

ENDURANCE

BY HAMMER NUTRITION

#114 April/May 2019

\$4.99 US / \$5.99 CAN

NEWS



IN THIS ISSUE...

Sugar's Sticky Secrets

Lobbying in the sugar industry

Conquering New Terrain

Stacey Mulligan goes the distance

Adopt the Low Sodium Lifestyle

Why we're believers

PLUS...

-
- **Spotlight: Premium Insurance Caps**
 - **Dr. Bayne French Joins the Team**

The Ultimate Comeback

After being sidelined by a knee injury during a college football game, Luke Fitzwater found that he loved the bike and started mountain bike racing. Eventually, Luke transitioned into endurance sports and began competing in duathlons and triathlons in the Flathead area.

However, in the spring of 2015, Luke was hit head-on by a drunk driver and suffered a catastrophic right ankle injury that led to five surgeries and difficult conversations about amputation. Rather than taking a traditional approach to the injury, Luke was able to work with Hangar, Inc. and now utilizes a breakthrough exoskeletal device called the ExoSym.

Continual rehabilitation, hard work, and a strict supplemental routine now allows Luke to be as active as he was before! Luke continues to tackle century rides and races and is only getting faster.

For more of our conversation with Luke visit: hammernutrition.com/the-ultimate-comeback/

“After figuring out how to utilize **Gels, Perpetuem, Endurolytes, HEED, and Fizz** in the right combination, I started focusing in on the **Race Caps Supreme** and really working with the full breadth of the Hammer product line.

I was finishing races a lot faster, I wasn't cramping, and it created an opportunity to talk to folks who were cramping. It was really encouraging as an athlete to go from knowing what extreme cramping was like, where you can't bend anything, to finishing a race, feeling good, and feeling like you have more in the tank.”

- **Luke Fitzwater**

Photo: Tyler Keck



In this issue, learn about how parting with sugar will boost your brain power and improve your athletic performance and overall health!

Read more on pages
12, 20, 44 and 46

EN FEATURES Endurance News: Issue 114 April/May 2019

10 **Women's BMX Pioneer
Stacey Mulligan**

BY ALEX CORBELLI

12 **8 "Not Great" Things
That Happen When You
Consume Sugar**

BY STEVE BORN

14 **Clarity on CBD**

BY BRIAN FRANK

16 **Lower Sodium Intake =
Better Athletic Performance
and Overall Health**

BY STEVE BORN

20 **Sugar's Sticky Secrets**

BY ENDURANCE NEWS STAFF

24 **Non-Stop Negative News
About NSAIDs**

BY ENDURANCE NEWS STAFF

26 **5 Reasons Why We're
Anti-Ketogenic Diet**

BY STEVE BORN

38 **72 Hours Before ...
What Not to Do**

BY BRIAN FRANK

44 **What I Hate to Love**

BY JOHN KELLY

46 **Focus on Fiber**

BY STEVE BORN

48 **Metabolic Musings**

BY DR. BAYNE FRENCH, MD DC

52 **6 Reasons to Go
Wheat-Free and Thrive**

BY ENDURANCE NEWS STAFF

54 **Hammer Supports...
Putting People
Before Profits**

BY JOSEPH PERRY

4 **Publisher's Note**

6 **Starting Lines**

8 **#howihammer**

18 **Ask Hammer**

22 **Product Spotlight:
Premium Insurance Caps**

28 **Product Spotlight:
Recoverite**

30 **2019 Premium Cycling Apparel**

32 **SOS: Pre-Exercise Fueling**

34 **Laura's Kitchen: Mix it Up**

40 **Aid Station**

42 **Coffee: Lowers Diabetes Risk**

50 **Events**

56 **From Our Athletes**

58 **Finish Chute**



22

Along with your efforts to consume the healthiest diet possible, **Premium Insurance Caps** will ensure you're getting optimal amounts of vitamins, minerals, and key auxiliary nutrients.



50

You'll see pine forest, fir forest, aspen groves, wildflower meadows, sage slopes, short snow fields, mountain springs, and spectacular views into Logan Canyon and the Naomi high country during the Logan Peak Trail Run. Photo: Gran Fondo National Series.



Welcome to the 114th issue of Endurance News!

Hammer Nutrition Founder, Brian Frank approves of the gorgeous Taiwanese landscape! Coming from Whitefish, MT, the mountains feel like home. In between travel and nutrition seminars, Brian was luckily able to get out for a group ride with a few of our reps during his trip to South-East Asia while visiting with some of Hammer's international distributors in countries such as Taiwan, Vietnam, and the Philippines. PC: Hammer Nutrition Taiwan

Spring is in the air

and it's time to dust off the cobwebs and shed those winter coats. This issue is filled with winners, literally. From Heather Lieberg winning the Austin Marathon on the front cover to John Kelly winning The Franklins 200 on the inside back cover and so many more in between. You'll also find articles you won't find in the mainstream media about sugar, salt, and NSAIDs for starters.

I am often accused, and rightly so, of being a little too "frank" at times. I counter that is my name and also my email address – bfrank@. I generally try to temper my frankness so as not to put people off, but after 32 years in business putting my neck on the line every day, I think I have earned the right to tell it like it is. I'll apologize to the tiny minority of readers who fall outside of the blanket statements that follow. Kudos to all of you who can say "he's not talking about me!"

CBD – It's legit and you should give it a 30-day trial to see for yourself what all of the hoopla is about. Since its introduction in August 2018, CBD has become our #1 selling product in the direct to consumer channel. I take 25 mg per day and plan to do so for the rest of my life. It's legal, effective, and non-habit forming. The improvement in sleep quality and recovery alone is worth the price and then some. I find it amusing that some people are skeptical or unwilling to try this product, but think nothing of consuming copious amounts of substances proven to damage their health, like sugar, salt, and pain relievers.

Sugar – It's evil. We eat too much of it. All of the so-called experts that play the denial game and tell you, "Oh, it's ok.

After all, you're an athlete. You'll just burn it off," should be ashamed of themselves, at the very least. The competitors selling sugar and telling you it's all good and not to worry about it should also be ashamed of themselves and held to task by consumers (vote with your credit card!).

The less sugar you eat, the healthier, slimmer, and better you'll perform and feel every day. Don't believe me? Try going without sugar for 30 days straight. However, I'm only suggesting you moderate it as much as you are willing and not fall for the lies about its harmlessness.

The World Health Organization recommends no more than 50 grams of sugar a day, or about 40 pounds per year. Americans typically eat about 150 pounds per year on average. Athletes who freely consume sugar-based sports nutrition products during and after training can easily double that figure! Don't let that be you.

Salt – It's bad for you in anything more than very moderate amounts, like less than 3 grams per day. Again, you have experts and competitors telling you to eat as much as you want and load up before a hot event because, after all, you're an athlete. Sorry, but they are wrong! The best way to improve your heat tolerance and avoid damaging your health is to avoid excess salt consumption.

Water – We don't drink enough, live in a state of perpetual dehydration, and suffer the consequences. This is easily the cheapest and most effective way to improve your performance, reduce the risk of injury, and feel better on a daily basis. Try it and see for yourself.

NSAIDs – Despite the commercials on TV and ads in every magazine, over-the-counter and prescription pain pills are bad (really bad!) and should be avoided completely. There is no controversy here, just denial.

Keto diet – This is the latest fad diet being used to sell billions of dollars in dubious products and it's bad for your health. Any diet that says you should eat lard instead of zucchini, broccoli, or an apple is a joke. Your body may be able to survive in a state of ketosis given no other choice, but it's not going to like it and you certainly are not going to perform at your best! Should you eat fewer carbs from grains, roots, and sugar? Of course! Should you eat more healthy fats from sources like avocado, coconuts, raw nuts, and olives? Absolutely.

Before signing off, I would like to welcome and introduce you to Bayne French, MD. He is board certified in Family Medicine and Obesity Medicine and has been my doctor on record for over 10 years. However, I will confess I have only been to see him 3-4 times and he's ok with that. He is joining Hammer as a medical advisor and will be writing for this publication, posting on our blog in the future, and helping develop some exciting new products. You can read more about him and his first contribution to Endurance News on pages 48 and 49.

Ok, time to go for a ride!

Enjoy the read and pass it on to a friend or two or three.

Brian Frank aka bfrank

On the cover: After utilizing Hammer Gel in a race for the first time, Heather Liedberg crushed the competition to finish as the 1st female and 4th overall at the 2019 Austin Marathon! Going over her fueling plan with Miles before hand, he offered some advice about calorie consumption and utilizing Hammer Gel rather than her previously used liquid calorie source. Heather was focused and determined until the moment she crossed the finish line with an impressive time of 2:42:27. Photo: Scott Flathouse

ENDURANCE NEWS

The informed athlete's advantage since 1993

AN EXCLUSIVE PUBLICATION OF:



STAFF

Publisher and Editor-in-Chief

Brian Frank

Assistant Editor

Steve Born

Contributors

Alex Corbelli, Dr. Bayne French, MD DC,
John Kelly, Laura Labelle, Joseph Perry

Designers

Ruth Bury, Kim Schierl, Terry Stidger

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.

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

OUR CORE VALUES

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

Product Integrity: Our consumables are researched, tested, and USA-made to the strictest standards. Read more at hammernutrition.com/company/mission-statement/



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

©2019 Endurance Marketing Group. This information is copyright protected. Please feel free to distribute this information as long as the copyright notice, phone number, and/or URL are included. Content must remain unchanged and original authorship acknowledged.

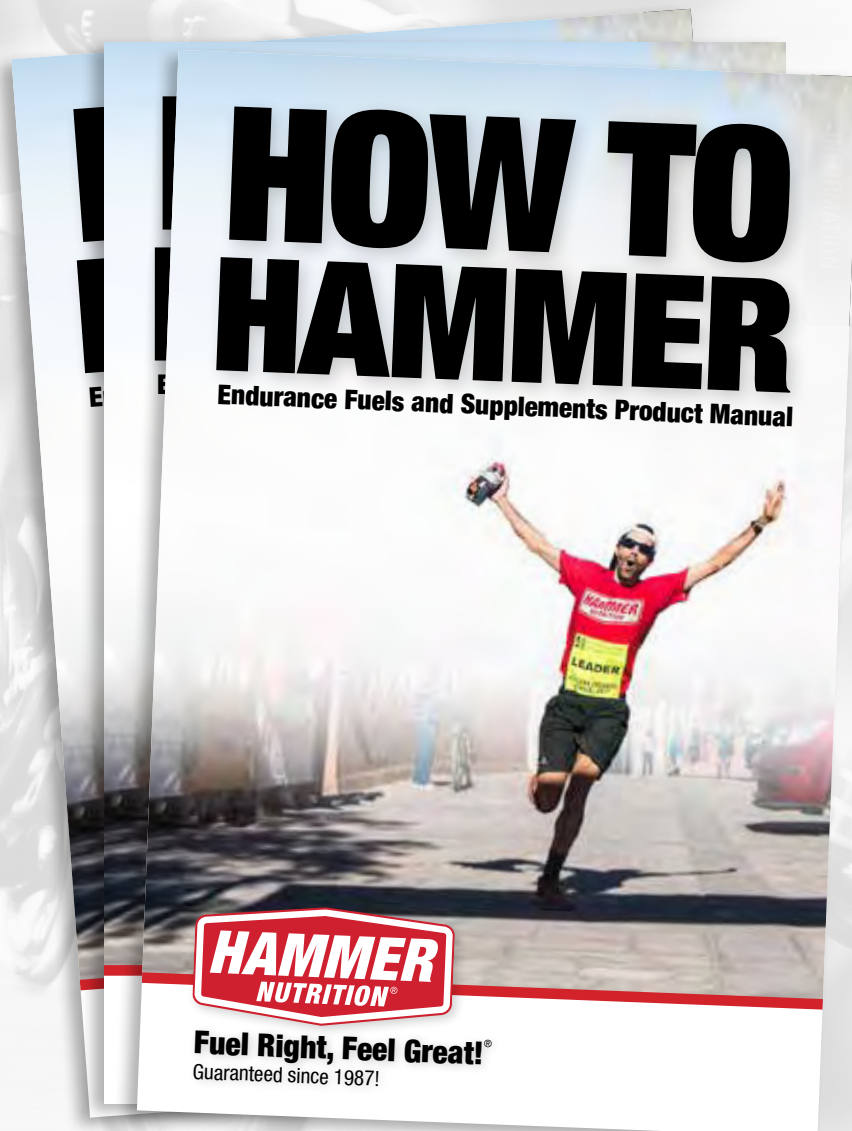
4952 Whitefish Stage Road
Whitefish, MT 59937

800.336.1977
hammernutrition.com

NOW
AVAILABLE

Essential knowledge, revised & updated!

GET YOUR **FREE** COPY TODAY!
800.336.1977 HAMMERNUTRITION.COM



Fuel Right, Feel Great!®
Guaranteed since 1987!

Starting Lines

Letters from Hammer Nutrition Athletes & Clients



Dylan Flores downs a well-deserved bottle of HEED after finishing in second place at the Boulders to Beach cycling race. Photo: Tania Flores

The First of Many

12-year-old Dylan Flores stayed with the front of the pack throughout the 8-mile Boulders to Beach race at Lake Perris, CA. Dylan held on until the end as he finished in second place! This was Dylan's first cycling specific event, and he's ready for more.

“That was so awesome! I can't wait for the next race.”

- Dylan Flores

The Grandmaster

“The key to success and the reason for failure, even my own, in Ultra races is proper fueling and liquid intake. I know there are many options here and I have found that for me, Hammer Nutrition works perfect. For the Grandmaster 100, I took 4,450 calories (Perpetuem Heed, and some gels) and 450 oz. of liquids.”

- Tor Gudmundsen

Living the Lifestyle

“Thanks Hammer, for all the success I've had. Along with all the hard work, the addition of a Hammer Nutrition lifestyle has found me working my way up on my finishing times. Most recently, a 7th place overall in the solo category at the 12 Hours of Fury Mountain Bike Race in Arizona. Thanks Hammer, I'll keep you posted!”

- Todd O'Toole

Planning for the Polar Roll

5 inches of fresh snow before the Polar Roll fatbike event, Leia knew the course would take nearly twice as long to complete. The last minute weather pattern change resulted in a need to update her fueling plan!

“I had Hammer Nutrition HEED in three of my bottles and Perpetuem in another. I had a banana and three Hammer Gels and a Hammer Protein Bar ready. I had over 900 calories ready to go, 150 per hour.”

- Leia Schneeberger



**WE LOVE
HEARING
FROM YOU!**

Send us your letters!

Drop us a line, share a tip, or tell us about your latest adventure.

letters@hammernutrition.com

Share your reviews on Facebook!

We welcome you to head over to our Facebook page and write a review!

We check our page daily and enjoy hearing how Hammer Nutrition has helped you. Hammer on! [facebook/hammernutrition](https://www.facebook.com/hammernutrition)

REAL food bars

Organic Ingredients, No Added Sugars

- Reliable, long-lasting energy
- Packable & easy to eat
- Suitable for all diet types



“HEALTHIER CALORIES IN MY FUEL!”



“Hammer Bars don’t upset my system and are a good fuel replacement with healthier calories!” - Online Reviewer

Raw Energy
Hammer Bar
(5 Flavors)
\$2.50 ea.

Vegan Protein
Hammer Bar
(2 Flavors)
\$2.95 ea.

Whey Protein
Hammer Bar
(1 Flavor)
\$2.50 ea.

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



Travis McWhorter. West Mesa outside of Albuquerque during a training run.
Photo: Andrea McArdle

hammernutrition.com 800.336.1977

#howihammer

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

@jsbikesterrehaute



J's Bikes employee Kenny Ripple holds up Endurolytes Fizz from the newest shipment of Hammer Nutrition products! Check your local shop to see what Hammer products they offer. Photo: J's Bikes

@joyfultrigirl



Just because she's on vacation in the British Virgin Islands doesn't mean Joy Braun takes the week off! "Cruisin" with her supplements and foam roller keeps her body and muscles happy and healthy. Photo: Joy Braun

@Dusty Dustyn



As soon as the 2019 Hammer Nutrition Women's Kit came into stock, Dusty knew she had to act fast. A speedy overnight shipment meant she could ride in style before the weekend! Photo: Dusty Dustyn

@kulprints_screenprinting



Local Whitefish business Kulprints Screenprinting is getting another batch of Hammer Custom Tees ready, hot off the press! Photo: Kity Ferraz

@mtbmitch



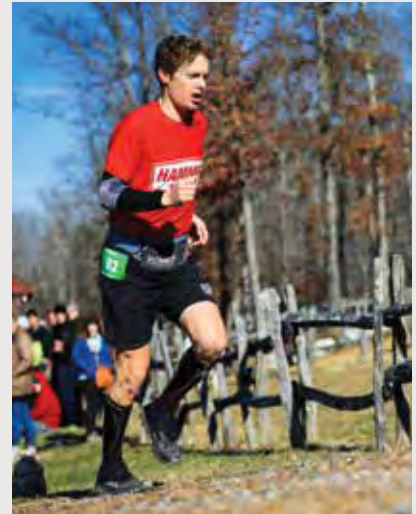
Mitch DeYoung couldn't wait to test out his brand-new 2019 Hammer Kit! Although he couldn't ride out in the cold Michigan winter weather, Mitch sported his new jersey as he spent some time racking up miles on his rollers. Photo: Mitch DeYoung

RACE RECIPE

JOHN KELLY

THE FRANKLINS 200
EL PASO, TEXAS

John Kelly (see page 58), a seasoned ultra-runner dealt with the elements, which played to his advantage as he battled high wind speeds, cold temperatures, and intense amounts of vertical gain during the recent Franklins 200.



Shown above: John Kelly finished first overall at the Lookout Mountain 50-Miler, Lookout Mountain, GA.

Photo: Gregg Gelmis, WeRacePhotos

The Franklins 200 consists of five 38.0 mile loops nearly 10K of climbing.

John's fueling for each loop:

- 2 bottles of Chocolate Perpetuum
- 1 Flask of Raspberry and Peanut Butter Chocolate Hammer Gel
- 2 Servings of Fully Charged (1 before the loop, another at 22 mile mark)
- 2 Oatmeal Apple Bars
- Tissue Rejuvenator (as needed)
- Endurance BCAA+ (as needed)
- Endurolytes (as needed)
- Anti-Fatigue Caps (as needed)

RESULTS

1st Overall

After being on the trail for 60 hours, 53 minutes, and 12 seconds, John Kelly became the champion of the 200-mile race for the first time in his impressive career.

@run_n_shoot



Zandy Mangold makes sure to keep his legs fresh during a cold run along the expansive New York City skyline in Brooklyn, NY.

Photo: Quang Tong

@runner_blogger_az



Jeremy Heath relies on Hammer Hemp (CBD) to help his achy knees after running the Sprouts Mesa-PHX Marathon.

Photo: Jeremy Heath

@aeevard



Miles Frank and friends enjoy a ride through Palm Springs, CA. Miles took some time away from home to visit our local shops and athletes in SoCal area!

Photo: Adam Evard



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!





Stacey enjoying a training ride on her local trails. Photo: Andy Wiedrich

Stacey Mulligan:

Women's BMX Pioneer Turned Endurance Athlete

BY ALEX CORBELLI

In the early 2000s, the world of women's BMX was hardly in existence, until the competitive gymnastic facility where Stacey Mulligan trained opened a skatepark.


Stacey immediately felt drawn to the bike and started sneaking away from gymnastics to borrow her friends' bikes and ride as long as possible. With a worried mother hesitantly supporting her, 16-year-old Stacey Mulligan started riding and competing, regularly beating the males she was competing against. Through competitions, she met Nina Buitrago, one of the only other female BMX riders within nearly two hours of her home in Tom River, NJ.

After becoming friends, the pair moved to Cleveland and quickly became the pioneers of the women's BMX movement. Due to their hard work, the sport is continually gaining recognition and is now set to be an Olympic sport in 2020! However, after years of physical and mental stress that accompanied constant travel, professional competitions, and injuries, Stacey made the difficult decision to leave the sport of competitive BMX behind.

At age 25, Stacey moved to Golden, Colorado, where she was regularly running to stay fit. However, after several years of running competitively, knee and hip pain began to set in. Rather than leave her competitive nature at bay, Stacey returned to her cycling roots. She bought a single speed hardtail bike, began racing, and never

looked back. Her technical skills from BMX and her newfound endurance as a runner turned out to be the perfect combination to make Stacey a great all-around mountain biker. She began going longer distances and durations, and before you know it she was competing in larger MTB races and winning, all while riding a single-speed!

Although Stacey was having no trouble finishing on the podium, sugary endurance "fuels" were causing GI distress, nausea, and general discomfort during her longer rides and races. That is until her long-time friend and fellow Hammer Athlete Nina Buitrago introduced Stacey to Hammer Nutrition's endurance fuels, specifically Perpetuem. On one of the hottest days of the summer, Stacey used Chocolate Perpetuem, Espresso Hammer Gels, and Endurolytes Extreme during the Bailey Hundo and won without any GI distress! She couldn't imagine that even in extreme temperatures she would feel great, and it showed in her performance. After some discussions with our Hammer Nutrition representatives, Stacey continued to dial in her fueling plan to ensure she is feeling and fueling her best come race day. Beyond the day of the event, Stacey implemented a routine of supplements including Tissue Rejuvenator, Essential MG, and Hammer CBD Softgels to enhance her recovery in a natural, safe manner.

However, to Stacey, cycling is not only a sport. Since moving to Colorado, Stacey has become an advocate for the cycling community. A bicycle commuter, Stacey rides 20 miles from Golden to the Bicycle Colorado headquarters, located in Denver, where she works full-time as the Development Director. To Stacey, "Bicycles have been an integral part of not only my personal life but also my professional. I am fortunate to work for Bicycle Colorado, the state bicycle advocacy group who works to make Colorado a safe and accessible place to ride a bicycle for everyone. At Bicycle Colorado we have a chance to connect with people through our policy initiatives and education programs to get more people on bicycles and help them make active transportation an option in their everyday lives." 

On one of the hottest days of the summer, Stacey used **Chocolate Perpetuem, Espresso Hammer Gels, and Endurolytes Extreme** during the Bailey Hundo, and won . . . without any GI distress!

Photo: Andy Wiedrich



If you are interested in learning more about Bicycle Colorado, visit their website at: bicyclecolorado.org

Second to none Endurance Supplement

unrivaled for over 32 years

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



Photo: Jakob Owens

90 Capsules
\$49.95



“USE BEFORE EVERY RUN AND RACE”



*“I use **Race Caps Supreme** before every run and race. It gives me an instant boost and I wouldn't be without it. I've been using it for over six years.” - Online Reviewer*

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



hammadnutrition.com 800.336.1977

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


BY STEVE BORN

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

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

- 1. The learning and memory parts of the brain suffer.** According to an animal study, a diet containing high amounts of sugar, primarily fructose and especially high fructose corn syrup (HFCS), may negatively impact the ability to learn and remember.
- 2. You still want to eat.** According to Dr. Michael Roizen, “When you eat calories from healthy sources, they turn off your desire to eat by inhibiting production of NPY (a chemical that decreases metabolism and increases appetite), or by producing more CART (a chemical that increases metabolism and reduces appetite). But high-fructose corn syrup isn’t seen by your brain as a regular food. Because your brain doesn’t see any of the thousands of HFCS-containing foods as excess calories or as NPY suppressants, your body wants you to keep eating.”
- 3. Accelerated skin aging.** Through the process of glycation, which is considered one of the primary theories for age-related diseases, excess sugar molecules attach themselves to collagen fibers (protein and fat as well) and ultimately cause them to lose their strength and flexibility.
- 4. Increased fat stores and weight gain.** For many years, the sugar industry paid scientists to minimize the link between

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

- 5. Your cells take a beating.** Oxidation is a normal function in the process of producing energy. However, according to Dr. Lustig, fructose accelerates this process in our cells, which can cause damage to proteins, tissues, and organs. This increases the risk of numerous health conditions, such as liver disease, kidney failure, and more.
- 6. You become addicted.** Dopamine is a neurotransmitter that helps control the brain’s reward and pleasure centers. Eating sugar contributes to the release of dopamine. “As dopamine receptor neurons get overstimulated,” Dr. Lustig explains, “the number of receptors to bind to decreases, so you’ll need a bigger hit of dopamine to get the same rush.”
- 7. Eating to alleviate stress promotes more stress.** Cortisol is referred to as the stress hormone, and sugar can temporarily decrease its levels, which is why it’s easy for many people to go on a sugar binge. Instead of reaching for sugary foods, try exercise. It will decrease cortisol and you’ll find it’s a much better, and healthier, de-stressor.
- 8. Flash-and-crash energy.** Simple sugars rapidly elevate glucose in the bloodstream, giving you a surge of energy. Unfortunately, that energy is short-lived and is followed by a dramatic and precipitous drop in blood glucose levels, leaving you feeling lethargic, even sleepy. 



DAY OR NIGHT

Recovery Done Right

- Reduces soreness
- Rebuilds muscle tissue
- Minimizes fatigue



Mitch DeYoung at the Wausau 24. Wausau, Wisconsin.
Photo: Gary Smits

“CURE FOR CRAMPS!”



“I was experiencing night cramps in my legs. I started using **Recoverite** after every workout and the cramping has been eliminated. What a relief!!” - Online Reviewer

32 Servings	16 Servings	Single-serving packets
\$59.95	\$34.95	\$3.50

FLAVORS ■ CHOCOLATE ■ ORANGE VANILLA ■ STRAWBERRY ■ VANILLA

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown

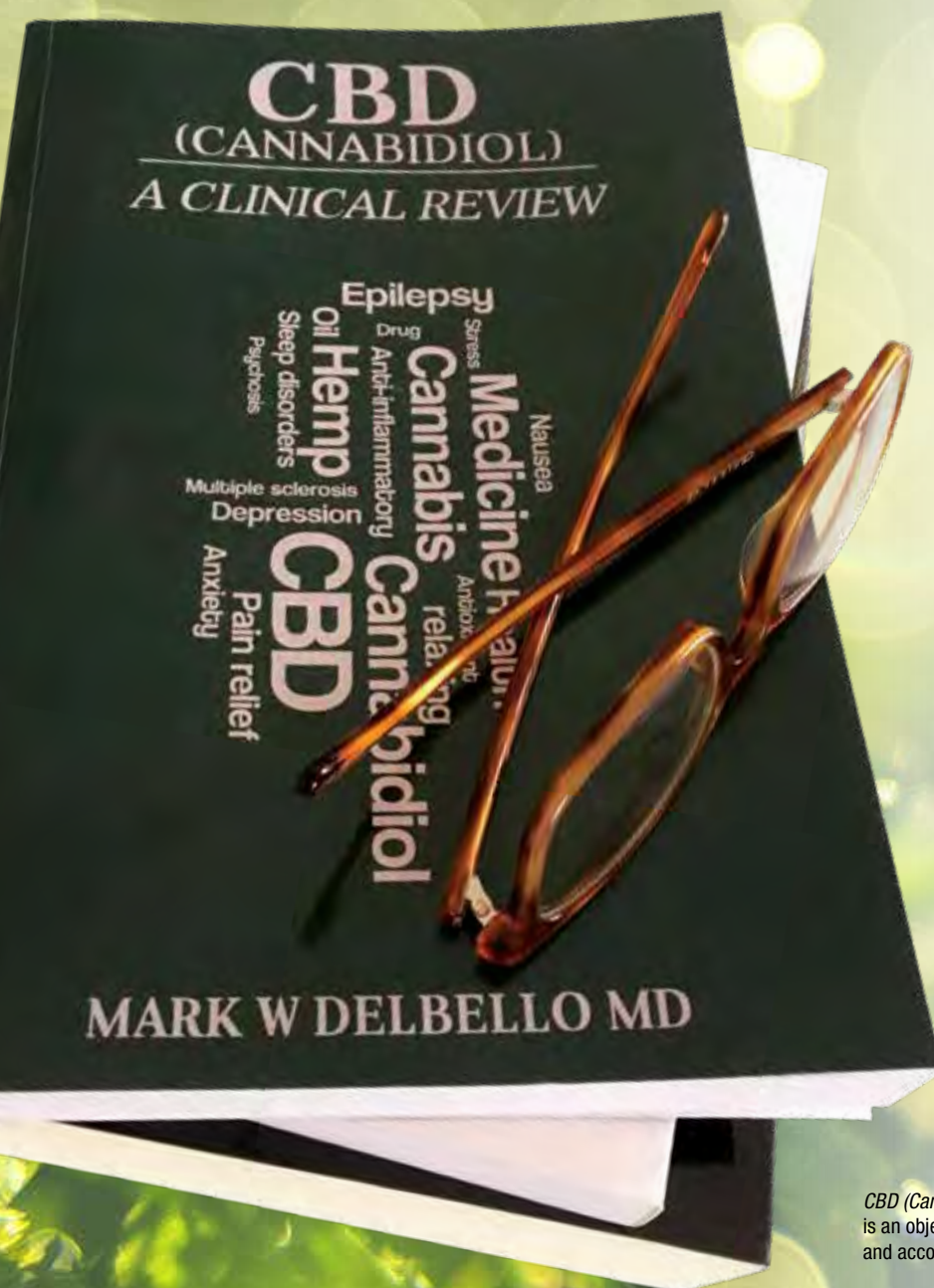


hammernutrition.com 800.336.1977

Clarity on CBD

A Clinical Review from the Medical Community

BY BRIAN FRANK




As I have said since I first introduced Hammer CBD products, sorting through the hype, wide-ranging claims, and misinformation is no simple matter.

Many of you have also expressed that we have not helped to clarify things a lot in this regard. I apologize for that, but as is the case with everything we sell, we must be very careful not to make medical claims that would get us in trouble with the FDA. This is true of CBD more than any other Hammer Nutrition product.

So I was thrilled when a Hammer customer who is a Boston Marathon and Pikes Peak Marathon finisher reached out to us through support@hammernutrition.com to tell me about his recently published book. *CBD (Cannabidiol): A Clinical Review* by Mark W. DelBello MD FACP CDE is an objective source of scientific information from a medical doctor and accomplished endurance athlete. It's definitely not light reading, but if you want the most comprehensive resource currently available on this subject, I encourage you to order a copy and dive into it. As Dr. DelBello stated during our correspondence, "I am a straight shooter and what I see about CBD presently is the Wild West. I am not a believer in the supplement industry, but not a hater either."

He is a double board-certified physician in Internal Medicine and Obesity Medicine. In 2017, he authored a similar clinical review on obesity, which I have on order and am looking forward to reading. You can buy Dr. DelBello's book online. Type the title and his name into any search engine and lot's of links will come up!

You can buy Dr. DelBello's book online. Type the title and his name into any search engine and lot's of links will come up! 

CBD (Cannabidiol): A Clinical Review by Mark W. DelBello MD FACP CDE is an objective source of scientific information from a medical doctor and accomplished endurance athlete.

Gold Standard

Hammer Hemp Product Line

- Improves sleep quality
- Reduces aches and soreness
- Shortens recovery time
- 0.0% THC

Hammer Hemp 25 mg – 90 softgels	\$179.95
Hammer Hemp 25 mg – 30 softgels	\$69.95
Hammer Hemp 10 mg – 90 softgels	\$89.95
Hammer Hemp 10 mg – 30 softgels	\$39.95
Hammer Hemp Hydro 250 mg - 1 oz bottle Tincture	\$34.95
Hammer Hemp 750 mg 1 oz bottle Tincture	\$59.95
Hammer Hemp 250 mg 1 oz bottle Tincture	\$29.95
Hammer Hemp 500 mg Balm - 2 oz jar	\$49.95

If you experience other benefits, and you most likely will, they are all just **BONUS!**

During an unusually hot day, Matt Somer finished 1st in his age group and 3rd overall in the Hagan Stone Park Duathlon, Pleasant Garden, North Carolina. **HEED, Fully Charged, Hammer Gel, Endurolytes, Anti-Fatigue Caps**, etc. were his go-to products during the event. Matt has been fueling with various Hammer products, including **Hammer Hemp**, for over 15 years. Photo: Cary Hahn

“MUCH IMPROVED SLEEP”



“I was skeptical, but gave **Hammer Hemp Softgels** a try because a good night’s sleep makes a world of difference in my training and overall mood. I’m very happy with the CBD softgels!”

- Online Reviewer



flavors as shown



ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19

Matt Somer at Hagan Stone Park Duathlon, Pleasant Garden, North Carolina. Photo: Cary Hahn

hammernutrition.com 800.336.1977

Lower Sodium Intake

For better athletic performance and overall health



BY STEVE BORN

Hammer Nutrition consistently maintains that consuming a modest amount of sodium (salt) in your diet and during exercise will promote better performances in your workouts and races and contribute to a healthier life.

However, there are still a large number of “experts” recommending that you increase your sodium intake—either on a daily basis, in the week leading up to an event, during an event, or all three combined—to prevent heat-related problems. Many other nutritional companies have followed suit, adding more and more sodium to their fuels under the assumption that increased amounts of this mineral is the solution to fulfilling all your electrolyte needs.

We don’t deny that sodium is an important mineral for maintaining optimal exercise performance, and we’re aware sodium is excreted faster than any other electrolyte during exercise. However—and this is the key—the body has specific, complex and highly effective mechanisms that regulate sodium excretion. When endogenous (inside the body) levels of sodium get too low, hormones are released to keep existing sodium circulating within the system and not excreted.

Excess sodium intake—be it via diet and/or consumed during exercise—disrupts and even neutralizes the body’s built-in mechanisms that are in place to monitor, recirculate, and conserve the body’s sodium stores, which causes more sodium to be excreted. You’re actually doing your body a major disservice by oversupplying it with too much salt! On the other hand, a low-sodium diet along with a more conservative sodium intake during exercise—as well as a balanced blend of other electrolytic minerals—creates an environment where lower amounts of sodium are lost in sweat and urine.

Scary Salt Stats

Even more alarming are the numerous negative health effects associated with excessive dietary sodium intake, including high blood pressure, heart attack, and stroke, as well as damage to the kidneys, gastric ulcers, liver disorders, and stomach cancer. There’s even a link between excess sodium intake and increased risk of osteoporosis.

The studies showing the harmful effects of high-sodium intake appear to be coming in at a near-daily basis. The results of one of the newer studies to appear, “High Dietary Sodium Linked to Subclinical Cardiac Dysfunction” [1], suggest a mechanism that may link high sodium intake to cardiovascular/heart issues via aldosterone. Aldosterone is the hormone that monitors serum sodium levels and, when those levels drop during exercise, it is via aldosterone that sodium is recirculated back into the system via the kidneys. When sodium intake is excessive, it causes the body to produce excessive amounts of aldosterone.

Dr. Thomas H. Marwick states, “The possible role of aldosterone in the observed sodium-cardiac function link brings the possibility that the observed myocardial change could be related to fibrosis (the thickening and scarring of connective tissue). Dr. Marwick added that this new research “supports renewed attention to the potential benefits of controlling salt intake, especially in individuals with a risk of myocardial dysfunction. Because of the pervasive presence of sodium in the Western diet, there is some urgency in clarifying this information.”

Perhaps the scariest stat of all? One study shows that an estimated 1.65 million global cardiovascular deaths each year are linked to high sodium consumption. [2]

“Evidence supports limiting sodium intake during rest and exercise. The harmful effect of more chronic sodium overdose, above the body’s daily need, is a real and present danger that compromises optimal health.”

How much sodium is too much?

The American Heart Association recommends no more than 2,300 mg of sodium a day, and an ideal limit of no more than 1,500 mg per day, for most adults. Unfortunately, Americans consume amounts that far exceed the AHA’s recommendations each day. This is why it’s crucial you be more aware of your salt intake

LOWER SODIUM INTAKE

Continued from previous page

each day, and not just in your food. Salt is the primary ingredient in most electrolyte drinks on the market, oftentimes in amounts that are excessively high, which is cause for concern. You need to replenish electrolytes in a balanced, healthy way without the overabundance of salt. Hammer Nutrition's sports drink, HEED—as well as our Endurolytes products—offer a complete, balanced array of electrolytic minerals, not just salt. It's the beneficial and healthy way to fulfill your body's electrolyte requirements.

Suggested Dosages


Our general recommendation is 1 capsule of **Endurolytes** or ½ tablet of **Endurolytes Fizz** for every 50 to 60 pounds of body weight hourly, with the understanding that you can, and should, increase the dose on an as-needed basis when the weather gets hotter.

Every scoop of **HEED** supplies 100 calories and the same amount of electrolytes as found in 1 Endurolytes capsule. For some athletes, 1-2 scoops of HEED mixed in 20 to 25 ounces of water will satisfy all their calorie, fluid, and electrolytes needs for an hour. Heavier athletes and/or athletes exercising in hot weather may need additional capsules of Endurolytes to satisfy their electrolyte needs more precisely.

When the weather conditions are excessively hot—especially when they're beyond what your body is acclimated to—and/or if you have extremely high sweat rates, 1 to 2 capsules of **Endurolytes Extreme** will be your go-to product.

Summary

Our position on sodium intake is summarized by Dr. Bill Misner's words: "Evidence supports limiting sodium intake during rest and exercise. The harmful effect of more chronic sodium overdose, above the body's daily need, is a real and present danger that compromises optimal health." [3]

It's important to be aware of how much sodium you're consuming in your daily diet. If it's not a modest amount, now is the time to lower it. When you cut back on the salt/sodium, you will not only minimize your risk for all of the health hazards associated with high dietary sodium, but your body will also respond wonderfully and perform better by using/recirculating/conserving its stores of sodium much more efficiently. Plus, armed with Hammer Nutrition's HEED and Endurolytes, you don't have to worry about sodium overload—your body will receive a balanced blend of electrolytes for optimal performance. 

REFERENCES:

- [1] Selvaraj S, Djoussé L, Aguilar FG, et al. Association of estimated sodium intake with adverse cardiac structure and function: from the HyperGEN study. *J Am Coll Cardiol.* 2017;70:715-724.
- [2] Mozaffarian, D; Fahimi, S; Singh, G; Micha, R; Khatibzadeh, S; Engell, R; Lim, S; Goodarzi, D; Ezzati, M; and Powles, J. "Global sodium consumption and death from cardiovascular causes." *N Engl J Med* 2014. 371:7, 624-634. DOI: 10.1056/NEJMoa1304127
- [3] "Does a High Sodium Diet Inhibit Endurance Performance and Health?" hammernutrition.com/knowledge/endurance-library/high-sodium-diet-inhibit-endurance-performance-health/



Hydrating Energy

Great taste . . . No added sugar



- Reduces cramps
- Buffers lactic acid
- Promotes oral health

FLAVORS

- LEMON LIME
- MANDARIN ORANGE
- STRAWBERRY
- MELON

80 Servings	32 Servings	16 Servings	Single-serve packets
\$59.95	\$29.95	\$19.95	\$1.95

Sarah Alexander on a training ride in Chengdu, China. Photo: Jarrod Evan

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE Organic Vegan Recoverite Singles** | Limit one per customer, while supplies last / Expires 5.29.19

flavors as shown



hammernutrition.com
800.336.1977



Answers to frequently asked questions about Hammer Supplements and Nutrition

Straight talk on carbohydrates

BY BRIAN FRANK

? Do endurance athletes really need as many carbohydrates as we've previously been told? What is Hammer's position on low carb diets?

First, let's clarify the term "carbohydrates." Not all carbs are the same. There are some very good carb sources, some very bad carb sources, and some carbs that should be consumed only in moderation.

Most athletes need more good carbs. Good carbs include leafy greens (such as lettuce and spinach), cruciferous vegetables (like broccoli, kale, and bok choy), and vegetables with a high water content (like zucchini). These are more than adequate for post-workout replenishment and they are not associated with inflammatory and/or degenerative diseases.

"Bad" carbs include wheat and sugar; you should eliminate them from your diet, both for optimal health and peak athletic performance. The third group of carbs—starches and low-gluten grains like rice and potatoes—can be bad when consumed in excess, but in moderation can be helpful for controlling one's weight. The key is to eat them only after you have met all other dietary requirements by consuming an abundance of "good carbs," along with lean protein and high-quality fats.

Many who follow "low-carb" diets use it as an excuse to avoid eating healthy carb vegetables, yet they still manage to consume refined sugar and wheat. In fact, the average American eats over 150 pounds of refined sugar each year and several times that amount of wheat. This is precisely why we face epidemic levels of obesity, diabetes, and inflammatory/degenerative diseases including cancer. Meanwhile, many companies continue to sell sugary sports drinks, gummy candies, and jelly beans—touting them as the best energy source for athletes.

Consuming the right carbs in the correct volume before and during exercise, as well as on a daily basis, is beneficial for both health and fitness. Athletes do NOT need wheat or sugar, and they should avoid consuming these carbs in their daily diet and especially during exercise. The only time I recommend consuming low fiber, high-glycemic index complex carbs (such as maltodextrin) is immediately before and during endurance exercise. The volume should be between 120 and 180 calories per hour, depending on your size and the intensity of your exertion. **EN**

? If the real aim for endurance athletes is to burn their fat stores more efficiently, is there any way or product to help achieve that?

Yes! Endurance athletes should aim to do all they can to access and utilize their body's fat stores as their primary source of energy while preserving glycogen levels—60 to 70% of total caloric expenditures during exercise will come from fat stores, if you allow it. The way to achieve this is to practice correct calorie timing before exercise and to consume the correct type of calories during exercise.

This means not eating for three hours prior to exercise and then (during

? Is carb loading still relevant nutrition advice for athletes?

In the strict sense of the term, ("carb loading" to increase glycogen stores before an anticipated depletion effort), the answer is a resounding NO! Not only is it not a good idea, but it will actually hinder your athletic performance.

You can't positively affect muscle glycogen storage capabilities at this time and consuming excess calories will only cause bloating and other stomach issues.

The enzyme that controls glycogen synthesis and storage, glycogen synthase, is active only for a short time after your workouts. True "carb loading" is what you did for the first 60 minutes after your workouts in the weeks and months before a race. In the few days leading up to a race, and especially the night before—a period when you shouldn't be training—glycogen synthase is on "sleep mode."

Instead of "carb loading," maintain a steady intake of the good carbs described earlier, along with lean protein and good fats—mostly omega-3s from fish and vegetable sources—during the "taper" leading up to an event.

The night before a race, don't go overboard with one of those pre-race pasta feeds. Consume complex carbohydrates, some high quality protein, and low-to-no saturated fat. Drink sufficient amounts of water. Skip the alcohol, fatty foods, and dessert. Eat until you're satisfied and then call it a night. You will be more than prepared for an endurance event lasting from an hour to several days. **EN**

exercise that lasts longer than two hours) consuming a mixture of complex carbs with small amounts of protein and fat mixed in.

Perpetuum, Hammer Nutrition's "ultra fuel," provides these components in very precise ratios. This allows the body to maximize fat utilization while still maintaining adequate glycogen synthesis to keep liver and muscle glycogen levels from being depleted. **EN**

YOUR MUSCLES' BEST FRIEND

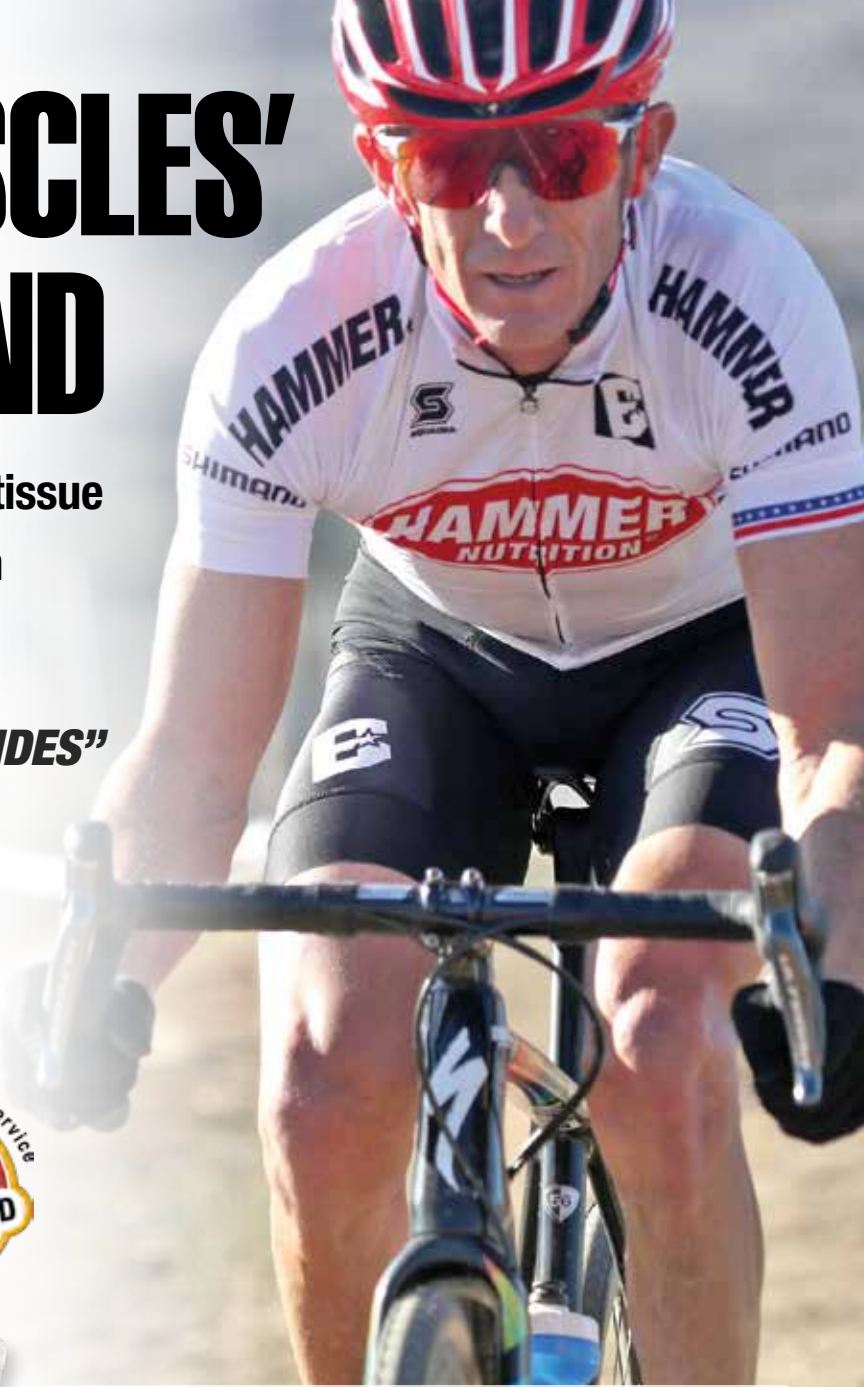
- Maintains & repairs muscle tissue
- Strengthens immune system
- Accelerates recovery

“GREAT FOR BACK-TO-BACK RIDES”



*“I find **Whey Protein** helpful to take before bed if I've trained or raced that day.”*

- Online Reviewer



Victor Sheldon rides in the Slasher CX Orange County Irvine Lakes race. Photo: Mike Franze



24 Servings	3 or more. Mix or match flavors.	Single-serving packets	3 or more. Mix or match flavors.
\$42.95	\$39.95 ea	\$2.95	\$2.50 ea

FLAVORS ■ VANILLA ■ CHOCOLATE ■ STRAWBERRY ■ UNFLAVORED

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown



hammernutrition.com 800.336.1977

Sugar's Sticky Secrets

Lobbying in the sugar industry

BY ENDURANCE NEWS STAFF

If we have said it once, we've said it a thousand times. Look at sugar! Recently, a big revelation about sugar's role in our nation's health came out thanks to a concerning discovery made by Stanton Glantz, a researcher at the University of California, San Francisco.

Glantz found historical documents that show how the sugar industry paid scientists in the 1960s to minimize the correlation between sugar and heart disease. Instead, scientists were corrupted to draw attention to fat to intentionally downplay sugar's role in health.

Hammer has been talking about the dangers of simple sugars for 30 years now. We have been championing a low-sugar diet and telling our athletes to avoid simple sugar fuels for decades before information like this was making headlines. We are almost not shocked by the conspiracy. We hope this further demonstrates the importance of Hammer's position on reducing or eliminating sugar from one's diet for optimal health. We are very proud of our pioneering stance.




Sugar is a leading contributor to all of the epidemic diseases we face as a nation. Americans reportedly eat more than 150 pounds of sugar per year on average.



Glantz's research showed how a trade group called the Sugar Research Foundation (now called the Sugar Association) was behind efforts to alter medical reality. The documents show that in 1964, John Hickson, a top sugar industry executive, discussed a plan with others in the industry to shift public opinion by releasing the "research" and influencing legislation. The group would end up paying Harvard scientists to yield biased studies to be promoted by the sugar group and accepted by the medical establishment. The intention was to set a precedent of looking away from sugar and towards saturated fat as a culprit for health ailments instead.

One of the scientists paid by the sugar industry was David Mark Hegsted. He went on to become the head of nutrition at the United States Department of Agriculture. In 1977, he helped draft the forerunner to the federal government's dietary guidelines. Another was Dr. Fredrick J. Stare, the chairman of Harvard's nutrition department. You can see how such bias has affected our nation's health paradigm and unfortunately, why Hammer's sugar stance was so unique and outside the mainstream.

Americans reportedly eat more than 150 pounds of sugar per year on average and athletes who consume sugary products in training can easily double this number. It is our conclusion that sugar is a leading contributor to all of the epidemic diseases we face as a nation and we are committed to providing information and nutritional tools to the public to counter this.

Here at Hammer Nutrition, we look to science and truth to structure our nutritional products and lifestyle suggestions. We have always advocated reducing or eliminating simple sugars. Unlike many widely available sports energy products, Hammer Nutrition fuels, including Hammer Gel, HEED, Perpetuem, and Sustained Energy, contain no refined simple sugars - only healthy complex carbohydrates and natural sweeteners such as stevia and xylitol. Thank you for trusting us as a source of information for the last 30 years. We look forward to leading the pack towards health and wellness into the decades to come 

Glantz's findings were published in the September 2016 issue of JAMA Internal Medicine and made public by the New York Times.

Leave No Trace

Go green while saving green!

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

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

FLAVORS

■ Espresso**

■ Montana Huckleberry

■ Nocciola*

■ Raspberry

■ Apple Cinnamon

■ Tropical**

■ Vanilla

■ Chocolate

■ Orange

■ Unflavored

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

** Contains caffeine

BEST VALUE!

Only 77¢
per serving!

26-Serving Jug

\$19.95 ea \$17.95 ea 3 or more.
Mix or match flavors.

Purchase a 26-Serving Jug and get a
FREE HAMMER FLASK!

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19

Photo: Holly Mandarin



flavors as shown



HAMMER
NUTRITION®

hammernutrition.com 800.336.1977

Product Spotlight

Premium Insurance Caps

The most boringly beneficial supplement you'll ever take

BY STEVE BORN

In the hundreds upon hundreds of supplement program consultations I've done in my nearly 19 years at Hammer Nutrition, I always ask if the person is taking a multivitamin/mineral supplement. Why? Because I firmly believe that it's the very first place a person should start when putting together a supplement program.

For the few that are already taking a multivitamin, I review the product to ensure it's worthy of the money the person is spending on it. (Hey, I'm just happy that they're taking something!) I always suggest they give Premium Insurance Caps a try once they finish the bottle they're currently using.

Believe it or not, most people in my experience don't take a multivitamin/mineral supplement for two main reasons:

1. They already eat a healthy diet.
2. Multivitamins are boring and won't do anything to boost athletic performance.

The first reason is incorrect for a number of reasons; here is but one of them.*

Studies show that food alone does not supply all the micronutrients we need to prevent deficiency let alone achieve optimal health. Nutritional scientist Bruce Ames bluntly states, "Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food. Inadequate intakes may result in chronic metabolic disruption, including mitochondrial decay." Another study concluded, "Nearly the entire U.S. population consumes a diet that is not on par with recommendations."

The bottom line is that your diet isn't covering all of your true nutrient needs. Not even close.

The second reason doesn't really cut it either. Although taking a multivitamin/mineral supplement may not, in and of itself, allow you to "take ten minutes off my marathon time" (as an example), it does fill in the nutrient gaps that exist in your diet. Filling those gaps is crucial to improved athletic performance.

5 reasons why Premium Insurance Caps should be YOUR multi!


- 1. Optimum, not minimum, amounts** - Unlike many vitamin/mineral supplements that contain inadequate Reference Daily Intake (RDI) amounts of nutrients, Premium Insurance Caps is formulated with Optimum Daily Intake (ODI) amounts of the highest quality vitamins and minerals.
- 2. Capsules, not tablets** - The nutrients in Premium Insurance Caps are contained within a two-piece all-vegetable capsule; this means they will dissolve much more rapidly and thoroughly than hard-coated tablets would, so your body will actually receive the nutrients you're consuming.
- 3. Highly-assimilated, amino acid-chelated minerals** - Some companies use inexpensive forms of minerals in their products—e.g., magnesium in the oxide form or calcium in the carbonate form—which are not as well absorbed as the amino acid chelates used in Premium Insurance Caps.
- 4. Multiple digestive enzymes for maximum nutrient absorption** - It's not what you consume, it's what you absorb, which is why Premium Insurance Caps includes digestive enzymes such as pepsin, papain, Bioperine™, and many more.
- 5. Only beneficial nutrients, no "salt and pepper"** - You won't see results if the amounts in a product are inconsequential, "salt and pepper" amounts. All of the nutrients included in Premium Insurance Caps are at levels that will provide real benefits.



Providing your body with adequate supplies of vitamins and minerals is similar to pouring a strong foundation when building a house. Without a strong foundation, the house will lack structural integrity. Similarly, without adequate vitamins and minerals, many of your important bodily systems (especially your immune system) will not have the support needed to function properly. At the very least, this means you won't get the full value from all of the hard work you put into your training. It could also very well result in a compromised immune system, which is definitely something to avoid because that could translate into missed training days due to illness.

Providing your body with adequate supplies of vitamins and minerals is similar to pouring a strong foundation when building a house. Without a strong foundation, the house will lack structural integrity.

Look, Premium Insurance Caps may not be the most glamorous supplement you can take; there's nothing ultra-cool in the product like there is in, say, Fully Charged. But while Fully Charged and other supplements in the Hammer Nutrition line may arguably have a bit more direct impact on improving athletic performance, to be quite honest, if you're not covering your basic nutrient needs (vitamins and minerals), those other products won't ever realize their full value.

That's why I unhesitatingly recommend starting with Premium Insurance Caps in your supplement program. Along with your efforts to consume the healthiest diet possible, Premium Insurance Caps will ensure you're getting optimal amounts of vitamins, minerals, and key auxiliary nutrients. These aren't minimal and insignificant Daily Value or Recommended Daily Allowance amounts, but amounts that will have a noticeably positive impact on your health. That strong nutrient foundation is a primary key to your body being able to meet the challenge of increased training volume and workload, and that translates into improved athletic performance and better overall health. 

* See the article "The Balanced Diet Myth and the Case for Supplementation" in *Endurance News #113* for more.



Simona Vincenciova riding in the Wilderness 101.
Photo: Mike Bush

DAILY INVESTMENT in your health

- Supports optimum health
- Boosts energy all day
- Supports immune function

120 Capsules 210 Capsules
\$21.95 **\$37.95**



ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles flavors as shown
Limit one per customer, while supplies last / Expires 5.29.19



hammernutrition.com
800.336.1977

Non-Stop Negative News About NSAIDs

BY ENDURANCE NEWS STAFF

Nonsteroidal anti-inflammatory drugs (NSAIDs) are in the news once again, and, not surprisingly, the data is alarming. By now, you are probably aware that taking NSAIDs increases the chance of having a heart attack or stroke. With the frightening results from increasing studies, and the FDA strengthening its warning about heart attack risk and NSAID use last year, the mounting evidence is impossible to ignore.

Over-the-counter NSAIDs are intended for short-term use (ten days or less), but now a new study shows that even short-term use can be dangerous. This groundbreaking study from the University of Montreal Hospital Research Center, published in *The BMJ*, (*British Medical Journal*) shows that heart attack risk is increased within the first week of NSAID use.

The researchers looked at the data from nearly 447,000 participants and found that those who took NSAIDs at any dose for one week had an increased risk of heart attack compared with those who did not. Of the participants, 61,460 had heart attacks.

As reported by the New York Times, “In those who used NSAIDs for one to seven days, the risk of heart attack increased 24 percent for celecoxib (Celebrex), 48 percent for ibuprofen (Advil, Motrin), 50 percent for diclofenac (Voltaren), and 53 percent for naproxen (Aleve).”

People with cardiovascular conditions should be especially cautious about NSAIDs. Michelle Bally, an epidemiologist at University of Montreal Hospital Research Center and lead researcher in the study, says, “I want people to have a conversation with their doctor. People are often not aware of their own baseline cardiovascular risk. You may want to stay with NSAIDs, or you may want to consider other treatments.”

The researchers of this study also found that the risk increases with the dose.

Increased risk of heart attack during first week of use


24%	50%	48%	53%
CELECOXIB (Celebrex)	DICLOFENAC (Voltaren, Cambia, Solaraze)	IBUPROFEN (Advil, Motrin)	NAPROXEN (Midol, Aleve, Napretan)
High daily dose: > 200 mg	High daily dose: > 100 mg	High daily dose: >1200 mg	High daily dose: > 750 mg.

Source: CBS News

They conclude, “Given that the onset of risk of acute myocardial infarction occurred in the first week and appeared greatest in the first month of treatment with higher doses, prescribers should consider weighing the risks and benefits of NSAIDs before instituting treatment, particularly for higher doses.” The FDA recommends that NSAID users take the lowest effective dose for the shortest amount of time possible.

Some of the more common side effects of NSAIDs include nausea, vomiting, diarrhea, constipation, decreased appetite, dizziness, headache, drowsiness, stomach pain, liver or kidney problems, stomach ulcers, heartburn, tinnitus (ringing in ears), increased blood pressure, and increased bleeding.

The more serious side effects of NSAIDs include heart attack, heart failure, stroke, high blood pressure, liver or kidney failure, allergic reactions (more common in asthmatics), unusual fatigue, fluid retention/swelling of feet-ankles-legs-hands, prolonged or excessive bleeding, and gastrointestinal bleeding.

Any side effect should be reported to your health care professional. Consult your doctor before taking NSAIDs if you had or have any of these conditions: cardiovascular problems (including high blood pressure), gastrointestinal problems (including ulcers), liver disease, kidney problems, or asthma. Other people who should check with their doctor are those taking steroids, aspirin, or blood thinners; those over 60 years old; pregnant women; and smokers. 

Pain relief & anti-inflammation alternatives:

- Hot/cold therapy
- Massage
- Chiropractic
- Acupuncture
- Physical therapy
- Hammer Tissue Rejuvenator
- Hammer Balm



Beat the pain without the NSAIDs



Simply put, Vic Allen is a winner. Throughout his paddling career he has stacked up some impressive athletic titles such as 6-Man-Boat Hawaii State Champion and Solo World Sprints Champion, among others. However, paddling feats aside, Vic's positive attitude, mental strength, and inspirational tendencies make him an unbeatable force. Although Vic has been without sight since he was 38, he remains incredibly active in the paddling community through racing, as well as coaching the next generation of Hawaii's paddlers. After all events and training sessions, Vic utilizes **Vegan Tissue Rejuvenator**, and **Hammer CBD** to enhance his recovery!
Photo: Annie McEveety Allen

- Targets joint & muscle soreness
- Optimizes joint mobility & flexibility
- Assists in maximizing recovery

“STAYING ACTIVE IS A LIFESTYLE!”



“Tissue Rejuvenator has helped me following a frozen shoulder and a fracture on the same arm. Definitely helps!”

- Online Reviewer



60 Capsules
\$19.95

120 Capsules
\$32.95

60 Capsules 120 Capsules
\$22.95 \$34.95

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown



hammadnutrition.com 800.336.1977

Five Reasons Why We're Anti-Ketogenic Diet

BY STEVE BORN

In Hammer Nutrition's many years, we've seen a lot of fad diets come and go. Few, however, have as many zealous devotees as the latest in the trend, the ketogenic diet ("keto" for short). And while the keto diet appears to possibly help in attaining short-term weight loss, its long-term effects on general health and athletic performance are controversial and, in many circles, potentially harmful.

In fact, a panel of health experts recently evaluated 40 diets for a number of factors, including ease of adherence, nutritional value, safety, effectiveness for weight loss, and protective benefits against diabetes and heart disease. Their rankings were published in US News and World Reports [1] and the ketogenic diet was ranked near the bottom in a tie for 38th.

Here are five primary reasons why we don't advocate the ketogenic diet:

- 1) **You feel sick.** Making the severe changes the keto diet requires can cause you to experience a number of unpleasant effects such as GI distress, fatigue, lethargy, dizziness, and flu-like symptoms (chills, sore throat, etc.), which can last up to 3-4 weeks. Our take? Any diet whose changes cause these ill effects—taking away time that could be spent training and maintaining fitness—is not one we're embracing.
- 2) **It stresses the kidneys and may increase the risk of kidney stones and gout.** In one study involving the ketogenic diet [2], 6.7% of the participants experienced excruciatingly painful kidney stones. According to one expert, "High intake of animal proteins makes your urine more acidic and increases calcium and uric acid levels. This combination makes you more susceptible to kidney stones, while high uric acid can increase your risk for gout."
- 3) **Increased risk of type 2 diabetes.** A press release [3] regarding recent research [4] states, "In this study

the researchers showed that for ketogenic diets this process for controlling blood sugar levels does not work properly and there was insulin resistance in the liver. When the liver is unable to respond to normal levels of insulin to control blood sugar levels this may lead to an increased risk of type 2 diabetes."

4) Increased risks of diseases and premature death.

In a study [5] involving nearly 25,000 participants, compared to those with the highest carbohydrate consumption, the participants with the lowest intake had a:

- **32% higher risk of all-cause death**
- **51% increased risk of death from coronary heart disease**
- **50% higher risk of death from cerebrovascular disease**
- **35% increase in cancer death risk**

Study author Professor Maciej Banach states: "Low carbohydrate diets might be useful in the short term to lose weight, lower blood pressure, and improve blood glucose control, but our study suggests that in the long-term they are linked with an increased risk of death from any cause, and deaths due to cardiovascular disease, cerebrovascular disease, and cancer. The findings suggest that low carbohydrate diets are unsafe and should not be recommended."

- 5) **Poorer exercise performance.** Dr. Gabe Mirkin has written extensively regarding ketogenic diets and athletes. In one of his articles [6] he writes, "There is evidence that a keto diet can help athletes to lose weight, but it has not helped athletes to race faster, even in very long races such as in 100k (62-mile) time trials, even though their muscles burned more fat (Metabolism, Nov 3, 2017).

FIVE REASONS . . . ANTI-KETO

Continued from previous page

Additional reading:


“Low-Carbohydrate Diets Harm Athletic Performance” at drmirkin.com/fitness/lowcarbohydrate-diets-harm-athletic-performance

trainingpeaks.com/blog/why-athletes-need-carbohydrates

jackkunkel.com/blog/why-do-fats-burn-in-the-flame-of-carbohydrates/

Summary

Despite all of the fanfare surrounding the keto diet, and with a handful claiming improved athletic performance resulting from adherence to this strict diet, we remain convinced that, especially if used long-term, the ketogenic diet DOES NOT enhance exercise performance and can lead to negative health consequences. We remain equally convinced that carbohydrates are the key component when it comes to fueling your body during exercise, especially in regards to being able to use fat as an energy source most efficiently and effectively.

Carbohydrates are undeniably important for promoting optimal recovery after your exercise session has been completed (protein is as well). Adequate amounts of carbohydrates are needed to replenish the muscle cells and the liver with fuel; limiting the amount you consume post-exercise will decrease, not improve, your recovery. 

REFERENCES:

[1] health.usnews.com/best-diet/best-diets-overall

[2] ncbi.nlm.nih.gov/pubmed/17621514

[3] physoc.org/press-release/2018/ketogenic-diets-may-lead-increased-risk-type-2-diabetes

[4] physoc.onlinelibrary.wiley.com/doi/10.1113/JP275173





[5] European Society of Cardiology. “Low carbohydrate diets are unsafe and should be avoided, study suggests.” *ScienceDaily*. *ScienceDaily*, 28 August 2018. <sciencedaily.com/releases/2018/08/180828085922.htm>

[6] drmirkin.com/fitness/keto-diet-not-likely-to-help-athletes.html

Strong and Steady from start to finish

- Stabilizes energy & blood sugar
- Maximizes fat utilization
- Protects lean muscle mass



32 Servings \$49.95	16 Servings \$29.95	Single-serving packets \$3.25	6 or more \$2.95 ea
FLAVORS	 CAFFÉ LATTE	 ORANGE VANILLA	 STRAWBERRY VANILLA
	 CHOCOLATE		

ORDER TODAY! Use Promo Code **EN114VR**

flavors as shown

Get two **FREE** Organic Vegan Recoverite Singles Limit one per customer, while supplies last / Expires 5.29.19



HAMMER
NUTRITION®

hammernutrition.com

800.336.1977

Zandy Mandgold on a training run near Leadville, CO. Photo: Justin Talbot

Product Spotlight

Recoverite

Two great options to fulfill one crucial need!

BY STEVE BORN

An absolutely vital component of improved athletic performance is the replenishment of carbohydrates and protein ASAP after a workout or event. In fact, I believe it may be the easiest way to enhance your endurance. You train. You “refill the tank” right away when you’re done. **Simple!**

You take care of the training part and we’ll take care of the post-exercise replenishment part ... with Recoverite. It’s super-easy, convenient,

delicious, and supplies your body with EXACTLY what it’s begging for after your workout is done.

The original **Recoverite** product remains the same: complex carbs (maltodextrin) and whey protein isolate in a 3:1 ratio, 3 grams of glutamine, a full-spectrum electrolyte profile, and key recovery-beneficial nutrients. Ever since its introduction 14+ years ago, thousands of thoroughly satisfied athletes have proven there isn’t a more potently effective recovery drink than Recoverite.

The four big benefits of “refilling the tank” ASAP after a workout

As mentioned earlier, you will probably not find an easier way to boost your fitness and enhance your exercise performance than by simply taking a few moments—as soon as your workout is done—to put some fuel back in your body. When you do that, your body rewards you handsomely for all the work you did in the training session.

Resupply the body with high-quality carbohydrates and protein right away—within the first 30 minutes (the sooner, the better)—and here’s what happens:

1. The muscle cells will be restocked with fuel so that you have it on board and ready to serve you for tomorrow’s workout. In fact, the more consistently you train AND resupply the body with fuel, the more your body will respond by storing more and more minutes of fuel in the muscles. That means you’ll have more available fuel when you toe the line for your big event, and that’s a definite advantage!

NOTE: As Brian mentions in his “Straight talk on carbohydrates” article, the quick replenishment of carbs and protein in the weeks and months leading up to an event is what “carbo loading” is truly all about.

2. Your muscle tissue receives the raw materials it needs to become stronger, which allows you to make increases in your training volume and intensity without your muscles taking such a beating.
3. The amount of soreness that you experience between now and the next workout will be greatly diminished. So instead of worrying about whether or not you’ll even be able to get out of bed, you’ll be ready for the next day’s workout.
4. Your immune system gets stronger instead of going down the drain. When you finish a workout, your immune system is “on the fence.” Supplying your body with fuel ASAP after a training session will tip the scales towards stronger immunity, helping you to avoid missing important training sessions due to illness.



Best of all, this great product is available in two options: whey protein and organic vegan protein!

Organic Vegan Recoverite contains the same ingredients in the same amounts as the original Recoverite formula, except that organic pea protein is the protein source. While not as bioavailable as whey protein isolate (nothing is), organic pea protein is an easily digested, gluten-free protein with an excellent amino acid profile. It contains excellent levels of BCAA's (leucine, isoleucine, valine), which are three key recovery-enhancing amino acids.




No question about it; your body wants and needs Recoverite or Organic Vegan Recoverite. That'll give it the carbs and protein it's in dire need of, as well as some other important nutrients—glutamine, chromium, L-carnosine, and electrolytes—that will help it recover quickly and more completely. Both formulations are simple to mix up, they taste great, and they work incredibly well.

Summary

Adopt the philosophy that the workout is NOT done until you put some fuel back into your body. That means:

- Before you get out of the sweaty workout clothes
- Before you get in the shower
- Before you do your stretching

... take a few moments to put the high-quality fuel that is Recoverite and Organic Vegan Recoverite into your body. THEN your workout is done and you've kick-started the recovery process in ideal fashion. 

Delicious Plant Power

- Enhances exercise recovery
- Supports digestive health
- Balances body activity



Single Serving
\$2.95

24 Servings
\$42.95

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

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles flavors as shown
Limit one per customer, while supplies last / Expires 5.29.19



hammadnutrition.com
800.336.1977

2019 Kits, Get Yours Now!



Hammer takes care of kit design in house and production is handled by world-class brands that don't outsource production. Our **Marcello Bergamo** and **Voler** pieces are crafted with state-of-the-art fabric and construction, custom graphics, and vibrant colors.

The end product gives you top-of-the-line comfort, performance, and style – we guarantee it!

► For more details on these items, and to see our full line of apparel and accessories, visit hammernutrition.com

Select styles shown, but more items are available!



3

AMERICAN-MADE RIDING WEAR

Made in the USA. Exceptional quality and comfort. All clothing items available in small to extra large.



1. Women's Voler Shorts

Fabric: Pulse Pad: Comp

These Pro Shorts provide excellent support to the upper leg for maximum performance. The Comp Pad is cut specifically with women in mind. The flat-lock seams are strategically placed for comfort and performance and minimize interior abrasion.

\$59.95

2. Women's Voler Wind Jacket

Fabric: Stratus

A great choice for cool morning rides. Stratus fabric provides superior wind protection and water resistance while the Alito mesh back provides stretch and ventilation. Reflective binding, dual directional zipper.

\$59.95

3. Men's Voler Wind Jacket

Fabric: Stratus

A great choice for cool morning rides. Stratus fabric provides superior wind protection and water resistance while the Alito mesh back provides stretch and ventilation. Reflective binding, dual directional zipper.

\$59.95

4. Men's Voler Bib Shorts

Fabric: Pulse Pad: Comp

These Bib Shorts provide excellent support to the upper leg for maximum performance. The flat-lock seams are strategically placed for comfort and performance and minimize interior abrasion.

\$69.95

1



2



4



MEN'S ITALIAN-MADE RIDING WEAR

Go the distance in comfort in our Bergamo jerseys & bibs. All clothing items are available in small to extra large.



1



2



3

1. Men's Bergamo Short Sleeved Jersey

A premium, highly ventilated, hot weather jersey with short raglan sleeves, three back pockets, full-length hidden zipper, and gel gripper on waist. Impeccable Italian craftsmanship.

\$34.95

2. Men's Bergamo Long Sleeved Jersey

This expertly-crafted, highly ventilated, hot weather, long sleeved jersey offers sun protection. Raglan sleeves, three back pockets, full-length hidden zipper, and gel gripper on waist.

\$39.95

3. Men's Bergamo Bib Shorts

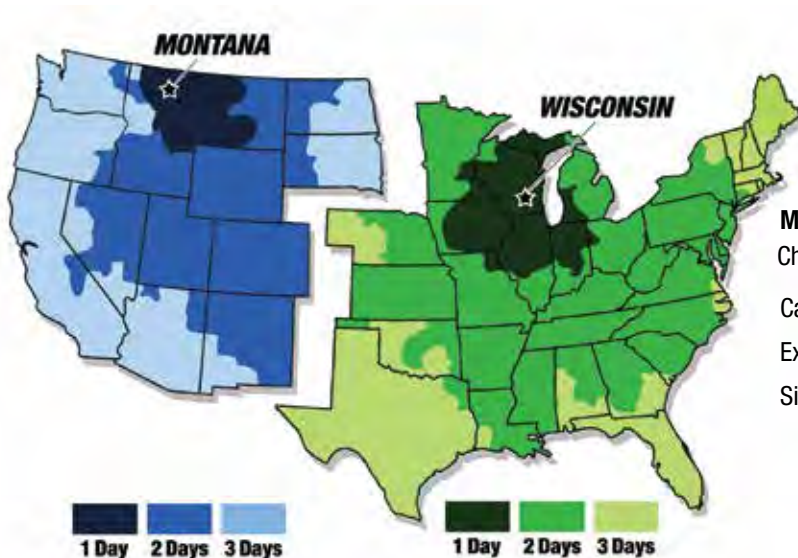
Unbeatable, all day chamois! Double layer, flat-leg cuff has no elastic or silicone gripper for greater comfort and style. If you want the most comfortable bib for riding 6, 12, 24 hours or more, this is it!

\$59.95

NEW! Faster Shipping!

Client # _____
 Name _____
 Address _____
 City, State, Zip _____
 Phone _____ Email _____

Product	Flavor/Color	Size	Price	Quantity	Amount



ORDER TODAY!

Shipping rates:
Order Total Ground FedEx
 \$0 to \$39.99 \$4.95
 \$40 to \$99.99 \$7.95
 \$100+ FREE!
 Shopping Local NONE!

Subtotal: _____
 Shipping: _____
See chart at left
TOTAL: _____

Method of Payment (circle one)

Check / MO • Visa • MC • Discover • AmEx

Card # : _____

Exp. : _____ Verification # : _____

Signature : _____

800.336.1977

hammadnutrition.com

SOS Pre-Exercise Fueling

The Six DO'S and DON'TS to get your workout or race off to the right start!

5 Secrets of Success

Few nutrition topics cause as much confusion for athletes as pre-exercise fueling. The recommendations of nutritional “experts” have arguably generated the greatest confusion, and many an athlete has paid a hefty performance price for this misinformation.

While we acknowledge there have been many athletes who are skeptical about our pre-exercise fueling recommendations, over the course of more than 32 years we can honestly say that we've yet to have one athlete tell us these recommendations didn't work. If anything, we've heard nothing but glowing reports from athletes blown away by how much better they feel and how much more endurance they've enjoyed.



If you're tired of the confusion and ready to start enjoying higher-quality workouts and better race results, consistently apply these time-proven “Do's” and “Don'ts” right away.

- 1. DO finish all calorie consumption three hours before exercise begins.** Weeks of consistent high-quality training and immediate post-workout refueling builds and maximizes your stores of muscle glycogen, which is the first fuel your body will use when you begin exercising. (Note: this is the true definition of “carb-loading.”) You have a finite supply of this fuel so, naturally, you want to use it as efficiently as possible. Eating sooner than three hours prior to the start of exercise promotes faster depletion of muscle glycogen and inhibits fat utilization, the combination of which will devastate your performance.
- 2. DON'T sacrifice sleep to eat. Muscle glycogen levels remain intact—not one calorie has been depleted—even after a full night's sleep.** It's unnecessary and of no benefit to intentionally wake up early just to eat. If eating a pre-exercise meal three hours prior is not logistically feasible, consume a small amount of your supplemental fuel, such as


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

- 3. DON'T overeat.** The goal of the pre-exercise meal is to top off your liver glycogen, which has been depleted during your sleep. Accomplishing this doesn't require you to eat 700, 800, 900, 1,000 calories, or more, as some so-called “experts” would have you believe. A pre-exercise meal of no more than 300 to 400 calories is quite sufficient. You can't add anything to muscle glycogen stores at this time (you'll just be topping off liver glycogen stores), so stuffing yourself is counterproductive, especially if you've got an early morning workout or race.
- 4. DO avoid simple sugars, high fat, and high fiber.** Give your body the right fuel, which means complex carbohydrates and perhaps a small amount of protein. Simple sugars (sucrose, glucose, fructose) provide unwanted junk calories; they're not what your body wants nor needs. Also, avoid fat-containing and high-fiber food to minimize the potential for stomach distress as well as unscheduled bathroom breaks during your workout or race.

5. **DO stay properly hydrated.** Either of these sensible suggestions will satisfy hydration needs without putting you at the risk for over-hydration:

- One liter of water (about 34 ounces) in the two hours prior to the start (about 17 ounces/hour), ceasing consumption about 20 to 30 minutes before the workout or race.
- 10 to 12 oz. of water each hour up to 30 minutes prior to the start (24-30 ounces total fluid intake).

Make sure you include a serving of Fully Charged with your water and begin consuming 30 minutes prior to the start.

6. **DO take your first dose of Endurolytes or Endurolytes Extreme 15 to 30 minutes prior.** This will cover your first hour's requirements for electrolytes. So instead of reaching for pills when your workout or race begins, you can focus on getting into a nice, smooth rhythm. 

...over the course of more than 32 years we can honestly say that we've yet to have one athlete tell us these recommendations didn't work.



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

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

- Powerful recommendations
- Concise information
- Time-tested advice



800.336.1977

**DOWNLOAD
YOUR FREE
COPY TODAY!**

@hammernutrition.com

FROM THE KITCHEN OF
LAURA LABELLE

Mix it up



I always say, the easiest way to eat healthy is to make your own meals. Preparing your own meals makes it easy to know where your food comes from and what it contains. You can easily control your sugar and sodium intake. Prepared or processed foods are often full of sugar and sodium. Worse still, many foods contain all kinds of fillers and chemicals we don't want in our food on a daily basis. If you don't already read labels, you'll be surprised what you find there. While I have an endless repertoire of healthy food possibilities, I often get stuck in a rut of making the same things over and over. Here are a few fun ways to mix it up and add excitement to your next meal.

Don't be afraid to try something new! The worst outcome will be that you don't like it. If that's the case, wait a few months or years and try it again prepared differently. You just never know!

Start by going out on a limb once in a while. We all have our "go-to meals" and easy recipes that fall into the "comfort food" category. I was having lunch with someone the other day and he asked me, "What is that vegetable?!" I looked at my plate and couldn't believe a 45-year-old man didn't know what eggplant was. Then I started thinking, "Food is my job! I am a 'foodie.' I have made a 30+ year career of knowing food. Many people eat simple and stick to the foods they

know." There is nothing wrong with that, but maybe it would be exciting to try something new.

Cookbooks fuel my culinary experiments. While I am not one to follow recipes; I love to read them and get new ideas for dishes and meals. Don't get me wrong, recipes are great! I just love to pore over several recipes for the same thing and see what looks the best to me. Don't be afraid to try something new! The worst outcome will be that you don't like it. If that's the case, wait a few months or years and try it again prepared differently. You just never know!

When trying new foods, be mindful that our tastes change and become accustomed to new foods as we mature. I can't tell you how many times someone has told me, "I hate zucchini," and then I ask them to try it they say, "Oh, that's actually tasty, I used to think that was awful." I used to dislike tomatoes and now love them; I used to love cooked carrots and now I don't. Our taste is often dictated by continued affirmations of "I don't like this" when the flavor might surprise you!

Food exchanges are another fun way to enjoy food differently. Find a friend who enjoys cooking and do a food swap. When you make a pot of something, make extra and coordinate with your friend to exchange and try each other's yummy food. Try to ask your friends what their "go-to" meals and recipes are. Exchange ideas or recipes with them. Cooking is fun; just remember to mix it up from time to time.

VARIETY IS THE SPICE OF LIFE! 



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

Recover right . . .

optimize recovery, the vegan way.

- 100% organic
- Restores muscle glycogen
- Rebuilds muscle tissue
- Reduces soreness & fatigue



“IT’S AMAZING!”



*“I use **Organic Vegan Recoverite** after long rides, runs, and swims. It allows me to train hard the next day and not waste time.*

- Online Reviewer



repeat!

SPECIAL OFFER

For a limited time - buy one, get one FREE!

Purchase any size or flavor Organic Vegan Recoverite and get another one [same size and flavor]

FREE!



32 Servings \$59.95	16 Servings \$34.95	Single-serving packets \$3.50	6 or more. Mix or match flavors. \$2.95 ea
FLAVORS	■ CHOCOLATE ■ ORANGE VANILLA	■ STRAWBERRY ■ VANILLA	

ORDER TODAY!

Use Promo Code **EN114BOGO**

Buy any size or flavor and get the second FREE
Limit one per customer, while supplies last / Expires 5.29.19



hammadnutrition.com 800.336.1977

Karin Weller riding in the Race Across the West.
Photo: Brian Sinclair

Comfort Food

Two simple recipes to add to your spring menu



Shepherd's Pie

1 lb ground beef	1 cup ripe, chopped tomatoes	2 eggs, lightly beaten
3 bacon strips, diced (optional)	¼ cup chopped olives of your choice	2 tbsp butter, softened
1 large onion, chopped		1 tbsp minced fresh parsley
2 garlic cloves, minced		¼ tsp salt
1 tsp chopped, fresh oregano or ¼ tsp dried oregano	5½ cups hot mashed potatoes* (prepared without milk and butter)	Additional butter, melted

In a large skillet, cook beef over medium heat until no longer pink; drain and set aside. In the same skillet, cook bacon, onion, garlic, and oregano until bacon is crisp; drain. Stir in the tomatoes, olives, and beef. Simmer the mixture, uncovered, for 10 minutes or until heated through.

Meanwhile, combine the mashed potatoes, eggs, butter, parsley, and salt. Spread half of the potato mixture on the bottom and up the sides of a greased 9-inch pie plate. Layer with beef mixture and remaining potato mixture.

Bake at 375° for 20 minutes. Brush the pie with melted butter. Bake 10 minutes longer or until top is golden brown.



Poached Pears in Red Wine Sauce

2 cups dry, red wine, such as cabernet or merlot	1 tbsp coarsely grated orange zest
¼ cup plus coconut sugar	1 cinnamon stick
1 orange, juiced (about ½ cup)	2 cloves
	4 firm, ripe pears (Bosc or Anjou)

Combine wine, sugar, orange juice, zest, cinnamon stick, and cloves in a 4-quart saucepan. Bring to a boil, reduce heat, and simmer for 5 minutes.

While liquid is simmering, peel pears. Leave stems intact and be careful not to blemish the flesh of the pears. Slice ½ inch off the bottom of the pears to create a flat bottom. Gently place pears in poaching liquid, cover, and simmer for 15 to 20 minutes, turning every 5 minutes to ensure even color, until pears are cooked but still firm. Remove saucepan from flame, uncover, and cool with pears upright in pan. Once cool, cover and chill in refrigerator at least 3 hours or up to 24 hours, turning occasionally if desired. Gently remove pears from liquid and allow to come to room temperature.

Meanwhile, reduce liquid by about half over a medium-high flame for 15 minutes until liquid is thicker and slightly syrupy. Remove from flame and let liquid come to room temperature. Drizzle each pear with 2 tablespoons syrup and serve.

For more inspiration, go to hammernutrition.com/cookbook.

Photos: Endurance News Staff

Healthy Recipe INSPIRATION

Download your **FREE** copy today at
hammernutrition.com/cookbook



100+ pages
of healthy,
wholesome,
and fresh
ideas—for the
holidays and
every day—that
you'll love!



hammernutrition.com | 800.336.1977

Hot Turmeric Cereal

Makes 2 servings

Ingredients:
2 servings oatmeal or Cream of Rice
2 tsp. grated fresh turmeric (or 4 Tissue Rejuvenator capsules)
1 tsp. honey (if using Tissue Rejuvenator)

Preparation:
In a medium-size saucepan, prepare the cereal according to package directions. For extra flavor, cook cereal in almond milk instead of water. As the cereal cooks, add either the turmeric or Tissue Rejuvenator capsules. (Break open the capsules and pour the contents into the cereal.) If using Tissue Rejuvenator, add the honey to offset the slightly bitter flavor. Serve with your choice of toppings and milk.

21
www.hammernutrition.com

Kale Slaw

Makes 4-6 servings

Ingredients:
1 bunch kale
12 baby Brussels sprouts
1 large carrot
1 Fuji apple
Juice of a lemon
1/2 cup dried cranberries

Dressing:
1/2 cup extra virgin olive oil
1/4 cup seasoned rice vinegar
Salt and pepper to taste

Combine ingredients in small bowl (or Hammer Blender Bottle) and mix well.

Preparation:
Shred kale and Brussels sprouts either by hand or in a food processor. Grate carrot. Cube apple and toss with lemon juice to prevent browning. In a large bowl, mix kale, Brussels sprouts, carrot, apple, and dried cranberries. Toss with dressing and enjoy!

39
www.hammernutrition.com

Pepper Ahi Steak

Ingredients:
Fresh ahi tuna steaks
Carolina oil
Pepperorns (allow about 2 Tbsp. per person)

Preparation:
Brush ahi steaks lightly with carolina oil on both sides. On a cutting board, coarsely crush the pepperorns with the bottom of a small pot or pan. Coat both sides of the Ahi with the crushed pepper. Grill, barbecue, or pan fry without oil. Cook for about 6 minutes on each side, or until done. Serve with lemon or tartar sauce.

150
1.800.336.1977



72 hours before

What NOT to do

BY BRIAN FRANK

When you have a big event, competition, or adventure **DO NOT** attempt to:

- Load carbohydrates
- Load water
- Load sodium

It does not work!

You have almost certainly heard experts and veteran athletes say you should “race like you train” and “never try something new on race day,” right? Evidently, most athletes don’t think this applies to the days leading up to the event too. I constantly see athletes massively changing their calorie, fluid, and sodium intake just before a big endurance event, competitive or not. These practices contradict the old adages and human physiology!

The simple truth is that maintaining constant calorie, fluid, and sodium intake while you simultaneously reduce expenditures in the taper phase leading up to your event allows you to “load” all of these things as much as possible.

Hopefully, you have read our fueling booklet, the *5 Secrets to Success*, and incorporated those practices immediately prior, during, and after your training and racing routine for complete success. But what do you do in the 72 hours prior to race morning? Keep reading for the answers.

In the old days, athletes were erroneously told that consuming

copious amounts of calories, fluid, and sodium during endurance events would allow them to achieve optimum performance. 400-600 calories, 40-60 ounces of fluids, and 1-3 grams of sodium per hour were recommended in the ’80s. Whenever exercise or competition went beyond three hours, stomach and GI problems were almost universal. Today it’s rare to find anyone still advocating these crazy numbers, at least in this country. Europe and Asia are another story.

The idea of “loading” anything in the days prior to a big event is not only outdated but completely counterproductive.

As you know if you have read our literature, hourly intakes of 120-180 calories, 20-25 ounces of fluids, and 400-600 mg of salt (sodium chloride)—as part of a full-spectrum electrolyte replenishment product—are more reasonable and effective upper limits. We’ve been advocating this for three decades and these numbers are now more-or-less the accepted wisdom of the crowd.

Unfortunately, the myths regarding “loading” in the days leading up to a big, hot event are still surprisingly pervasive. So, let me dispel this one more time and hope you will avoid

making these mistakes this year and beyond.

Calories – We typically eat too much already. Increasing calorie intake during days of lower physical activity before an event only makes more work, fills your stomach and intestines, and likely leads to increased fat storage.

Fluid/water – We are not camels and cannot store water. Suddenly increasing daily intake by more than 10% will overly dilute the electrolytes in your blood, which increases the potential for serious issues associated with hyponatremia. Additionally, all that unnecessary water will excessively fill your bladder, causing you to prematurely lose electrolytes courtesy of frequent elimination.

Salt/sodium – Again, we typically consume too much. Increasing it even more will not improve heat tolerance. In fact, it puts the body into survival mode where it seeks to jettison the excess to avoid toxicity. Whatever your normal daily sodium intake in the weeks prior to an event, keep it the same all the way up to race start. Then, from the start of the event, consume reasonable amounts throughout.

The idea of “loading” anything in the days prior to a big event is not only outdated but completely counterproductive.

Don’t do it! 



RICH in performance benefits **HIGH** in essential Omega-3s

- Protects cardiovascular health
- Supports healthy joints
- Enhances brain function & mood



“I LOVE THIS PRODUCT”



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

- Online Reviewer

180 Softgels
\$29.95



ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown

HAMMER
NUTRITION®

hammernutrition.com 800.336.1977



AID STATION

INSUFFICIENT SLEEP AND ITS LINK TO ALZHEIMER'S DISEASE

BY STEVE BORN

Recently, I wrote an article (“The Seriousness of Securing Sufficient Amounts of Sleep”) that discussed the research [1] showing that people who sleep less than six hours a night may be at an increased risk of cardiovascular disease.

With the exception of a “Part Two” bit of verbiage at the end, this new article’s title should really remain the same. That’s because of important new research that provides even more insights as to how insufficient sleep and sleep deprivation increases Alzheimer’s disease risk.

Research regarding the poor sleep/neurodegenerative diseases link has surged over the past couple of years, with many of the studies focusing on a particular protein involved in Alzheimer’s disease—amyloid-beta—and how lack of quality sleep can increase accumulations of this protein in the brain. This new study [2] focused

on the other protein that’s implicated in causing Alzheimer’s disease, a protein simply known as “tau.”

Although this protein is found in the brain of healthy people, certain conditions cause it to abnormally clump together, forming what are known as neurofibrillary tangles, which damage nearby tissue, eventually leading to cognitive decline.

Researchers at Washington University School of Medicine in St. Louis found that sleep deprivation not only increases levels of tau and neurofibrillary tangles, it accelerates the spread of these toxic clumps through the brain, expediting the speed at which brain damage and neurodegenerative diseases like Alzheimer’s can occur.

Lead researcher Dr. David Holtzman states, “The interesting thing about this study is that it suggests that real-life factors such as sleep might affect how fast the disease spreads through the brain. We’ve known that sleep problems and Alzheimer’s are associated in part via a



HAMMER NUTRITION’S “SUPERIOR SLEEP ARSENAL”

******HAMMER CBD** – The broad-spectrum phytocannabinoid and terpene content in Hammer CBD interacts with the CB1 receptors in the brain, influencing the neurotransmitters, proteins, and other chemicals in the brain, which can positively affect many of the body’s functions, including sleep-wake cycles. A 2016 study on CBD use for sufferers of insomnia showed that CBD gradually helped improve sleep quality and duration, and reduced anxiety [3].

*****REM CAPS** – The main component in this all-natural sleep formula is melatonin, a hormone that is naturally produced and secreted by the pineal gland and vitally needed for a number of bodily functions, especially sleep. A number of factors, especially aging, decrease the body’s production of this all-important hormone, which is why supplementation with melatonin-based REM Caps is highly beneficial.

Note that both Hammer CBD and REM Caps may be taken together, if desired. First, remember that Hammer CBD is a daily use supplement, while REM Caps can be used either on a daily basis or as an occasional-use supplement. These two products are compatible because they act on different bodily areas and functions.

*****ESSENTIAL MG** – Of the myriad benefits that magnesium offers, helping the nerves and muscles to relax and helping calm the nervous system—all of which greatly assist in obtaining quicker and more-complete sleep—are some of the very best.

The National Sleep Foundation also lists a number of tips that can help ensure getting a sufficient night’s sleep. See sleepfoundation.org/sleep-tools-tips/healthy-sleep-tips for more information.



AID STATION

Continued from previous page


A roundup of nutritional news, tips and tidbits

different Alzheimer's protein—amyloid beta—but this study shows that sleep disruption causes the damaging protein tau to increase rapidly and to spread over time.

CONCLUSION

Emphasizing what I wrote in my previous article, the lack of sufficient-duration, high-quality sleep does a lot worse than just put you in a bad mood; it is clearly one of the chief ways that negatively impact our athletic performance and, more importantly, our overall health.

An estimated 30% to 50% of the general population is affected by insomnia (Latin for “no sleep”) and 10% have chronic insomnia. According to polls from the National Sleep Foundation, dating all the way back to 1999, over 50% of adults in America experience one or more symptom of insomnia at least some nights over the course of a week. With these kinds of figures, there's a very good chance that you too are affected by insufficient sleep, and it's crucially important to rectify that situation.

Listed in the sidebar are Hammer Nutrition's premium-quality products that will help you achieve just that. 

REFERENCES:

- [1] Fernando Domínguez, Valentín Fuster, Juan Miguel Fernández-Alvira, Leticia Fernández-Friera, Beatriz López-Melgar, Ruth Blanco-Rojo, Antonio Fernández-Ortiz, Pablo García-Pavía, Javier Sanz, José M. Mendiguren, Borja Ibañez, Héctor Bueno, Enrique Lara-Pezzi, José M. Ordovás. Association of Sleep Duration and Quality With Subclinical Atherosclerosis. *Journal of the American College of Cardiology*, 2019; 73 (2): 134 DOI: 10.1016/j.jacc.2018.10.060
- [2] Holth JK, Fritschi SK, Wang C, Pedersen NP, Cirrito JR, Mahan TE, Finn MB, Manis M, Geertling JC, Fuller PM, Lucey BP, Holtzman DM. The sleep-wake cycle regulates brain interstitial fluid tau in mice and CSF tau in humans. *Science*, 2019 DOI: 10.1126/science.aav2546
- [3] ncbi.nlm.nih.gov/pmc/articles/PMC5101100/

Step up your game

Pre-Exercise Ignitor



- **Increases energy** 6-Stick Packs **\$8.95** 24-Stick Packs **\$34.95**
- **Promotes mental acuity**
- **Improves power output** 30-Serving Tub **\$34.95**

Ryan Ingham on a training run for World's Toughest Mudder, along the lower Colorado River.
Photo: Ryan Ingham

ORDER TODAY! Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles | Limit one per customer, while supplies last / Expires 5.29.19



HAMMER
NUTRITION®

hammernutrition.com
800.336.1977

Coffee Drinkers Enjoy Lower Risk of Diabetes

BY STEVE BORN




The results of a meta-analysis that involved nearly 1.2 million study subjects showed a significantly decreased risk of developing type 2 diabetes for those who drink coffee as compared to non-coffee drinkers.

30 prospective studies were included in the meta-analysis and researchers found that participants who had the highest coffee intake (median intake = 5 cups/day) had a 29% lower risk of developing type 2 diabetes. Compared to non-coffee drinkers, the research showed that for every one cup per day increase in coffee consumption, the risk of developing type 2 diabetes was lowered by 7% for caffeinated coffee and 6% for decaffeinated coffee.

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

Available evidence indicates that coffee consumption is inversely associated with risk of type 2 diabetes.

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

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

SELECTED REFERENCES:

<https://academic.oup.com/nutritionreviews/article-abstract/76/6/395/4954186>



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



ALL 53X11 COFFEE BLENDS ARE AVAILABLE IN GROUND AND WHOLE BEAN!

53X11 COFFEE

Hammer life to the fullest—beginning with your morning cup of joe. If you've never tasted 53x11 Coffee, you'll be a fan after your first cup, guaranteed.

Each Fair Trade Certified, 100% organic 53x11 Coffee blend is micro-roasted daily to our exact specifications and delivered fresh to your door.

Join the **Coffee of the Month Club** for discounts on monthly orders! For more information, visit: hammernutrition.com/products/coffee/

"FABULOUS TASTING COFFEE"



"This is by far the best coffee ever! It gives me the morning lift I need with absolutely no side effects. Not 5 stars . . . 100!!!!"

- Online Reviewer

THE CHAIN BREAKER

Espresso 12 oz. \$13.95

THE EARLY BREAK

Medium Roast 12 oz. \$13.95

THE DOWN SHIFT

Decaf 12 oz. \$13.95



OUR MOST POPULAR BLEND!

THE BIG RING - Sumatra

These beans come from Indonesia, where the climate and soil combine to produce a distinctively full-bodied yet smooth coffee. 100% Sumatra beans are medium-roasted to bring out all of the richness.

12 oz. \$13.95

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown



hammernutrition.com 800.336.1977

What I hate to love

BY JOHN KELLY

Sugar and I, well, we go way back. I come from the land where your tea ain't right unless it's so thick your straw floats in it. And even in those parts, my sweet tooth stands out. If I could eat nothing but milkshakes, cheesecake, and maple syrup without consequences, I'd have no qualms about it. As I've come to painfully learn, though, those consequences reach farther and start earlier than I long thought.

“I've chosen not to live a life of zero tolerance towards sugar, but a practical one where decisions on it are carefully weighed.”

Many endurance athletes have the approach that if the oven is hot enough, anything will burn. Sure, an ultrarunner can appear to get by eating a diet higher in sweets compared to the average person. But that doesn't mean health and performance aren't suffering. Health is far more important than performance or appearance, but the health consequences of a diet high in sugar are well-researched, with material out there much more informative than anything I can say. So I'm going to focus on performance, where my anecdotal experience might add a bit more to the discussion.

If you follow me on social media you can find pictures of me consuming horribly unhealthy

things. What isn't always made clear is that these indulgences are sparse and timed to have minimal impact on my training and racing schedule. Usually it's after one of my key races, when I'll be entering a longer recovery period and am as far as possible from my next big event.


The other thing that isn't made clear is that, even with the careful timing, I still feel it. The soreness, swelling, and mental fatigue I suffer after one

of my post-race sugar benders are all markedly more severe than when I'm looking to jump right back into training and have a proper recovery where I refuel intelligently. Even during training, if there's a celebration or holiday and I fail to restrain myself, it affects me. Part of becoming an endurance athlete has been becoming incredibly in tune with my body, and when something isn't right I know it. I can try to push through it, but it unavoidably leaves me with suboptimal training.

On the other hand, I'm not an Olympic athlete, and everything we pursue in life has to be properly balanced against the sacrifices we make for it. I've chosen not to live a

life of zero tolerance towards sugar, but a practical one where decisions on it are carefully weighed. Will the happiness that that piece of cheesecake brings me outweigh its consequences? Sometimes yes, most of the time no. After enough of it, the answer is always no.

So I choose to save those treats as just that – treats, carefully timed and selected for when they bring me the most joy and the fewest consequences. Outside of that, I avoid sugar as much as possible.

That's another reason I rely on Hammer: they minimize the sugar in my fuel so I can save it for those truly deserving occasions. 

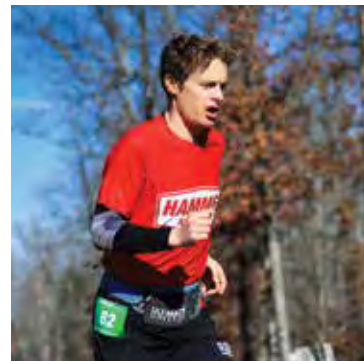


Photo: Gregg Gelmis, WeRacePhotos

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

Quality, Concentrated Energy

in a single serving size

- Rock-solid sustained energy
- No sugar crash
- Easy to digest, no GI distress

“GREAT FOR LONG TRAINING RUNS”



“Hammer Gel is made with real ingredients and easy on the stomach. Love these for long training runs!” - Online Reviewer



Single-serving packets

\$1.40 ea **\$1.25 ea** 12 or more. Mix or match flavors.

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

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown



hammernutrition.com 800.336.1977

Focus on Fiber

BY STEVE BORN

We regularly discuss carbohydrates in *Endurance News*, but admittedly most of that is focused on complex carbohydrates and sugars. One carbohydrate that doesn't get mentioned as much—though it really should—is fiber.

Renowned nutritional expert Dr. Robert Lustig, Professor Emeritus of Pediatrics, Division of Endocrinology, UCSF, presents six reasons why sufficient amounts of fiber are so beneficial for human health [1].

There are two kinds of fiber. Soluble: (e.g. pectins, inulin) and insoluble (cellulose). You need both. When you have both, six good things happen:

1. The insoluble fiber forms a latticework in the duodenum and the soluble fiber plugs the holes in the latticework to create an impenetrable secondary barrier. This limits simple carbohydrate absorption in the duodenum, thus preventing the liver from receiving all that carbohydrate at once, tamping out the tsunami of carbohydrate.
2. This also reduces the glycemic excursion in the blood, so that the insulin response will be attenuated.
3. If the carbohydrate isn't absorbed in the duodenum, it goes to the jejunum, where the microbiome is, promoting microbial diversity and gut health.
4. Grains are covered in insoluble fiber (the husk). If you consume them whole and non-pulverized, the enzymes in the intestine have to strip that covering off before the starch is released. That takes a lot of time, and so it happens later in the intestine, so that the bacteria can get to it.
5. The soluble fiber can be fermented by intestinal bacteria to make short-chain fatty acids, which also suppress insulin release and improve gut health.
6. The insoluble fiber acts like little “scrubbies” on the inside of your colon to remove old and damaged cells, thus reducing risk for colon cancer.

The best fiber is where there is both soluble and insoluble. That's everything that comes out of the ground — before it's processed. As soon as it's processed, it loses many of these six properties.

How much fiber do you need?

The optimal amount of daily fiber intake varies depending on a person's age and sex. The current edition of *Dietary Guidelines for Americans* [2] recommends the following approximate daily intake:

Children age 1-3 require 14 grams of fiber per day

Females age 4-8 require 16.8 grams of fiber per day

Males age 4-8 require 19.6 grams of fiber per day

Females 9-13 require 22.4 grams of fiber per day

Males 9-13 require 25.2 grams of fiber per day

Females 14-18 require 25.2 grams of fiber per day

Males 14-18 require 30.8 grams of fiber per day

Females 19-30 require 28 grams of fiber per day

Males 19-30 require 33.6 grams of fiber per day

Females 31-50 require 25.2 grams of fiber per day

Males 31-50 require 30.8 grams of fiber per day

Females 51+ require 22.4 grams of fiber per day

Males 51+ require 28 grams of fiber per day

Unfortunately, most Americans are not getting enough dietary fiber. A study in 2008 found that the average daily intake was only 16 grams per day [3]. Taking into account that this study ranged from 1999-2008 (its data is no less than 11 years old), and given the increased amount of processed food that Americans eat, that “16 grams per day” amount may actually be quite a bit lower.

What foods are fiber-rich?

Legumes, nuts, and seeds are excellent sources of fiber:

- Black beans—15 grams per cup
- Lima beans—13 grams per cup
- Kidney beans—13 grams per cup
- Split peas—16 grams per cup
- Lentils—15.5 grams per cup
- Chestnuts—4 grams per 10 nuts
- Almonds—4 grams per ounce
- Pine nuts—3 grams per ounce
- Pistachios—3 grams per ounce
- Chia seeds—10 grams per ounce
- Flax seeds—8 grams per ounce
- Pumpkin seeds—5 grams per ounce
- Sesame seeds—4 grams per ounce

Focus on Fiber

Continued from previous page

High-fiber fruits and vegetables:


- Artichokes—10.3 grams per one average-sized artichoke
- Avocados—10 grams per cup
- Turnips—5 grams per cup
- Brussels sprouts—4 grams per cup
- Collard greens—4 grams per cup
- Swiss chard—4 grams per cup
- Sweet Potatoes—4 grams per one average-sized potato
- Beets—3.8 grams per cup
- Broccoli—3 grams per cup
- Kale—2.6 grams per cup
- Tomatoes—1.5 grams
- Carrots—1.5 grams per one medium-sized carrot
- Raspberries—8 grams per cup
- Blackberries—7.6 grams per cup
- Pears—5.5 grams per one medium-sized pear
- Apples (w/skin)—4.5 grams per one medium-sized apple
- Nectarines—2.4 grams per medium-sized nectarine
- Apricots—3.1 grams per three apricots
- Bananas—3.1 grams per medium-sized banana

Grains:

- Spelt, cooked—7.6 grams per cup
- Kamut, cooked—6.7 grams per cup
- Barley, pearly, cooked—6 grams per cup
- Bran flakes—5.5 grams per 3/4 cup
- Quinoa, cooked—5 grams per cup
- Amaranth, cooked—5 grams per cup
- Brown rice, cooked—3.5 grams per cup

SUMMARY

With all the great fiber-rich foods available (the list provided is just a small representation), it should be easy for you to reach your daily fiber goals and receive the plentiful benefits that optimal amounts of fiber provides.

Example: A kale and green-leaf lettuce salad accompanied with tomatoes, shredded beets and carrots, a couple slices of avocados, some shaved almonds, perhaps a small handful of raspberries, and sprinkled with chia seeds is a super delicious, ultra-nutritious, fiber-loaded powerhouse! 

REFERENCES:

- [1] <https://robertlustig.com/>
- [2] https://health.gov/dietaryguidelines/2015resources/2015-2020_Dietary_Guidelines.pdf
- [3] <https://www.ncbi.nlm.nih.gov/pubmed/22709768>

ANTIOXIDANT ARSENAL

Enhance endurance, accelerate recovery, and supercharge your immunity with the “A” Team.



90 Capsules: **\$49.95**
3 or more: **\$45.85 ea**



60 Capsules: **\$34.95**
3 or more: **\$30.95 ea**



120 Capsules: **\$21.95**
210 Capsules: **\$37.95**



60 Capsules: **\$34.95**
3 or more: **\$29.95 ea**



90 Capsules: **\$24.95**

ORDER TODAY! Use Promo Code **EN114VR**

flavors as shown

Get two **FREE** Organic Vegan Recoverite Singles | Limit one per customer, while supplies last / Expires 5.29.19



HAMMER
NUTRITION®

hammadnutrition.com

800.336.1977



Hammer Nutrition is pleased to announce the addition of a new member to the team!

Dr. Bayne French joins Hammer Nutrition as our new medical advisor. Dr. French brings over 20 years of health experience with a focus on wellness to the Hammer team.

Dr. French was born in the mountains and has been molded by them. He grew up in Eureka, Montana, which is a short drive from Hammer Nutrition headquarters in Whitefish, Montana. Obsessed with the outdoors, he spent an inordinate amount of time chasing wild animals (and sometimes being chased by them). He played college basketball and did all his undergraduate training in Montana. He graduated as a Doctor of Chiropractic in 1996. Four years later, he graduated from the University of Washington with an MD and set off to work in Alaska for the next seven years. He resides with his wife, Cricket, and two sons, Highland and Rowan, in Whitefish, MT where he works at Glacier Medical Associates. He is double board certified in Family Medicine and Obesity Medicine.

Endurance athletics are woven into his DNA. He has numerous marathons under his belt, including one 50-mile race. He picked up obstacle course racing in 2013 and went on to win the Masters division of the Bigfork, MT Spartan Beast (2016) and the Monterey, CA Spartan Super (2016), and placed second in the Spartan Ultra Beast World Championships in Lake Tahoe (2016). He thrives in the wilderness, where he puts his bushcraft and simple outdoor living interests to use.

Metabolic Musings

DR. BAYNE FRENCH, MD DC

“I can write on any topic I want?”

“Yep,” Brian Frank replied.

“Ok...I’ll choose primitive fire by bow and drill! No, I think squirrel snaring with paracord. They’ll love it!”

Long pause. “I was thinking something health-related,” Brian said. Long pause.

“Oh yes, sure, of course,” I replied.



I work in a sick industry. Most of my adult life I studied and treated disease. The other time I spent changing diapers and doing pushups. But I’m like you (probably) – I prefer wellness. Sure, we could work on world peace, and let’s not forget the ozone, but if humans are to thrive there must be a dramatic shift in our individual understanding of what it means to be healthy.

I’m suggesting an elemental return to what made *Homo sapiens* so successful. There were several other *Homo* species, but we were the only one to make it. We all want to “make it,” me included. We want to *make it*

to our 80s, 90s, and beyond and be independent in our own home, mobile, with a paucity of pain. Maintaining our mental faculties and not being a burden to others is the goal. That all sounds terrific. Unfortunately, things occur that cannot be prevented. The majority of what interferes with the above plan, however, is preventable. Disease and loss of function occur from the accumulation of millions of decisions. Health and vitality are no different. I commonly tell patients during wellness exams that we are trying to stack the deck in their favor. We need to systematically identify and minimize risk.

You may be thinking, “I got this, Dr. Quack French.” Surely readership of this periodical is in rare air. You feel good, usually. You have the exercise thing down. But...why do you have a belly? I mean, what’s with that thing? It never used to be there. “I run marathons, for Christ’s sake!” a patient told me last year as he grabbed his spare tire. I didn’t have the heart to tell him it will never go away. Minimizing and preventing advancement of said tire is more realistic. Such is the brain’s defense of Center of Mass adipose stores.

I used to be a calorie guy. They taught me that weight gain is simple math. I most unprudently propagated this flawed construct. This notion makes unwanted weight gain an act of volition. This has led to obesity


being viewed as a character flaw, a condition of choice, or a behavioral disorder. Weight bias has damaged society and individuals beyond measure. A few years ago, I decided to try to figure this thing out. Either my advice was wrong, or I was dealing with lazy, lying gluttons. It was the former. Telling patients to eat low-fat, high-whole grain, avoid everything white, and get to the gym *never worked*. No patient *ever* lost a large amount of weight and kept it off indefinitely. They never got off insulin injections. They never experienced resolution of (fill in the blank with hundreds of crappy maladies) caused by human animals consistently eating non-human food.

What is “human food”? These are the foods our ancestors ate for *hundreds of thousands of years: meat and other animal parts, vegetables, fruits, nuts, seeds, eggs, and mushrooms.*

The anthropological record, especially in regards to biology and nutrition, fascinates me. What is “human food”? These are the foods our ancestors ate for *hundreds of thousands of years: meat and other animal parts, vegetables, fruits, nuts, seeds, eggs, and mushrooms.* The healthiest patients I know, from all generations, made a habit of consistently eating human food. The obese individuals with whom I work that have lost a large amount of weight and kept it off for years did so by performing the cornerstone act of changing their relationship with food and eating the way our genome evolved.

Many, unfortunately, look down their noses at food and deem it unfit if it wasn’t present in the paleolithic era. Although I have a generous nasal bridge, I am not one of them. I feel fermented, full-fat, organic, pasture-raised dairy is one example of “nonhuman food” that offers terrific nutrition, diversity, and dietary enjoyment. There are other “nonhuman foods” that human animals do well with, as the *Blue Zones* excellently illustrates.

In my experience, if an individual is relatively healthy and without metabolic disease, consumption of a relatively small percentage of non-human food should matter not. However, if you are not in this metabolically healthy demographic, “80/20,” “cheat days,” or *relatively* low-carb simply will not help. Your belly insidiously grows and risk increases. Thanks a lot, Natural Selection, for our amazing carb sensitivity.

Going to your doctor hoping to become healthy is asking them to do something they are not equipped to do. It is up to you alone to seek understanding through self-education and to start moving and eating like the human animals we are. 

JUST ADD WATER

Delicious, refreshing electrolytes

- Prevents cramps
- Virtually free of calories
- Optimize hydration

“LOVE THIS PRODUCT”



“Love the *Endurolytes Fizz*. All the flavors taste awesome!”

- Online Reviewer



13 Tablet Tube \$4.95	25 Count (individually wrapped) \$12.95
---------------------------------	--

ORDER TODAY! Use Promo Code **EN114VR**

Get two **FREE Organic Vegan Recoverite Singles** Limit one per customer, while supplies last / Expires 5.29.19 flavors as shown




hammernutrition.com
800.336.1977



WE SUPPORT:

Whatever your sport, you'll find plenty of challenging Hammer Nutrition-sponsored events to choose from this spring. We already have more than 2,160 events on our calendar for the upcoming months, covering practically everything associated with endurance, and more requests for sponsorship support are pouring in daily.

Here's just a sampling of the exciting spring events we are honored to support:



GRAN FONDO
NATIONAL SERIES
PRESENTED BY
HAUTE ROUTE



Experience cinematic cycling history along with some gravel roads and a scenic finish in downtown Golden!

GOLDEN GRAN FONDO - 6/23/19 GOLDEN, CO

What do Kevin Costner, time trials, the Continental Divide, and you have in common? They're all part of the Golden Gran Fondo! Part of the Gran Fondo National Series, the Golden Gran Fondo offers three divisions: Gran Route (91 miles), Medio Route (63 miles), and Piccolo Route (20 miles).

Get your bike rolling in downtown Golden, Colorado before following the course through a tour of the Rocky Mountains toward the Continental Divide. The elevation gain is not for the faint of heart. The Gran Route experiences over 12,000 feet of elevation gain and it's recommended to bring the easiest gearing you have.

If the route looks familiar, it might be because you've seen it before in 1985's cycling classic *American Flyers* starring

Kevin Costner. The Golden Gran Fondo route traces some of the same roads as the "Coors Classic" from the film. Experience cinematic cycling history along with some gravel roads and a scenic finish in downtown Golden. Don't miss the after party with hot food and cold beer waiting at the finish line!

Each route has time trial sections with the winner of each age group receiving a custom "Race Winner" jersey. Hammer Nutrition will be on hand at all aid stations to help you on the road to victory!

For more details or to register, visit granfondonationalseries.com/gran-fondo-golden


YOUR SPORT



Bring your camera because this course is breathtaking!

LOGAN PEAK TRAIL RUN – 6/22/19 LOGAN, UT

Come stretch your legs up and down Logan Peak to the tune of 26 miles on the trail and over 7,000 feet of elevation gain. Bring your camera because this course is breathtaking. You'll see pine forest, fir forest, aspen groves, wildflower meadows, sage slopes, short snow fields, mountain springs, and spectacular views into Logan Canyon and the Naomi high country.

Jim Skaggs and Buffalo Run Adventures put on the Logan Peak Trail Run. His events are known for their laid-back, underground vibe, commitment to never taking things too seriously, and unique scenery. Don't wait to sign up – races often sell out and there's a "procrastination tax" if you wait too long. 

For more details or to register, visit buffalorunadventures.com




Photos: Courtesy Go Tri Sports

The challenge of endurance comp, the luxury of beach living!

BEACH BUM TRI #1 & #2 – 6/22/19 HILTON HEAD ISLAND, SC

Being a beach bum is about more than volleyball and tan lines. The Beach Bum Tri from Go Tri Sports brings the challenges of endurance competition to the luxury of beach living. Swim, bike, and run without leaving the seaside.

Kick off the race with a dip in the ocean – average water temperature hovers around 80°F – before biking and running on the beautiful sand beach. Stick around after the race for food and seaside celebrations. Be quick, though – the coconut monkeys are known to be voracious eaters! 

For more details or to register, visit gotrievents.com

UPCOMING EVENTS:

THE WILLOW ULTRA

5/4/19 HUDSON, WI

willowtrailrun.com

HACHIE 50 ULTRA

5/4/19 WAXAHACHIE, TX

runsignup.com/Race/TX/Waxahachie/Hachie50

ICE AGE TRAIL 50

5/11/19 WHITEWATER, WI

iceagetrail50.com

FOLSOM LAKE INT'L TRIATHLON

5/11/19 GRANITE BAY, CA

totalbodyfitness.com

BACK OF BEYOND PADDLE RACE

5/11/19 MOAB, UT

backofbeyondsup.com

ROYAL GORGE 6- & 12-HOUR MTB RACE

5/18/19 CANON CITY, CO

ziarides.com/event-register/royal-gorge

ARCADIA GRIT & GRAVEL

5/18/19 ARCADIA, MI

endomanpromotions.com/events/arcadia-grit-gravel

TRANS-SYLVANIA MOUNTAIN BIKE EPIC

5/23/19 SPRING, PA

bikereg.com/tsepic

XTERRA KNOXVILLE TRIATHLON & TRAIL RUN

6/1/19 KNOXVILLE, TN

dirtybirdevents.com/xterra-knoxville-triathlon

HIGHLANDS GRAN FONDO

6/2/19 BUTLER, NJ

granfondonationalseries.com/gran-fondo-highlands

GOLD RUSH GRAVEL GRINDER

6/8/19 SPEARFISH, SD

goldrushgravelgrinder.com

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

6 Reasons to go Wheat-Free and THRIVE

BY ENDURANCE NEWS STAFF

WHEAT: for many Americans, it's what's for breakfast, lunch, dinner, and the snacks in-between. As an athlete, you probably gave up doughnuts long ago, but wheat-based pasta, cereal, and bread may still be on your menu. Regardless of USDA recommendations to eat lots of whole grains, wheat (whether refined, whole, or cracked) should not be a big chunk of your daily diet. Mounting research shows that wheat can wreak havoc on your body—sapping energy, causing joint pain, impairing your nervous system, and ultimately hurting race-day performance.

Here are six reasons why avoiding wheat could be one of the most beneficial changes you make to your daily diet:

1. Cut the gluten, ease the pain

Modern wheat contains more of the protein complex gluten than the wheat our ancestors ate. The trouble is, many people react very badly to it. The number of people suffering from celiac disease is on the rise. Some medical experts believe undiagnosed gluten sensitivity may be to blame for many cases of migraine headaches, joint pain, depression, and more.

2. Just say “no” to damaging acid

Wheat has been estimated to account for 38% of the average American's dietary acid load. Combine that with a diet high in acid-forming meat and dairy and you have a recipe for “acidosis,” the term for a body fluid pH that's below the normal range of 7.35-7.45. (See the article “Acidosis: a term you should know” in issue 107 of *Endurance News*.)

3. Slow aging

A carbohydrate unique to wheat, amylopectin A, causes blood sugar levels to skyrocket. Sustained high blood sugar levels in turn trigger byproducts that accelerate aging. The effects can include skin damage, cataracts, kidney disease, arthritis, and hardening of the arteries.


4. Take care of your heart

The insulin-spiking sugars in wheat also trigger the formation of small LDL particles—the ones that cause plaque to build up in arteries, leading eventually to heart attack and stroke. Help keep your body's most important muscle going strong by eliminating wheat from your diet.

5. Keep firing on all cylinders

Wheat products take a toll on your brain and nervous system, too. An immune system response to gluten can cause antibodies to bind to brain cells in the cerebellum, resulting in progressive loss of balance and coordination, muscle twitching, and impaired memory.

6. Clear out wheat, clear up skin

Sometimes wheat damage shows itself externally, affecting your body's largest organ, the skin. Wheat gluten-related skin conditions include acne (triggered by increased blood sugar and insulin levels), many kinds of ulcers, psoriasis and other rashes, and some cases of hair loss. 

Research shows that wheat can wreak havoc on your body—sapping energy, causing joint pain, impairing your nervous system, and more.



Sweat the small stuff

Endurolytes® Extreme puts it back

- Full-spectrum formula
- Superior cramp prevention
- Rapidly assimilated



60 Capsules	120 Capsules	3 Capsules
\$17.95	\$24.95	\$1.05



90 Servings
\$29.95



“YES” ★★★★★

*“Cramps had been a problem for me during longer events. I used **Endurolytes Extreme** for my last 70.3 and had no cramp issues whatsoever.”*

- Online Reviewer

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19



flavors as shown



hammernutrition.com 800.336.1977

Hammer Supports...

BY JOSEPH PERRY

Here at Hammer Nutrition, we take great satisfaction in being a leader in sports nutrition. In fact, we've felt that satisfaction for over 30 years. Since Brian Frank founded Hammer in 1987, we've been dedicated to putting people before profits. Usually, that means providing free education, free consultations, free samples, and generous event sponsorships. Sometimes, however, it means being cognizant of our responsibility as a leader in our local and global communities. When needs arise (as they have many times over the past 30 years), we know when it's time to set profits aside and do the right thing.

Here are a few recent ways we've given back:

Sometimes, being a leader in the field means shouldering responsibility when needs arise.

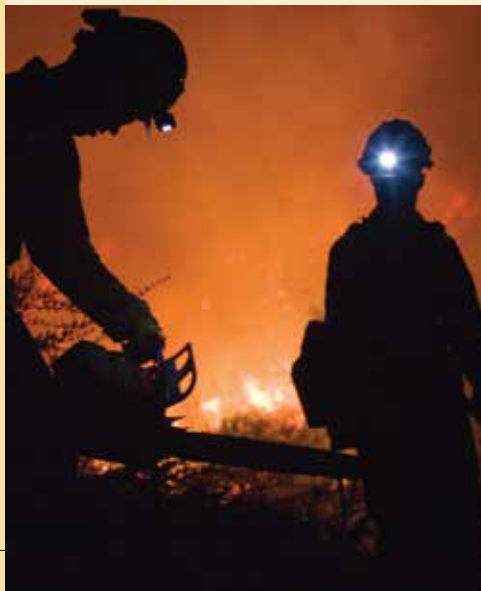


DEVASTATING HURRICANE IN PUERTO RICO


Hurricane Maria slammed ashore the Puerto Rico coasts in September 2017. Category 5 winds and water devastated homes and interrupted infrastructure across the country. Aid poured in from across the world including one unusual resource: law enforcement officers. One police officer, Deputy Corporal Travis Bruyer, and his partner travelled from Montana to help recovery efforts. Tropical heat greeted them when they landed and started helping local officers keep the peace. They spent hours standing on the street, guiding traffic, and stopping looters. With the heat, Travis turned to Hammer Nutrition HEED, Gels, and Endurolytes FIZZ to stay at his best. His Hammer products were more than just sustenance – they were tools to help people recover. Travis handed out gels and bars freely to the people he met. At times, his supplements were someone's meal or child's "treat." He quickly learned Huckleberry Gel is just as popular on the streets of Puerto Rico as it is on the trails of Glacier National Park!

HAMMER NUTRITION AND THE CALIFORNIA WILDFIRES

Hammer Nutrition partnered with the North Face Endurance Challenge Series (NF ECS) Championship course in California in November, 2018. When smoke from the Camp Fire forced organizers to cancel the race, we sent our product to aid fire relief. Everything we had for the race – tubs of HEED and packs of Endurolytes FIZZ – found their way into the hands of the brave men and women fighting the fire. We were just part of the story though as North Face and NF ECS participants donated food, supplies, and over \$120,000 of North Face gear to relief effort in lieu of the race. We continue to support firefighters across our nation. Check out our website for information about discounts for city and wildland fire fighters.



SEARCH & RESCUE IN OUR BACKYARD

Tragedy rocked the Flathead Valley community last winter when local doctor and community fixture, Jonathon Torgerson, failed to return from a solo backcountry ski expedition. Search and rescue poured over the area, but high winds and poor conditions hindered their efforts. As prayers were hung on trees in downtown Whitefish, search and rescue assistance came in from across the state. At Hammer HQ, we happily played a small role by donating supplies to keep the search teams fueled and hydrated. After three months of searching, a K-9 team from Colorado helped bring closure to the Torgerson family. Our hearts go out the family as we remain committed to helping local search and rescue operations however we can. 

Energy you can **CHEW ON!**

- Steady, reliable energy
- Buffers lactic acid
- Easily packable and stable

“LOVE THIS PRODUCT” ★★★★★

*“I do a lot of long distance rides and **Perpetuem Solids** are very easy to use. It comes with a six tablet pop-top container that can be refilled for the next ride. Easy to open and chew on while riding. Fits in back pocket of riding jersey with no problem.”*

- Online Reviewer



90 Tablets	Six-tablet tubes	3 or more tubes
\$39.95	\$4.50	\$3.99 each
		Mix or match flavors
FLAVORS	■ CAFFÉ LATTE	■ ORANGE VANILLA ■ STRAWBERRY VANILLA

ORDER TODAY!

Use Promo Code **EN114VR**

Get two **FREE** Organic Vegan Recoverite Singles
Limit one per customer, while supplies last / Expires 5.29.19

Richard Wiegert rides in the Asheville, NC Off Road Gravel Race in Buncombe County, North Carolina. Photo: Paul Jackson



flavors as shown



hammernutrition.com 800.336.1977

From Our Athletes

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



Evan Perperis

Hannibal Race Kuwait

Speeding through the 8 KM obstacle course, Evan Perperis finished as the overall winner of Hannibal Race Kuwait! Evan fueled with Espresso Gel 15 min prior to the start and recovered with Chocolate Recoverite immediately, post race.

Photo: Akl Yazbeck



Deanna Mazzei

Blizzard Blast

Deana Mazzei of LOFT OCR swings her way through the Blizzard Blast in Nashua, New Hampshire. Deana stayed on top of her electrolytes with Endurolytes Fizz, and relies on Race Caps Supreme to keep optimal energy levels!

Photo: Allison Walls



Grant Woodman

Snowmoon 25K

Despite running in what Grant described as the worst race conditions since a collegiate race in 95', he finished 3rd overall while claiming 1st in his division. Grant relied on Anti Fatigue Caps and Endurolytes Extreme Powder to power through the finish.

Photo Courtesy of Grant Woodman

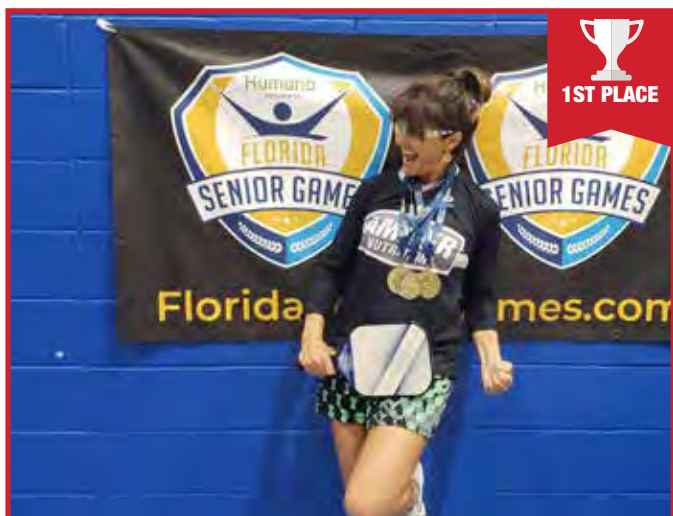


Andrea Koenig

Sunlight Sprint Time Trial

Andrea Koenig fueled with Hammer Gel to become the Masters Female winner at the 2019 Sunlight Sprint Time Trial Final in Glenwood Springs, Co. Andrea enjoyed a weekend racing in the mountains, and came home with multiple podium finishes.

Photo: Andrea Koenig



Jana Spano

Florida Senior Games

After an amazing Pickleball performance, Jana Spano earned three gold medals and qualified for Nationals in 2019! Fueled with Endurolytes Fizz and Hammer Gel, she stayed ahead of the competition with optimal hydration and energy levels.

Photo Courtesy of Jana Spano



Camden Black Ingersoll

Twin Brook Fat Bike Race

The Downeast Racing team hosted the second annual Twin Brook Fat Bike Event in Cumberland, ME. The team plays an active role in the growing popularity of Maine's fat biking community, bringing many local riders to the starting line.

Photo: Angelica Dixon



Team Fremont

The Fremont Race Team pose for a team 2019 Team Photo. Sponsored by Hammer Nutrition, the team relies on a combination of fuels and supplements to stay ahead of the competition

Photo: Prashant Singh and Katie Miu



Martin Criminale

Moab Red Hot 55K

Starting the morning off with snow, and ending in heat, Martin is reminded why he relies on Hammer Nutrition in all conditions!

Photo: Martin Criminale

“ One of the things I love about ultrarunning is the variety of challenges and the resulting opportunities to continue learning. ”

- **John Kelly** via Instagram @randomforestrunner



A true Texas mountain race

After being on the trail for 60 hours, 53 minutes, and 12 seconds, John Kelly became the champion of a 200-mile race for the first time.

As a seasoned ultra-runner, John is no stranger to dealing with the elements, which played to his advantage as the participants battled brutal 50 mph winds, cold temperatures, and over 50,000 feet of climbing.

*John relied on a myriad of fuels and supplements including **Perpetuem**, **Fully Charged**, and **Hammer Gel** to stay at least one step ahead of the competition from the start and claimed the 2019 Franklins 200 as his own.*

*For more info on how John fueled successfully for The Franklins, see his **RACE RECIPE** on page 9.*

Photo: John Sharp

Real Endurance Fuel NOT SUGAR!



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

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

Only Hammer Nutrition has the tried-and-true products, extensive knowledge, and top-notch customer service you need for fueling success at any distance, guaranteed!

Call, go online, or stop by your favorite retailer and start hammering today!



hammadnutrition.com 800.336.1977



Endurance News

4952 Whitefish Stage Road
Whitefish, MT 59937

PRSR STD
U.S. POSTAGE
PAID
HAMMER NUTRITION
DIRECT

Smooth, Dependable Energy

- Rock-solid sustained energy
- No sugar crash
- Easy to digest

26-Serving Jug
\$19.95

Single Serving
\$1.40 ea



"IT'S A STAPLE FOR ME" ★★★★★

"Love the taste of Hammer Gel, and the flask makes it easy to fuel mid-ride."

- Online Reviewer

Naomi Haverlick training on vacation in New Mexico. Photo: Jared Vigil