



ENDURANCE NEWS

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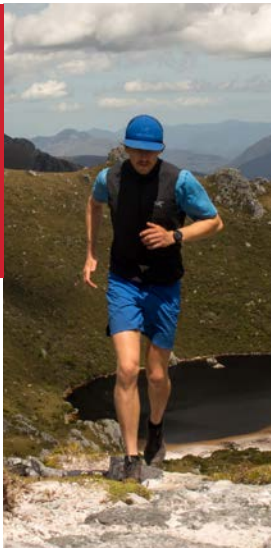
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Left: Piotri Babis running through the mountains of Tasmania
Right: Mindy Przeor climbing in Switzerland



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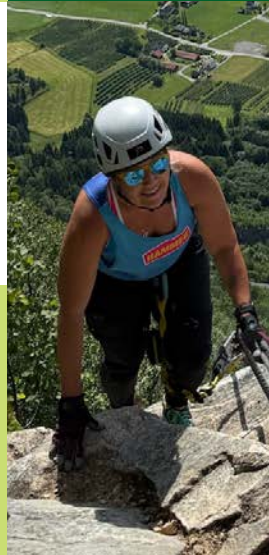
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BEING FRANK

A WORD FROM BRIAN

Welcome to the 142nd issue of Endurance News, our final issue of our 38th year in business. As I am sure many of you are saying, where did the year go? Then I look back on all that we have done in the past nine months, and it's hard to believe how much we've accomplished. Multiple new products, re-imagined existing products, new manufacturing partners, and so many amazing performances from our athletes, that it's hard to believe it all happened in 2025. This issue is full of all those details and so much great content from our clients, ambassadors, and sponsored athletes, so much so that we had to shoehorn it all in.

2025 was also a year of big staff anniversaries. **Tony Siorek**, our warehouse manager, **celebrated 27 years** in August, and **Steve Born** is not far behind, marking his **25th anniversary** earlier in the year. It's been great to have these two men working with me for so long on our mission to help as many athletes as possible with amazing products, services, and educational resources. Tony ensures that the trains run on time and all your packages are neatly packed and expedited to your doorstep fast. As everyone who reads this publication and our electronic Endurance News Weekly knows, Steve is my main man when it comes to the education and information side of the business. The depth and breadth of his knowledge when it comes to human performance, optimal health, and the supplements necessary to get you there and keep you there is unmatched. He'd have about 6 PhDs over the past 25 years of study, plus the decade before that when he was doing it on his own. I'm very fortunate, as are our clients, to have had these fine men on my team for so long.

Also in this issue, you'll find articles that are not popular with the high carb/sugar crowd, but provide you with the rest of the story so you can decide for yourself if this old, new fad is something that will benefit or harm you. Ironically, this latest "secret of the pros" isn't new. When

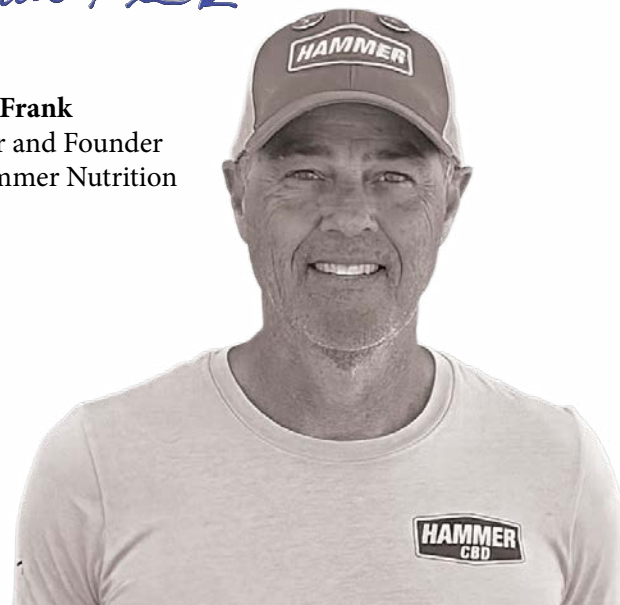
I was getting started in the 80s, the experts said we should consume 400-600 calories per hour from a sports drink while exercising. That's why it's hard to believe it's being touted as the latest, greatest scientific breakthrough. The constant failure of everyone who tried to do it led me to create Sustained Energy in 1992 - the first non sugar based fuel on the market. Since that time, I have consistently advocated for using complex carbs instead of sugar and in amounts that the body can handle. That usually ends up being between 180 and 200 calories per hour for most athletes.

For over 30 years, I've been helping athletes achieve personal bests, course records, and impressive wins by ditching the massive sugar intake and all of the misery that follows. I have always believed that optimal health and peak physical performance are two sides of the same coin. You cannot have one without the other. This is why a fueling system that is supposed to improve performance but compromises your health in the process is a recipe for failure in the long run. Which is all I care about, the long run. If you are an Olympic athlete or a professional athlete, that may be a decision you are willing to make, and it certainly is nothing new. However, for the rest of us, it's just madness. Expensive, health wrecking madness. Leaky gut, whole body inflammation, elevated uric acid, high triglycerides, and rising A1c blood sugar leading to type II diabetes are all known effects from high sugar intake, athlete or not.

Processed, refined sugar in all of its forms, not whole fruit, is evil, and it does not become your friend, and you don't get a free pass because you are an athlete. This has been my position for 38 years, and it will not change, ever.

Brian Frank

Brian Frank
Owner and Founder
of Hammer Nutrition



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Cover: Mitch DeYoung hammering away at Lumberjack 100

Below: Erik Koenig racing during golden hour at Born to Run Ultra

TABLE OF CONTENTS

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MISSION

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

OUR GUIDING PRINCIPLES

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

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

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

OUR CORE VALUES

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

Product Integrity: Our consumables are researched, tested, and USA-made to the strictest standards.

Read our complete mission statement online at hammernutrition.com/company/mission-statement

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EN FEATURES

06	Creatine Boost	Steve Born
08	Half Chaps, Helmet, & Heart	Rachel Monaco
12	Avoid Holiday Weight Gain	Hammer Nutrition Staff
18	Keep Hammering	Brian Frank
22	Amino Age	Steve Born
26	Hammer Greens	Steve Born
32	Fructose: The Worst of the Worst	Steve Born
38	Take It to the Gym	Brian Frank
42	Vitamin D: Dynamic Defender	Hammer Nutritional Staff
48	Leaky Gut	Steve Born
63	High Carb Fuelish-Ness	Steve Born

EN REGULARS

02	Publisher's Note
14	Letters from Clients
20	Ask Hammer
30	#Howihammer
44	In The Kitchen
50	From Our Athletes
58	International
60	Events

CREATINE BOOST

By: Steve Born

Your ticket to better exercise recovery...

and so much more!

By the time you read this, Creatine Boost will have been an official Hammer Nutrition product for about three months. And in that time, thousands of people have been enjoying the benefits this powerful supplement offers, especially when it comes to enhanced exercise recovery. Here are just a couple of the testimonials we've received...

I've been using Hammer's Creatine now for about a month. I notice a significant improvement in recovery times. I cycle 5 days a week (about 12 hours) and feel much fresher on consecutive training days. Especially for an old guy (71 years young)!!

Michael S.

I have been using Creatine Boost every morning whether following a training session or just to start my day on off days. It's been worth the wait for Hammer to bring it back. I highly recommend it! It's a great boost physically and mentally for everyday use!

Jake V.

First time I ever used Hammer Nutrition's Creatine Boost was after Saturday's ride. Was not exactly exhausted, but did feel the effects of the effort. Consumed Creatine Boost with Recoverite, along with a blend of various fruits, vegetables, Greek yogurt, and chia and flax seeds. Within minutes was feeling super, like ready to go again!

Dieter D.



Hammer dealer stocks his shelves with Creatine Boost

📷 CENTER CYCLE

Creatine Boost's Recovery Benefitting Power

Helps muscle fibers heal and rebuild stronger post-exercise. As we all know, exercise creates micro-tears in the muscle fibers. During the recovery period, we want these micro-tears to heal and become stronger. Creatine (protein as well) assists in this all-important process as it helps activate satellite cells—specialized stem cells located within skeletal muscles, which help the micro-tears heal. [1]

Helps reduce exercise-induced soreness. In onestudy involving well-trained runners competing in a 30k race, the researchers looked at inflammatory and muscle soreness markers—creatine kinase, lactate dehydrogenase, prostaglandin E2, and tumor necrosis factor-alpha—in the runners prior to and after the race. In the control group (no creatine), all the runners had sizable increases in all four inflammatory and muscle soreness markers, while the creatine-supplemented runners had significantly lower levels of all four markers. The researchers concluded, “These results indicate that creatine supplementation reduced cell damage and inflammation after an exhaustive, intense race.” [2]

Hot tip: Prior to your key races, doing a 4-day load with Race Day Boost and adding 1 serving of Creatine Boost to one or two of the 4 daily loading doses on each of the 4 days of the load loading period may prove to be the perfect performance-enhancing AND recovery combination. Test in training first!

Enhances muscle glycogen restoration after exercise. Researchers Bergström and Hultman say it best: “Muscle glycogen availability has long been cited as a principal determinant of endurance exercise performance, and its depletion corresponds with the development of muscle fatigue. Optimising liver and muscle glycogen storage is a goal of many athletes wishing to maximise performance.” Creatine supplementation has been shown to help enhance the rate of glycogen resynthesis and increase muscle glycogen content after strenuous exercise. [3]

Hot tip: To maximize glycogen restoration and increase the amount of glycogen your muscles store, add 1 serving of Creatine Boost to Recoverite or Vegan Recoverite. Including 1 capsule each of Chromemate and 1 Essential Mg will enhance glycogen synthesis/storage capabilities even more! [4]

Has antioxidant properties. Research has shown that creatine increases the activity of antioxidant enzymes and has the capability to eliminate reactive oxygen species (ROS) and reactive nitrogen species (RNS) free radicals. Creatine protects two different and important cellular targets, mitochondrial deoxyribonucleic acid (mtDNA) and RNA, against oxidative damage. In addition, creatine has been shown to cause other related effects that help the cell to survive and function under oxidative stress. [5]

So. Much. More.

Now, if Creatine Boost only helped with exercise recovery, it would definitely be worth incorporating

Expert Advice

into your supplement protocol. But the benefits of the Creapure® pure creatine monohydrate we use in Creatine Boost go way beyond that, and include:

Multiple brain health benefits. [6]

Cardiovascular health support. [7, 8, 9]

Protection against age-related decrease in muscle mass and strength, and bone mass, aka sarcopenia. [10]

The first time ever! One product, three categories!

In the 38+ year history of Hammer Nutrition, no product—supplement, or fuel—fits perfectly within three categories. But Creatine Boost does, and here's why:

Peak Performance—This is a no-brainer, as creatine has always been THE go-to supplement for off-season weight training and all strength-specific workouts and competitions. However, its beneficial effects on recovery also solidify Creatine Boost's spot as a Peak Performance supplement.

Well-being—With creatine's antioxidant properties, along with benefiting the brain and heart while protecting against muscle mass, strength, and bone mass, there's no question that it has a rightful place in the Well-Being category.

Daily Essentials - Because creatine does not act upon any receptors and there is no known “sensitivity” (i.e., build-up tolerance issues), there is no need to take a break from using Creatine Boost on a daily basis. The beneficial effects of Creatine Boost are cumulative, so it should be taken every day... for life!

If you haven't done so already (like a few thousand already have!), it's time to begin a daily regimen of Creatine Boost today! And because Creatine Boost is most definitely a daily use supplement, it's a perfect candidate for our Subscribe and Save program!

With Subscribe and Save, you'll save 10% on each and every container of Creatine Boost, you'll enjoy the convenience of automatic deliveries to your door, and much, much more.

Check out all the details at:

<https://hammernutrition.com/pages/subscribe-save>

**References available upon request.*



By: Rachel Monaco

HALF-CHAPS HELMET & HEART

The Gift of Global Connection

I'm an admittedly unusual and somewhat undeserving Hammer ambassador — invited to be part of a vital global community. This new chapter of my life finds me traveling the world with a pair of trail running shoes, a bike helmet I barely know how to adjust, half-chaps that usually trigger customs inspections, and a few trusted Hammer products tucked in my pack. It's not a traditional path, but it's brought more delight, humility, and human connection than I ever imagined.

I didn't set out to represent anything. I just wanted to keep moving — to

“I didn't expect to enjoy it this much. I didn't expect it to shape me, or to uncover so many unexpected layers of meaning and connection.”

enjoy ultrarunning, see more of the world, and stay in motion long enough to find my footing after my husband Corey died of pancreatic

cancer at 45. His illness and death unfolded in just four heartbreaking, “love with everything you've got” months, ending our 30-year journey together. As I wandered solo, I found myself meeting people — athletes of every age, ability level and background — whose stories reminded me why sport is such a beautiful universal language, and that most people face hard times in this life, yet remain determined to keep showing up. When I started taking myself seriously as the ambassador Hammer invited me to be, others did too.

Since 2023, I've cycled point-to-point through rural villages along India's Malabar Coast and similar stretches of Thailand, Cambodia, and Vietnam. In 2024, I let other legs do the work — horses, (also one camel, one elephant) — through equestrian treks in Crete and North Africa. I ran and hiked whenever I could, and what surprised me was how much curiosity and conversation I sparked along the way — especially wearing Hammer gear.

In Alappuzha, Kerala, schoolgirls in uniform cheered like I was winning Olympic gold. In Marrakech, teenage boys playing soccer struck up a French/Arabic/English conversation about my calves — and loved the Hammer gels I shared. Conversations were often limited by language, but never by enthusiasm. Smiles, gestures, and Google Translate got us a long way — sharing routes, safety tips, fueling advice for heat that sometimes topped 102°F. Hammer products made for natural, joyful exchanges — a small way to say thank you, to bridge the gap between strangers.

Many athletes I met — especially young people and women — train with far fewer resources than we

have in the U.S. But their passion is fierce. It's humbling to witness. I often wonder if I'd have their resilience if our situations were reversed. I rode with cyclists who were national champions, trail runners whose families survived genocide, horseback guides working grueling hours and three jobs to support their families, women who ran endless laps at 4am on a tiny track at a military base for privacy and safety. We exchanged playlists, swapped recovery tips, and rode together with joy. Leaving behind all my Hammer samples felt like the very least I could do. I came back far richer.

Sharing a Gel or HEED® isn't just about product promotion. It's about presence.

It's a way to say, I see you. We belong

to something global, something strong, something good.

I've also stretched myself along the way — not just in the familiar realm of trail running, but by venturing into cycling treks (still learning to properly shift gears) and very much into the world of equestrian adventures, which is both exhilarating and terrifying for someone more used to two legs than four. If you want a core workout, go riding. Straight up a mountain toward the Lassithi plateau at a gallop in a hailstorm, if you really want to work your quads and add an adrenaline boost.

What I've learned: it's not the races alone that shape us; we focus so much on performance in competition. It's the long, reflective miles, the strangers who become friends along a winding trail, the

moment of wonder catching the perfect sunset over the ocean. The ability to adapt, ask for help, suspend judgment, see kindness and courage in others, to listen, to stay open. Those are the miles that matter — and the ones that prepare us for everything else.

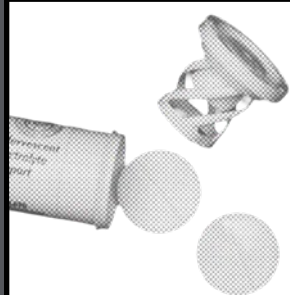
So as I follow this winding road — next stop, Japan — I carry gratitude: for the people who welcomed me, for the Hammer tools that helped me connect, and for the wild, wonderful world of movement that brings such perspective and reminds me we're all in this together, with something to offer each other.

Below: Rachel Monaco smiling with new faces in Alappuzha, India and Marrakech, Morocco

Left: Hammer fuels on an equestrian ride in North Africa



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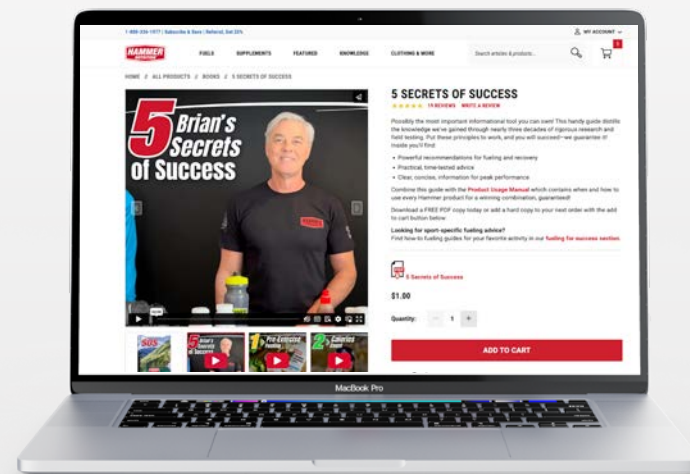
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WHAT'S INSIDE

Powerful recommendations for fueling and recovery

Practical, time-tested advice

Clear, concise information for peak performance

This guide distills the knowledge we've gained through decades of rigorous research and field testing. Put these principles to work, and you will succeed.



THE SECRETS



- Pre-Exercise Fueling
- Calories Count
- Proper Hydration
- Electrolyte Replenishment
- Recovery Done Right



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5 TIPS TO AVOID HOLIDAY WEIGHT GAIN



Prevent excess pounds now, and you won't need to shed them in spring!

Brian Frank getting a stretch in at The Wave Fitness & Aquatic Center

By Hammer Nutrition Staff

Hammer peak performance tip: By preventing winter weight gain, you will be one big step ahead when it's time to ramp up training in spring.

Hydration and smart eating go a long way. When you need a little help, rely on Hammer's Chitolean, Phytolean, and REM Caps. Read on for details.

Sugar- and fat-laden desserts, party noshes and sauces, sugar-sweetened cocktails... Add reduced exercise and stress to the mix, and you've got a recipe for weight gain. From Halloween through the early New Year, even the most disciplined athlete can struggle to hold the line against extra pounds.

Use these tips to devise your defense.

1. Water Works

Proper hydration is always important, but during the holidays it can be a valuable ally. Aim to drink two full glasses of water before you leave for that holiday gathering to help curb your appetite and counteract the dehydrating effect of alcohol. Throughout the day, every day, drink 0.5-0.6 ounces of pure clean water per pound of your body weight.

2. Keep Things Stable

The holidays, with all the various carbohydrate offerings—including lots of sugar-loaded sweets—is prime time for the body to lose control over insulin and blood sugar surges. Insulin resistance is when the cells' ability to absorb ("take up") glucose diminishes, and that's something we want to avoid. Along with making wise lifestyle and diet choices, taking Chromemate and Essential Mg with your carbohydrate-containing meals, will provide ideal nutrient support to help stave off insulin resistance.

3. Go for Color!

Be proactive at those parties. Instead of standing at the buffet table, wondering whether to choose salty/starchy nachos or high-fat Brie cheese, bring the hostess a tray of kale wraps, stuffed cherry tomatoes, and sliced sweet peppers. These veggies are loaded with nutrients and fiber yet low in calories. Lean proteins such as steamed shrimp, turkey breast, or small handfuls of nuts, also are good choices.

4. Easy on the White Stuff

Limit the fat-laden sauces, gravies, and dressings, and be mindful of the starchy carbs like bread, chips, white rice, paste, cookies, and cake. On those rare times when you know you'll indulge, be sure to use ChitoLean to block the unwanted fat, and Phytolean to block the absorption (and storage as fat) of starchy carbs.

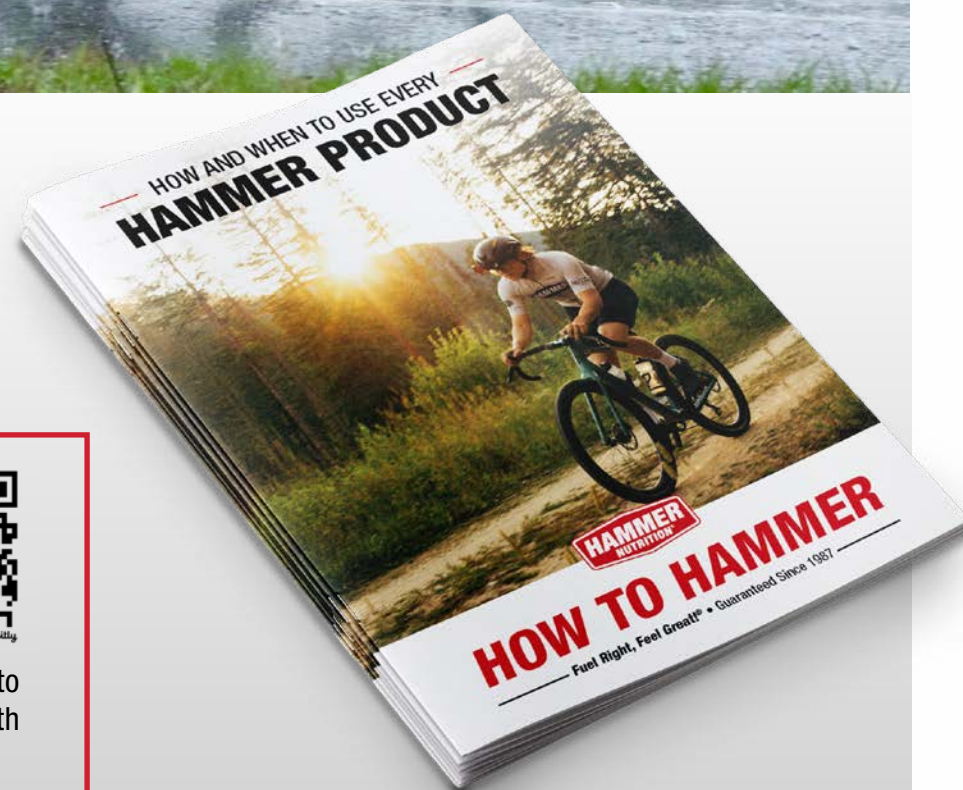
5. Get your ZZZs.

Research has shown that not getting 8 hours of quality sleep can affect your body's insulin and ghrelin levels, leading to overeating. Ensure a full night of restful sleep by taking 2 REM Caps an hour before bedtime. Made only with natural ingredients, REM Caps improves sleep quality and duration, enhances growth hormone release, and helps your immune system stay strong.

LETTERS FROM CLIENTS



Above: Kenneth Widner hammering in the rain during the Gulf Coast 70.3



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This guide provides all the vital information you need to Hammer to the next level. The final word on usage, with advanced details and specific applications.

KENNETH WIDNER

Dear Hammer,

I successfully completed the Gulf Coast 70.3 Ironman on May 10th, despite extreme weather conditions. The swim was canceled due to rough seas, and I biked 56 miles through heavy rain. The run was marked by more rain and lightning, but I pushed through and finished strong. It was a true test of endurance—and I met it head-on.

TIM FELLMAN

Dear Hammer,

As a lifelong recreational athlete starting with wrestling at age seven and then most of the usual baseball, football, track & field etc. in following years.

The photo previously attached of the awards podium was for the 2025 New Mexico Senior Games 10k bicycle time trial. I also placed 1st in the 20k road race the following day as well as 1st in the softball distance throw, 2nd in the Javelin and 3rd in the shot put.

I first tried Hammer's HEED as a post ride drink in Tucumcari, NM in 2019 at the finish of a 50 mile ride. My back was cramping from dehydration and I drank a couple small cups full of the HEED that was offered for free at the finish. I could soon feel my back relaxing and simply made a mental note to later explore the regular use of HEED. Since then I have explored numerous Hammer products from protein powders to Hammer bars to Life-Biotics and more. I have found

them all to be of high quality and was especially interested in Hammer's focus on blood sugar management.

In my 20's I began to get interested in road cycling and started my progression of purchasing more expensive bicycles with a \$400 Bertin five speed bike. As life sent on, I learned more and more about cycling/nutrition & fueling and cycling became my "go-to" sport.

So, here I am 70 years old and retired and still trying to improve.



Photo: Rhonda Bogart at the 100k Badger Mountain Challenge



RHONDA BOGART

Dear Hammer,

I wanted to express how much your products helped me complete my first 100k Badger Mountain Challenge trail run this past March at the age of 61 and be the only female aged 60-69 to finish. My gym, SCE Fitness, carries the Hammer products and I was very specific in what I used for the race. The following supplements were a game changer for me in how I performed. First, was the Race Day Boost which I took 3 days prior to race day as well as at the start of the race. Second, was the Anti-Fatigue Caps taken at the start and every hour or so during the race which is how I kept going for the 22 hours in the intense wind, rain & cold. Last, was the Energy Surge which I took right before the McBee climb of 1000 elevation gain for almost 1 mile which was mile 18 of the race. While others were cramping on the climb, I went steadily up to the top. Also, I always had Fizz in one of my water bottles to keep my electrolytes up.

My testimony is these supplements gave me the ability along with my training to be successful and finish strong when it would have been easy to give up.

Thank you again for making products that help anyone achieve their athletic goals at any age!

Right: Lizze Jones running the RUFA Moab 12 Hours

📷 ANDREW KALINYAK



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KEEP HAMMERING!

Supplement Your Off-Season

By Brian Frank

As the racing season winds down, many of you are probably a little burned out and ready for some downtime. The big question that always comes up is;

“Should I keep using my Hammer during the off-season?”

I realize that it would be in the best interest of Hammer to have every customer using the products year-round. But after 38 years of serving endurance athletes, we are well prepared for the seasonality of some of our clients’ purchasing habits. So I will answer the question based on what’s best for you the athlete, not what’s best for Hammer Nutrition.

It is a common assumption that there is no point in using their Hammer products once they finish their competitive season. This misconception is most likely our own doing since Hammer’s literature emphasizes achieving peak performance, setting PRs, and other benefits associated with the competitive season. Hammer now offers a wealth of a wealth of unique products that offer significant benefits that offer significant benefits event during the off-season. A growing number of our customers are not even competitive athletes; they take Hammer products purely for health and therapeutic reasons.

While it is theoretically possible to go from maximum stress between April and September to zero pressure from October to March, usually, the off-season means just a little less stress or simply different types of stress.

Whether it is fall road racing, strength training, cross country or alpine skiing, most of you remain very active over the winter months.

On top of that, there are the holidays, cold and flu season, and so many other time demands.

According to your feedback, the benefits you enjoy the most from our products are more energy, less fatigue, and a general sense of well-being. These benefits translate into improved quality and consistency in your day-to-day training and recovery when it comes to racing. But these same benefits are equally important to all of the other stresses your body endures. And several Hammer products have robust health and therapeutic applications of their own.

Whether or not you actually “need” to continue your Hammer regimen is an individual assessment. Many athletes continue using products like Race Caps Supreme, Race Day Boost, and Xobaline. They simply take less of them, maybe half dosages three or four days a week and full dosages on exercise or busy days. Others will switch to different products altogether.

For more information or a personalized fueling and supplementation plan, feel free to give us a call or hop on our Live Chat to speak with a friendly, knowledgeable advisor today!

Here is a brief list of products and suggested off-season uses:

Race Caps Supreme

Revitalize and rejuvenate every cell in your body with this “miracle” nutrient. This product offers too many health benefits to list.

Premium Insurance Caps

The most economical high potency vitamin-mineral supplement, plus a complete amino acid profile. Also the freshest formula you will find, never more than six weeks out of production.

Chromemate

Improve insulin function, metabolism of fats, carbohydrates, and protein. Increase lean muscle mass and strength.

Boron

Naturally increases hormone production, and calcium absorption. Banish brittle bones and get stronger too.

Xobaline

(Cobamamide, Coenzyme B12) Some of the benefits associated with B12 include improved concentration, memory, and balance, relieving irritability, and better utilization of fats, carbohydrates, and protein. It also accelerates protein biosynthesis, tissue regeneration, muscle growth, and red blood cell production.

Left: Local Hammer Athlete Jeff Hyer is enjoying a gel while in the mountains of Glacier National Park

📷 JEFF HYER

ASK HAMMER

By Steve Born

What product in the Hammer Nutrition line is the best for increasing nitric oxide production?

Our newest product, **Amino Age**, in addition to the plethora of benefits its four nutrients provides (see [Endurance News Weekly: Amino Age](#) on our website for more), may very well prove to be the best nitric oxide-boosting supplement we have. Here's what is stated regarding the four amino acids in the product and their effects on nitric oxide:



Glycine

Glycine can increase nitric oxide (NO) production and improve its bioavailability. Glycine can enhance the synthesis of nitric oxide synthase (NOS), the enzyme responsible for producing NO, and reduce the harmful effects of free radicals and oxidative stress, which can impair NO production.

N-Acetyl Cysteine (NAC)

N-acetylcysteine (NAC) can increase nitric oxide (NO) production and enhance its effects. It works by increasing the availability of L-arginine, a precursor for NO production, and by acting as an antioxidant that protects NO from being deactivated.

Taurine

Taurine can increase nitric oxide levels by promoting its production and improving its bioavailability. Specifically, taurine has been shown to improve endothelial function by increasing nitric oxide (NO) production and reducing endothelial dysfunction.

L-Carnosine (aka carnosine)

Carnosine's ability to modulate NO production is often linked to its broader antioxidant and anti-inflammatory properties. By reducing oxidative stress and inflammation, carnosine can indirectly influence NO production, either by preventing the overproduction of NO due to stress or by promoting a more balanced NO system.

Photo: Customer recovering after a MTB race in Venezuela
OSWALDO VERGARA 📷



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NEW VEGAN FORMULA



AMINO AGE

Powerful Benefits from 4 Amino Acids

By Steve Born

Improved antioxidant function

Supports healthy mitochondria and cell renewal

Reduces aches & soreness, protects against chronic inflammation

Supports healthy insulin function and utilization

Glycine

Though this is the simplest and smallest amino acid, the benefits it provides are anything but simple and small. Here are but a few:

Reduces aches and soreness and helps protect against chronic inflammation. Chronic inflammation is a sustained inflammatory state that persists for an extended period, potentially causing damage to tissues and organs. Research has shown that glycine acts in a dual fashion, inhibiting the production of pro-inflammatory cytokines such as TNF- α , IL-6, and IL-1 β , while increasing the anti-inflammatory cytokine IL-10. [1]

Precursor to glutathione, one of the most powerful antioxidants there is. Research states, “Hence, joint supplementation with NAC [N-acetyl cysteine, another component in Amino Age] and glycine could be expected to collaborate in stimulating glutathione production. [2]

Helps improve gut health. Numerous research reports that a deficiency in glycine is associated with oxidative damage and impairment of the intestinal barrier, which can be corrected by supplementation with glycine. [3]

Supports the body’s production of collagen. Collagen is the most abundant protein in your body and is the primary building block of skin, bones, muscles, ligaments, tendons, and other connective tissues. As glycine is a major component in collagen, it’s important to supplement with glycine to support bodily production of collagen. [4]

May improve liver function. In male Wistar rat models of alcohol-induced liver damage, glycine supplementation alleviated damage from alcohol-induced liver injury. Another study demonstrated increased fatty acid oxidation and increased glutathione synthesis in the livers of mice with non-alcohol-induced liver injury. These results demonstrate that glycine acts on the liver, protecting it from long-term damage. [5]

Taurine

Let’s defer to what researchers say about this amino acid, the most abundant one in the human body, and you’ll know why it’s a crucial component in Amino Age... “Considering its broad distribution, its many cytoprotective attributes, and its functional significance in cell development, nutrition, and survival, taurine is undoubtedly one of the most essential substances in the body.” [6] Other researchers refer to taurine as “a wonder molecule.” [7] Given that older adults, on average, have 80% less taurine

than young, healthy adults, and with one study naming taurine deficiency a “driver of aging” [8], supplementation with taurine isn’t just a good idea, it’s a necessity!

Powerful protection against type II diabetes. Animal studies show that supplementation with taurine can help reduce the onset of type II diabetes. [9,10]. Additionally, studies with diabetic rats have shown that taurine helps support heart function by protecting against heart damage via its ability to increase glucose transport into heart muscle cells, thus lowering blood glucose levels. [11,12]

Superb heart health nutrient. Taurine supplementation helps improve circulation, lower blood pressure, reduce arterial thickening, and enhance the beneficial effects of increased nitric oxide levels. [13,14,15]

Outstanding “eye health” nutrient. While taurine is found in very high concentrations in the retina, it declines significantly with age. Strong evidence shows that taurine is vital in maintaining optimal retinal function; thus, supplementation with taurine helps to maintain optimal retinal function.[16]

Hugely beneficial for liver health. Both alcoholic and non-alcoholic fatty liver diseases can progress to cirrhosis and liver failure. Studies show that taurine protects liver cells against free radicals and toxins, which helps reduce the severity of oxidative stress-induced liver injury. [17, 18, 19]

Interesting Note: In one study, elderly mice supplemented daily with taurine increased life expectancy up to 25%, compared to a placebo. [8] Similar results were found in rhesus monkeys supplemented with taurine. [20]

Special Note: With taurine having a wealth of athletic performance enhancing benefits to go with its overall



health benefits, it is perfectly acceptable to use Amino Age with our other taurine-containing products, Fully Charged

N-Acetyl L-Cysteine/NAC

N-Acetyl-L-Cysteine (NAC) is the bioactive form of the amino acid cysteine and is readily assimilated into the body from the intestine. Here are some of the benefits it provides:

Boosts glutathione levels in the body. NAC is basically able to do this on its own [21]. However, along with the glycine in Amino Age, this process is supported in even greater ways. As glutathione is arguably the body’s most powerful antioxidant—supplying numerous benefits of its own—maintaining optimal glutathione levels is vital.

Powerfully supports the body’s detoxification process. NAC can help prevent the side effects of environmental toxin exposure. One study states, “The use of NAC as a chelator of heavy metals appears to be a promising area of medical research and further clinical studies to verify these preliminary findings are warranted.” [22]

Liver protector extraordinaire. In addition to supporting the body’s detoxification processes, NAC’s liver-protective powers are hard to overstate, as it is frequently used in medical settings to treat liver toxicity associated with acetaminophen overdose. One study states that NAC “is the mainstay of therapy for acetaminophen toxicity. NAC has FDA approval for treating potentially hepatotoxic doses of acetaminophen (APAP) and is almost 100% effective if given within 8 hours post-ingestion.” [23]

Protects the lungs and helps relieve symptoms of respiratory conditions. Excess mucus accumulates in the airways, causing it to become sticky and hard to remove, and leading to difficulty breathing. This complicates many lung conditions, including bronchitis, asthma, and more.



NEW FLAVOR!

The Amino Age Formula

We spent a very long time researching and reviewing all of the amino acids for possible inclusion in the Amino Age formula. We ended up selecting the four listed below because we found that, more than all the others, each of them provides multiple benefits—all of which are truly extraordinary—in addressing numerous areas in human health. Read on and you’ll see why!

NAC has been shown to reduce both the thickness of the mucus and the mucus itself, helping to clear the airways for easier breathing. [24,25,26]

Helps stabilize blood sugar. Animal studies show that NAC may stabilize blood sugar by decreasing inflammation in fat cells and thereby improving insulin resistance. [27]

Special Note: Amino Age, with its glutathione-producing components, glycine and NAC, is a perfect complement to LSA Caps

L-Carnosine

L-Carnosine, also known simply as Carnosine, is a dipeptide composed of two amino acids: beta-alanine and L-histidine. It is found in high concentrations in the brain, muscle, and gastrointestinal tissues of humans and is present in all vertebrates. [28] Its benefits to human health are numerous; in fact, one study refers to carnosine as “a molecule with multimodal mechanisms of action.” [29]

L-Carnosine’s most powerful benefit is in its anti-glycating properties.

Glycation is a chemical process where sugar molecules bind to proteins, lipids, and nucleic acids. This binding leads to the formation of advanced glycation end products (AGEs). Dr. Laurie Barclay writes, “While glycation is a normal consequence of aging, it is far from desirable.” Dr. Bayne French states that AGEs “are considered toxic; in fact, they’re also termed glycotoxins,” bluntly adding “The more AGEs, the faster you age.”

In the research article, “Glycation Damage: A Possible Hub for Major Pathophysiological Disorders and Aging”, the researchers state, “Glycation-induced biological products [AGEs] are known to be mainly associated with aging, neurodegenerative disorders, diabetes and its complications,

atherosclerosis, renal failure, immunological changes, retinopathy, skin photoaging, osteoporosis, and progression of some tumors.

That’s quite a list of undesirable effects on human health! Fortunately, for 20+ years, research has shown that l-carnosine is a powerful antiglycating nutrient. One such piece of research, dating all the way back to 2005, states, “Carnosine has been shown to act as an anti-glycating agent, inhibiting the formation of advanced glycation end products (AGEs).” [30]

Special Note: For more on the deleterious effects of AGEs, please see Dr. Bayne French’s article on the topic at hammernutrition.com along with Steve Born’s article

L-Carnosine possesses powerful antioxidant properties. One piece of research states: “Carnosine has a number of beneficial antioxidant properties. For example, carnosine scavenges reactive oxygen species (ROS) as well as alpha-beta unsaturated aldehydes created by peroxidation of fatty acid cell membranes during oxidative stress.” [31]

Helps maintain telomere length. Telomeres are the protective caps on the ends of chromosomes. In cultured cells, carnosine has been shown to reduce the shortening of telomeres. Note that longer telomeres are associated with increased lifespan. [32]

Summary

We are super excited about Amino Age; it’s a formula like no other! And we’re just as excited for you to add this to the top of your supplement “arsenal” so that you can start enjoying the plethora of incredible benefits this one-of-a-kind product delivers!

Right: Erendira Campos crossing the finish line at the Boston Marathon.

HAMMER

AGE



I’ve been taking Amino Age post-run on a daily basis for 2-3 weeks. What I have noticed is startling: I’m stronger during my workouts, I have more sustained energy throughout the day, and while I had not been all that concerned about my cognitive function, my head just seems clearer and things come to me more quickly.

- John M.

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All Day Energy. Enhanced Recovery.

HAMMER GREENS

By: Steve Born

**ULTIMATE
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SUPERIOR
HEALTH**

Getting your greens has never been easier!

It's always been a real challenge to provide our bodies with sufficient amounts of fruits, vegetables, and other healthy compounds it needs to perform optimally and enjoy superior health. Not any longer! While we will always advocate a diet containing organic, whole fruits and vegetables, we understand that this is not always possible. And even if you do consume fruits and vegetables, you're most likely not getting sufficient amounts to truly fulfill your body's needs. In addition, given how busy we all are on a daily basis, chances are we don't have enough opportunities to put together a high-quality sit-down meal.

That's precisely where Hammer Greens comes in! Loaded with efficacious amounts of fruits, vegetables, herbs, and other "super foods", it is the easy way to bolster your daily intake, helping to ensure that your body receives the quality nutrition it craves and needs. Bonus! Hammer Greens tastes good!

The Hammer Greens Formula

Hot Tip: For the ultimate health-benefitting drink you'll ever consume, mix 1 serving of Hammer Greens in water with 1 serving of Amino Age, 1 serving of Creatine Boost, and 1 serving of Liquid EndurOmega.

No less than 16 super-healthy components, all in efficacious amounts (no "window dressing" amounts here!), make up the unique and powerfully beneficial Hammer Greens formula...

Alfalfa Grass Powder - Several animal studies have found that alfalfa appears to improve cardiometabolic health—the overall well-being of both the cardiovascular (heart and blood vessels) and metabolic (how the body uses energy) systems—by decreasing blood fat and blood

sugar levels. A good source of vitamin K and other vitamins and minerals, as well as many other health-benefitting compounds (e.g., saponins, coumarins, flavonoids, phytosterols, and more), alfalfa also possesses powerful antioxidant properties. Numerous animal studies have shown that alfalfa can lower total cholesterol, LDL (bad) cholesterol, and triglyceride levels, while increasing HDL (good) cholesterol. Gluten free.

Apple Fiber - Apples contain both soluble and insoluble fiber, both of which support gut health and more. Soluble fibers dissolve in water and form a gel-like substance, which helps slow digestion and can lower cholesterol levels. Insoluble fibers don't dissolve in water, but instead add bulk to stool, thus helping promote healthy bowel movements.

Apple Pectin - This is a soluble fiber extracted from apple peels. Apple pectin supports healthy digestion and overall gut health by acting as a prebiotic, and also via its potential to bind to heavy metals in the GI tract. Apple pectin helps regulate blood sugar levels and assists in lowering cholesterol.

Asparagus Powder - High in quercetin, a flavonoid that has antioxidant and anti-inflammatory properties. Asparagus is a good source of other antioxidants such as vitamins A, C, E, and K, and various antioxidant polyphenols (gallic acid, chlorogenic acid, coumaric acid, and ferulic acid). Asparagus is an excellent source of fiber, and it is touted for its ability to help support healthy blood sugar levels.

Barley Grass Powder - Because of its insoluble fiber content, barley grass helps support healthy blood sugar levels. Barley grass contains a plethora of health-benefitting forms of polyphenols, far too many to list here, and it is a good source of vitamins C and K, and a variety of amino acids. Gluten free.

Beet Juice Powder - Arguably the best-known source of nitrates, which the body converts to nitric oxide (NO). Increased NO levels help relax the blood vessels, causing them to widen, which increases blood flow. This aids in improving oxygen and nutrient delivery to the muscles and vital organs, while assisting in lowering blood pressure. Beet juice contains a type of polyphenol called betalains, which have an impressive array of beneficial properties, such as antioxidant, anti-inflammatory, neuroprotective, liver function support, promoting gut health, and more.

Broccoli Juice Powder - Among many other health-

benefitting compounds, broccoli juice contains high amounts of glucoraphanin, which is converted into sulforaphane, whose benefits are numerous and wide ranging: may protect against several types of cancer; possesses antioxidant and anti-inflammatory properties; may enhance the body's natural detoxification processes; helps protect the liver; potential for numerous brain health benefits. Broccoli juice also contains lutein and zeaxanthin, antioxidants believed to be beneficial for ocular health.

Brussels Sprout Powder - Its main bioactive compounds are glucosinolates, which are broken down to produce isothiocyanates, believed to have anti-cancer properties. Brussels sprouts powder is also a good source of vitamins C, K, and folate (B9), along with multiple carotenoids (beta-carotene, lutein, zeaxanthin).

Chlorella - A single-celled, green freshwater algae, chlorella is perhaps the most vitamin- and mineral-dense "green food" there is, which includes a complete B vitamin profile. Chlorella also contains naturally occurring RNA and DNA for assisting in cellular growth and repair, and, courtesy of its plentiful amounts of beta-carotene and lutein, is considered to be an excellent "eye health" nutrient.

Horsetail Leaf - A rich plant-based source of the trace mineral silica that helps form the building blocks of collagen, horsetail leaf has benefits for skin, hair, bones, nails, and more. This fern-like plant also contains many health-benefitting compounds including flavonoids, phenolic acids, phytosterols and many more.

Artichoke Powder - Arguably the most liver-protecting fruit or vegetable there is, artichokes are loaded with multiple compounds that benefit many areas of health. These may include helping improve cholesterol levels, supporting digestive health, assisting in lowering elevated blood sugar, and more.

Kale Leaf - Rich in polyphenols and flavonoids—especially quercetin and kaempferol—and other antioxidant compounds, kale leaf is an excellent source of beta-carotene, vitamin C, and vitamin K. Like beet juice powder, kale leaf contains high amounts of nitrates, which the body converts to NO.

Parsley Leaf - Another plant that is loaded with antioxidant compounds, in particular myricetin and apigenin. Research states that myricetin is a compound that "exhibits a wide range of activities that include

strong antioxidant, anticancer, antidiabetic, and anti-inflammatory activities. Other research states that apigenin "possesses biological activities that protect against immune, cardiovascular, and neurodegenerative diseases and cancer."

Pineapple Fruit Powder - In addition to the many nutrients and health-benefitting flavonoids and phenolic compounds found in pineapples, this fruit also contains bromelain, a digestive enzyme that helps break down protein and aid digestion, while also having strong anti-inflammatory properties.

Spinach Leaf - An extremely nutrient-rich vegetable, spinach is an excellent source of vitamin C, vitamin K, folate (B9), iron and calcium. Spinach also contains the eye-health compounds lutein and zeaxanthin, and it is another nitrate-containing food, so it helps boost nitric oxide (NO) levels in the body.

Spirulina Powder - Considered by many to be THE superfood of superfoods, spirulina is vitamin- and mineral-dense, and rich in enzymes and antioxidants such as superoxide dismutase (SOD). It is an excellent source of chlorophyll and essential fatty acids, and is also considered to be a blood-building food, primarily due to its phycocyanin content. Additionally, spirulina is believed to help maintain digestive system health by serving as a food/fuel source for beneficial intestinal flora.



*Below: Brad Daniels and teammate
paddling the Texas Water Safari.*

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Enhance performance with CoQ10 formula
- **MITO CAPS**
Cellular Energy Powerhouse

*Above: Hammer Team member Noah Hertel
hiking 6-Mile Mountain near Big Fork, MT*



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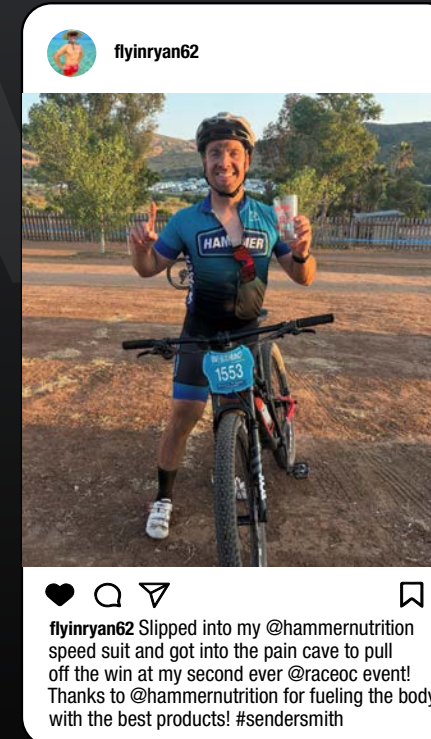
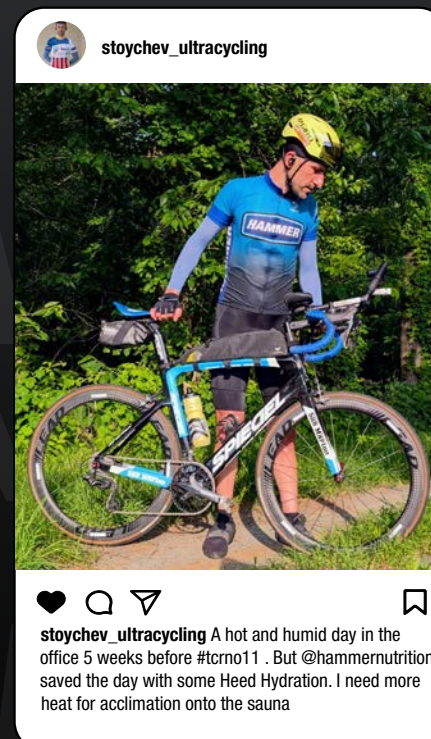
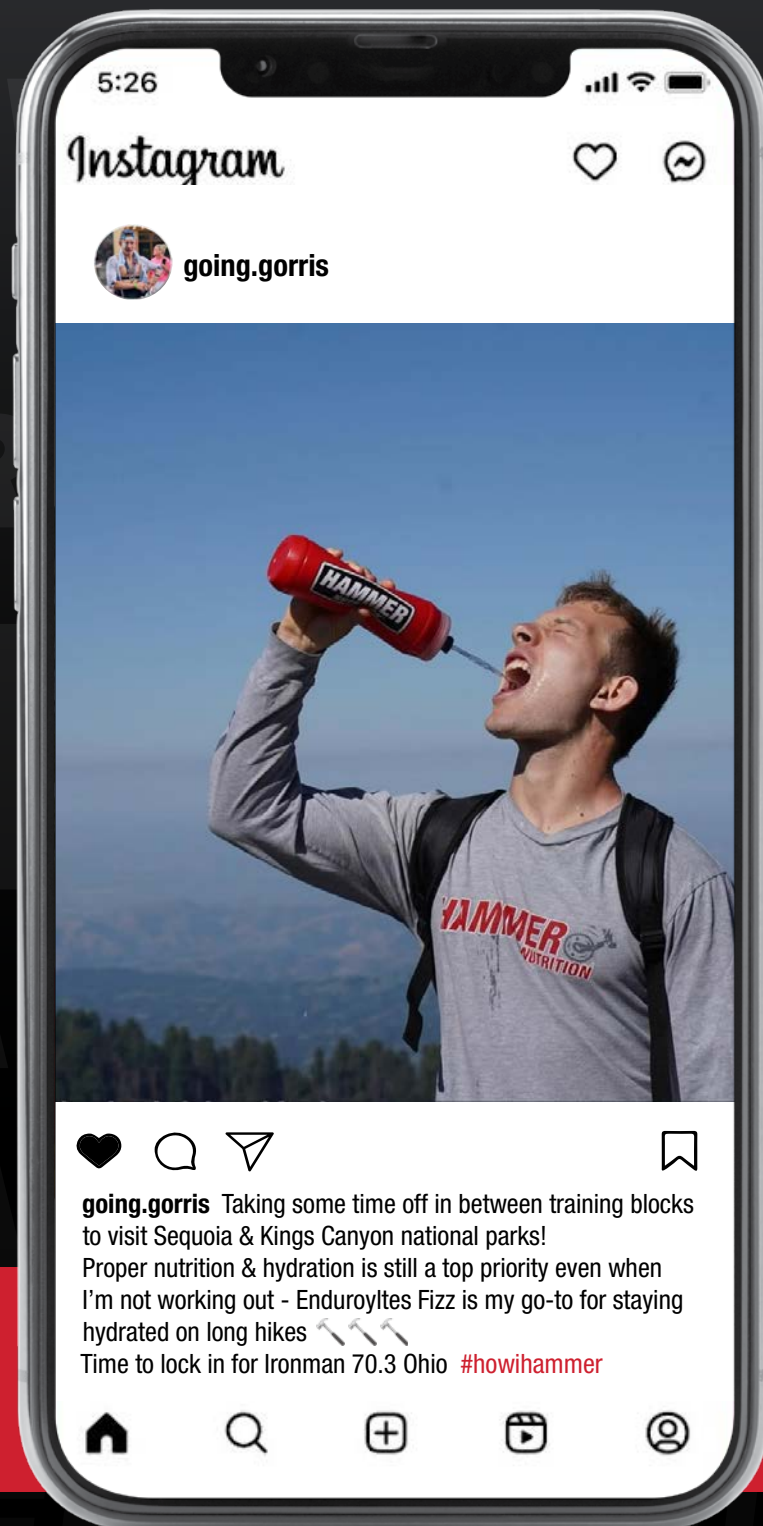
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FRUCTOSE

THE WORST OF THE WORST

By: Steve Born

I'll preface this by saying that in nearly 40 years in the health food/sports supplement & fuel industry, including almost 24 years employed at Hammer Nutrition, I honestly don't think there's a sports nutrition company that spends anywhere near as much time and energy promoting overall health as they do their products (and the constant push to sell those products).

A longtime friend of Hammer Nutrition once wrote, **"An endurance athlete is a healthy person first, an athlete second, and an endurance athlete third."**

I think that's spot on regarding why we place so much emphasis on overall health. That's why you've seen more and more articles about healthy eating practices, what to avoid (e.g., artificial ingredients, excess sodium, processed seed oils), and more. You must be healthy to accrue any benefits in your workouts and succeed in your competitions.

And, over the 36+ years of Hammer Nutrition's existence, we've talked LOTS about the harmful effects of sugar on your health and athletic performance. These days, however, as there seems to be a revival in the odd and almost universally failed practice of trying to consume as many carbohydrates as possible (using fructose as part of the formula), it's time for a discussion on what we feel is the worst thing you can put in your body in terms of health and athletic performance—fructose.

When one looks at even a fraction of the superabundant research on fructose and its adverse effects on human health, there should be no doubt that this is a substance you want to avoid at all costs. The beginning of just one research paper lays it out quite clearly, "The increased consumption of fructose in the average diet through sweeteners such as high-fructose corn syrup (HFCS) and sucrose has resulted in adverse outcomes in society, producing considerable economic and medical burden

on our healthcare system.

"Ingestion of fructose chronically has contributed to multiple health consequences, such as insulin resistance, obesity, liver disorders, and diabetes [1]."

Another negative health issue associated with fructose intake is uric acid (UA) production, with elevated amounts leading to gout, which Dr. Bayne French appropriately states, "is a truly painful condition." However, elevated uric acid levels are not just associated with gout. In his article, Uric Acid and its Metabolic Effects, Dr. French writes that elevated UA "drives the formation of insulin resistance, elevated blood sugar, type 2 diabetes, heightened blood pressure, distorted cholesterol, systemic inflammation, and weight gain. It is directly implicated in a large percentage of all-cause mortality, especially from cardiovascular disease."

According to Dr. French, the bottom line is that "on its own, elevated uric acid corresponds with disease."

While uric acid is also produced from alcohol and purines, it's not much of a stretch to suggest that the primary "source material" is fructose. One reason is that fructose intake has been on the rise for decades. One piece of research showed that **fructose intake per person increased by approximately 32% from the 1970s to the early 2000s.** [2]. Given the increasingly ubiquitous nature of fructose, as well as predicted dietary habits (i.e., higher fructose consumption), it's a given that fructose intake must have increased above 32% in the past 15-20 years.

The other reason fructose is most likely the overwhelmingly leading candidate for uric acid production comes from another study where fructose consumption by 21,483 people, ages ranging from 2 to 71+, was analyzed. The results shows that the mean fructose consumption was

estimated to be an astounding 54.7g/day (range 38.4g/day – 72.8g/day), accounting for **an eye-opening 10.2% of total caloric intake.** Consumption was highest among adolescents (12–18 years) at a whopping 72.8 g/day (12.1% of total calories); One-fourth of adolescents consumed at least 15% of calories from fructose [3]. Given that many of the study subjects were younger and probably not drinking much, if any, alcohol or consuming purine-rich foods, it would seem obvious that the likely candidate for uric acid production is fructose.

One vital thing to note, made very clear in Dr. French's article, is that elevated uric acid and gout are associated with sugar-sweetened beverages but not whole fruit consumption. Research has also shown this to be true regarding, for example, coronary heart disease (CHD). A study published in *The American Journal of Clinical Nutrition* [4] concluded: "Intakes of TGE (glucose monosaccharides, disaccharides, and starch), total sugar, added sugar, and fructose from added sugar and juice were associated with higher CHD risk, but TFE (fructose monosaccharides and sucrose) and fructose from fruits and vegetables were not."

Lead researcher Dr. Kristine K. Dennis summarized, "For prevention of CHD, **diets emphasizing whole fruits and**

vegetables while limiting added sugars and refined starches should be encouraged. Our research aligns with other evidence that whole fruit appears to have a protective role, regardless of fructose content. At the same time, it also aligns with other evidence suggesting that carbohydrate quality is important for cardiovascular disease risk."

Fructose in energy fuels? Why? Why?

Everything written up to now is a "drop in the ocean" regarding the information and research that shows the negative health issues associated with fructose intake from sources aside from whole fruits and vegetables. The bottom line is that we all know, or should know, that fructose is just flat-out bad for health. So why are companies still using this unhealthy substance in their energy fuels marketed to athletes? If fructose is so bad for your general health, how can it improve your athletic performance?

Continue reading *Fructose: the Worst of the Worst* online!

Scan the **QR Code** to read the full article online at hammernutrition.com:



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Right: Racers at QuickNDirty Event

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HOUSE KEEPING

FROM HAMMER HQ



PLANT POWDERS

New Formulas!

When it comes to updating/enhancing existing products, most of the time it's by choice. This was the case with the 2.0 tapioca versions of Sustained Energy, Perpetuem, HEED and Recoverite.

However, sometimes a reformulation is forced upon us, usually due to factors beyond our control. This is the case with the original Vegan Recoverite and Vegan Protein. The manufacture went belly up, so we had to start over. While we were switching manufacturing partners, I also decided to reduce the pea protein content and replace it with watermelon seed protein. The result is a much less gritty or sandy mouth feel with a smoother texture and flavor. Of course it is different and some people don't like change. Another mea culpa to all of the die hard fans of the original formula. Give the new versions a chance, they really are delicious.



HAMMER GREENS

A Phytomax Alternative

Long time clients remember our original green product called Phytomax, made from a rooted aquatic plant that grows abundantly in lakes in SE United States. For decades, this was the hands down winner for supplemental phytonutrients, enzymes and soluble organic minerals. Like many things over the past few years, the supplier that we had used, the only one in the USA, stopped producing this product. We knew replacing this product would not be easy and it took a combination of 16 different plants and vegetables to match, actually exceed, Phytomax. In the process, we also decided to offer this new and improved phytonutrient supplement in non pill, powder form for all of those don't prefer capsules and would like a powder to mix into shakes.

The long wait is over and Hammer Greens are enabling our clients to once again be able to get all of the green nutrition that is inevitably lacking in their regular diet. Unless you are already taking another green product, you should add Hammer Greens in capsule or powder form to your regimen.



AMINO AGE

A Sincere Apology

This is a product that I used for almost two years and was so impressed with the results I experienced, that I had to put a label on it and offer it to Hammer clients. However, I'll be the first to admit that I vastly underestimated how the NAC would affect the smell and taste of the product.

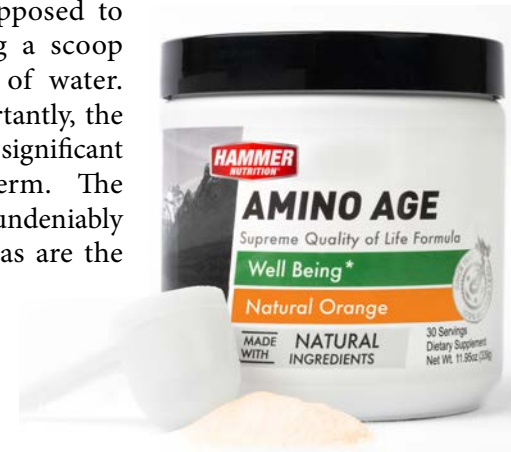
This is a sincere apology to all who rushed to purchase it and were put off by the smell/taste. That's why the remaining units of the first run are on **clearance for 50% off**.

Amazing product, if you don't mind the sulphur smell/taste. I mix into a smoothie with Whey Protein, Hammer Greens and Creatine Boost and it tastes great. We've offered refunds or replacement with the new orange flavor to all who purchased the first batch.

To remedy the smell/flavor issue, we added a natural

orange flavor to the 2nd run that is in stock now. Unless you have a super sniffer, you won't notice the sulphur smell at all. However, I still think this product is best mixed into a shake as opposed to just mixing a scoop in a glass of water. Most importantly, the benefits are significant and long term. The research is undeniably impressive as are the results.

Read all about it on page 22.



HAMMER BAR SAGA

A New Manufacturer

As all Hammer Bar fans know, the last couple of years have been a bit challenging with one or more flavor being out of stock most of the time due to the manufacturer failing and then going out of business entirely. Not uncommon with VC buyouts, unfortunately.

The great news is that we have a solid new manufacturing partner and **6 of our eight bars are back in stock** to stay, just as delicious as ever. The bad news is that we are still in the process of finding a different manufacturing partner for our most popular chocolate coated grass fed whey bar and its vegan cousin.

However, we believe we have found this needle in the haystack and will have those back in stock early next year. Fingers crossed!



For all the latest products and styles, please scan the code and visit our website!
hammernutrition.com



TAKE IT TO THE GYM

By: Brian Frank

Photo: Lisa Wawrzynowski crossing the finish line at Hyrox New York



Usage Instructions:
3-4 times per week, year-round!

I started lifting when I was 18. At the same time, I got very serious about cycling and have continued to go to the gym regularly for upper-body strength to complement my endurance training, which is mostly lower-body-cycling. I use this for crosstraining for moto trials, which require equal amounts of strength, endurance, and mental focus. In addition to cycling or riding 5-6 days per week, I try to get into the gym at least three times per week. The following workout routine is what I have distilled down from all of my studies on the subject and practiced over the past 38 years.

Start with 5-30 minutes of cardio, do an upper body free weight routine, and finish the workout with 5-30 minutes. This allows the workout length to be increased or decreased, depending on time available and other training.

Cardio options – stationary bike, concept 2 rowing ergo, stair climber, elliptical. (Treadmill/running not encouraged.)

1st Cardio session: needed to get the heart rate up and blood flowing. It should be done for at least 5 minutes or until you break a good sweat. When outdoor cycling/moto is not happening regularly (wintertime), increase the cardio duration to 15-30 minutes to burn more calories.

Weights: Due to the amount of cycling I do and how bad my knees are, I refrain from engaging in resistance/strength training for my lower body. Also, I don't like to have huge legs, and things like squats, deadlifts, and the like are a great way to injure one's back. I only do

resistance/strength training for upper body muscles for many reasons.

Free Weights and body weight: For the first 3-6 months of structured workouts, use only free weights and bodyweight exercises. Save barbells and machines for later. Free weights are used to develop all supporting/stabilizing muscles, tendons, and ligaments, in addition to the major muscle groups. The former takes longer to develop than the latter. Exercises like pull-ups and dips should be employed regularly for lats and pecs as the body responds fastest to bodyweight-supported exercises.

Strict form while doing resistance training routines is a must, always. Use lighter weights with strict form instead of heavy weights and poor form. The former produces the best results, and the latter causes injuries.

The format for weightlifting follows the size of the muscles – big ones first, little ones last. Chest (pectorals), back (latissimus), and then arms/shoulders (triceps, biceps, deltoids.) Abs and back can be done at any point during the workout.

2nd Cardio session: Cardio options – stationary bike, concept 2 rowing ergo, stair climber, elliptical. (Treadmill/running not encouraged.) After you have completed your upper body weight routine, keep the calorie/fat burn going with a second round of cardio for another 5-30 minutes.

Adaptation: This is the most important and ignored aspect of long-term strength training. You will make the most gains in your entire life in the first six months

of following a steady workout routine. Continuing to make gains from that point will only come if routines are changed regularly. The body will only adapt as much as it needs to meet the workload it expects. This is why within the outline of this workout, every muscle should be worked in as many different ways as possible. Varying the number of reps, sets, types of exercise, speed of each rep, and rest time between sets. These must all be changed up every couple of weeks to avoid stagnation. Examples of this will be given below.

Periodization: the final key. Traditional bodybuilding includes the concept of three-month or 12-week cycles that are then broken down into 2-4-week cycles. In each cycle, the number of reps, amount of weight used, number of sets performed, and rest time between sets are altered to force continual adaptation, which translates into growth, strength, and size increase.

Building a Workout

The idea is, to begin with a cardio workout as described above, then add your upper body strength routine before finishing with another cardio segment. Begin with compound exercises that work a major and minor muscle group, then continue with muscle isolation exercises that only work one muscle at a time.

Chest/Arms/Shoulders and all supporting muscles:

(Pectorals/triceps/deltoids) are all worked together with exercises such as push-ups, dips, prone dumbbell/bar presses, and similar variations. Alternate between prone, incline, and decline to force further adaptation and growth of all areas of the muscles.

Perform 3-6 sets of compound exercises with weights heavy enough to make a 12-rep set difficult in the last 4 reps. See sample workouts below:

- Deltoid/tricep combo – military presses

Compound exercises are followed by isolation exercises. Usually, only do 3 sets of isolation exercises to avoid overworking the muscle, especially true of the biceps!!!

- Pec flies (strict form, prone, incline, decline.)
- Triceps presses downs, overhead, etc.
- Deltoid isolation-standing side front and rear deltoid raises.
- Back/Arms/shoulders (lats, biceps, deltoids) and all supporting muscles-pull-ups, lat pull-downs, low rows, and all other variations.

- Lat isolation exercises – Straight arm pushdowns/pulldowns, landmine rows, dumbbell pullovers.
- Biceps isolation exercises- (dumbbell curls, etc., add more here).
- Abdominals/Core: 3-6 sets of exercises of your choice – sit-ups, leg raises, etc.
- Back/Core- back extension with or without weights on Roman Chair bench.

Sample workout (intense, short rest periods):

- Duration- approximately one hour.
- 15 minutes on a stationary bike with a heart rate over 100.
- Abs/back super sets, 3 each, 30 seconds rest between each double set, 12-15 reps per set.
- Chest/tri/delts – 4 sets of prone dumbbell presses, 30 seconds rest in between, 12-15 rep sets.
- Pec flies – 3 sets, light weights, strict form.
- After you have completed your upper body weight routine, keep the calorie/fat burn going with a second cardio segment of 5 to 30 minutes.

Recovery:

Cool down, do light stretching, and hit the showers. *7 Recovery Tips for Your Toughest Workouts* – **Check out this Article!**

1. Consume a double serving (four scoops) of Recoverite right after the workout's done!
2. Take one capsule each of Chromemate and Essential Mg with your Recoverite!
3. Take one capsule of Boron with your Recoverite!
4. Resupply vitamins with Premium Insurance Caps!
5. Take this trio to help put the fire out! Tissue Rejuvenator, AO Booster, EndurOmega!
6. Use different types of Hammer CBD!
7. Consume one scoop of Whey Protein prior to bedtime!



STRENGTH | COGNITION | RECOVERY

THE BOOST IS BACK



I have been using creatine boost every morning whether following a training session or just to start my day on off days. It's been worth the wait for Hammer to bring it back. I highly recommend it! It's a great boost physically and mentally for everyday use!

-Jake V.



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VITAMIN D

By: Steve Born

Aside from magnesium, I can't think of any nutrient that plays more roles in human health than vitamin D. And though it's best known as a bone health nutrient, vitamin D's importance goes far beyond that, and its roles in supporting the immune system are at least equal to bone health in terms of importance. The words of Dr. Mourad Aribi (as well as many others) make that abundantly clear:

“Not only does vitamin D3 perform many vital roles, it has been shown to possess powerful effects that can control immune function, allowing it to be utilized in immunologic interventions to keep the immune system functioning optimally.”

Space limits listing all the roles that vitamin D plays in the body, but it's fair to say that since nearly every bodily cell and tissue has vitamin D receptors, they all require vitamin D to function properly [1, 2]. Regarding the immune system—something we all need to focus on daily, especially now that we're smack in the middle of the cold & flu season—vitamin D is very much a “front line defense” nutrient.

Photo: Alex Myers flying high in the Enduro Hammer Jersey



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YOUR IMMUNE SYSTEM

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A portion of the conclusion from one piece of vitamin D/immune system research states: “Vitamin D has important functions beyond those of calcium and bone homeostasis which include modulation of the innate and adaptive immune responses. Vitamin D deficiency is prevalent in autoimmune disease. Cells of the immune system are capable of synthesizing and responding to vitamin D.” [3]

Commenting on other vitamin D/immune system research [4], Dr. Richard Mellanby writes: “Low vitamin D status has long been implicated as a significant risk factor for the development of several autoimmune diseases. Our study reveals one way in which vitamin D metabolites can dramatically influence the immune system.”

Lastly, highly regarded vitamin D expert, Dr. Richard F Holick, states that vitamin D “is capable of regulating a wide variety of genes that have important functions in regulating cell growth, modulating immune function and cardiovascular health. Epidemiologic evidence and prospective studies have linked vitamin D deficiency with increased risk of many chronic diseases including autoimmune diseases, cardiovascular disease, deadly cancers, type II diabetes, and infectious diseases.” [2]

By now, it should be clear that vitamin D is essential for basically all aspects of health, including proper immune system function. There is a wide range of how much vitamin D one needs to take on a daily basis to maintain optimal levels—a vitamin D, 25-Hydroxy blood test is the only way to know for sure—but the general consensus is 2000 IU -4000 IU daily.

Each softgel capsule of EnDuro D supplies 2000 IU of vitamin D3 (cholecalciferol), generally considered more effective due to its superior absorption and close resemblance to the form produced naturally by our bodies. [5]

EnDuro D also supplies an efficacious dose of vitamin K2, another important nutrient for the immune system. [6]

Each capsule of Premium Insurance Caps contains approximately 71.5 IU of vitamin D3, so a typical four-to-six capsule daily dose will supply you with approximately 285 – 429 IU of vitamin D3.

Between EnDuro D and Premium Insurance Caps, much, if not all, of your vitamin D needs will be met. If additional amounts of vitamin D are deemed necessary via a blood test, stand-alone vitamin D3 supplements are

readily available in a variety of potencies.

Note: Vitamin D supplements have changed from the “IU” (International Unit) measurement to “mcg” (microgram). Each IU of vitamin D is equal to 0.025 mcg, so 25 mcg of vitamin D is the same as 1,000 IU.

Don't forget the magnesium!

To get the full value of the plentiful benefits from vitamin D, you need sufficient amounts of magnesium. This is because magnesium activates the enzymes involved in vitamin D metabolism. In one study, researchers stated that it is **“essential to ensure that the recommended amount of magnesium is consumed to obtain the optimal benefits of vitamin D.”** [7]

Another study [8] indicates that magnesium also optimizes vitamin D “status” in the body—increasing it in people with deficient levels and lowering it in people with too-high levels. This, researchers believe, is vitally important because people synthesize vitamin D differently; in some individuals, vitamin D levels were found to not rise even after being given high doses of the vitamin. Using magnesium in vitamin D studies and via magnesium’s “raising/lowering vitamin D levels as needed” properties, more-reliable conclusions can be achieved in research regarding conditions related to vitamin D levels.

Additionally, thanks to magnesium’s ability to balance and optimize vitamin D levels, more people will be able to enjoy the plethora of benefits that come from optimal—not too low, not too high—blood levels of this all-important vitamin.

With each capsule containing 100 mg of magnesium from six outstanding forms, Essential Mg is the easy way to provide your body with this “necessary for vitamin D” mineral.

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IN THE KITCHEN

New recipes from our updated cookbook!



The Simple Salad

1-5 servings

This is a simple and quick salad, other ingredients can be used.

INGREDIENTS

Fresh arugula

1 lemon

1-3 tbsp of olive oil

Parmesan cheese to taste

Instructions

1. Wash arugula. Place arugula in a bowl
2. Dress lightly with olive oil
3. Squeeze fresh lemon juice on arugula
4. Top with parmesan cheese
5. Enjoy

Tacos - 3 Ways

4-6 servings

This is a healthy taco recipe that everyone will love!

INGREDIENTS

1 lb bison, grass-fed beef, turkey ect.

5 tbsp taco seasoning

4 zucchini / yellow squash

½ of a yellow or white onion

8oz of mushrooms

Olive oil

SEASONING

1 tbsp Yellow Cornmeal

½ tbsp Chili Powder

½ tbsp Cumin

1 tsp Oregano

1tsp Sea Salt

1 tsp Onion Powder

1 tsp Garlic Powder

½ tsp Paprika

Instructions

1. Cooking the veggies!

Dice onions, mushrooms and zucchini into small similar sized chunks. Drizzle a pan with olive oil on medium high heat. Add the onions, cook 2 -3 minutes, add mushrooms, stir in mushrooms, add a drizzle more of olive oil. Cook 2-3 minutes. Add zucchini, stir in zucchini, add more olive oil if necessary. Add 2 ½ TBSP of taco seasoning.

2. Cooking the meat!

Drizzle olive oil, add bison and brown. Once some of the juice/fat releases add 2 ½ tbsp of taco seasoning to taste and continue to brown. Add ¾ cup water, stir and simmer until ready to eat.

3. Mix it up!

Go vegetarian or go keto and make a meat only taco! Use a romaine lettuce boat for a starch free option! Our favorite has both meat and veggies!

Adorn your taco with sour cream or cheese, lettuce, white onion, lime, cilantro and salsa!

The sky's the limit, there is no wrong way to make a taco!

In the Kitchen



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your free
copy today!



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WE WIN

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Photo: Rob Valillancourt, all smiles after the New England Season Opener DU/TRI

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HIGH-CARB FUELING = LEAKY GUT

being absorbed and the demand for ATP from fructose absorption, and you end up getting a leaky gut. So literally, fructose can punch holes in the gut.” [2]

Dr. Bayne French elaborates: “... we have a microscopically thin barrier separating intestinal contents (crap in the making) from our bloodstream. If this barrier is perturbed and leaky, your risk of developing numerous truly awful diseases is much heightened. Sugar, particularly fructose, is particularly damaging to this thin lining. Lambertz et al. (Front Immunol. 2017) discuss in great detail ‘fructose induced alterations of the tight junction proteins affecting the gut permeability, leading to the translocation of bacteria and bacterial endotoxins into the blood circulation.’”

“Did you know that you possess adherens junctions and desmosomes? You do. Lots of them. These cute little proteins connect the cells on your thin barrier, disallowing bad stuff from entering your bloodstream, yet allowing other things to enter. This makes it a selective barrier.” Sugar is directly toxic to these proteins, creating an intestinal barrier that is leaky. The action of sugar, particularly fructose, however is much more sinister.

Fructose also damages our gut flora and leads to pro-inflammatory microbiota that release toxins. There are many toxins, one of which is lipopolysaccharide (LPS), which then further damages the intestinal barrier.”

Thoughts and Comments: In just a handful of paragraphs, it should be abundantly clear that outside of its inclusion in whole fruit, fructose—as I have stated multiple times—is “the worst of the worst” for your health. Leaky gut is just one of the multiple and very serious health issues associated with fructose intake, and the soberingly bad news is that research [3] suggests that

The deterioration of gut lining/intestinal barrier—courtesy of high fructose consumption—can occur in a very short time, as short as a few weeks to a few months.

And yet, many sports nutrition companies are including this health-destroying sugar as a primary ingredient in their products, most in a 2:1 ratio of glucose to fructose. They tout fructose as a “slow-burning” carbohydrate, courtesy of its low Glycemic Index (GI) of approximately

19 to 25; however, a GI that low makes fructose more of a “no-burning” carbohydrate. And given Dr. Hyman’s comments on how fructose depletes ATP in the gut, it would seem obvious that fructose is actually an extremely bad energy source to use during exercise. But that’s small potatoes compared to fructose’s harmful effects on human health.

Regarding fructose, Dr. Robert Lustig minces no words in stating, “Yes, fructose has a low glycaemic index of 19 because it doesn’t increase blood glucose. It’s fructose, for goodness’ sake. It increases blood fructose, which is way worse. Fructose causes seven times as much cell damage as glucose because it binds to cellular proteins seven times faster and releases 100 times the number of oxygen radicals (such as hydrogen peroxide, which kills everything in sight).” [4]

Can it get worse? Absolutely! With the advent of the absurd “high-carb fueling” fad (“Don’t you know? All the cyclists in the pro peloton are doing it!”), a 2:1 glucose to fructose formula can mean a minimum of 30 grams of fructose on a per-hour basis... a whopping 120 grams of fructose for a 4-hour bout of exercise! Those are NOT minimal amounts; they are nothing short of EXCESSIVE amounts! And guess what? Just because you’re an athlete, you are not exempt from the deleterious health effects of fructose! As Brian Frank so appropriately states, “Sugar is the devil and it does not become your friend because you are an athlete.”

Never forget, an endurance athlete is a healthy person first, an athlete second, and an endurance athlete third. If you want to avoid leaky gut and other serious health issues, you must:

Get serious right now about greatly reducing-to-eliminating all fructose in your diet, aside from that found in whole fruits.

Avoid all fuels—gels, chews, drink mixes, etc.—that contain fructose and other “ose” sugars (e.g., glucose, sucrose).

Do both of these and you will not only feel better and perform better, we have no doubt that your overall health will benefit tremendously.

Right: Nick Bianchini taking on Tahoe 200.

PERPETUEM[®] 2.0



**ALL DAY ENERGY TO
FUEL EVERYTHING.**



Used this product as my primary nutrition throughout the Tunnel Hill Ultramarathon (50 mile; maybe I’ll do the 100 next year). I was never hungry or had a lack of energy. No cramps or stomach issues. What a great product! Thank you.

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[2] FLATLOCKED SEAMS

Low-profile seams minimize chaffing

[3] REFLECTIVE ACCENTS

A little extra flash on the rear pocket binding for better visibility.

Photo: Michelle McGee leading the way in her Voler Ruby Kit.

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FROM OUR ATHLETES

MICHELLE MCGEE WINS CLIMB TO KAISER

Background

Hi, I'm Michelle McGee from the Sierra Nevada in sunny California.

I am a 44yr old mountain momma that loves the outdoors. I have worked on ski and bike patrol since 2007. I started racing xc mtb in 2021 as an adventure to improve mental and physical health. My first year I raced on a heavy trail bike with Gatorade in my hydration pack. I struggled with cramping, bonking and lackluster race results. A friend suggested I try Hammer Nutrition products, because they worked well for him.

By 2023 I won the Sea Otter xc race for my age group by over 25 minutes. Then I won USAC xc mtb nationals for my age group. I started racing as a pro in 2024 with decent results at Sea Otter and Downieville Classic. I continue to hone my bike handling skills and improve my fitness to compete against pro athletes young enough to be my daughters.

Hammer Nutrition has not only provided the products I need to succeed, but also the education to thrive as a pro athlete. My on-bike nutrition always includes **HEED** and **Hammer Gel**. During races I rely on **Anti-Fatigue Caps** and **Endurolytes Extreme** to keep me rolling smoothly. I greatly appreciate Hammer Nutrition fueling my career as a pro athlete 20 years older than most of my competitors.

Climb to Kaiser

It was a hard event with 155mi of road biking and 15k+ feet of elevation starting at 361' looping up to 9,200' with several descents along the way. Hammer sponsored the event with **HEED & Perpetuum** at the rest stops and fun goodie bags at registration. I didn't wear my Hammer kit because I wore my custom kit w/Hammer logos on it.

I represented Hammer well as 15th overall finisher and first female with time of 10:17. That was slower than I had hoped for, but I rode solo in the wind for 6 hours. It would've been great if there was anyone near me that I could've worked with, but gotta work with the cards dealt.

Anywho, my nutrition was bottles of **Orange/Cherry Bomb HEED** mixed with some bone broth powder to keep the protein sneaking in. I don't react well to the whey in perpetuum. I rocked the flasks of **Orange/Raspberry Gel**. I used **Anti-Fatigue Caps** every 45min, **Endurolytes Extreme** hourly, and a single bottle of water snuck in there somewhere along the event bc that sounded really good at the time.

Overall, things went well except for some leg cramps that I believe were due to serious under hydration when I chose to pass a planned rest stop in order to keep working with some riders rather than fight the wind alone. In hindsight, I'm not sure which was better: to stay with

the group or follow my planned stops. Regardless, I won by over 2 hours for females. I signed up for this beast of an event to stretch my skillset and learn things. Not sure why roadies love this sport.

It's back to mtb for me!



MICHELLE MCGEE

📍 Climb to Kaiser

📍 Fresno, CA 📅 Jun 21, 2025

Distance: 155 miles
16,000+ ft elevation

AG Finish: 1st Place
Female: 10:17:22

Overall: 14th Place

FROM OUR ATHLETES



LINCOLN MURDOCH

Tuesday Night Worlds Criterium Series
📍 Omaha, NE 📅 Jul 8, 2025

Distance: 11+ Miles | 35mins on ¾ mile loop
Results: 3rd in Cat 4/5



HEED
Anti-Fatigue Caps
Endurolytes
Amino Age
Hammer Gel



JOHN “JB” BENHAM

6 Hours of Power - Wolf Pack Trail Series
📍 Omaha, NE 📅 Jul 8, 2025

Distance: 25.26 Miles. 3,291 Ft.
Results: 5:27:28 | 1st in Age Group | 1st Overall.



Cola Fizz
Perpetuem
Recoverite
Anti-Fatigue Caps
Fully Charged
Endurance BCAA+
Endurolytes

JAKE VANLUE

Missouri River 340
📍 Kansas City - St Louis, MO 📅 Jul 8, 2025

Distance: 371mi
Results: 1st in division | 10th overall
Record: Furthest distance traveled by a Dragon Boat

“I was asked by a legend in the paddling community to be a part of this and was mixed with a lot of big names.

It was pretty humbling to not only be asked but to contribute to the success. I’m also grateful to have Hammer sponsoring me and being so willing to get me what I need when I ask.”



Endurance BCAA+
Anti-Fatigue
HEED
Perpetuem
Hammer Gel
Recoverite
Creatine Boost

MIKE DARNLEY

Sea Otter Bicycle Classic Enduro MTB
📍 Monterey, CA 📅 April 10-13, 2025

Distance: Approx. 20miles. 4 runs
Results: 3rd (M50-59 Masters) | 16th Overall



Father Daughter Duo!

Endurolytes Fizz
Hammer Gels

DYLAN DARNLEY

Sea Otter Bicycle Classic
📍 Monterey, CA 📅 Apr 10-13, 2025

Enduro MTB
Distance: ~20mi, 4 runs
Results: 3rd (W20-29)

Dual Slalom
Distance: Head to Head
Results: 3rd (W’s Expert)

Endurolytes Fizz
Hammer Gels



“Great race, but the rain made the obstacles extra challenging!”

AARON COFFMAN

Conquer the Guantlet
📍 Springfield, MO 📅 Jun 7, 2025

Distance: 4mi | 25-obstacle trail race
Results: 1:10:21 | 1st in age group | 16th overall

Hammer Gels
HEED
Recoverite

SCOTT TURPIN

Bighorn Gravel
📍 Bozeman, MT 📅 Jun 22

Distance: 85mi
Results: 8th (M40-49)

Belgian Waffle Ride
📍 Bozeman, MT 📅 Jun 22

Distance: 115mi
Results: 9th (M45-49)
Series: 2nd (QuadTrippel)

Endurolytes Fizz
Hammer Gels



KAI MITTELSTEADT

Copper Kings 100
📍 Butte, MT 📅 Jun 27, 2025

Distance: 103 Miles,
Results: 19:26 | 1st Place (M20-29) | 2nd Overall



Amazing inaugural CK100 held by Wes Plate. Endurolytes Extreme Powder powder was key.

Hammer Gels
HEED
Endurolytes
Extreme Powder
Perpetuem

FROM OUR ATHLETES

TODD ROPER

Whiskey 50

Prescott, AZ 📅 Apr 26, 2025

Distance: 46.5mi
Results: 6:42:58

Big Woody Ride

Flagstaff, AZ 📅 Jun 22, 2025

Distance: 54.2mi
Results: 5:34:45 | 3rd (M60)

HAMMER

Perpetuem
Hammer Bars
Huckleberry Gel
Endurolytes
Endurance BCAA+
Anti-Fatigue

RAY SANCHEZ

Bad Water 135

Death Valley, CA 📅 Jul 27, 2025

Distance: 135 mi
Results: 30:45:59 | 16 time finisher

“The start line is at Badwater Basin, Death Valley, which marks the lowest elevation in North America at 280’ (85m) below sea level. The race finishes at Whitney Portal at 8,300’ (2530m), which is the trailhead to the Mt. Whitney summit, the highest point in the contiguous United States.”



Endurolytes Fizz
Endurolytes
HEED Cherry Bomb
Perpetuem
Recoverite
Tissue Rejuvenator

PAIGE LEPARD

Ironman 70.3

Boise, Idaho 📅 Jul 26, 2025

Distance: 70.3 miles
Results: 6:13:43 | 13th in age group

Hammer Gel
HEED
Recoverite
Endurolytes



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16x Ray Sanchez
Bad Water 135 Ultra Marathon Finisher

TISSUE REJUVENATOR

Ray doesn't just recover — he rebuilds. Tissue Rejuvenator helps him stay in the race, year after year.



HAMMER

FROM OUR ATHLETES



LIZZIE JONES

📍 The Great Divide 100k

📍 Mueller State Park, CO 📅 Jun 8, 2025

Distance: 62 mi

Results: 13:36 | 1st in age group | 1st Overall Female

HAMMER

HEED
Tropical &
Raspberry Gel

JOHN & BRAD

📍 2025 Never Summer Adventure Race

📍 Eagle County, Colorado 📅 July 11, 2025

Distance: 25mi

Results: 4:49 | 1st in division | 3rd overall

“The race started with a mass-start kayak on the Eagle River... the low river gave everyone quite a bit of trouble with obstacles and route selection. After one checkpoint and several miles on the river, we transitioned to mountain bike and spent the majority of the first biking leg bushwacking and carrying our bikes up a very old, very rocky ‘road.’”



HEED
Perpetuem
Hammer Gel
Endurolytes Fizz
Endurolytes



STELLA SPRINGER

📍 San Diego 100 mi

📍 Julian, CA 📅 Jun 6, 2025

Distance: 100mi

Results: 22:59:52 | 1st in age group | 2nd Overall Female

Hammer Gels
Perpetuem
Anti-Fatigue Caps



Prem. Insurance
Fully Charged
Race CAPS
BCAA+
Endurolytes
Anti-Fatigue
Perpetuem

HEED
Hammer Gel
Hammer Bars
Recoverite
Tissue Rejuvenator
Super Antioxidant
AO Booster

JENNIE PHILLIPS

📍 Grasshopper Adventure Series

📍 Duncan Mills, CA 📅 May 10, 2025

Distance: 91mi | 9500ft

Results: 1st (60+) | 13th Overall Female

RACE DIRECTOR TESTIMONIALS



ANGELA TORTORICE

Running The Distance LLC

Texas Double | Texas Triple | Texas Quad

What sport do/did you compete in? And why are you passionate about it?

I am a runner and triathlete. I am passionate because running gives me a sense of satisfaction in so many ways, a sense of clarity and happiness, time for myself, and a feeling of accomplishment. I have also learned it allows so much camaraderie.



How long have you been Hammering?

I have been hammering since 1997 and using the product as soon as I found it, which was over 10 years ago.

How long has your event partnered with Hammer?

I have partnered with Hammer for well over 10 years.

Your go-to Hammer products?

I love the gels (espresso), orange sports drink (HEED), endurolytes, and anti-fatigue caps.

Why do you continue to partner with Hammer to fuel your events?

I partner with Hammer because I believe in the product, and it is easy on the tummy since it is not full of sugar.



JOHN ERICKSON

Death Ride®

Tour of the California Alps

As an integral part of the Death Ride team and a participant, I get to be a part of organizing and training to compete in one of North America's premier rides. My name is John Erickson, and I love completing distance cycling events. As the Course Safety & Tactics Coordinator of Death Ride, I interact with both participants and ride supporters (from the Death Ride team to volunteers, riders, and sponsors). We enjoy having many sponsors, but only Hammer fits in my training, organizing, and competing life.

Hammer Nutrition produces all the products I need and use to fuel during my rides. As I prepare for Death Ride, and during Death Ride, I use many Hammer products to improve my performance. During pre-ride, I use Endurolytes, both capsules and Fizz, to pre-hydrate. At the beginning of rides, usually in the first half, I use Perpetuem to keep fuel and reserves at pre-ride peak. Then, as I transition to the second half of rides (like Death Ride), I use Heed and Hammer Gels to keep fueling until the end of the ride. My post-ride starts with Recoverite to get quick replenishment and reduce recovery time. My job at Death Ride gets tougher the day after the ride.

I have only been Hammering since COVID, 2020. Over the past four years, I have built from Fizz and Recoverite to the Hammering routine I now use to compete in events from pre-ride to post-ride. Hammer has the products I need to stay strong throughout the cycling process.

My personal victories and successes keep Hammer Nutrition at the Death Ride. Our riders ask for and expect Hammer products at our ride.

Death Ride wouldn't be the same without Hammer.



HAMMER

INTERNATIONAL

EVA WONG

Iron Man 70.5 Danang

Danang, Vietnam May 11, 2025

Distance: Half Ironman

Results: 5:06:34 | 3rd in age group | 9th overall

Hammer Gels
Fully Charged
Endurolytes®
Extreme
Anti-Fatigue

SANDI MENCHI

Spartan Ultra World Championships

Morzine, France July 4-6, 2025

Distance: 50km

Results: 8:34:00 | 3rd overall

"This was Sandi's first time racing the Ultra distance. She stood on the podium beside the top athletes from France and the UK. We believe she may be the first Asian athlete to ever reach the elite podium at the Spartan Ultra World Champs."

Perpetuem
Hammer Gel
Endurolytes
Extreme
Race Day Boost
Anti-Fatigue
Caps
Energy Surge
Whey Protein
Recoverite
Premium
Insurance Caps
Xobaline
Tissue
Rejuvenator
EnDuro D



"I'm just really thankful for Hammer. It helped me get fueled and also fueled my grit."

I discovered what my body can do and how it can still push even when it feels like it can't. It's amazing."

TATIANA LUISI

Cycling (Road / Mountain) & Fitness

Tatiana Luisi is a versatile athlete with a strong presence in both road and mountain cycling, as well as fitness. A decorated competitor, she earned the titles of Catalonia XCM Champion (2023–2024 F-M30) and Catalonia & Spain XCO Champion (2023 F-M30).

"I'm very happy to be part of Hammer Nutrition and to be performing at a high level!"

Tatiana fuels her training and recovery with Hammer Nutrition essentials including Premium Insurance Caps, Race Caps, EnduroOmega, Essential MG, Tissue Rejuvenator, Hammer CBD, EnduroZyme, and Hammer Creatine Boost. For cycling, she

relies on Recoverite, Endurolytes, Whey Protein, Endurolytes FIZZ, Hammer Gels, HEED, and Anti-Fatigue Caps, while in the gym she turns to BCAA for added support.

She first discovered Hammer Nutrition through social media, tried the products, and quickly noticed the difference. Later, while creating team kits, she reached out to join the Hammer family, bringing not only her performance but also her content and feedback.

Beyond sport, Tatiana also works with S3, the company behind our high-quality custom jackets, the same jackets worn by the Mossy Rock Trials Team.



JORGE CASALES

2025 NATC AMA National Trials Champion

This year, I signed with American Honda and knew I had to perform at my absolute best to win the NATC AMA American National Trials Championship. At the first rounds of the series, Hammer Nutrition reached out to me to become my official nutrition sponsor. We developed a detailed plan for my nutrition and hydration — before, during, and after each race.

Since my diet is low in carbohydrates and completely free of added sugars, their products were a perfect match. They're among the very few in the market that meet these standards, which made a huge difference for me. The American championship

is extremely demanding, with races lasting up to 7 hours, often in high heat and humidity - So, cramping was a big concern.

Before every race, Brian, the owner, and I would review and fine-tune my nutrition strategy. Using Hammer HEED and Endurolytes Extreme Powder during the events kept me energized and cramp free! Recoverite after Saturday's race helped me feel strong and recovered for Sunday's race. I managed to win 6 out of the 8 rounds, and secured the NATC AMA National Championship title. I'm truly grateful to Hammer Nutrition for helping me achieve this goal.



HAMMER EVENTS

Mighty Moraine Tri (08/16)

The Mighty Moraine Multi Sport Series is the largest triathlon in Western Pennsylvania celebrating its 13th year. Participants will swim in the calm waters of Lake Arthur, bike along scenic rural routes, and run on a mix of paved and trail paths that showcase the park's natural beauty.

We are thrilled to partner with the race and help fuel many more athletes reach their goals!



Le Grizz 50 Miler (10/11)

The iconic Le Grizz 50-Mile Ultramarathon, set for October 11, 2025, in Montana's Flathead National Forest, continues its legacy with key sponsorship from Hammer Nutrition. Hammer will supply runners with essential hydration and energy products throughout the scenic and challenging course.

Hosted by the Glacier Institute, the event supports outdoor education, combining athletic excellence with a cause. With Hammer Nutrition's support, the 2025 Le Grizz promises a top-tier ultrarunning experience.



Get Lost Gravel (08/05)

The Get Lost Gravel race in Hamilton, Montana is a tough 82 miles gravel cycling adventure through the rugged and scenic Bitterroot Valley. Riders can expect a mix of challenging climbs up to 3000ft+ , fast descents, and stunning mountain views along remote forest roads.

We are excited to kick off our partnership with the race this year with HEED, gels, and endurolytes at the aid stations.



LoToJa Classic (9/26)

Hammer Nutrition continues its longstanding support of the LoToJa Classic, the United States' longest one-day amateur bicycle road race. Held annually on the first Saturday after Labor Day, LoToJa spans 203 miles from Logan, Utah, to Jackson Hole, Wyoming, featuring nearly 10,000 feet of elevation gain.

As a key sponsor, Hammer Nutrition supplies athletes with essential fueling products throughout the race. Their offerings include HEED hydration, energy gels, and electrolyte tablets ensuring participants maintain

optimal performance during the grueling course. In 2023, Hammer Nutrition's Jennifer Halladay clinched the Women's Master 45+ category victory, underscoring the effectiveness of Hammer fuels in competitive settings.

Beyond product support, Hammer Nutrition actively engages with the cycling community through events like the LoToJa Classic, reinforcing its commitment to enhancing athlete performance and promoting endurance sports.



UPCOMING EVENTS

📍 Lake City Alpine

📅 8/23 | MTB

📍 Lake City, CO

📍 Pony Express 120

📅 9/6 | Gravel

📍 Marysville, KS

📍 Ring of Fire

📅 9/27 | MTB

📍 Bend, OR

📍 Toughman Harriman

📅 9/13 | Triathlon

📍 Stony Point, NY

📍 Dakota 5.0

📅 8/31 | MTB

📍 Spearfish, South Dakota

📍 Square Lake 70.3

📅 9/6 | Triathlon

📍 Stillwater, MN

📍 Big Little Ultra

📅 10/10 | Ultra Running

📍 Sparks, NV

📍 Twisted Coulee Enduro

📅 9/13 | Enduro

📍 Billings, MT

FUEL RIGHT, FEEL GREAT.

NO CRAMPS | NO GI DISTRESS

VICTOR SHELDON

 Leadville Trail 100 MTB

 1st in division | 19th overall

 105 mi

 7:29:45

HAMMER RACE RECIPE



Carbohydrates: **210** cal/hr

Calories: **208** oz

Total Fluids: **52** g/hr

hammernutrition.com



Photo: Victor Sheldon line at the Leadville Trail 100 MTB race

HIGH CARB FUELISH-NESS

By: Steve Born

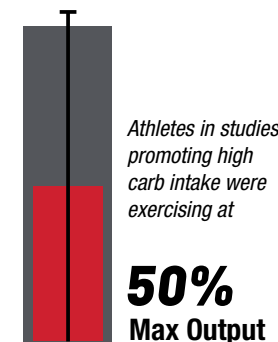
In our 38+ years of existence in the world of athletic fueling and supplementation, we sure have seen a lot of fads come and go. The latest fad is one that we hope and pray will soon be a “here today, gone tomorrow” fad—the one suggesting that higher and higher amounts of carbohydrates are the key to enhanced endurance. We are obviously not proponents of the current high-carb fueling fad, especially when recommended hourly intake exceeds—greatly at times (i.e., 90-120+ grams/hour)—what is generally considered to be the upper end of hourly carb intake @ 60 grams an hour. This current fueling fad is based on old research from Dr. Asker Jeukendrup, as well as (mainly) from anecdotal reports from cyclists in the pro peloton.

The problem with Dr. Jeukendrup’s studies

While the athletes were able to absorb greater amounts of calories using a 2:1 ratio of glucose to fructose, in every one of Dr. Jeukendrup’s studies the athletes were ALL going at a rate of intensity that was so relaxed, it barely qualified as a recovery pace, and certainly nothing like the kind of intensity an athlete puts out during a typical training session and certainly not a race. Interestingly, and sometimes you have to dig deep into the studies (which I did), even at such a relaxed effort, numerous athletes still complained of stomach issues, and many were unable to complete the test.

I do not dispute the results of Dr. Jeukendrup’s studies; he is a highly respected nutritional scientist, and his studies are absolutely “gold standard” quality. The results are

indisputable. However, because of the low intensities that the athletes were performing, as well as the fact that many of them had stomach issues and got sick—some to the point where they couldn’t finish the test—I do not believe these studies nor their results are truly applicable for the typical athlete, one who is training and racing at a much



higher level of intensity. The question that needs to be asked: “What would happen if the intensity of exercise increased to even a moderate intensity rate/pace?” According to exercise physiologist Dr. Carl Foster, “The frequency of abdominal complaints and symptoms during high-intensity or competitive exercise (Brouns et al., 1987) suggests that attempting to feed while the gastric emptying rate is suppressed by high-intensity exercise may be inherently futile.” In other words, the gut works hard enough to process calories during exercise. Trying to consume more calories—in the hopes of replacing what you’re burning in equal or near-equal amounts—places a tremendous burden on the gut, which will always result in unpleasant, performance-inhibiting-to-ruining issues.

Interesting observation

If you followed Jeukendrup’s early studies, you may have noticed that “multi-carb” fuels soon became available—almost immediately, in fact, after the results were published—suggesting that these companies were involved in/tied to the research. Hmmm...

The pro peloton’s “secret weapon”?

By far, though, most of the companies that are promoting the 2:1 glucose-to-fructose ratio in their products are doing so based on anecdotal (“word of mouth”) feedback from the cyclists in the professional peloton. And yet, none of these teams nor their riders can provide ample proof that they are, in fact, following such a protocol. It greatly strains credibility to believe that a pro cyclist—one who is going at high rates of intensity all race long (and usually during their training as well)—can come anywhere near consuming 90-120 grams (or more) of carbs on an hourly basis. Dr. Carl Foster’s quote above is even more applicable for professional cyclists training and racing at the intensities that they are. There simply is no proof—just anecdotal evidence/word of mouth only—that any pro tour cyclist is following an incredibly high-carb fueling intake hour after hour after hour in their training and racing. Still, athletes are being told to follow that same fueling plan that, in our observations, only causes severe stomach distress issues.

More to the point, what the pro tour cyclists are supposedly doing fueling-wise should not be anything that real-world athletes like the rest of us should want or try to emulate. Why would we look to a group of young, genetically gifted athletes who eat, sleep, and train for

a living and assume that what they're supposedly doing what will work best for us?

High GI risk:

The “superiority of multiple carbohydrates” argument is based on glucose (maltodextrin as well) being absorbed by one transporter (SGLT1) and fructose by another transporter (GLUT-5). The issue with that is osmolality (never mentioned in any of the studies). When you combine simple sugars and complex carbohydrates, as

“When you combine simple sugars and complex carbohydrates... neither carbohydrate source is digested efficiently.”

some of these other companies' fuels do, the mixture's concentration and osmolality change dramatically to the point where neither carbohydrate source is digested efficiently. That's why, despite claims of better output, real athletes are reporting the opposite—GI distress, diarrhea, etc. These issues become more severe in efforts lasting longer than 2–3 hours.

Gut training isn't working

It would certainly seem right from the start to be unnatural to have to “train your gut to take on more than it's capable of”... that is, unless you're competing in a hot dog or pie eating contest. Yet endurance athletes are encouraged to ramp up gradually (60g → 70g → 80g → 90g/hour). However, most can't get past 60g/hour without problems. The “gut training” model fails to account for the body's natural carb/fructose absorption limits.

80
80
60 g/hr

Athletes who try “gut training” cannot exceed

Metabolic consequences

High-carb intake (i.e., excessive amounts of calories) suppresses the body's ability to use fat as a fuel source. Given that nearly two-thirds of one's energy will be naturally fulfilled via the calories from fat stores during 2+ hour bouts of exercise, consuming excess amounts of carbohydrate calories severely limits—oftentimes even shuts down—the body's ability to tap into your most abundant, efficient fuel source: fat..

We've seen this before

Back in the '80s, athletes were told to aim for 400 calories per hour using sugary drinks like Gatorade. This resulted in many athletes experiencing GI distress and poor race performances. The high-carb trend is repeating itself again, with similar performance-inhibiting-to-ruining results.

The worst aspect, by far, of high-carb fueling

A 2:1 glucose to fructose formula is the basis of high-carb products, and that can mean a minimum of 30 grams of fructose on a per-hour basis... a whopping 120 grams of fructose for a 4-hour bout of exercise! That's clearly not a small amount of fructose; it's massively high! Check out the other articles on the serious health hazards associated with fructose consumption in this issue of Endurance News, especially *High-Carb Fueling = Leaky Gut* and *Fructose: The Worst of the Worst* and you'll understand why we refuse to use this toxic substance in Hammer Nutrition products. Still not convinced? I encourage you to read Dr. Bayne French's two-part series on the effects of fructose and uric acid production: *Uric Acid Pt 1 & 2*

And guess what? Just because you're an athlete, you are not exempt from the deleterious health effects of fructose! As Brian Frank so appropriately states: “Sugar is the devil and it does not become your friend because you are an athlete.” Bottom Line: Unless fructose is consumed in the form of whole fruit, it is not healthy for you, it will not promote exercise performance, and it will put you on the fast track for a number of serious health consequences.

Our take—Less is Best!

The goal of caloric intake is to consume the least amount necessary to maintain energy levels where you want and need them to be hour after hour. For the majority of athletes, this represents an intake of ~1 calorie per pound of body weight hourly. And if you find that's not quite enough calories, that's a quick and easy fix—you simply consume a few more. Remember, it is ALWAYS easier to fix a “not enough” problem than an “uh oh, I overdid it and now my stomach is rebelling” problem. Fuel with just enough clean, efficient complex carbs to support your effort, and without shutting down your body's natural energy systems, such as using fat as a fuel with great efficiency. You will, without question, enjoy consistent energy while avoiding energy crashes and stay strong for the long haul.

HAMMER

HAMMER® BODY CARE

Premium, natural ingredients

NEW PRODUCTS!



SKIN SAVER



Just removing the lid is a pleasant experience due to the nice minty scent of Seat Saver. It's also reassuring to know that the only thing I'm smearing all over my underworld are **natural, familiar ingredients** that I can pronounce. It goes on smoothly and evenly. Most importantly, it keeps the saddle sores away!

-Jake

Prevents Chaffing

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Chris Hammer breaks the tape to win the Para World Triathlon Championship Series

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FREE!

