dion and three other runners set out to break the Australian 50 km track record at the Box Hill Athletic Club during the 50 km Lockdown Challenge. With Hammer's support, Dion set a new record of 2 hours, 50 minutes, 49 seconds. For pre-race and fueling, he used **Espresso** and **Huckleberry Hammer Gel**, **Race Day Boost**, and **Race Caps Supreme**.

"The running community around me is amazing. I'm so thankful for Hammer Nutrition Australia and everyone who was involved from the early days of the Lockdown 50 km through to the end result."

Photo: Tim Bowman



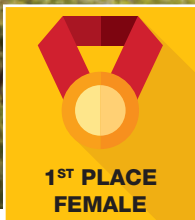
ROMAIN BERION

Vietnam Jungle and Mountain Marathons

Supported by Hammer Nutrition Vietnam, Romain Berion broke the Vietnam Jungle Marathon 70K course record and took second place at Vietnam Mountain Marathon 100K powered by Garmin. Fueling with Hammer Nutrition, Romain finished the race with a total time of 13:04:54, sharing second place with his compatriot Gaetan Morizur. They were both just 3 minutes behind the champ Quang Tran. Congratulations to Romain once again and thank you Hammer Nutrition Vietnam for supporting these trail runners!

Photo: Hammer Nutrition Vietnam

FROM OUR ATHLETES

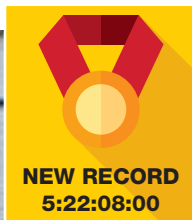


JESSI MORTON-LANGEHAUG

Moab 240

“What a phenomenal experience, I had the highest of highs and the lowest of lows at this race. I laughed, I smiled, I cried, and I pushed through so much pain with my feet. I had the most phenomenal team with me as well as such incredible support outside the race. When I finished I was amazed with all the messages and social media posts sending me energy. I was really low the last 6 miles so thank you! Huge shout out to Hammer Nutrition. I used **Recoverite®** and **Anti-Fatigue Caps** at all the major aid stations the second half and I couldn’t believe I could still run 10 min miles post-200. I had the best time, was truly keeping this my race and I can honestly say, I gave it everything I had. Thank you for everyone’s support.”

(Above) Jessi sets the pace on her way to place 1st female in the Bryce Canyon 100, one of her first races of the 2020 season. Photo: Vasily Samoylov



JOE MANN & PAUL COX

The Great Alabama 650 Paddling Race

“This ultra-distance paddling event is hot, humid, and grueling. We used **Hammer Gel®** (in the flasks), **HEED®**, **Fizz**, and **Endurolytes®** throughout the journey. It was the perfect IV drip of electrolytes and calories! Paul and I will try to defend our title and improve our record next year, but we’re very happy with the new course record we set—Thank you Hammer for the support on the AL650!” – Joe Mann

Photo: Evelyn Orenbuch



DYLAN FLORES

Last One Standing Ultra - St. George Utah

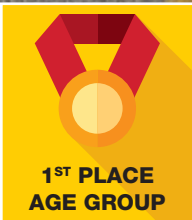


“26.2 miles! My first marathon was not easy. It was over 100°F and we ran at night. Brooklyn rode 18 miles in the kid race, Mom ran 18 and my dad ran 72 miles. The Last One Standing was an awesome race. Now I’m going to recover.” Photo: Tania Flores



JOEL KINNUNEN

TMC Veteran’s Day Half Marathon



“Once again Hammer Nutrition fuels and fueling protocols proved effective. I used my standard race day nutrition plan, finishing breakfast a good three hours before the race to ensure that my glycogen stores were topped off without fear of an insulin spike that would inhibit utilization of fat for fuel during the race. About 30 minutes prior to the race, I had a serving of **Fully Charged** to help rev the engine, and an **Endurolytes Extreme** capsule to prevent cramping. After my warm-up and about 5 minutes from the race start, I had a **Hammer Gel** with some water. With the COVID-19 rules in place, there would be few (unmanned) aid stations on the course, so I elected to carry two gel flasks with me. In each flask I put a serving of Hammer Gel and topped them off with water. The fueling plan worked great, as I had the energy to continually pass runners who were slowing down and moved from 10th to 5th overall over the course of the last few miles and finished 1st in my age group.” Photo: Everyone Runs



RYAN MORTENSEN

Cactus Cup - Single Speed Open



“Cactus Cup is always such a quality event! I had a long, hard battle with all the fast single speed guys. Stayed with **Strawberry HEED** during the event, and was definitely reaching for **Tissue Rejuvenator** and **Hammer CBD** after getting rattled around all day.”

Ryan during the Prescott 6'er Photo: Luke Mortensen



STEVE MCKENNA

1st Place - Hervey Bay 100K Triathlon

*"I gave myself 6 weeks, blank slate, to make some big changes leading into Hervey Bay 100 and they paid off! Hammer Nutrition Australia provided **Endurolytes**[®], **Hammer Gel**[®], and **Perpetuem**[®] for the long course win — no stomach issues, was able to keep it simple, and knew what I needed to do to keep pace out there."*

Photo: DSA Images



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- Supports immune function



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Training > 8-10hrs/wk

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The arctic elements of Portage Glacier, Alaska are no match for the adventurous determination of the Renaissance Cyclist team.

Photo: @renaissance.cyclist