ENDURANCE NEWS

BY HAMMER NUTRITION
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Supplementing is a Modern Day Necessity

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A Hammer Athlete's Success Story

Sugargate
Secrets of the Sugar Industry

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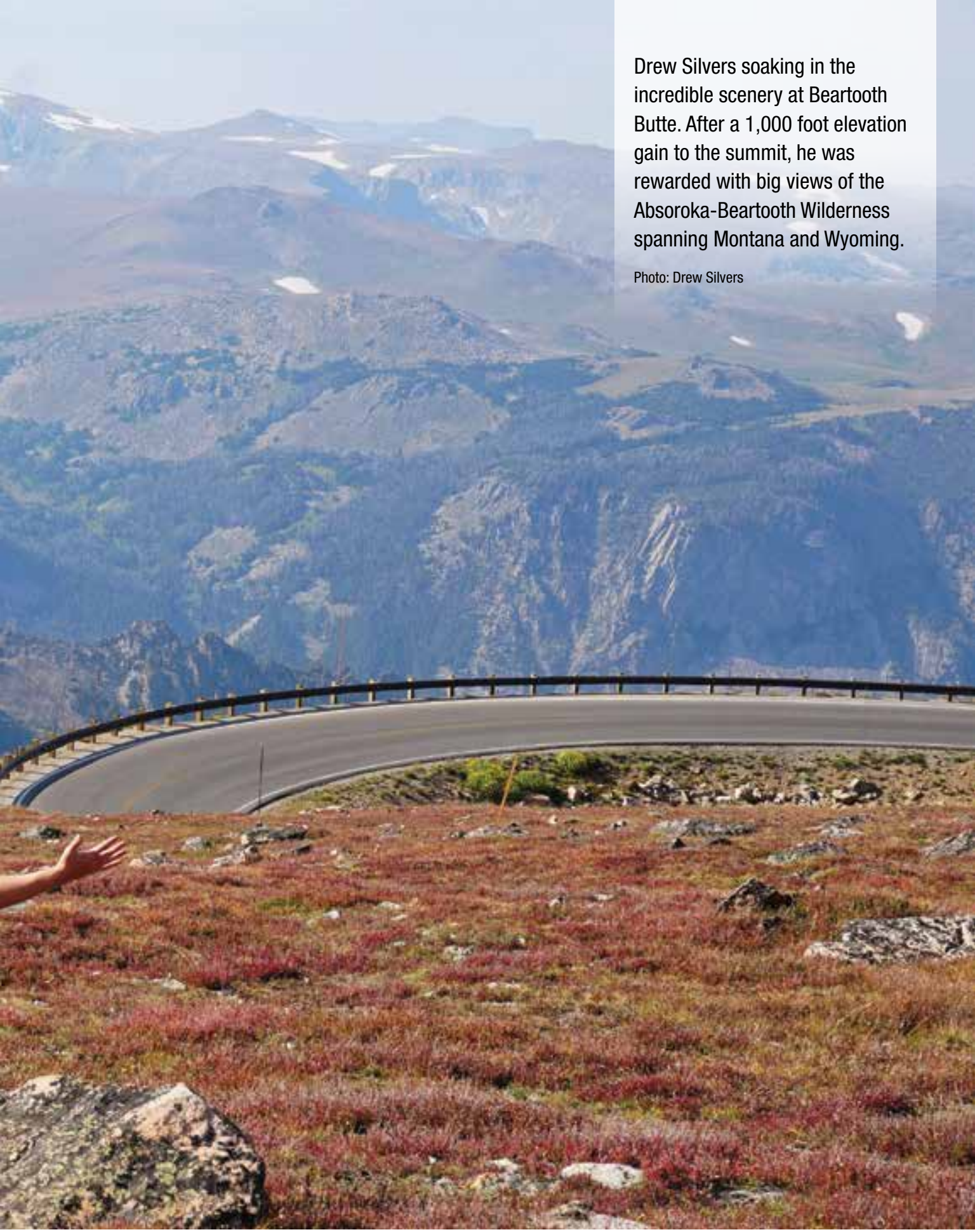
- **Innovation: EndurOmega**
- **Endurolytes Extreme Powder is Back!**

AND MORE!



Drew Silvers soaking in the incredible scenery at Beartooth Butte. After a 1,000 foot elevation gain to the summit, he was rewarded with big views of the Absoroka-Beartooth Wilderness spanning Montana and Wyoming.

Photo: Drew Silvers

Welcome to the 108th issue of Endurance News!

Happy New Year, albeit a month late! I hope 2018 brings you good health and sees you achieve new heights in your athletic performance. I am looking forward to this year with as much excitement as I did in year one.

If you did not completely nail your nutrition and fueling last year, make a point of letting us help you get there in this year. My growing staff and I will be here to help you every step of the way, that's for sure. We are just a phone call away.

2017 was a busy year at Hammer, celebrating our 30th anniversary, developing new products and reformulating existing products to keep you on the cutting edge of sports nutrition and fueling.

The fruits of that labor created our first new product for 2018—Endurolytes Extreme Powder. You can read all about it in this issue.

The new formula will be very appealing to those of you who prefer not to swallow capsules while exercising. You can add 1-2-3 scoops to your bottles as weather conditions and diet require.

As we enter our 31st year in business, and continue to innovate, refine and improve everything, some things will never change—most importantly, my commitment to serving ALL of your needs with the most effective, highest quality, all natural products backed by "Golden Rule" customer service and the information you need to succeed in your chosen sport.

As we have always done, in 2018 you can count on us to continue advocating a healthy diet rich in whole foods, supported by effective supplementation. We will also continue to promote severe moderation of sugar, wheat, dairy, artificial sweeteners, chemicals, additives and preservatives.

Lastly, the use of Hammer fuels, in keeping with this philosophy, will support your training, racing and recovery needs. When you combine all of these things with our proven "less is best" fueling protocols, health, vitality and race PR's are sure to follow!

Let's make it happen for you this year! Enjoy the read and recycle this issue by sharing it with a friend.

Brian Frank
Hammer Nutrition Owner

On the cover: Peak performance and optimal health both rely on clean eating and prudent supplementation. Do it right with Hammer Nutrition, and take it to go with the new Hammer Tote Bag featured on page 31. Fuel Right, Feel Great® in 2018!

ENDURANCE NEWS

The informed athlete's advantage since 1993

AN EXCLUSIVE PUBLICATION OF:

HAMMER NUTRITION®

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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, & individually. Your trust is our top priority.

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

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The **Health and Wellness** Issue

This issue is packed with articles that have the most current research-based diet and nutritional information that will help you reach your potential.

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Hammer Sponsored Athlete Rob Steger educates, inspires, and explores the world of endurance sports on his podcast. Photo: Rob Steger

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Manufacturers have until January 1, 2020-2021 to update their labels accordingly, calling out added sugar, but Hammer Nutrition is happy to do it now.

Starting Lines

Letters from Hammer Nutrition Athletes & Clients

Hammer athlete and elite cyclist Brad Tyra. Photo: Brad Tyra

"Please know I am so indebted to you for my success. Without you and the unwavering love of my sweet wonderful family, I would have gone through life always wondering to myself the horrible question of...what if? I will never stop using your amazing products, bragging about your impeccable customer service, or training and racing in the Hammer kit. Thank you for all you have done! Because of the love of my wife I dreamed it! Because of the support of you, I achieved it! Hammer On!!!!!!! **-Brad Tyra**"

Long-time fan

I started participating in endurance sports in 1994. I have been fortunate to use Hammer Nutrition exclusively for the past 10 years. Hammer Nutrition products are the best available. Hammer Nutrition is supported by science based studies and they always have representatives available for expert guidance.

-Romolo Forcino

Hammering through pain

Almost three years ago I had a dirtbike accident. Tore the quadricep right off of the knee. Destroyed my knee cap and had a long road of recovery ahead. After two surgeries and plenty of rehabilitation I found XC MTB racing. As the rides got longer and the intensity picked up the swelling in my knee was very extreme and some days I was having trouble bending my leg. Once I started using Tissue Rejuvenator the inflammation lessened big time and allowed me to push myself through my training rides. I'm thankful for this product as it allows me to compete at a high level doing something I love.

-Robert McCuen

Run Annie Run!

I am far from an elite athlete, but I am a healthy, happy one! I want to thank you for your great products... HEED is in my water bottle. A mix of Espresso Hammer Gel and Sustained Energy in my right pocket. Little bags with Mito Caps, Anti-Fatigue Caps, Endurolytes, and Race Caps Supreme in my jacket pocket. Perfect fuel to keep me smiling on the New York Marathon Course. (Miles of smiles!) And of course, Recoverite at the finish line! Thank you!

-Warmly, Annie Bierle

Will order again!

Ordered a sample pack of Hammer gels just to test out the product on my stomach. I needed to find a gel that works for a Spartan Beast. Not only do the gels work, they taste great. Furthermore Hammer sent me a wonderful new customer sample pack with 10 samples of their products. I will definitely be using Hammer Nutrition for more of my exercising needs!

-Megan Helsel

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@nordstrom.howie Big, big thanks to all the people who supported @charitywater through my fundraiser. #howihammer #swim #bike #run

@roadtoad60 Finishing the @pdxmarathon in the rain. Was a good day, thanks to @hammernutrition and #fitnessfanatics! #howihammer #hammertime #hammernutrition #marathon

@runderful_t The last mile. EQT 10 miler 2017 #howihammer #runderful #hammerfamily #hammernutrition

@raceeverystep Welcome to Bumble Bee, AZ. 11 people, 32 horses, 158 cattle and 2 jackasses. Great time running part of the Black Canyon Trail during the @aravaiparunning training run! #howihammer #running #trailrunning #optoutside #ultrarunning

@ryan_ingham_endurance Today's brick, 2 hours on the saddle followed with 1 hour on the hooves! #howihammer #howbaddoyouwantit #zerolimits #chaseadventure #mtb #optoutside #bikerun #riendurance

@rfreeman345 Can't say enough about our sons sponsor @hammernutrition prepping bags for an upcoming 2 day cycling camp! Thanks for the support as always and getting us the awesome products shipped quick! The best part is these products contain nothing but the best in nutrition. It will be nice to know we've got the SAG well covered! #howihammer #hammerfamily #hammernutrition #hammerrecoverite #hammerperpetuem #hammergels #hammerheed

Zandy Mangold wins the Atacama Crossing!

@run_n_shoot From worst to first! ... After four attempts, starting in 2012, ankle sprains, and a gnarly surgery, finally accomplished my goal of winning the Atacama Crossing. Nothing but pure joy and gratitude at the finish line. #howihammer #hokaoneone #recoverite #vivachile #chichichilelele #sameclothesallweek #atacamacrossing

Read the story on page 38

@stephen_armes Go ride #howihammer @hammernutrition

@montanataekwondofighter Other great Morning Striking Session with @thomasreed5575 and @wyjensen love how hard they work. Best way to start off 2018. With sweat and punches #howihammer

Keep the conversation going!

Use #howihammer for a chance to be featured on Hammer Nutrition's social media pages and right here in Endurance News!

Crushing Limits

BY ANDREYA GROZIK

In a few short years, Hammer Sponsored Athlete Rob Steger has become an ultra running expert. In six months alone, *The Training for Ultra Podcast* he created has taken off. Within just a few episodes, it became a ranked podcast on iTunes. He says it's designed to "educate, inspire, and explore the world of endurance sports. Right now, more specifically ultra-running." He has featured some of the most prestigious ultra runners, including Zach Bitter, Camille Herron, and Hammer Sponsored Athlete John Kelly.

Recently, Rob interviewed Hammer Nutrition's founder/owner, Brian Frank*. Brian discussed why he went into nutrition and started the company, and gave some background into the products. As a Hammer athlete, Rob enjoyed learning about the sourcing, production, and complexity of Hammer products. He now has a better understanding of them, and says, "I have even more respect knowing the history."

"Interesting" is the word Rob says he found himself repeating throughout the podcast. "I totally related to him, we hit it off," he says about Brian. "We have parallel food beliefs." Rob does not eat any grains or simple sugars, opting instead for nuts, healthy fats, and vegetables: "80% of my plate is made up of vegetables."

"I was drawn to Hammer Nutrition because it complements my diet. I never question it," Rob says. "I have faith in the product that it will get me back to my car." This is especially important when he's hours away from his car, running in the Denver mountains.

"Your nutrition is fundamental, and required for finishing any type of marathon." Rob says his nutrition choices help control inflammation and have benefited him in his sport. He adds, "Without Hammer Nutrition, I don't know if I'd be running right now."

Rob's first attempt at running gave him shin splints, and he could not exceed one mile. He went from eating whatever he wanted, to changing his lifestyle, very quickly. At age 30, he weighed 200 pounds and was about to be prescribed Lipitor® by his doctor. It was around that time he learned that his father had a 99% blockage in his heart, which Rob describes as "eye opening."

After this, Rob began juicing and lost 50 pounds. He says he gained so much energy and was then able to run for four miles without shin splints. He shifted his diet to Mediterranean and Paleo, and was soon increasing his mileage. "I promised myself that if I had the capacity of testing my limits, I'd do it," Rob says. He read many books on ultra running, and started training for ultras.

He then ran a marathon, a 50K, and a 50-miler—all within three months. After applying for and becoming a sponsored athlete for Hammer Nutrition, he says, "I thought Hammer was the only one believing in me. I haven't looked back from that moment." He has since ran two 100-milers and 12 ultra marathons. He says, "I lost the fear of distance. I feel like I can do anything."

Rob loves sharing his experiences with other people, and helping them to believe in themselves. He closes with, "You're capable of much more than you might realize. Don't be afraid of failure. Have perspective, limits are only a perception. "

** As this article is being written, there are currently 23 episodes. This podcast featuring Brian Frank will be episode 26.*

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The Balanced Diet Myth

BY ENDURANCE NEWS STAFF

The average American diet lacks important nutrients. Opponents of supplements will tell you that you can get all that your body needs from food alone. This is untrue for several reasons.

First of all, not all nutrients are available primarily from food. Take vitamin D for instance, which is mainly produced by the body during direct sun exposure to the skin. Second, the more altered and processed our foods become, and the more nutrient-depleted our soils they are grown in become, the less nutritious they are. Magnesium is a prime example of this. Lastly, it is unlikely that the average American is eating enough of a wide variety of organic produce, fresh fish, nuts, beans, and other whole foods.

Below are just a few examples of nutrients that you almost certainly are not getting enough of from your diet—and why. Chances are, you may be deficient in one or more of them, and your health could be compromised. EN

Vitamin D

How do you get it? Supplements, full sun exposure, and minimal amounts in very few foods.

Why do you need it? According to FDA, vitamin D is a nutrient that "Americans don't always get enough of, according to nationwide food consumption surveys (http://www.cdc.gov/nchs/nhanes/), and when lacking, [is] associated with increased risk of chronic disease. Vitamin D is important for its role in bone health." Vitamin D is so crucial, and so many people are deficient, that it will now be a required addition to the new food labels (see article on page 16, "What the New Food Label Means For You.")

How much do you need? The USDA recommends 400-800 IU daily, but several health and nutrition experts recommend 1,000-2,000 IU daily.

How many U.S. adults are deficient? Approximately 42-82%, depending on ethnicity.

Why you are probably deficient: Vitamin D is scarce in foods. The sun is not a reliable (or safe!) source.

Potential signs of deficiency: Fatigue/weakness, abnormal heart rhythms, hair loss, muscle spasms, eye twitches, frequent illness, chronic lower back pain, depression, excessive sweating of head/

Continued from previous page

forehead, achy bones/joints/muscles, slow wound healing.

Why deficiency can be dangerous: Low bone mass, bone loss, osteoporosis, increased risk for certain cancers, inflammation, mood disorders such as depression and SAD (seasonal affective disorder), hormone imbalances, weakened immune system, bone and muscle pain, increased risk of cognitive impairment (such as dementia or Alzheimer's) and even premature death.

How Hammer can help: Premium Insurance Caps provides 500 IU of vitamin D3.

Magnesium

How do you get it? Supplements, and certain foods such as nuts, leafy greens, kidney beans, black beans, lentils, oatmeal, avocado, pumpkin seeds, and whole grains.

Why do you need it? Magnesium is involved in over 300 processes in the body—vital to muscles, nerves, bones, organs, digestion, etc.

How much do you need? The DV (daily value) for magnesium is 400 mg for adults. However, the Optimal Daily Intake (ODI) standard is 500-750 mg of magnesium.

How many U.S. adults are deficient? Up to 80%.

Why you are probably deficient: Soil is often more depleted of minerals now than in the past. Stress and an unhealthy diet (caffeine, sugar, alcohol, processed foods) deplete magnesium. Fluoride and chlorine in drinking water do as well.

Potential signs of deficiency: Muscle cramps and/or tension, eye twitches, constipation, insomnia, nausea, fatigue/weakness, loss of appetite, migraines, difficulty concentrating, restless leg syndrome, PMS.

Why deficiency can be dangerous: It can contribute to heart disease, abnormal heart rhythms, hypertension, seizures, osteoporosis, type 2 diabetes, colon cancer, metabolic syndrome, atherosclerosis, hormone problems, anxiety, and depression.

How Hammer can help: Each capsule of Essential Mg provides 100 mg of 5 forms of highly bioavailable magnesium.

Omega-3

How do you get it? Supplements, vegetable oils, nuts, flax seeds, flaxseed oil, leafy vegetables, and fatty fish such as salmon, anchovies, mackerel, and sardines.

Why do you need it? Omega-3 is called an essential fatty acid (EFA) because it's just that… essential. It is essential to the heart, brain, bones, and more.

How much do you need? There is no set recommended daily allowance yet, but 250-500 mg of combined EPA and DHA is a commonly recommended minimum. According to Dr. Mercola, higher amounts have shown to be helpful for heart health (1,000-3,000 mg EPA and DHA daily), pain/inflammation/stiffness (300 mg of krill oil daily), depression and anxiety (200-2,500 mg daily), and memory decline (900 mg of DHA daily).

How many U.S. adults are deficient? 70% according to US Dietary Guidelines Advisory Committee in 2005, which is likely higher now.

Why you are probably deficient: The body cannot make omega-3's; it must get them from other sources. More than 90% of U.S. adults do not consume enough omega-3's from food sources. According to UC Berkeley, Americans average an intake of only about 100 mg a day.

Potential signs of deficiency: Dry hair and/or skin, acne, insomnia, menstrual and premenstrual symptoms, brittle/peeling/soft fingernails, low metabolism (such as weight gain, fatigue), joint tenderness/pain, frequent illness, eye problems.

Why deficiency can be dangerous: Heart problems, inflammation, mental/cognitive difficulties (such as learning disabilities, memory loss, and depression). According to a study by Harvard University and the CDC, researchers concluded that omega-3 deficiency causes 72,000-96,000 deaths in the U.S. every year.

How Hammer can help: EndurOmega provides 600 mg of omega-3 fatty acids—EPA and DHA.

Author's note: Unfortunately, getting all the necessary nutrients from food alone (a "balanced diet") is continually becoming more unrealistic. That's why taking high-quality supplements is so important. Keep your health practitioner informed about the supplements (and amounts) you are taking. Your nutrition and dietary habits are a substantial part of your wellness, and ideally your health practitioner will take an active role.

Evan Perperis going under Belly of the Beast at Conquer The Gauntlet Wichita.
Photo: Amy Perperis

Hammering Through It!

BY EVAN PERPERIS

Obstacle Course Racing (OCR) continues to be one of the fastest growing sports in the world. Seven years ago, the sport was still in its infancy without any world championships and lacking significant prize money. Now, the sport has received television coverage, significant prize purses, and an expanding line-up of event types. Events range from 1-mile races through 24-hour-long races.

I focus on races that are between 8 and 24 hours in length, which are usually run on a 5-mile loop with 20+ obstacles. At the end of 2016, I finished 8th in the world at the 24-hour-long World's Toughest Mudder. Over the next 365 days, I finished Top 10 at every 24-hour OCR in the world!

I have been using Hammer Nutrition products since 2014, they have been with me every step of the way. To perform at this level, you need great endurance and strength. Ultra-OCR presents a unique set of challenges including physical training, mental toughness, and nutrition that are crucial for success.

Physical Training: For runs less than 10 miles and morning workouts, I often just eat a normal breakfast and a cup of 53x11 coffee to get me going in the morning. During the second workout of the day, my motivation starts getting low. A scoop of Fully Charged and a caffeinated Espresso Gel puts me into high gear though, allowing me to push through another workout.

As always, hard workouts demand hard recovery. All that training is merely the stimulus, and the recovery part is what makes you a better athlete. These consolidation of gains occur immediately post workout with a scoop of Recoverite, followed by a meal within the hour. Though recovery doesn't end there. As the evening winds down, I like to use my Compex Electric Muscle Stimulator (EMS); the gentle pulsing of the muscles helps keep my legs fresh for the next day. Before bed, two REM Caps and a scoop of Hammer Whey ensure I sleep deeply and have the protein to rebuild muscles. This also prevents further breakdown of tissue while I sleep, so I can wake up the next morning ready to go.

Mental Toughness: Mental toughness is the separating factor between Did Not Finish (DNF) and crossing the finish line.

I find most of my mental toughness is built in three ways:

1. Setting a Goal and Sticking To It
2. Consistent Training
3. Accumulated Life Experiences

First, setting a goal and sticking to it can be challenging. Just like the repetition of running makes you a better runner, setting long-term goals and following through

Continued from previous page

with them makes you better at reaching your goals. Secondly, consistent training means you are working a little bit every day. The daily grind is often harder than just pushing your body on race day. I like to use mental reminders like copies of Endurance News Magazine at my desk, my finisher medals displayed on the wall, and a list of goals to keep me focused. Finally, life experiences come from years of doing different endurance events and overcoming daily challenges. In OCR, you hear people say things like: If I can get through this course, I can tackle any challenges in daily life. The same logic works in reverse. If you can get through bad break-ups, divorce, parenting issues, and everything else the world throws at you, you should be able to finish a simple race.

In 2017, I had a conversation with another Hammer Nutrition Sponsored Athlete, ultra-cyclist Karin S. Weller. While discussing our fueling for ultra-races, we both basically said the same thing, "As long as I continue to fuel, I feel like I can go forever. It may not be fast, but I don't hit the wall."

Race Nutrition: If you are an ultra-endurance athlete, taking Perpetuem is key. The fat and complex carbohydrate blend provides steady energy, while the protein prevents muscle breakdown. Perpetuem is hands down the best ultra-fuel that exists.

With all my ultra-OCRs, my fueling plan is generally the same. Fifteen minutes before the start, I take a Hammer Gel to top off glycogen stores. Then, at the conclusion of the first lap, I start my regular fueling strategy: During the lap, I will have 2-3 Hammer Gels, largely determined by when I am approaching a water point. At the end of each lap, I drink a bottle of water mixed with two scoops of Perpetuem, two Anti-Fatigue Caps, and 1-2 Endurolytes Extreme (weather dependent). Before starting again, I grab several new Hammer Gels and head back out on the course. The process repeats itself over and over again for the entire event.

My fueling strategy has worked for me and allowed me to be one of the most consistent athletes in Ultra-OCR: five Top 10 finishes, a 13th place and a 22nd place. In a sport with so many variables and more than 1200+ competitors, I am proud of my persistence and accomplishments.

As you set your sights on fitness goals this year, unlock your maximum potential. If your training goal is important enough, it doesn't need to wait for some magical day on the calendar. Fueling properly during training will leave you feeling great and ready to train again the next day. I think you will find that super-human performances no longer seem so hard with physical training, nutrition knowledge, and mental toughness. EN

Evan Perperis is a professional obstacle course racer for the Conquer The Gauntlet Pro Team, is a Hammer Nutrition Sponsored Athlete, and author of "Strength & Speed's Guide To Elite Obstacle Course Racing."

Evan Perperis at the Midwest Mayhem-Black Ops 24 Photo: Amy Perperis

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What the New Nutrition Label Means for You

BY ANDREYA GROZIK

The previous nutrition label is more than 20 years old, and nutrition research is constantly evolving. Hammer Nutrition, however, takes a consistent stance. FDA's decision to update nutrition labels is "based on updated scientific information, new nutrition and public health research, more recent dietary recommendations from expert groups, and input from the public."

The new labeling format makes it easy to limit your added sugar intake to 25 mg per day.

Servings: larger, bold type

Serving sizes updated

Calories: larger type

Updated daily values

NEW: Added sugars

Change in nutrients required

Actual amounts declared

New footnote

Nutrition Facts

24 Servings Per Container

Serving size	**1 Scoop (36g)**
Amount per serving	
Calories	**140**
	% Daily Value*
Total Fat 1.5g	**2%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 10mg	**0%**
Total Carbohydrate 11g	**4%**
Dietary Fiber 0g	**0%**
Total Sugars 0g	
Includes 0g Added Sugars	**0%**
Protein 20g	
Vitamin D 0mcg	0%
Calcium 0mg	0%
Iron 1mg	6%
Potassium 20mg	0%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Hammer HEED label shown above

How is the label changing?

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

What are "added sugars" exactly?

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

Why are added sugars bad?

Added sugars have no nutritional benefits, add empty calories, and are consumed in far too great a quantity by the average American. FDA says:

> The scientific evidence underlying the 2010 and the 2015-2020 Dietary Guidelines for Americans **support reducing caloric intake from added sugars**; and expert groups such as the American Heart Association, the American Academy of Pediatrics, the Institute of Medicine and the World Health Organization also **recommend decreasing intake of added sugars**.
>
> In addition, it is difficult to meet nutrient needs while staying within calorie requirements if you consume more than 10 percent of your total daily calories from added sugars. On average, **Americans get about 13 percent of their total calories from added sugars**, with the major sources being sugar-sweetened beverages (including soft drinks, fruit drinks, coffee and tea, sport and energy drinks, and alcoholic beverages) and snacks and sweets (including grain-based desserts, dairy desserts, candies, sugars, jams, syrups, and sweet toppings).

No added sugars since Day 1

Manufacturers have until January 1, 2020-2021 to update their labels accordingly, but Hammer Nutrition is happy to do it now. Our customers can already see the changes in place on our labels. For over 30 years, Hammer Nutrition has stood firm on sugar's detrimental effects to health. The updated label is recognition of the consequences of excess sugar. EN

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Sustained energy without the *crash*

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- TROPICAL**
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Single-Serving Packets	26 Serving Jug	12 or more	3 or more
$1.40 ea	**$19.95**	**$1.25 ea** Mix or match flavors	**$17.95 ea** Mix or match flavors

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"I've been using Hammer Gel for about 10 years. I've tried competitors products and they have never worked like Hammer Gel. It never upsets my stomach."

* *Ultra* Hammer Gels contain high quality nut protein and fats
** Contains caffeine

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Fueling strategy for Hammer athlete, Bruce Balch

Updated SOS

So many successful athletes turn to Hammer Nutrition for fueling and supplements, along with the educational materials we provide free of charge. If you are not familiar with S.O.S. 5 Secrets of Success, it is one of the resources we have created to help you maximize your athletic performance. In this issue of Endurance News, we will give you a sample of this informational guide, taken from section two: Calories Count.

The other sections are as follows: Pre-Exercise Fueling, Proper Hydration, Electrolyte Replenishment, and Recovery Done Right.

Updates to this version include a new overall sequence, sidebars with quick tips that are now easier to reference when on-the-go, and improved fueling information. We've included a tear-out back cover to help you plan your race strategy.

If you have an older version of our S.O.S. or have not yet received a guide, be sure to get your copy now to Fuel Right, Feel Great!®

SOS 5 Secrets of Success

SECRET #2

Calories Count

What and how much you consume during exercise can be the difference between crushing it, or being crushed.

Our fueling recommendations:

Consume 120-180 calories per hour.

Fuel with complex carbohydrates, such as maltodextrin, not simple sugars or a blend.

For exercise longer than two hours, your primary fuel should include protein in a ratio of about 8:1 carbs to protein.

Fast energy without the crash. The complex carbohydrate source in Hammer Nutrition's fuels is maltodextrin. This easily absorbable starch elevates blood sugar rapidly for the quick energy you need during exercise. However, unlike simple sugars, a complex molecular structure keeps blood sugar stable. While sugars spike insulin levels and then quickly drop them–leading to 'peaks and valleys' of energy–complex carbohydrates raise blood insulin just as effectively, but without the corresponding 'crash.' Your energy will be stable and reliable, hour after hour.

Avoid multiple carbohydrate sources during exercise. Some sports fuels contain a mix of simple sugars and carbohydrates. However, like simple sugar alone, these blends are only absorbable at either very low solutions, or exceedingly low heart rates (the equivalent of taking a brisk walk). If you want steady energy while pushing the pace, steer clear of simple sugars–regardless of what they're mixed with.

Must Read!

When it comes to endurance fueling, we wrote the book!

The most downloaded and read book on endurance fueling and strategy available!

Pre-exercise fueling? Calories? Hydration? Electrolytes? Recovery?

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

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HAMMER NUTRITION®

Find Your Balance

BY DR. KIRSTIN LAURITZEN, DC

When many people hear "diet," they think "limited." If you avoid foods that hurt and choose foods that heal, there is no limit to how much you can eat.

Why do we eat food? It may seem like a ridiculous question, but the purpose of food is to fuel and promote healthy functioning, not just to fill our stomachs and stop us from feeling hungry.

Are you getting what you need from the food you eat? Arguably not. Eating enough foods with the right nutrient balance is becoming increasingly more difficult.

What is a balanced diet? A balanced diet means you are getting a balance of macronutrients like protein, carbohydrates, fats, and micronutrients including vitamins and minerals.

The best sources of these essential nutrients are grass-fed wild meats, fish, organic fruits and vegetables, and some whole grains. Unfortunately, getting access to truly organic well-farmed fruits and vegetables as well as grass-fed meat is becoming difficult and expensive. Even further, many fruits and vegetables, due to soil depletion, have less nutrients than ones from 40 years ago.

A study published in the Journal of the American College of Nutrition comparing over 43 fruits and vegetables from 1950 to 1999 found a decline in protein, vitamin C, calcium, iron, B vitamins and phosphorous, to name a few. This means we have to eat even more of each fruit and vegetable in order to get the same amount of nutrients our body needs.

A great physiological example is the liver. In order for the liver to detoxify the blood from lactic acid, reactive oxygen species that occur from normal cellular metabolism, daily toxin exposure from the air, things we ingest and put on our skin etc., you need a wide variety of vitamins and minerals for the liver to function properly.

The liver detoxifies in 2 phases. Phase 1 needs a variety of B vitamins. The intermediate stage needs CoQ10, vitamins C, E, A and thiols (from garlic, onions, cruciferous vegetables like broccoli). Phase 2 needs a wide range of amino acids. If the diet does not supply the nutrition needed, then the body has to pull from other organs or deal without it.

In the United States, many diseases and illnesses are developing from malnutrition. Even though obesity is rampant, people are eating too much unhealthy food (sugar, refined carbohydrates, fried foods) that are causing damage all the way down to the cellular level and have no nutritional value, just empty calories.

Special populations, including athletes, require different amounts of protein, carbohydrates, fats, vitamins and minerals. Athletes tend to use up resources faster than others, and deficiencies are common. Because of this, it is important that they focus on eating a balanced diet of nutrient-dense foods (protein, fat and plants), and utilize proper supplementing with a good supplement regimen.

My recommended supplement regime would include: EndurOmega to boost daily omega-3 intake, Race Caps Supreme for CoQ10 and Mito Caps, which both support mitochondrial health and reduce mitochondrial damage, and Premium Insurance Caps for well-rounded support when the diet cannot fill in all the gaps. I also recommend Recoverite and Hammer's Whey Protein for additional protein and better recovery for my athletes. EN

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

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- Repair sore muscles
- Immune system support
- Grass fed, 100% isolate

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Hammer athlete Ryan Ingham training for the World's Toughest Mudder
Photo: Courtesy Ryan Ingham

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Sugargate

BY STEVE BORN

Nearly 50 years ago, the Sugar Research Foundation (SRF) funded an animal study, Project 259, to examine the effects of sucrose (table sugar) on cardiovascular health. However, according to recent findings from the University of California at San Francisco, when the evidence appeared to show a link between sucrose, heart disease and bladder cancer, Project 259 was cut short and the results were never published.

Fast forward a few decades. When a study published in 2016 showed that mice that were fed a high-sugar diet were more likely to develop breast cancer, a major sugar lobbying group, the Sugar Association, basically brushed off the results, calling them "sensationalized," stating that "no credible link between ingested sugars and cancer has been established."

Interestingly, and disturbingly, later in 2016 it was found that the Sugar Research Foundation (originally named the Sugar Association) paid off three Harvard scientists in 1967 to make sugar seem less unhealthy and instead claim that fat in our diets was the real villain. See hammernutrition.com/blog/sugar/ for more details.

While decades of research have shown sugar's detrimental effects on health, once again it appears that "Big Sugar" has been manipulating the science, even burying it, as in the case of Project 259. If sugar is innocent, why would the sugar industry suppress evidence or pay off scientists to produce a research paper whose sole purpose was to shift the blame away from sugar?

The fact is that sugar is NOT innocent, as we at Hammer Nutrition have been zealously proclaiming for 30+ years. Sugar IS harmful to your health. Did you know that over a decade ago, the estimated number of deaths worldwide that are specifically caused by elevated blood glucose was a staggering 3.2 million annually? With the sugar industry covering up and manipulating research that points the finger directly at its product—instead, protecting its commercial interests—how much higher must that estimate be today?

Stanton Glatz, co-author of this latest revelation of the sugar industry's shady side, states "The kind of manipulation of research is similar to what the tobacco industry does. This kind of behavior calls into question sugar industry-funded studies as a reliable source of information for public policy making. Our study contributes to a wider body of literature documenting industry manipulation of science."

If sugar is innocent, why would the sugar industry suppress evidence or pay off scientists to produce a research paper whose sole purpose was to shift the blame away from sugar?

Since day one, we have NEVER deviated from our recommendation to reduce or eliminate simple sugars in your diet and in the fuels you use to fuel your body during exercise. Sugar is NOT good for you and it DOES NOT promote optimal athletic performance and health. That's why, unlike many widely available sports energy products, Hammer Nutrition fuels—Hammer Gel, HEED, Perpetuem, Sustained Energy, and Recoverite—are comprised of only health complex carbohydrates with no added refined simple sugars. EN

Read more! Follow the story as it continues to unfold, on our website and other reputable media sources.

Hydrating Energy

full-spectrum electrolyte profile

- Reduces cramping
- Buffers lactic acid
- No sugar *crash*
- Promotes oral health

Hammer Sponsored Athlete Dusty Dustyn, Photo: Mark Shaw

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*"...I find **HEED** perfect for long endurance events. It's easy to digest, replenishes electrolytes and isn't too sweet."*

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Healthy and delicious, pumpkin soup is an easy meal to prepare.

FROM THE KITCHEN OF **LAURA LABELLE**

What's in Season

BY LAURA LABELLE

As I think about creative food choices, I am filled with wonder, especially when it comes time to decide what to make for dinner! Post holidays, I'm always a little on the "fuller side"—indulging in holiday libations and treats is so fun! I also enjoy the heavier starchy foods and proteins, as they are more filling during the winter months to help us combat the cold—not that it ever truly gets cold in California! So, when I go to the store, I like to look at what I can do to be creative with what fresh veggies are available this time of year.

Usually, the root veggies are plentiful, like carrots, parsnips, turnips, rutabaga and such. I also rely heavily on some of the big, hardy squash family—spaghetti squash, butternut, delecata, pumpkin, and kabocha. I love to just slice root veggies and roast them on a cookie sheet with whatever hearty herbs are lingering in my fridge, like rosemary, thyme, sage, or oregano. This time of year also brings a beautiful array of apples and pears. I like to use the fore mentioned veggies, fruits, and squashes in purees, soups, and for roasting, as well as salads.

Because my life, like so many people, is busy with family, work, and training, I am always a fan of cooking ahead—and then using what I have made over the next few days as a base. For example, I will roast a spaghetti squash, cut in half face down in water. I will serve half of it with pesto, or just olive oil and Himalayan salt to compliment my dinner. Then two days later, I will eat the other half with chopped chicken, arugula, and a Ponzu dressing, either hot or as a cold salad. Another example is a large butternut squash. I will use half, cubed and sautéed as a side dish with some butter, maple syrup, and roasted spiced nuts. The other half I will make into a soup, with coconut milk herbs.

Be sure to check out the new recipes on page 26 to add to your repertoire. Have fun and don't worry too much about what to make! EN

Some of our Hammer go to recipes this time of year are:

Any of our wonderful smoothies;
Apple Beet Salad (page 32)
Pear Endive Salad (page 43)
Pumpkin Soup (97)
Sweet Potato Soup (page 98)

Laura Labelle studied at *Ecole De Cordon Bleu* in Paris, and is an acclaimed California-based chef. She opened the popular *Cafe Luna,* was in-house chef for *Mix This* music studio, and operated her own catering company.

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Hammerite Victor Sheldon at Over the Hump, in Orange County.
Photo Credit: Robert Plumb

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- Enhances energy and endurance
- Increases workload capacity

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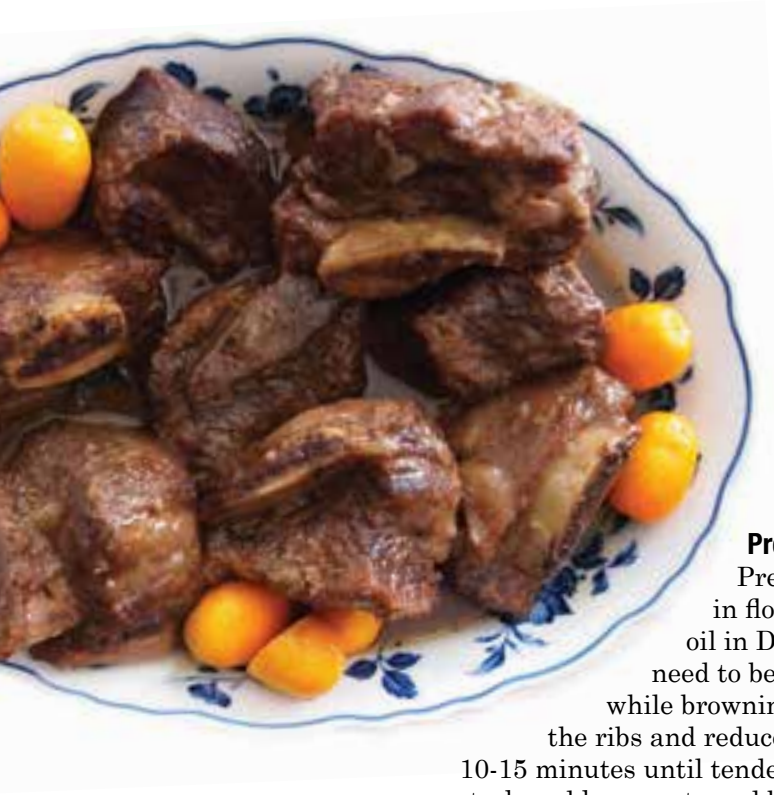


Kumquats are in season from November to March. Look for bright orange ones. The rind is sweeter than the fruit and there is no need to peel.

Braised Short Ribs with Kumquats

Ingredients:

10 short ribs, bone in (about 6 lbs.)
1/2 cup all purpose flour or gluten-free flour mix
1 tsp. salt
1 tsp. pepper
1 Tbs. herbes de Provence
3 Tbs. avocado oil
2 cups chopped onions
1 cup chopped carrots
1 cup chopped celery
1 tsp. salt
1 tsp. pepper
1½ cups brandy
5 cups broth (beef or vegetable)
1 pint of kumquats cut in half; peel on reserve some whole for serving

Preparation:

Preheat oven to 350 degrees. Take short ribs and roll in flour, then sprinkle with salt pepper and herbs. Heat oil in Dutch oven, then brown ribs on every side. This may need to be done in batches and you can put some on a plate while browning each piece about 3 minutes per side. Remove all the ribs and reduce the fire further, add veggies, and cook for about 10-15 minutes until tender. Add brandy and cook for a few minutes, then add stock and kumquats and bring to a boil. Return ribs, cover, and put in the oven for about 2.5 hours. When done, remove ribs and pour strained sauce into a saucepan (discard solids), on medium/low heat, reduce sauce to half, skimming off fat as it reduces. Serve with remaining unpeeled kumquats.

Tahini Dressing/Spread/Sauce

Ingredients:

1/3 cup tahini
1 garlic clove minced very finely into a paste
2 Tbs. fresh lemon juice (about a half lemon)
1 Tbs. olive oil
1/4 tsp. kosher salt
2 to 6 Tbs. lukewarm water
Pinch cumin, optional
Pinch cayenne, optional
1 Tbs. chopped fresh parsley, optional

Preparation:

Whisk tahini, garlic paste, lemon juice, olive oil and salt in a bowl until combined—the mixture will thicken.
Add water, one tablespoon at a time, whisking well after each addition until desired consistency. If you are making a spread, look for the consistency of peanut butter. If making a sauce, add water until it's the consistency of runny yogurt. Stir in the optional cumin, cayenne pepper, and parsley. Taste for seasoning and adjust.

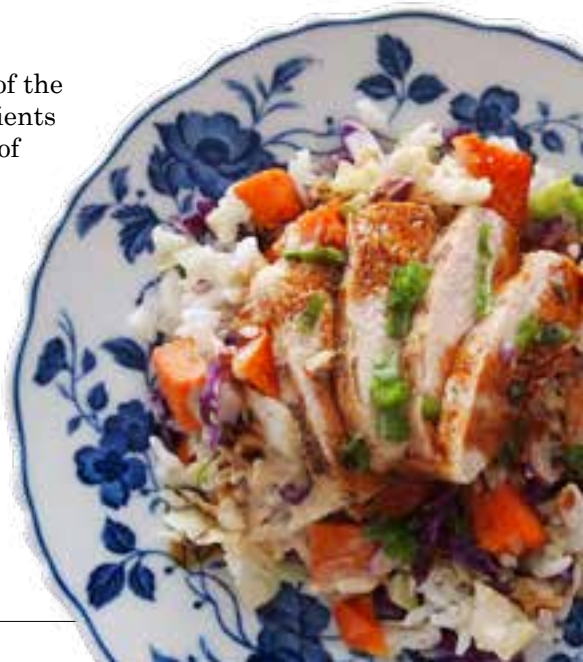
Easy Leftover Salad

Ingredients:

1 cup diced butternut squash, or sweet potato
1 cup wild rice or any rice
1 cup sliced grilled chicken, beef or shrimp
1 cup shredded green cabbage

Preparation:

Combine all of the above ingredients and add any of our delicious salad dressings to compliment your meal—or make this salad a meal of it's own.



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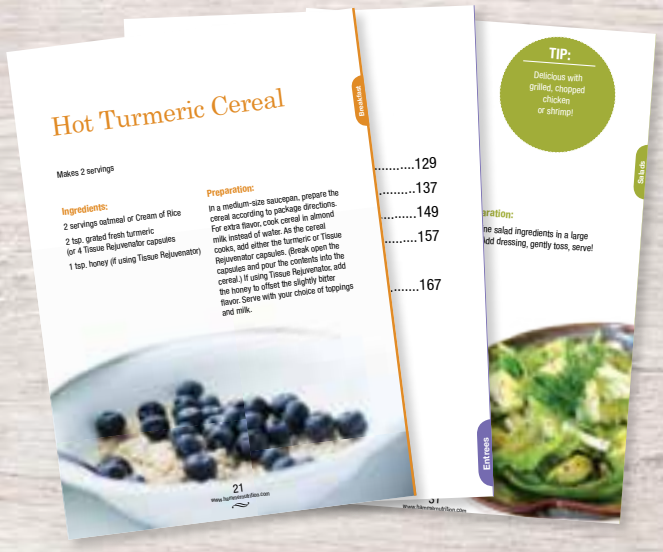
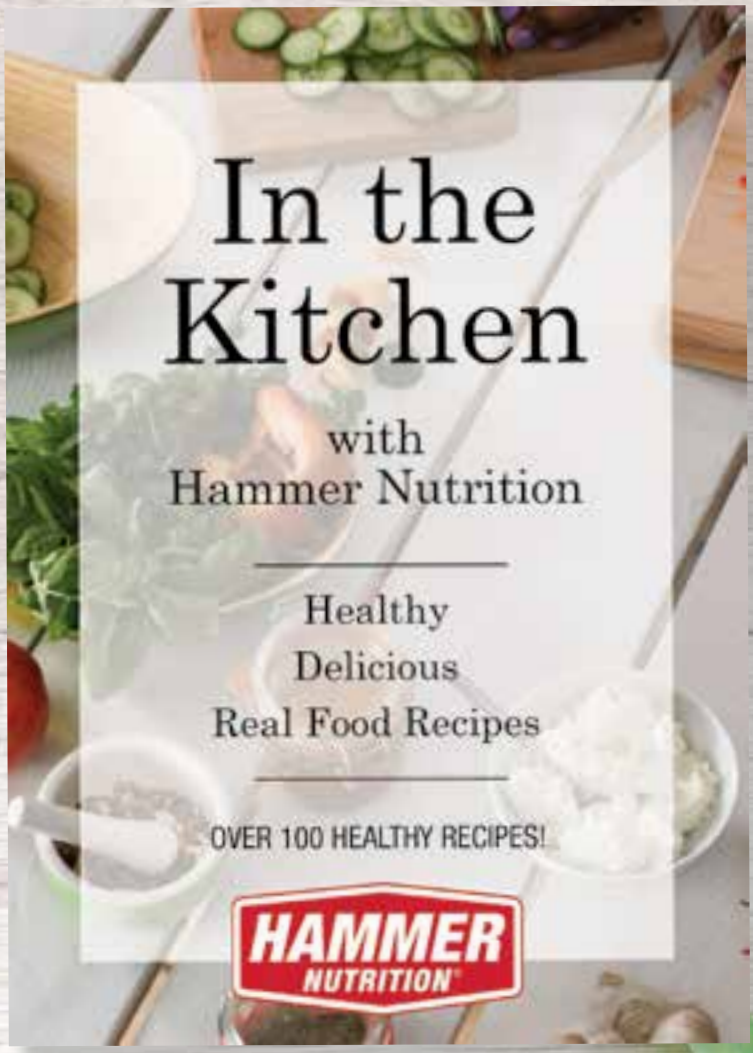
Your Guide to Healthy Delicious Meals

Free tool to improve your health and wellbeing





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NEW for 2018!

New Product Spotlight

Endurolytes Powder is back, new and improved! And, Endurance Amino has a new name.

BY ENDURANCE NEWS STAFF

Endurolytes® Extreme Powder

A new way to Hammer, cramp-free!

All the benefits of our best-selling Endurolytes Extreme capsules—in an easy-to-mix powder! This new formula dissolves quickly and completely, with a subtle, natural and pleasant watermelon flavor. Consume in water alone or add it to your liquid fuels according to your unique dosing needs. The mild flavor makes it easy to drink all day, while the lack of residue makes it perfect for hydration packs and bottles of any forms.

Endurolytes Extreme has three times the sodium and potassium, and a softer flavor profile, than Endurolytes Fizz®. It's the perfect solution for:

- Those who dislike consuming capsules
- Those whose electrolyte needs are high
- Those who use multi-hour bottles of fuel

Regardless of the conditions, duration, or intensity of your activities, Endurolytes Extreme Powder has you covered! EN

Endurance Amino is now "Endurance BCAA+"

Same great product, new name

One of the most researched and supported products on the planet, crucial branched-chain amino acids (BCAA's) help build and repair muscles, minimize lean muscle mass breakdown, increase energy levels, support the immune system, stabilize blood sugar levels, and so much more!

Equally well suited for strength or endurance exercise, Endurance BCAA+ is an economically competitive BCAA product in its own right—but where the competition stops, Endurance BCAA+ keeps going! The addition of L-alanine provides the body with an added energy source, as the liver can convert this amino acid into energy on demand. Glutathione, arguably the most important antioxidant there is, works to ensure that your exercise sessions never become a health liability. Take it before and after exercise of any duration, or hourly during prolonged sessions, for:

- Enhanced focus and stamina
- Reduced muscle soreness
- Faster gains from your workouts
- Less nagging hunger during the day EN

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- Supports optimum health
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Reformulated EndurOmega

Get the omega-3's you need

BY LOREN MASON-GERE

Omega-3's are essential. They fight inflammation, improve memory and mood, support cardiovascular health, speed recovery time, strengthen soft tissues–and so much more!

Getting reliable health news can be tricky. The revolving door of fad diets, sensationalized headlines, and opinions of "experts" can leave you feeling lost.

However, when it comes to omega-3 fatty acids (the healthy fats found primarily in fish) there is widespread consensus—we don't consume enough. For most people, eating sufficient fresh fish just isn't a practical solution; and even if it were, the contaminant levels in today's oceans can make it unwise to do so.

Despair not. With EndurOmega, you'll fill that gap with the safest, purest product available.

Omega-3's are essential. They fight inflammation, improve memory and mood, support cardiovascular health, speed recovery time, strengthen soft tissues—and so much more! It's no wonder that getting an adequate supply is so universally suggested, and that supplementation is the most common approach. However, the purity of the oil's source is crucial.

At Hammer Nutrition, we always use the purest sources available. When we found a way to make our product even cleaner, we upgraded it immediately. It contains the same level of high-potency omega-3's as before, but from an even better source. As before, it is molecularly distilled and deodorized, free from all fishy odor and taste, and easy to swallow. Always guaranteed pure and free of heavy-metal toxicity, the upgraded version is more thoroughly tested by third-party independent laboratories than anything we've come across.

The product is improved, but your cost remains the same. As always, we put your health and the purity of our product above all else. EN

New for 2018!

Take Hammer to the Market with our New Market Tote

18” x 13”, 100% natural cotton.

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Custom Hammer Tee

Stand out in the crowd with this one-of-a-kind tee shirt. The design was created by our very own resident musician, artist, and employee, Elliot Abbott. 100% fine jersey cotton from Canvas.

$14.95 Slim fit | S-XL MADE IN USA

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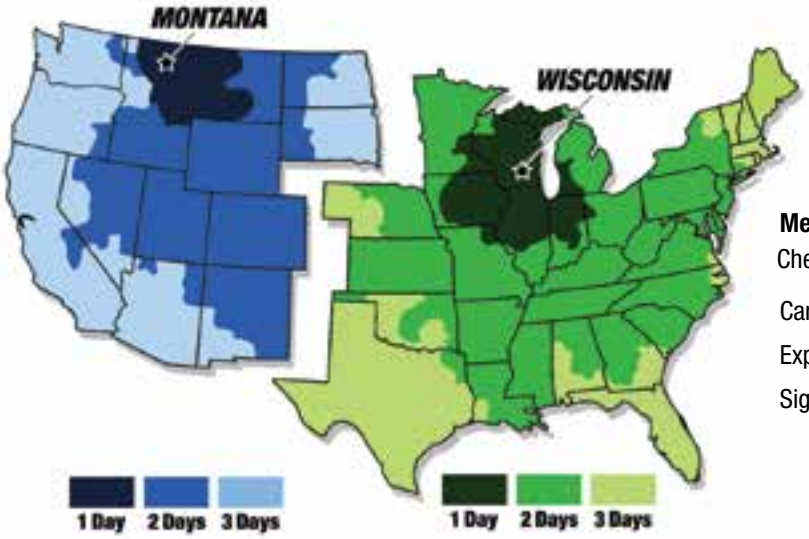

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ASK HAMMER NUTRITION

Answers to frequently asked questions about **Hammer Fuels**

BY ENDURANCE NEWS STAFF

? Hello Hammer! I order your Hammer Vegan Protein Powder and love it! I add a scoop of the powder, 2 cups of spinach, coconut milk, and ice, and it's delicious. The trouble is, my doc has told me that I'm having issues with my spleen and she wants me to try to stay away from cold foods—i.e. my daily morning shake! I'm so disappointed and wondering, is the protein powder still as effective if I add it to a warm drink (coffee, or something similar)? Or, does this breakdown the contents of the powder? Any suggestions would be greatly appreciated! Thank you!

Great question Alison! There is nothing in our vegan protein that would break down or spoil in warm liquid. I might try making the same smoothie without the ice and drinking at room temperature. Feel free to experiment. The only issue may be how it mixes in something hot like coffee. EN

? I hear a lot about the benefits from Human Growth Hormone (HGH), and that I can safely elevate my body's HGH levels while I'm sleeping. Is this true? And how?

Human Growth Hormone (HGH) is produced by the pituitary gland and it plays key roles in human health, especially in regard to in muscle tissue repair and growth, bone health, cardiovascular health, body composition, mood, and more. By improving sleep quality, cardiovascular health, muscle tissue repair, growth, and strength—along with improving collagen synthesis in muscle tissue and tendons—HGH is very much implicated with enhanced athletic performance.

Dr. Bill Misner writes:

> ***An operative hormone contributing to both performance and recovery from extreme endurance is Human Growth Hormone (HGH). The two highest levels may be measured during exercise and late night sleep. Growth Hormone (HGH) release is known to be associated with sleep onset, particularly with slow wave sleep in stages 3 and 4. When measured throughout the night, the most significant HGH came in the last three hours of the night.***
>
> ***Glutamine taken in a fasting state—2-3 hours no food before or after dose—has been observed to raise serum HGH 430% above sedentary values. During sleep, 85% of HGH is released, and the 6 grams of glutamine in each serving Hammer Whey Protein is adequate to cross blood brain barrier to help raise nocturnal release HGH.***

To safely raise HGH levels without risk to your endocrine system, try this: just before bed, take 1 scoop of Hammer Whey Protein in 4-6 ounces of water—not juice or milk as those carbs will hinder the process. This practice may safely raise HGH levels while you sleep by up to as much as 430% compared to the usual nightly spike. That's enough to have a noticeable effect on anabolic, muscle building/maintaining activity in the body, and that's a good thing. EN

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Easy, effective, complete recovery

Hammer athlete Albert Wimer relied on proper fueling to finish 2nd overall at the 24 Hours in the Old Pueblo. Photo: Laurel Darren-Simmons

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Race Report UTMR

BY JASON POOLE

The mountainous Swiss village Grächen has a fairy tale quality, especially if you see it at heights over 37,000' in a 105-mile race like I did. Imagine yourself smack dab in the middle of the Alps, dragging yourself up and down an ungodly amount of elevation change on tough, high, technical trails and you'll understand the rigor and thrill of running the Ultra Tour Monte Rosa (UTMR).

The course generally follows a long-distance trail that encircles the Monte Rosa Massif, the second highest peak in the Alps at 15,203'. Hikers generally take 9+ days, but I was out to complete the route in a single push.

I fueled how I had for years: Montana Huckleberry, Espresso, and Nocciola Hammer Gels; Cranberry Hammer Bars; Endurolytes; and Unflavored Perpetuem. I find that the unflavored version is a good balance against the sweetness of the gels and bars. I carried baggies full of Unflavored Perpetuem in my pack and used it every time I refilled my bottles. At the top of every hour, I consumed one Hammer Gel and two Endurolytes. Additionally, I ate about one-third of a Hammer Bar each hour. This combination has been rock-solid in the past and I had complete confidence in this fueling strategy for the Ultra Tour Monte Rosa.

At 4:00 a.m. on September 7, 2017, racers from 42 nations lined up at the start. We hustled out of Grächen in a thick fog and began ascending an unbelievably steep single-track trail. It was so steep in spots that you'd almost scrape your chin on the trail surface. We continued climbing until reaching a section of trail that wove its way through an extremely technical boulder field. There were many occasions on this opening segment where ropes and chains had been anchored into the cliff wall adjacent to the trail. These guidelines were welcomed, as the exposure level was high.

I reached CP1, Europahütte, in just under three hours. After a quick refill of my bottles with Hammer Nutrition Perpetuem, I was on my way. The route continued along winding single track, weaving in and out of beautiful forest, and through a series of tunnels bored into the mountain where rockslides were common. CP2, Täschalp, was in a tiny village nestled at about 7,000' elevation. A quick refill of my bottles and off I ran towards CP3 and the town of Zermatt. This was a very runnable section of the course and provided an opportunity to really run hard.

Approximately 23 miles into the race, I entered Zermatt. This is a postcard-perfect mountain village at the foot of the world-famous Matterhorn. The Matterhorn, a majestic rocky tooth that protrudes high above all other mountains around it, is known as the Jewel of the Swiss Alps. I crossed a large glacier and climbed to the Colle del Teodulo—10,810'—the highest point on the course and the border between Switzerland and Italy. I was keen to get to CP9, Alagna, a commune high in the Valsesia valley and a UNESCO world heritage site.

I resumed the race feeling physically strong, but was getting sleepy, occasionally weaving from side to side. Continuing the ascent, the trail transitioned into an ancient stone pathway that led to the Colle del Turlo. The descent off this pass was very rocky and

The Zermatt region is host to the iconic Matterhorn. Wherever you are along the route of the UTMR a view of stunning mountains will be all around you. Photo: Courtesy Jason Poole

Continued from previous page

delivered relentless punishment for already tender feet.

Running back into the village of Grächen brought a huge sense of accomplishment as people cheered and showered words of praise. I crossed the finish line in 15th place in a time of 39 hours, 22 minutes, 17 seconds.

From flowy single track, to boulder scrambling, to glacier traverse and more, the UTMR delivers a true mountain experience. Hammer Nutrition products were instrumental in getting me across that finish line. I had zero stomach issues and a consistent supply of energy for the entire event. Although tempted to eat aid station food at times, I knew from past experience that concentrating my caloric intake on Hammer Nutrition products would prove most beneficial. EN

Jason Poole at the statue of the Madonna, at the 9,800-foot Passo del Monte Moro on the border between Italy and Switzerland.
Photo: Courtesy Jason Poole

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Hammer athlete Jason Poole, "Time for a quick photo at CP4—Gandegghütte. 46.9km into the 170km race. Altitude 2,929m."
Photo: Courtesy Jason Poole

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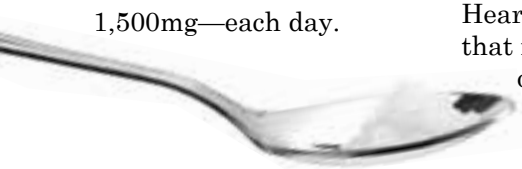
AID STATION

A roundup of nutritional news, tips and tidbits

Hypertension and Diet

By now, most of us know that a high-salt diet is bad for you. According to the Centers for Disease Control, 89% of Americans consume more than the recommended amount by the American Heart Association of sodium—1,500mg—each day.



1 teaspoon of salt equals 2,325 mg of sodium.

A study in the Journal of the American Medical Association shows that high salt intake is the main cause of diet-related deaths.

Under new blood pressure guidelines, the American Heart Association says that nearly half (46%) of the U.S. adult population has high blood pressure.

High blood pressure takes second place after smoking for causing preventable deaths from heart disease and stroke. Hypertension (high blood pressure) is called the "the silent killer" because so many people aren't even aware they have it—or the damage it's doing to their body. If you don't know your blood pressure numbers, today is the day to start getting your blood pressure readings, and make some important changes in your diet and health if needed. EN

Blood pressure categories in the *new guideline* are:

- **Normal:** Less than 120/80 mm Hg
- **Elevated:** Systolic between 120-129 and diastolic less than 80
- **Stage 1:** Systolic between 130-139 or diastolic between 80-89
- **Stage 2:** Systolic at least 140 or diastolic at least 90 mm Hg
- **Hypertensive crisis:** Systolic over 180 and/or diastolic over 120

Hammer Can Help

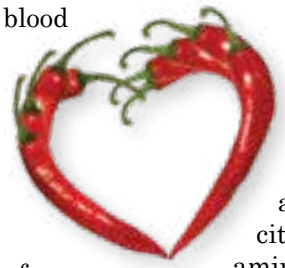
Studies show that these nutrients may help ***lower*** BP:

- **CoQ10:** Race Caps Supreme
- **Whey protein:** Whey Protein, Whey Protein Bar
- **Fish oil:** EndurOmega
- **Soy:** Soy Protein
- **Magnesium:** Essential Mg, Race Caps Supreme, Premium Insurance Caps
- **Potassium:** Race Caps Supreme, Premium Insurance Caps
- **Probiotics:** Digest Caps
- **Vitamin D:** Premium Insurance Caps

Spice Things Up

Cutting down on salt does not have to mean sacrificing flavor. Spices and herbs are a great way to add flavoring instead of unhealthy salt or sugar. Not to mention, some seasonings such as ginger, turmeric, and garlic have added health benefits.

A new study published in *Hypertension* showed that the capsaicin in chili peppers even helps to curb salt cravings. The lead study authors conclude: "Enjoyment of spicy foods may significantly reduce individual salt preference, daily salt intake, and blood pressure by modifying the neural processing of salty taste in the brain. Application of spicy flavor may be a promising behavioral intervention for reducing high salt intake and blood pressure." Consider adding low-sodium hot sauce, cayenne powder, chili flakes or powder, and jalapenos to more of your meals if you are having difficulties cutting down on salt.



Other healthy flavor enhancers besides herbs and spices include citrus zest, liquid aminos, nutritional yeast, vegetable broth, sautéed onions, lemon juice, flavored vinegars, salsa, and mustards. (Be sure to check the sodium and sugar content of any packaged food.) Try to taste and appreciate the spectrum of flavors found in foods, not just "salty" or "sweet." EN

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Hammer athlete David Tatum at Ironman World Championships.
Photo Credit: Jennifer Tatum

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Zandy hammering in Katonah, New York. Photo: Tom Casper

Zandy Mangold– From Worst to First

BY SAMANTHA STEVENS

The first time Zandy Mangold ran 155 miles, he needed two IVs, placed last, and referred to it as a "death march in Australia." Seven years and four Atacama Races later, he placed first in the Atacama Crossing Ultra-Running Race in Chile.

Like any success story, Zandy viewed his initial failure as an opportunity. Instead of wallowing in his rock bottom, he rose with dogged tenacity to learn, to improve, and to win. Indeed, the first thing he did after his Atacama bumble was he climbed Mount Everest.

"I learned so much from Hammer. Before my first race, I had crammed race nutrition into one condensed week. Over time, Hammer helped me fine tune my approach because I better understood my physical and mental limits."

After that first Atacama race ignited Zandy, he dove into Hammer products with zeal and started running marathons. "I knew if I could handle a week of hell, I could handle three hours of hell."

Zandy's Hammer staples are Nocciola Gels, Peanut Butter Chocolate Vegan Protein Bars, and Endurolytes Fizz. For the winning Atacama, Zandy liked to dissolve Grapefruit Endurolytes Fizz in his water the night before, sleep with the water bottle so it wasn't ice cold, and then pound it first thing in the morning.

Thirty minutes before races, Zandy mixes Fully Charged with his Endurolytes Fizz drink, and takes two Endurance Aminos and two Race Caps Supreme. When he dissolves Energy Surge under his tongue during his running, he reflects, "It feels like I'm cheating, it works so well!" During the race, he consumes Nocciola Gel consistently and a Sustained Energy two hours in. "I love Sustained Energy, so underrated in my opinion."

Zandy's Top 10:

1. Nocciola Hammer Gel
2. Vegan Protein Bars: Chocolate Peanut Butter
3. Endurolytes Fizz: Grapefruit and Lemon-Lime
4. Premium Insurance Caps
5. Race Caps Supreme
6. Tissue Rejuvenator
7. Mito Caps
8. Sustained Energy
9. Energy Surge
10. Chocolate Recoverite

Continued from previous page

His after race regimen starts with immediate Recoverite, Endurance Aminos, and Premium Insurance Caps. Later in the day, he takes EndurOmega capsules and Tissue Rejuvenator with a freeze-dried meal. He especially enjoys adding banana and almond butter to his Chocolate Recoverite.

Zandy was on the fence about entering the latest Atacama because he had chronic ankle sprains. But his girlfriend and Tissue Rejuvenator convinced his mind and body he was ready. "I ran Atacama four times, not just because it is an amazing experience but also because I never felt like I ran it to my potential until this year. The first race I was still learning, the second time I sprained my right ankle, the third time, I sprained my left ankle. But the fourth attempt, I was healthy, well-trained, and had nutrition dialed in and was simply able to compete right up to the edge of my maximum potential."

Outside of running, Zandy works as a prolific photographer. Indeed, it was covering races as a photographer that sparked his interest in ultra running. "I'm a method photographer and want to feel what the subject is going through. I was running the courses with my photography gear and I realized I was running 20K a day and faster than some people competing! I thought it would be fun to run the course myself. Never occurred to me before to run with a heavy backpack, seemed like a recipe for injury, but then I learned how to fuel."

Zandy's success story matches the gnarly terrain he runs. In staying the course and persisting amongst resistance, Zandy went from last place to first place. If that's not the epitome of hammering on, then nothing is! We're proud to sponsor an athlete of Zandy Mangold's caliber, rigor, and diligence. EN

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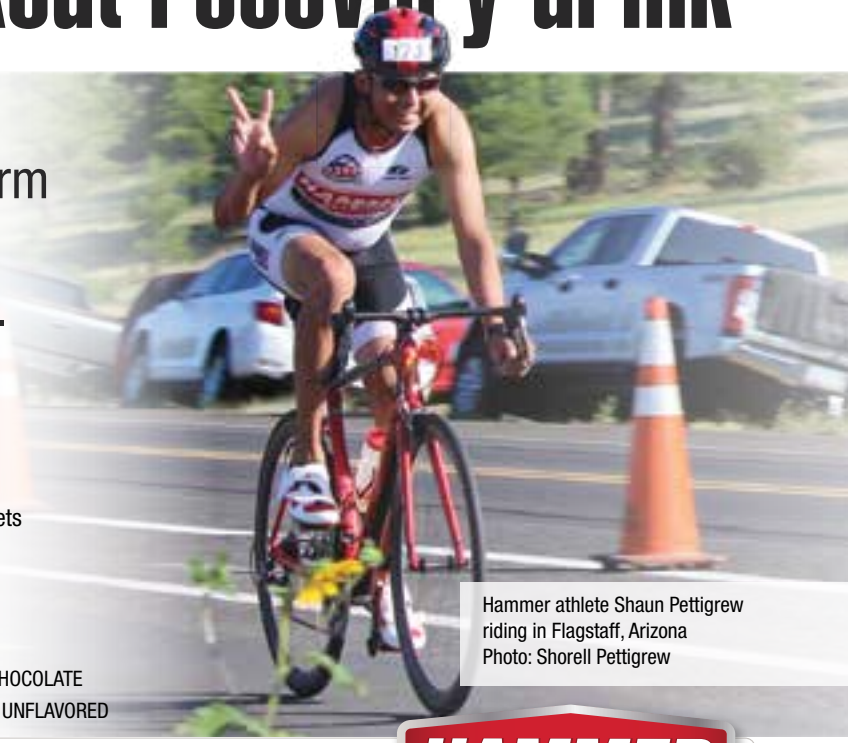

Hammer athlete Shaun Pettigrew riding in Flagstaff, Arizona
Photo: Shorell Pettigrew

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Perk Up Your Heart

BY STEVE BORN

Studies regarding the beneficial effects of coffee drinking continue to grow, with new preliminary research from the American Heart Association (AHA) showing that drinking coffee may be associated with a decreased risk of heart failure and stroke.

Researchers, led by Laura M. Stevens, B.S., used machine learning* to analyze data from the long-running, 15,000+ participant Framingham Heart Study, which includes information about what people eat and their cardiovascular health. They found that, compared to people who didn't drink coffee, each 8-ounce cup of coffee a person drank every day resulted in a **7% lower risk of stroke, an 8% reduced risk of heart failure, and a 5% decreased risk of coronary heart disease.** Additionally, this reduction repeated again with every new cup of coffee, all the way up to six daily.

Data from two other long-term studies, the Cardiovascular Heart Study and the Atherosclerosis Risk in Communities Study—both of which supported an association between coffee drinking and decreased risk of heart failure and stroke compared to non-coffee drinkers—validated the researchers' findings.

Lead researcher Laura M. Stevens, a doctoral student at the University of Colorado School of Medicine, states "**an association between drinking coffee and a decreased risk of heart failure and stroke** was consistently noted in all three studies. The work showed that each additional cup per day had an associated decrease of each outcome."

Of the many things we can do to protect our heart and support optimal cardiovascular health, drinking coffee may be one of the best strategies to employ, thanks to this latest research. Our 53x11 organic coffees are loaded with antioxidant power, as well as literally thousands of phytochemicals, which may explain their beneficial effect on cardiovascular health. 53x11 coffee is not only the delicious way to satisfy your taste buds, it's good for your heart! EN

Drinking coffee may be one of the best strategies to employ to protect your heart health.

**Machine learning works by finding associations within data, much in the same way that online shopping sites predict products people may like based on their shopping history. "The artificial intelligence-driven analysis identified many known risk factors for heart disease, including age, blood pressure, heart rate, cholesterol and weight," Stevens said.*

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Less Sugar = Less Body Fat

BY STEVE BORN

For as long as Hammer Nutrition has existed as a company, we have been relentless in our crusade to educate others about the dangers of sugar consumption. Some may discount or casually disregard sugar intake, but there can be no denying that it's an ever-increasing health concern. Dr. Joseph Mercola states: "Sugar is likely one of the most dangerous products you can ingest and may trigger an addiction that is difficult to break," and we couldn't agree more.

How bad has sugar consumption become? According to William Faloon in his article *Not Fit for Human Consumption*, "In 1700, the average person in England is estimated to have consumed about four pounds of refined sugar a year. Annual refined sugar ingestion has now shot up to over 100 pounds. **Excess sugar ingestion is a factor behind surging rates of obesity, cancer, vascular disorders, dementia, and type II diabetes.**"

A recent study from the University of Surrey adds to the growing body of research showing that sugar consumption is indeed a serious health hazard. In this study, researchers tracked the liver health of two groups of men: one that had non-alcoholic fatty liver disease (NAFLD), and the other that had low levels of liver fat. For a 12-week period, the men in one group consumed a low-sugar diet (140 sugar calories/day) while the other group consumed a high-sugar diet (650 sugar calories/day). After this 12-week period, the groups switched sugar intake for another 12-week period.

The results showed that **the men in both groups had significantly higher levels of fat in both their blood and livers after consuming the high-sugar diet for 12 weeks**. Researchers noted that the NAFLD group had changes in fat metabolism associated with an increased risk of cardiovascular disease, heart attacks and strokes. More startlingly, they found that when the men who started the study with low liver fat levels consumed the high-sugar diet, not only did their blood and liver fat increase; their fat metabolism was nearly identical to the men with NAFLD.

After reviewing the results, lead researcher Bruce Griffin, Ph.D., commented "Our findings provide new evidence that consuming high amounts of sugar can alter your fat metabolism in ways that could increase your risk of cardiovascular disease."

This research shows, yet again the dangers associated with sugar consumption. This study is especially concerning because of the short time frame—a mere 12 weeks—needed to elicit such serious negative health consequences.

"Endurance fuels" that are comprised of sugar (glucose, sucrose, fructose) are not only inferior in terms of energy quality, they are not at all good for your health. They have no business in your body at any time and should be avoided. During exercise and immediately after, you do need carbohydrates. However, for fast-acting, longer-lasting energy during exercise, and superior post-exercise glycogen replenishment, choose complex carbohydrates (maltodextrin) found in Hammer Nutrition fuels—not junk sugar!

And remember, other than during exercise and shortly after, you should refrain from consuming high glycemic index carbohydrates of all kinds. Your liver—your entire body, actually—will thank you. EN

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Hammer athlete Scott Wesemann in Zion National Park, Photo: Courtesy Scott Wesemann

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5 Reasons Why You MUST Start Using EMS

BY BRIAN FRANK

Electro Muscle Stimulation (EMS), aka Neuromuscular Electrical Stimulation (NMES), whatever you call it, it's a truly amazing technology housed in a convenient, portable, handheld device that can literally change your life. Below are five reasons why I'm a cheerleader for EMS.

1. **Muscular recovery -** Using the Active Recovery, Recovery Plus, and/or Massage programs is like getting the best sports leg rub you can imagine, flushing out all of the acid and waste-filled blood and recharging the muscle with fresh, clean, oxygen-rich blood. EMS does this as good or better than any massage therapists in the world. The convenience of having access to these benefits whenever you have time makes the device worth its price two or three times over.

2. **Muscle strength imbalances -** We are all asymmetrical, having one leg or arm that is stronger than the other. Over time, these imbalances can lead to ingrained pathologies resulting in pain and discomfort in the hips and low back. Using conventional methods, there is almost no way to correct these imbalances without risking further injury—except with EMS. By using the Resistance or Strength programs, you can not only identify, numerically no less, the differential between two muscle groups, but you can correct it by increasing the input levels on the weaker muscle. This is totally unique, justifying the price in and of itself.

3. **Reversing neural inhibitions -** Believe it or not, most or all of us have some degree of neural inhibition somewhere in our body. It is a lingering effect from injuries and surgeries. From my personal experience, and after working with countless athletes, applying EMS over the past eight years, I have not found another method for reversing it, let alone one as effective as EMS. It's always fun when I do an EMS demonstration on an athlete; just by seeing how their muscles respond, I can almost always tell whether they are right-side or left-side dominant, and whether or not they've had a major injury to either or both legs, knees, hips, back, etc.

4. **Changing your muscles, for the better -** One of the more fascinating and controversial aspects of EMS is increasing muscle fiber recruitment. You've probably heard that even world-class athletes utilize far less than 100% of their muscle fibers in any given muscle, an estimated range from 30-40% to no more than 70-80%. On top of that, each muscle has a percentage of slow twitch and fast twitch fiber that will determine whether they are more naturally suited to being a strength or endurance athlete. We've also been told that there is no way to change these numbers—until now, by using either strength- or endurance-oriented programs (technically, hertz ranges< 50 reach type I slow twitch fibers and > 50 reach type II fast twitch fibers), you can actually increase recruitment of type II muscle fibers, which will in turn help with your sprint, kick, and other similar movements. Likewise, focusing on the endurance programs allows for increased recruitment of type I slow twitch fibers, which will help with endurance.

5. **Lower back/neck stiffness -** In this modern world where we sit for most of the day and then sit some more on the bike, aches, pains, and stiffness in the lumbar, thoracic, and cervical spine are almost universal. If you or your partner regularly experiences this discomfort, you've got to get on the EMS plan. The Massage program will change your life, and you can do it anytime that you have 30 minutes to sit or lie in one place.

I have no doubt whatsoever that you could benefit from at least three of the above mentioned reasons. EMS is what you need. EN

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SALT SHOCKER!

The Unmasked Villian Contributing to Diabetes

New research reveals yet another reason to lower dietary salt intake

BY STEVE BORN

Most people think of diabetes as a disease caused by "too much sugar," and to a large extent that's true. Diabetes is defined as a "chronic condition associated with abnormally high levels of sugar (glucose) in the blood. Insulin produced by the pancreas lowers blood glucose. Absence or insufficient production of insulin, or an inability of the body to properly use insulin causes diabetes."

New research, however, points the finger at another possible culprit: excess salt. Using information from the Epidemiological Study of Risk Factors for LADA (Latent Autoimmune Diabetes in Adults) and type 2 diabetes, Dr. Bahareh Rasouli, and her team of researchers examined data from 355 people diagnosed with LADA and 1,136 people with type 2 diabetes. They compared the results of this data analysis with findings from a control group comprised of 1,379 healthy people.

What they discovered was quite eye opening. Each additional gram of consumed sodium (the amount in 2.5 grams of salt) per day was linked to a 43% increased risk of type 2 diabetes. For LADA, the news was even worse, with each extra gram of sodium consumed showing a 73% increase in developing this particular condition.

The researchers divided the participants into three groups, based on the amount of their sodium consumption:

LOW	MEDIUM	HIGH
under 2.4 grams of sodium/day (less than 6.0 grams of salt)	2.4 - 3.15 grams of sodium/day (6.0 - 7.9 grams of salt)	More than 3.15 grams of sodium/day (more than 7.9 grams of salt)

Those who were in the high-sodium consumption category were shown to have a 58% greater risk of developing type 2 diabetes than individuals in the low-consumption group. Researchers also noted that the people who have a high genetic risk of diabetes along with a high daily sodium intake were nearly four times as likely to develop LADA compared to the "high genetic risk of diabetes" study subjects whose sodium intake placed them in the low-consumption group.

Dr. Rasouli and team believe that the significant increase in type 2 diabetes, courtesy of high salt intake, may be due to sodium's effect in increasing insulin resistance. Additionally, they noted that high salt intake could lead to hypertension and excess weight gain, both of which are factors for increased risk of type 2 diabetes.

"Given the autoimmune component of LADA," he says, "we hypothesized that a high-salt diet may accelerate autoimmunity and play a role in the pathogenesis [disease development] of LADA." This study shows this to be especially true for people who already have a genetically caused high risk of diabetes.

According to the Centers for Disease Control and Prevention (CDC), more than 29 million people in the United States are affected by diabetes, with type 2 diabetes accounting for nearly 95% of diagnosed cases. And while most people associate this disease with excess sugar consumption, this study suggests that too much salt in the diet could very well be a key factor for increasing the risk of both type 2 diabetes and LADA. EN

According to Dr. M. Regina Castro with the Mayo Clinic, "Latent autoimmune diabetes in adults (LADA) is a slow progressing form of autoimmune diabetes. Like the autoimmune disease type 1 diabetes, LADA occurs because your pancreas stops producing adequate insulin, most likely from some 'insult' that slowly damages the insulin-producing cells in the pancreas. But unlike type 1 diabetes, with LADA, you often won't need insulin for several months up to years after you've been diagnosed. Many researchers believe LADA, sometimes called type 1.5 diabetes, is a subtype of type 1 diabetes. Other researchers believe diabetes occurs on a continuum, with LADA falling between type 1 and type 2 diabetes."

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Hammer athlete Zandy Mangold Photo: Carlo Romero

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beastofburden100.com

FEBRUARY 17, 2018

MOAB RED HOT (ULTRA RUN)

MOAB, UT

The Moab Red Hot 55K and 33K course is located northwest of Moab, Utah just west of Arches National Park and the Moab Valley. Red Hot runners will have majestic views while running on an extensively flagged trail that's a mix of rocky, sandy, and slickrock.

grassrootsevents.net/moab-red-hot

FEBRUARY 17, 2018

WHITE TANKS GRINDER (GRAVEL GRINDER)

VERRADO, AZ

Featuring a couple of different courses for mountain bike racers of different abilities, the White Tank Grinder is a showcase of desert diversity. Aggressive ascents and descents, grinding it out on the flats, rocks, water, sand, mud, and roller coaster trail sections are all part of the fun of this challenging course.

tbunk.blogspot.com

FEBRUARY 24, 2018

THE BOLT (WINTER SPORT)

ADAMS, MA

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nerandorace.blogspot.com/p/course-layout-bolt-at-greylock.html

FEBRUARY 24, 2018

OLD PUEBLO 50M (ULTRA RUN)

SONITA, AZ

By entering this race you will be running in the footsteps of Arizona history. Not only of Arizona Trail Running History, but of early Native Americans whose footsteps have long marked these trails. Of early ranchers, farmers, migrants and miners who managed to etch out a living in this arid land. Many of their descendants are still here.

oldpueblo50.com

MARCH 03, 2018

THE CACTUS CUP (MTB)

FOUNTAIN HILLS, AZ

Come for 3 days of racing and one big mountain bike party. It's a chance to put the hammer down and work on that cycling tan. This destination race includes bikes, beer, live music, a dirt Short Track held at sunset, the Fat Tire 40 cross country event and the first ever Super Enduro course. There's something for the whole family too with all ages Kids Mountain Bike Races.

thecactuscup.com

MARCH 9-11, 2018

LABOR OF LOVE (ULTRA RUN)

LAS VEGAS, NV

Commencing at an elevation of roughly 4500 feet, runners will experience high desert vegetation to include Joshua Trees, Pinion-Juniper, Mountain Rose, Sagebrush, and a relatively lush Toiyabe National Forest not commonly associated with Las Vegas. The road twists and turns thru the canyon; a true treasure of the Spring Mountains N.R.A. enjoying temperatures ~10 degrees cooler than the Las Vegas Valley.

calicoracing.com/events/labor-of-love

MARCH 10, 2018

BEHIND THE ROCKS (ULTRA RUN)

MOAB, UT

Behind the Rocks Ultra will be held on March 24, 2018. BTR was created to highlight Moab's last hidden gem, the Behind the Rocks Wilderness Area. The course was designed to highlight the technical slick rock trails of Moab, the views of the Behind the Rocks Wilderness area, and the snow capped La Sal mountains.

madmooseevents.com/behind-the-rocks-home

MARCH 23, 2018

TRIGATORS SUPERSPRINT TRIATHLON

GAINESVILLE, FL

This race is perfect for just about anyone! Maybe you want to see what a triathlon is like? Maybe you're training for your next race? Maybe you want to come in first? Maybe you just want to finish something more than a color run? This event was made to bring out the TRIGATOR IN YOU!

trigators.com

MARCH 24, 2018

HAULIN IN THE HOLLER (ULTRA RUN)

The course travels through the Appalachian foothills over winding, rolling single and double track trails. Designed as a two-loop course, those running the 50K make two trips around the 25K loop. Switchbacks up and down the hollers, aid with climbing these hills. Celebrate the completion of this race with hand crafted wood awards created by Troop 164.

wvmtr.org/races/haulin-in-the-holler

MARCH 24, 2018

OUACHITA CHALLENGE 60M (MTB)

ODEN, AR

The Ouachita Trail is known for its challenging climbs, vast technical sections, and scenic views of the Ouachita River. The Womble Trail (an IMBA Epic) is known for its fast trails and scenic views of the Ouachita Mountains and valleys.

ouachitachallenge.com

MARCH 24, 2018

KBR (KAYAK, BIKE & RUN) – ICE BREAKER – TRIATHLON

CASSADAGA, NY

Come out and test your skills at kayak, bike, run! This is a fun event to be held on the beautiful Cassadaga Lake. Using the same course at the Southern Tier Triathlon Club's Summer Tri Series; we will kayak one mile around the lake staying between the shore and buoy line, bike a hilly 13 mile loop and then run a flat 2 mile out and back along the lake shore.

coachmarkwilson.com/events/kbr-ice-breaker-edition-kayak-bike-run

APRIL 07, 2018

QUANTICO EPIC (MTB)

QUANTICO, VA

This unique riding opportunity will highlight Quantico's infamous Main Side Trails many may recognize from years of Cross County racing aboard Quantico, plus newly opened trails of the Arboretum and Geiger Loop Trail Systems. Interspersed with the Main Side Trails, riders will enjoy the restricted access trails of the Officer Candidate School (OCS), Marine Corps Base (MCB) Quantico. This unique riding opportunity provides for over 90% of Montezuma's EPIC Revenge to consist of single track and gravel, with some paved connectors tying everything together. Please note, well over half of Montezuma's Revenge is single track, so plan accordingly.

quanticoepic.qmtb.org

APRIL 07, 2018

PAUMANOK PURSUIT (MTB)

CANTON, GA

The Paumanok Pursuit is a 70K trail run along the Paumanok Path. Starting at the western trail head on Route 25A in Rocky Point, NY, and ending at Sears Bellows County Park in Hampton Bays, NY. The race is open to individual entrants as well as relay teams of 2 to 5 runners. Solo runners may leave drop bags at the start to be transported to designated checkpoints of choice—Hammer Gels and HEED will be accessible at checkpoints. Post-race party and awards.

jayasports.com/pp70k-2

APRIL 08, 2018

Kiên Nguyen Trung at the Hammer Vietnam booth at the Techcombank Ho Chi Minh City International Marathon. Photo: Lynn Nguyen

Kiên Running

An International Inspiration

BY ANDREYA GROZIK

Starting on October 22, 2017, 40-year-old Kiên Nguyen Trung began running. He ran 40-52 miles each day for 28 days from Hanoi to Saigon, Vietnam, totaling 1,160 miles. This is considered the fastest trek across Vietnam on foot, and has earned him the nickname, "Kiên Running."

Kiên started at the Thai Nguyen Statue at the Center of the Hanoi Capital, running along the National Highway 1A to the Independence Palace. During his journey, a typhoon hit the South Central Provinces, which made finding food and sleeping accommodations particularly challenging. He only slept for five hours each night, relying on fueling from Hammer Nutrition, support from businesses and his loved ones, and the kindness of strangers to help get him through.

There was more than one reason behind Kiên's motivation to do this run. One reason, he says, was to show the Vietnamese that it's possible. Kiên says, *"I think its mission [his run] is to prove it to everyone in the jogging community in Vietnam that 'everyone can when they have faith.'" He also believes that the essence of life is to experience things.

A friend introduced Kiên to Hammer Nutrition. With Hammer, he says, "I feel better, more comfortable, and stronger with this product, and in fact I run more without feeling tired." His favorite and most-used Hammer product is Hammer Gel.

No doubt this incredible voyage has changed Kiên and his life. He says it's taught him to better understand himself and his abilities, and, "I will do better not just with running." His future goals include running for 60 days straight averaging 50 miles a day, and running the Boston Marathon. EN

**Quotes from Kiên have been translated*

Kiên Nguyen Trung along his 1,160 mile route enduring a typhoon. Photo: Kiên Nguyen Trung

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Feed Your Heart

BY STEVE BORN

New research shows that eating something healthy for breakfast—and making breakfast the largest meal of the day—is good for your heart.

Research published in the Journal of the American College of Cardiology shows an association with skipping breakfast and an increased risk of atherosclerosis, the hardening and narrowing of arteries due to plaque build-up.

In this study, breakfast patterns were determined via the percentage of the participants' total daily calorie intake that was consumed at breakfast. Using this information, researchers came up with three groups:

1. Consumes **less than 5%** of their total calorie intake in the morning
2. Consumes **between 5%-20%** of their total calorie intake in the morning
3. Consumes **more than 20%** of their total calorie intake in the morning

Of the 4,000+ participants, 2.9% fell into the first group, 69.4% had dietary habits that placed them in the second group, and 27.7% ended up in the third group—identified as "breakfast consumers."

Compared to the "breakfast consumer" group, researchers noted that atherosclerosis occurred with greater frequency among the participants who skipped breakfast. The second group, those who consumed between 5%-20% of their daily intake at breakfast, was also observed to have higher incidences of atherosclerosis as compared to the "breakfast consumer" group.

Additionally, cardio metabolic risk markers—those involving heart disease and metabolic disorders such as diabetes—were more prevalent in participants in the first and second group, as compared to the "breakfast consumer" group. The participants who consumed the lowest percentage of total daily calories at breakfast were shown to have the greatest waist circumference, as well as the highest body mass index, blood pressure, blood lipids and fasting glucose levels.

Researchers noted that participants who skipped breakfast were more likely to have an overall unhealthy lifestyle—which includes poor overall dietary habits, along with frequent alcohol consumption and smoking—and they were also likely to be hypertensive and overweight or obese.

The phrase "Eat like a KING at breakfast, a PRINCE at lunch, and a PAUPER at dinner" has already been shown to be a highly effective way to lose excess weight and maintain ideal weight. Now, thanks to this research, eating this way appears to be a simple way to help protect the heart and stave off atherosclerosis and other risk markers for cardiovascular disease and metabolic disorders. EN

Adverse effects of skipping breakfast can be seen early in childhood in the form of childhood obesity and although breakfast skippers are generally attempting to lose weight, they often end up eating more and unhealthy foods later in the day. Skipping breakfast can cause hormonal imbalances and alter circadian rhythms. That breakfast is the most important meal of the day has been proven right in light of this evidence. - Dr. Prakash Deedwania

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The Key to Longevity

BY STEVE BORN

Foods high in magnesium are dark leafy greens, nuts and seeds, soybeans, avocados, bananas, dark chocolate and low fat yogurt.

Magnesium is an undisputed wellness superstar. Is there anything it CAN'T do? Involved in over 300 biochemical processes in the body, more than any other mineral, magnesium plays a crucial role in:

- Maintaining normal muscle and nerve function
- Keeping heart rhythm regular
- Normalizing blood pressure
- Support strong bones
- Regulating blood sugar levels

… And so much more! Recent research suggests that we can add one more benefit to the long list attributed to magnesium:

potential increase in longevity.

A study published in late 2016 reveals that supplementation with magnesium mimics a primary mechanism of calorie restriction, which is considered to be one of the most effective ways to help slow down the aging process. Calorie restriction has been shown to increase the lifespan in species ranging from yeast to worms to mice, with newer research showing that its benefits extend to monkeys, obviously much larger animals.

Though there is the very real possibility of extended lifespan with calorie restriction, the main problem is that it requires significant reductions in food intake, severe enough for most people to embrace, let alone follow (as one science writer states, "Permanently reducing calorie intake by 25 to 50 percent or more sounds to many like a way to extend life by making it not worth living.") The good news is that the cells supplemented with magnesium produced the same beneficial R-loop suppression result that is a primary mechanism of calorie restriction. Best of all, magnesium accomplished this completely independent of calorie restriction, which, as mentioned earlier, is such a severe lifestyle change that most people are unwilling and/or unable to follow.

Thanks to this exciting study, the claim by one nutritional scientist that magnesium is "the key to health and life" appears to be more valid than ever. Magnesium supplementation is an easy and inexpensive way to support and enhance so many areas of athletic performance and human health. Being a key player in potential life extension may be its best benefit of all.

Essential Mg contains **five forms** of highly bioavailable magnesium. It is an ideal way to ensure that you're receiving optimal amounts of this all-important, health-benefiting, and potentially life-extending mineral. EN

Studies suggest that over 80% of us are deficient in this crucial mineral. Even with a diet with magnesium rich foods, everyone benefits from supplementing with magnesium. Stay on track with Hammer's Essential Mg for optimal health.

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Hammer athlete Ryan Ingam. Photo Credit: Ryan Ingam

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From Our Athletes

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

Steven Terry
Iceman Cometh Challenge

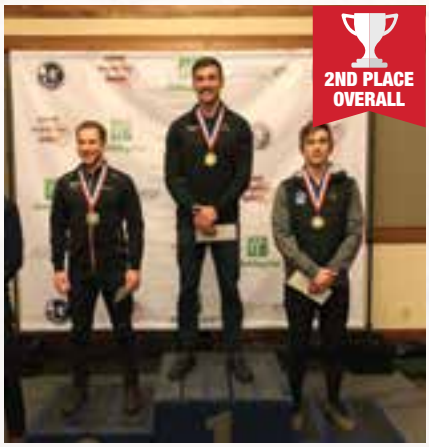
Iceman is a short race for me in under 2 hours, so being ready to go from the gun is key. My pre-race mix of Hammer Gel and Fully Charged made sure my body was ready to go at the start. During the Race, I relied on HEED and Hammer Gel to keep the intensity high. The second half of the race was wider and perfect for me to make aggressive moves and secure the victory.

Photo: Rob Meendering Photography

Shane Mascarin Endurance Athlete
Across The Years 24hr Race

Decided last minute to do an off-season run in the desert and did the Across The Years 24hr race with some friends. Did 104 miles in 24hrs. Tied for 3rd male out 107. I stuck to HEED when it was warm and Perpetuem at night. Electrolytes every few hours and had a Hammer Gel every hour.

Photo: Shane Mascarin



Benjamin Lustgarten
US SuperTour Opener Skate Sprint

I took my Fully Charged, Essential Mg, Endurolytes Extreme, and Race Caps Supreme right before my warm up. In the qualifier, I ended up placing 4th, only 1.0 seconds from winning! In the final I just went as hard as I could and was 4th place by the bottom of the last hill, then weaved up through the guys and went outside lane and nearly won. I missed first place by a mere 0.16 seconds!

Photo: Pepa Miloucheva

Tracy Green
2017 USATF Kentucky Long Distance Runner of the Year

The Kentucky USATF chapter awarded Tracy Green with its female Long Distance Runner of the Year award for 2017. The awards committee cited Green's successes over the course of the year including a 9th place female finish at the Kentucky Derby Festival miniMarathon in April and 94th female overall at the Chicago Marathon in 2:59:26 with numerous local road race top finishes.

Photo: Kenny Morton

Joel Kinnunen
Miami Man Triathlon

I competed in the Miami Man Triathlon which served as the only US qualifier for the ITU Long Course World Championship race in Denmark next year. The lake was warm, so it was not a wetsuit legal swim. This hurt me as I am not a strong swimmer and had not been swimming much lately. I followed that up with the fastest bike split and fastest run split to come in second in my age group and 14th overall.

Photo: Stephanie Kinnunen

Jen Daniels
West Hill Cyclocross Race

To complete the VT Cyclocross weekend, I raced the 27th annual West Hill Shop CX Race and it lived up to it's reputation! This race was also the Vermont State Championship race.

I didn't have the greatest start for this race as I missed clipping into my pedals right out of the gate. Finding traction was another issue during the race as it was extremely muddy throughout.

I had Anti-Fatigue Caps an hour before the race, a Hammer Gel and Fully Charged about 20 minutes before. I ended the race with Recoverite.

I didn't have the greatest overall result, but managed to land 3rd place in the Vermont State Women's Master's Championship. I will definitely be back for more next year!

Photo: Lindsey DiGiovanni

South Africa

Kotie Terblanche
Race2Nowhere

Kotie Terblanche is the owner of Route 62 Cycles in Robertson, South Africa. He is an avid cyclist and is now a Hammer Nutrition advocate after trying many other brands which all made him sick.

"I did the Race to Nowhere on a road bike through superb ABSA Epic trails that Con Viljoen had laid out," Kotie said. "After 2 years of vomitting on the well known brands, I can finally do what my silly mind gets me into. Thanks for Hammer Nutrition sponsoring my entry and the stunning shirt. I had so much energy still left in my legs in the end. I could have gone so much faster if I could just hold on to the bars. My wrists were hurting on every bump."

Kotie rode this 112K mountain bike race (8400 feet ascent) in a time of 8:50. He rode it on his 1980's steel frame Peter Allen road bike in jean shorts! He bought the bike 2 years ago for $65 and did not change anything except some new tires. Kotie did not buy fancy tires, just the standard commuter ones. He rode the Karoo 2 Coast on this bike and was the first person to do so on a road bike. He says Hammer gives him energy all the way to the end.

Kotie plans to do the Attakwas Extreme on this bike in early 2018. This race is considered one of the toughest one day events in the world and many international riders come to do it.

Photo: Johan Theron

Jason Poole hammering at the UTMR (Ultra Tour Monte Rosa) in the Swiss Alps surrounded by spectacular peaks.

Read the story on page 34

Photo: Lloyd Belcher Visuals

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"This stuff works...aids in muscle recovery and post workout soreness!"

Sanne Swolfs, a Hammer Europe Ambassador, at a relay triathlon in Belgium. Photo: Jurgen Smitt