

ENDURANCE

BY HAMMER NUTRITION

#134 April/May/June 2023

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NEWS



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MORE Winning Proof!

Hammer Team Triumphs AGAIN

Vitamin D for Muscle Strength

Research shows a critical link as we age

Donate Blood Today

Blood Donation yields significant health benefits

PLUS

Event Sponsorship

Why Hammer is the Best in the Business



BEING FRANK

A WORD FROM BRIAN FRANK

Welcome to the 134th issue of Endurance News!

"We at Endurance News believe that there are no shortcuts and success can only come from hard work."

Spring is in full bloom, and summer is just around the corner, so it's time to start Hammering in earnest! As usual, this issue is full of articles and contributions that will help you achieve your health and athletic goals in 2023, and we'll be here to help every step of the way.

Among all the great articles in this issue, be sure to read Dr. French's article on blood donation. It's a winner! Until recently, I was precluded from donating blood because I lived in Africa in the 70s. Thankfully, that is no longer the case. Like most people, I was interested in donating blood to help others, which is the only "marketing" message I've ever seen. "Donate blood, save a life," right? So, I was more than a little surprised to find out that donating blood confers significant benefits to the DONOR! I made my first donation last October and 2nd in January. I'll donate in June when I have a long break between competitions and again in October. Three times per year is my goal now. Feeling great with a couple of oil changes!

Elsewhere in this issue, you'll find exciting updates on Perpetuem 2.0, Perpetuem Solids, nut flavors of Hammer Gel, and the return of our mega-popular CBD Balm! With all the

delays and long-term outages, I'm sure some of you thought I had forgotten how to run the company or was just asleep at the wheel. I assure you neither was the case! As have most companies, we've been struggling with "supply chain" issues since 2020, and it all came to a head in 2022. Specifically, one of the critical ingredients, powdered soy lecithin, disappeared from the market, and we could not find a source until recently. With the solids and the nut flavors of gels, our manufacturers fired us, and it took this long to find a replacement. The CBD balm was also a case of the manufacturer going out of business and our struggles to find a replacement to take on new clients. I sincerely apologize for all of the frustration these situations have caused many of you, and I am thrilled to be able to announce that there is light at the end of the tunnel!


All flavors of proper DRY Perpetuem 2.0 are now in stock, as is the 500mg CBD roll-on stick! Likewise, Solids are in production and will be on the shelves by the beginning of June. The beloved Nocciola Hammer Gel, Peanut Butter, and Peanut Butter Chocolate. If we are lucky, we might even be able to add a NEW Hammer Gel flavor by the year's end!

When it comes to the 2.0 versions of our most popular fuels, namely HEED, Recoverite, and Perpetuem, I know many of you are wondering why I went to all of this trouble and expense to fix something that wasn't broken. When I started developing these products in the 1990s, corn maltodextrin was the only viable choice for carbohydrates apart from some form of sugar. Because sugar is evil and only gives "flash-and-crash" results, I refused to put it in any of my products. So that's why Sustained Energy, Hammer Gel, and others have always been made using corn maltodextrin.

However, I have been looking for a better option for over 20 years. In the early 2000s, we experimented with an all-rice version of Perpetuem – rice maltodextrin, rice protein, rice fat (yes, evidently, there's a tiny bit that can be extracted.) – it was amazing. However, it would have been about \$10 a serving, so we dropped that idea. So, when tapioca maltodextrin made from casava came on the market, I naturally wanted to make that change for a guaranteed better source of carbs. So, to understand my reasoning even further, read *Six Reasons Why Tapioca Tops* from the February 14th edition of *Endurance News Weekly* on our website.

And, for all of our legacy clients who don't want to try the new 2.0 products, for the time being, I'll be offering limited flavors of "Classic" corn maltodextrin versions of HEED, Recoverite, and Perpetuem. See the respective product detail pages for more on these products and my articles further along in this issue.

Wishing you the best for a healthy and successful 2023!

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

Brian Frank

Brian Frank

Owner and Founder of
Hammer Nutrition

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bubbles
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you're in
trouble!

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"FIZZ is my go-to especially on hot/humid days. I like the convenience which is easy to pack and toss in a water bottle. It also provides quick relief for night leg cramps." - Patrick T.



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

Hammer athlete, **Jeremy Heath**, takes advantage of the first warm days of spring on a trail run in the Arizona hills.

ENDURANCE NEWS

The informed athlete's advantage since 1993

AN EXCLUSIVE PUBLICATION OF:



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MISSION

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

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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ON THE COVER: Tor Gudmundsen achieves an overall WIN at the Grandmaster Ultra in Littlefield, AZ. See pg. 55 for race details.

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Team *NOT SO PRETTY IN PINK*

Hammers the HOP! AGAIN



2023

24 Total Laps Complete

NEW Course Record

TOTAL TIME : 24:49:04 (with a whiskey tree stop)

2022

Four Man Team 1st Place

23 Total Laps Completed

TOTAL TIME 24:38:24

2020

Four Man Team 1st Place

23 Total Laps Completed

TOTAL TIME 24:40:48

3 consecutive 24 HOP wins (no race in '21 due to covid)



As the dust and wind settled in the 24-Hour Town desert, **Not So Pretty in Pink** was back again, with the team chasing the three-peat and keeping in mind an even bigger goal, completing 24 laps. Not So Pretty in Pink returned to the Old Pueblo with team members:

← (shown left to right)

Brandon Mills (age 42)

Victor Sheldon (age 56)

Pete Tholl (age 61)

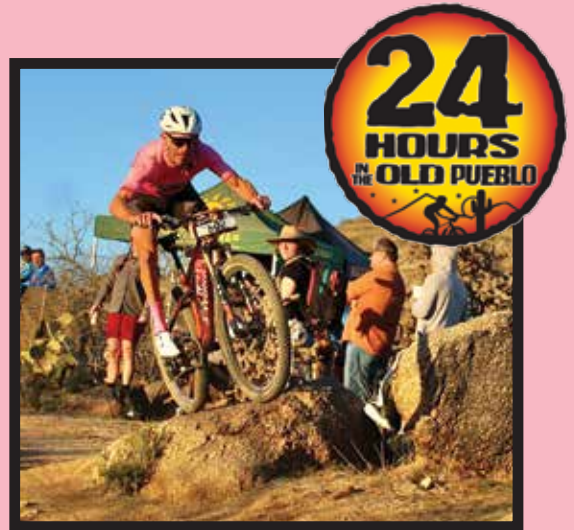
and new addition, young gun

Nic Beechan (age 31).

To kick off the 24 hours, Nic was the chosen one for the LeMans start and first lap sprint. After the gun went off, hundreds of riders ran to mount their bikes and ride off into the desert. As lap one was coming to a close, Nic came in with a screaming 53:48 fastest lap time and leading the 4-Person Mens Open Category. With Victor “Slasher” Sheldon on deck, the Not so Pretty in Pink team opened the gap and set sail from there, holding on to a commanding lead to the end and never slowing down.

With the Hammer team onsite all weekend, their nutrition was on point, keeping the four athletes in tip-top form to achieve the new course record with a total time of 24:49:04 and 24 laps completed!

It was great to connect with so many racers/ longtime Hammer fans over the weekend and help them ALL *Fuel Right and Feel Great* with **HEED®**, **Hammer Gel®**, **Endurolytes®**, and **Recoverite®** all right at the start/finish line. With such a dominating performance and lapping the entire field of 500+ racers, will Not So Pretty in Pink be back in 2024 to break records once again? Or will they ride off into the Old Pueblo sunset? I guess we will find out this time next year! **EN**



Victor Sheldon and the team show the young pack behind how it's done!



Brian Frank is clearly STOKED about keeping riders fueled and hydrated!



It's a group effort with Brian Frank and the Team, producing winning results!





LEAVE US A REVIEW!

We love hearing from you and reading your praise, but more importantly we value learning how we can better serve you.

You can leave us a review on the product detail page for every product on our website.

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Here are a few examples of what over 13,000 of you have been saying just so far this year!

*"My race went really well and the nutrition strategy you provided was great! I maintained a steady calorie intake and added **Endurolytes® Extreme** tablets, roughly one an hour. I switched to **Hammer Gel®** for the run, and used **Perpetuem®** for the bike. I'll be using **Perpetuem®** from now on and telling everyone about it! I really appreciate your taking time to chat with me while preparing". - Aimee M.*

*"**HAMMER** is my go-to fuel on the bike and beyond. Before, during, up the mountain, through the valley. Use it, share it, and don't forget it! My fave is Hammer Gel®! Apple Cinnamon, Espresso, and Peanut Butter for the win!" - Shawn D.*

"What separates Hammer Nutrition from other companies is their support for the clients. Their customer service is a rare find in today's automated world. Brian Frank has assembled a team the genuinely adheres to taking exceptional care of people. When you become a Hammer client, you join the Hammer family as well." - Mike B.

*"I just tried **Hammer CBD** and couldn't be happier with the results. I sleep so soundly and wake rested, ready to go. FINALLY! Your team set me up with the AutoShip program so I'll never run out - it was super easy. Thank you Hammer for providing quality products and exceptional service." - Terry M.*

"I've used Hammer products since 1995. I've tried other brands and nothing else compares when it comes to fueling". - Philip D.

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"Hammer Gel works great. I love the quick fuel! They are easy on my stomach and the flavor options are excellent. These are a must in my distance running and riding, training and racing." - Joshua H.

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- Raspberry
- Espresso
- Tropical
- Vanilla

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NSAIDs May Worsen Arthritis Inflammation and Accelerate Osteoarthritis Progression

by STEVE BORN

Osteoarthritis, the most common form of arthritis, is a degenerative joint disease that affects over 32 million adults in the U.S. and more than 500 million people worldwide. For those afflicted with the disease—which occurs most frequently in the hands, hips, and knees—the cartilage that cushions the joint gradually wears away. Painful inflammation and swelling accompany this condition.

There is no cure for osteoarthritis, so those afflicted with this disease strive to relieve these issues. Unfortunately, the “treatment of choice” is often over-the-counter NSAID (non-steroidal anti-inflammatory drug) medications. Recent research has shown that this unwise strategy will exacerbate the issue rather than

help correct it. A study headed up by Dr. Johanna Luitjens of the Department of Radiology and Biomedical Imaging at the University of California, San Francisco, concluded:

Long-term NSAID use for osteoarthritis of the knee may worsen the inflammation of the joint.

Joint inflammation and cartilage quality were worse at baseline in the participants taking NSAIDs, compared to the control group, and worsened at four-year follow-up.

Over 1,000 subjects with moderate to severe osteoarthritis of the knee were involved in this study. Approximately 25% received NSAIDs continuously for over a year, while the remaining participants did not receive any. Additionally, each participant completed a knee

MRI at the beginning of the study and again four years later.

The study focused on synovitis, the inflammation of the joint’s membrane lining, and how NSAIDs may affect it. Dr. Luitjens states, “Synovitis mediates development and progression of osteoarthritis and may be a therapeutic target. Therefore, the goal of our study was to analyze whether NSAID treatment influences the development or progression of synovitis and to investigate whether cartilage imaging biomarkers, which reflect changes in osteoarthritis, are impacted by NSAID treatment.”

In their assessment of several MRI biomarkers of synovitis at the end of the four-year study, the researchers noted no long-term benefits from using NSAIDs. Compared to those not taking NSAIDs, markers of joint inflammation were worse in the NSAID group.

Though this study is preliminary and not yet peer-reviewed and published in a journal, it would appear to cast a dark shadow on the use of NSAIDs as a treatment for osteoarthritis. Dr. Luitjens states, “The use of NSAIDs for their anti-inflammatory function has been frequently propagated in patients with osteoarthritis in recent years and should be revisited since a positive impact on joint inflammation could not be demonstrated.”



Hammer Nutrition provides supplements to help protect against osteoarthritis and provide effective relief for aches and sorenes.

Tissue Rejuvenator contains many nutrients—headed up by glucosamine sulfate, chondroitin sulfate, MSM, and Undenatured Type II Collagen—that provide the “raw materials” cartilage requires to maintain structural integrity, strength, and flexibility. These same nutrients and other nutrients in this comprehensive product provide effective relief from aches, soreness, and swelling.

Hammer CBD. The broad spectrum of cannabinoids in Hammer CBD—headed up by cannabidiol (CBD)—influences and activates the CB2 receptors in the body’s endocannabinoid system. Activation of these receptors dramatically assists in significantly reducing aches and soreness. CBD also influences several non-cannabinoid receptor systems in the brain, which play a role in the regulation of aches and soreness.

EndurOmega contains omega-3 fatty acids that, in addition to their numerous benefits, have excellent properties that help alleviate aches and soreness.

Both vitamin D3 and vitamin K2 in **EnDuro D** supports cartilage health.

“Vitamin D intake is inversely associated with cartilage degeneration among patients with osteoarthritis (OA), and supplementation may have a protective effect, suggests an analysis of data from the Osteoarthritis Initiative.”

“Vitamin K is important for the healthy functioning of proteins in cartilage and bone, two major tissues in joints affected in osteoarthritis. For example, matrix Gla protein (MGP) depends on vitamin K to help prevent cartilage calcification.” EN

References available upon request

Less pain, More gain!



- **Targets Soreness and Irritation**
- **Optimizes mobility and flexibility**
- **Maximizes recovery**

120 Capsules **\$34.95**



“Tissue Rejuvenator definitely helps with the aches and pains from a lifetime of competition. Wouldn’t want to be without it! - Frank W.



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FULLY CHARGED

The KING of Pre-Exercise Supplements

by STEVE BORN

Hard to believe that it's been over five-and-a-half years since we introduced Fully Charged, the most unique and effective pre-exercise supplement ever produced. Our pre-workout "ignitor" rewrote the book because, unlike other products in the category, Fully Charged was never about obscene amount of caffeine or stimulants, which are found in most-to-all of other pre-exercise supplements.

We were confident that we could supply athletes with a plethora of benefits for enhancing exercise performance via nutrients/nutrient compounds that were also beneficial for overall health. That's what a real athletic-specific supplement should be about, and Fully Charged most definitely is. Those other pre-workout supplements? The ones that make your heart race and pound 20-30 minutes before you even start your workout? That's not performance enhancing; that's dangerous!

THE UNIQUE FULLY CHARGED FORMULA

Taurine

An amino acid commonly referred to as a "wonder molecule" for all of its general health benefits, especially for cardiovascular health, taurine assists in regulating heartbeats and muscle contractions, as well as neurotransmitter levels in the brain. It is also essential for your body's proper usage of electrolytic minerals—calcium, magnesium, potassium, and sodium—ensuring proper muscle

function. Taurine also increases concentration and focus without stimulating the nervous system and causing that unpleasant "overly wired" sensation. Perhaps the best thing of all, taurine supplementation is correlated with increases in maximal oxygen uptake and time to exhaustion due to its ability to buffer lactic acid and promote healthy pH levels.

Beta-Alanine

This amino acid simultaneously neutralizes acidity levels and enhances blood flow to working muscles, both of which enhance exercise performance.

L-Carnitine Fumarate

This amino acid transports fatty acids into the mitochondria for conversion of cellular energy. Fumaric acid (fumarate) is a Krebs Cycle Intermediate and plays a vital role in energy production.

Spectra™

A proprietary blend of 29 vegetable, fruit, and herbal ingredients, Spectra™ was shown in a crossover, double-blind, placebo-controlled study to increase nitric oxide (NO) levels by 64%. Increased NO levels significantly improves blood flow, enhancing delivery of nutrients and oxygen to working muscles and vital organs, thus supporting increases in endurance and strength. That same study showed that Spectra™ is also a



Take your workouts to the next level!

powerful source of antioxidants, helping neutralize free radicals and the cellular damage they cause.

Green Tea Extract (standardized to 50% polyphenols)

One of nature's superfoods, green tea contains polyphenols that provide antioxidant and cardiovascular health support. Green tea extract also supplies a small but efficacious amount of caffeine, approximately 12-15 mg per serving.

elevATP™

A proprietary, clinically-researched blend of plant-derived trace minerals and polyphenol-rich apple extracts, elevATP™ works with the body's natural energy-producing mechanisms to stimulate production of adenosine triphosphate (ATP), the energy currency of the body.

Beet Root Juice Powder

Beets are a rich source of nitrates, which the body converts to nitric oxide (NO) for enhanced circulation.


Tyrosine

This amino acid is the precursor for several important neurotransmitters that are involved in alleviating stress and fatigue. Tyrosine also promotes mental alertness.

Tart Cherry Extract (standardized to 6.5% anthocyanins)

Cherries contain naturally occurring compounds (anthocyanins) shown to reduce aches and soreness, which in turn helps maintain normal muscle function during exercise and accelerates recovery afterwards.

SUMMARY

No other pre-exercise product provides the wide-ranging benefits that Fully Charged does, and without subjecting you to the unpleasant, excessive jittery and elevated heart rate effect associated with other pre-exercise supplements. This extraordinary product—now available in capsules as well as powder—can be used prior to any workout or race, with additional doses every 2-3 hours during long-duration workouts and races not only being acceptable but highly recommended. For over 5.5 years, Fully Charged has helped thousands of athletes take their workouts and races to another level of excellence. Isn't it time you experienced that as well? 

Your Pre-workout Ignitor!



- Increases energy
- Improves power output
- Improves focus

24 Stick packs **\$34.95**
60 Capsules **\$29.95**
30 Serving Powder **\$34.95**



"START ME UP! As a 75-year-old, Fully Charged helps me get up to speed sooner, especially when riding with a group. It is subtle but affective!" - Thomas G.



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A letter from Hammer Athlete Jeff Cuddeback

originally published in 2018

Dear Brian,

I owe you a huge debt of gratitude! I have been racing triathlons for 35 seasons starting my career in 1983 as a 24 year old graduate student at UCF, Orlando. For all but my very first years Hammer Nutrition has been supporting me with all my training and racing fueling needs. I want to let you know how much I appreciate your long standing support since sponsoring me way back in 1990. We have had a lot of success together! With your help Brian, I was able to win overall the 1992 USAT Nationals, and then follow up in 1993 winning triathlon's "Triple Crown" (USA Nationals, ITU World Championships, and IM World Champions) in the same season. Triathlete Magazine honored me as USA Amateur of the Year, and we celebrated together on the Queen Mary at the Awards dinner.

I have been named Athlete of the Year, Master's Athlete of the Year, recipient of the Year's Most Outstanding

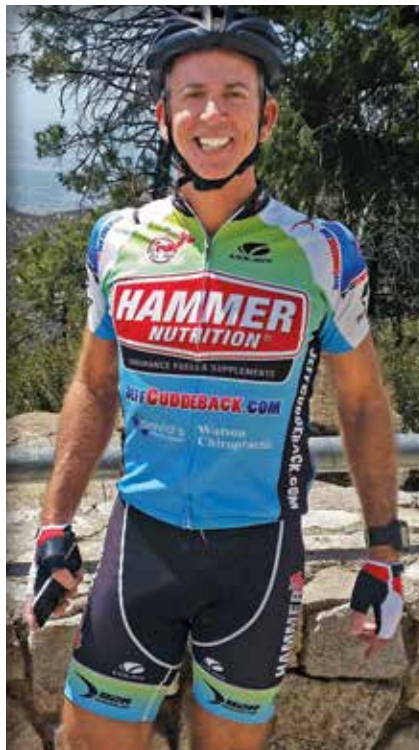


Photo courtesy of Jeff Cuddeback.

Performance, and have simultaneously held 3 Ironman Age World records in different age groups (the only person to ever have done so). At every step of the way I have depended on Hammer Nutrition for my racing and fueling requirements. Your expertise, along with that of Steve Born, and your entire staff, provides an extra level of service that is unique in today's marketplace. You are genuinely concerned with your customer's athletic performance and are insistent on educating the consumer on the efficacy of your products. This level of customer service always exceeds expectations and is why it is so easy for me to refer all the athletes I coach to Hammer Nutrition.

I offer the following example: Brian, you may or may not recall, but sometime around September 2017 you telephoned concerned about me. I was injured, not particularly healthy, eating poorly, and having asthma issues. I had raced only twice all year, two small local sprints, and got soundly trounced in each. I was questioning my athletic ability and was unfocused on next season's racing goals when I would be aging up to the 60-64 AG. We had quite a little chat and you offered wise counsel concerning my health and race commitment! After our conversation I recommitted myself to my health and training. Taking your advice, I was empowered to ramp up my training and with very short preparation, won Ironman Los Cabos in November and thus qualified for Kona 2018.

Fast forward to this season. By all accounts I had a great 2018. I am ranked #1 in the World AWA 70.3, winning all three of my 70.3 races by huge margins. I am the USAT #1 ranked 60-64, ahead of my closest competitor my nearly 3 points.

With the exception of Ironman Hawaii, my racing season was unblemished. Even though I fell short of my dream of winning Kona for a 4th time, each in a different Age group, if not for you, I likely would not have even made the attempt!

Continued on page 65



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For more information about Hammer-recommended fueling protocols that can help you not only meet, but exceed your goals, go to hammernutrition.com

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5 Secrets of Success, and How to Hammer.

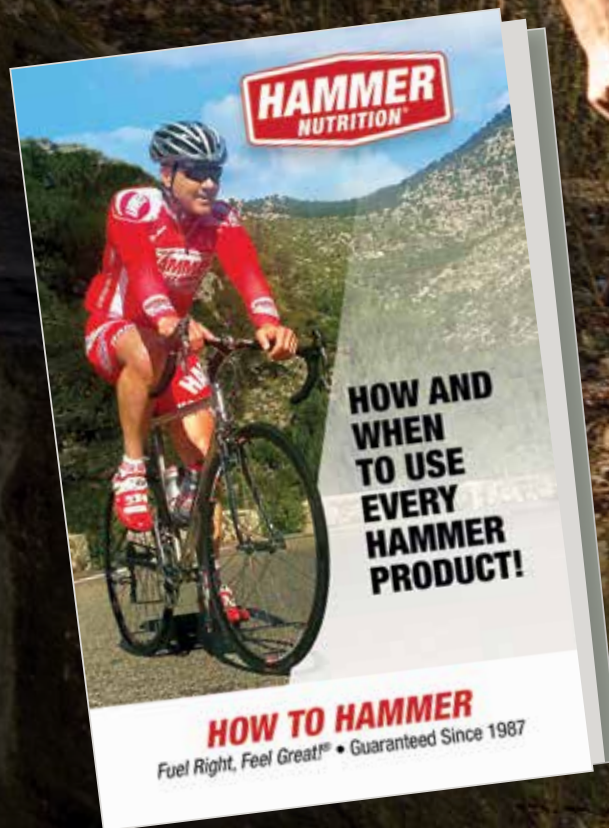
Still have questions? Join us on live chat and get a complimentary personal fueling plan from one of our friendly experts. We're here to help.

KEEP HAMMERING!



HOW TO HAMMER

Comprehensive Product Usage Manual



Lou Donofrio rounds the corner on a run through Ridley Creek State park in Pennsylvania.

Photo: Kevin Peragine Photography.



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

Carbo Loading? Are you Crazy?

It's Neither What nor When
You Think it is!

“A high-quality carb + protein recovery drink such as Hammer Nutrition's post-workout fuels, and a high quality solid meal will help you “refill the tank” to replenish and maximize muscle glycogen.”



It's the first week of May as you read this article, with many of your key events coming up in the weeks and months ahead. You might be thinking, “Carbo loading? Now? Are you crazy?”

Hear me out, though. I have no doubt that the rationale is sound and that, if applied consistently, you will experience noticeably higher quality training sessions leading up to your events, as well as better performance in the events themselves. Oh yes, while you're at it in the “carbo loading” aspect, you'll also be doing something equally if not more important: recovering optimally between all of your workouts leading up to your races.

The right way—no, make that the only way—to truly “carbo load” is to do it g-r-a-d-u-a-l-l-y over a fairly long period of time. Think of it this way: When you start your training season, you don't bust out with super long runs or rides, hill repeats, and high-intensity speed work from the get-go, do you? No, you do base miles, and then gradually increase the duration and intensity of your training so that your body becomes more accustomed to the stress you put on it, thus becoming fitter as the

weeks go by. Additionally, you don't wait until the week before an event to start training, do you? Of course not!

These examples can be applied to “carbo loading” as well, which is more appropriately defined as maximizing muscle glycogen stores. This is a gradual process; it's not something you do the week before the race and certainly not the night before the race. Just as you can't get any fitter in the days leading up to a race, you can't increase your body's stores of glycogen at that time either. It's simply too late. Maximizing glycogen stores takes several weeks-to-months of consistent fuel replenishment right away after all your workouts. That's how it's done!

Muscle glycogen? What's that?

When you begin a workout or event/race, the primary fuel your body uses for the first 60-90 minutes or so is known as muscle glycogen, a glucose polymer (complex carbohydrate) that contains thousands of glucose units arranged in branched chains. As your stores of muscle glycogen become depleted, your body switches over to burning fat reserves along with carbohydrates and protein

consumed during exercise. You've only got a finite amount of this premium fuel, muscle glycogen, but its importance is hard to overstate. In fact, several studies have shown that the pre-exercise muscle glycogen level is the most important energy determinant for exercise performance.

Bottom line: If you want to have the best event/race possible, you want to start it with as much muscle glycogen “on board” and ready to serve you.

Maximizing glycogen stores is so easy; here's all you need to do!

- You train intelligently and consistently.
- You “refill the tank” with high-quality carbohydrates and protein immediately after all your workouts.

That's it! That's what maximizing glycogen stores (i.e., “carbo loading”) is all about. It is NOT stuffing yourself with excess amounts of food the week before the event/race, and it's NOT knocking down a couple of pints of beer and going back for seconds, thirds, and fourths at the pre-race pasta feed the night before the event/race. Those practices will ALWAYS backfire come race day!

Maximizing glycogen stores is the replenishment of high-quality carbohydrates and protein in the first 0-30 minutes (the sooner the better) after ALL your workouts in the weeks and months leading up to the event/race.

How it all works

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

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

The oft-used phrase, "striking while the iron is hot" absolutely applies to many aspects of recovery, especially regarding muscle glycogen synthesis and storage. That's why, before you get out of your sweaty cycling kit or running clothes, before you hit the shower, before you do your stretching, and before you get horizontal and take a nap, put some fuel back into your body. Do that, taking advantage of the glycogen synthase enzyme when it's most active, and you will enjoy a HUGE advantage over those athletes who either blew off post-workout refueling or waited too long to "refill the tank." . . .

Read this article in its entirety on **Endurance News Weekly**



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- Reduces soreness and fatigue

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▶ SOS 5 SECRETS OF SUCCESS FOR ENDURANCE FUELING

#2 Calories Count

by ENDURANCE NEWS STAFF

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

In the 34 years of Hammer Nutrition's existence (including my nearly 24 years with the company), Brian and I have helped athletes identify and correct faulty fueling myths and recommendations. The "replace what you lose" myth is the worst fueling recommendation of all.

It's hard to believe that many alleged experts still continue to recommend that athletes need to replace calories burned during exercise in equal or near-equal amounts, hour after hour. Yet they do, defending their position by saying, "you're burning 500 to 600 calories or more an hour; you need to put that many back in—or very near it—from your fuel donation or you're going to bonk and not be able to finish."

In my first Race Across America (1988) I fueled this way, trying

to stave off fatigue and flat-out bonking by stuffing myself with as many calories as I could. While I did manage to somehow finish the 3,073-mile race in 9th place, my stomach was rebelling big time most of the way—and I was downright miserable an awful lot of the time.

Wouldn't it be great if we could replace all the calories, fluids, and electrolytes we burn? Theoretically, we could extend endurance for hours, even days! Unfortunately, the human body doesn't work that way; it's never going to accept a fuel donation that comes anywhere close to what it's losing. That's why the goal of fueling—



especially calorie intake—is to postpone fatigue for as long as possible.

So how do we do that? By feeding the body just enough calories to “keep the energy fires burning,” or even a little less than that. Too much fuel only “overwhelms and puts out the fire.” So instead we want to give our bodies the least number of calories necessary to maintain energy levels, hour after hour.

For the majority of athletes, this represents an intake of 120-180 calories per hour. Larger athletes like me (~ 200 pounds) can take in a bit more. If you find that’s not quite enough, that’s an easy fix—simply consume a few more. Problem solved!

REMEMBER:

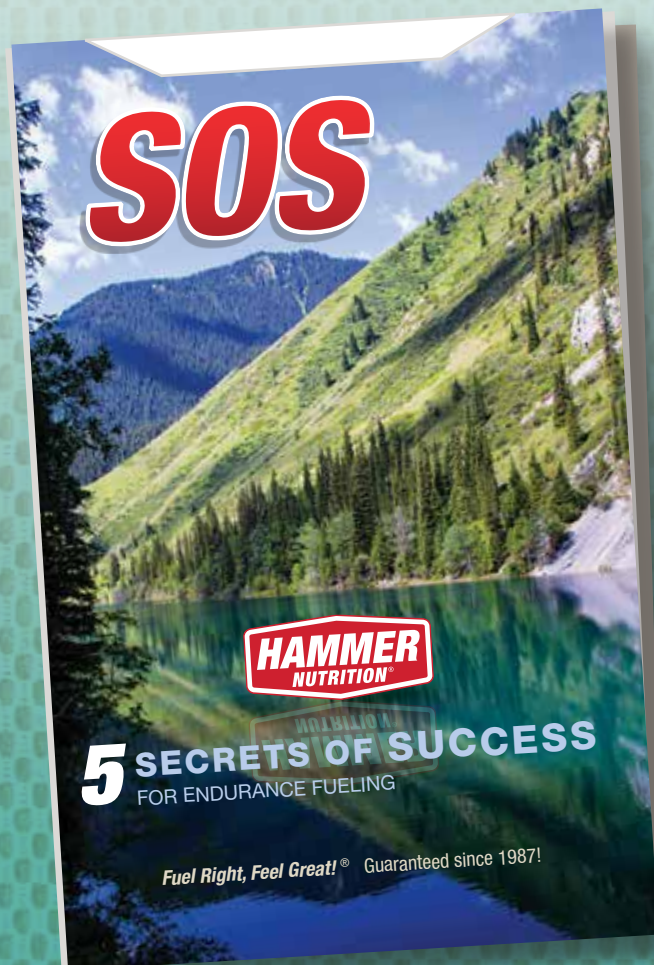
it is ALWAYS easier to fix a ‘not enough’ problem than an ‘uh oh, I overdid it and now my stomach is rebelling’ problem.

While it’s interesting to know how many calories you’re burning each hour during exercise, this amount does not determine how many calories your body can process. Fortunately, calories from body fat stores will definitely help to “bridge the gap” between what you’re burning and what your body can comfortably and effectively accept. So, give your body a sufficient number of calories to maintain quality energy levels, and let it do what it’s designed to do to take care of the rest. We’ve been preaching the “less is best” approach to fueling for over three decades because it works. Simple as that. Apply our recommendations in your workouts and races, and we guarantee you’ll not only feel better, you’ll perform better! **EN**

Learn more with a FREE online download today of our #1 publication, *5 Secrets of Success*, at hammernutrition.com.

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YOU ASK

WE ANSWER

QUESTION

Why do I need to finish a pre-exercise meal 3 hours in advance? And what about an early workout or race? Do I need to get up extra early just to eat?

ANSWER

As far as pre-exercise fueling is concerned, here's how it all works:

1 If you've been consistent with your training and ASAP post-exercise refueling (as soon as the workout is done), your body will eventually store somewhere between 60 - 90 minutes' worth of fuel. This muscle-stored fuel is a starch-like compound called glycogen, and it is the first fuel your body will use when you begin a workout or race.

2 Interestingly, if you go to bed with (for example) 60 minutes of glycogen in your muscles, that's **EXACTLY** what you will wake up with. Not 1 gram or calorie of the body's first-used fuel will be depleted even after a full night's sleep, which is basically a period of fasting. Now, your brain may be saying, "I'm hungry! Feed me!" and your stomach may be growling, but your muscles are actually telling you, "We're good to go! Let's do this!" So unless you **NATURALLY** wake up this early to eat prior to a race, it is totally unnecessary to do so... it is far better to obtain all the benefits of a full night's sleep.

3 Why is there a recommendation to finish all calorie consumption 3-hours prior to exercise? It is because

once you consume any calories insulin will be released, and if it is allowed to stay active what will happen is that 60-90 minutes' worth of glycogen in the muscles will be depleted much more rapidly. You spent weeks of training and consumed a lot of **Recoverite**® after all these workouts to obtain that hard-earned 60-90 minutes of muscle-stored fuel. However, simply eating at the wrong time prior to a workout or race will force your body to burn through those glycogen stores in half the time they normally would, you'll have ruined what took many weeks of training and post-exercise refueling to accomplish, and your performance will not be nearly as good as it could.

It takes 3 hours for insulin to go back to baseline level, which is exactly where you want it to be when you begin a workout or race. This then allows your body to burn its finite stores of glycogen much more efficiently, and it will also permit the body's fats-as-fuel process (aka "fat burning") to start earlier and be more effective.

4) So don't sacrifice sleep to eat a meal... it's not one bit necessary. Instead, if you must have something eat prior to the start, have a small amount of easily digested food--a few bites of a banana, a serving of **Hammer Gel**®, etc.-about 5-10 prior to the start of the workout or race. This is totally acceptable because by the time those calories are ingested and digested, you'll already be into your workout or race. You'll have given your body a little fuel and you'll have done it at a time when you won't negatively affect the efficiency at which your body will use those finites stores of muscle glycogen.

SPECIAL NOTE

Out of all the articles we have written and recommendations we have made over the years, the "no eating 3 hours prior" has been, by far, the one that receives the most skepticism. And while it may sound counterintuitive, physiologically it makes perfect sense. Every single athlete we've worked with over the years who has faithfully applied this recommendation has ALWAYS provided nothing less than positive feedback. Something we hear fairly frequently goes something like this: "I was skeptical at first, but holy cow! **This not only works; it works like magic! Complete game changer for me!**" EN

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Jump Starting Spring Training

Hacks to Get You Going

by DEAN KARNAZES

It's with a touch of irony that I'm writing about jump starting spring training when something like two hundred million people across North America are experiencing sub-zero temperatures at the moment. Though perhaps that's the ideal time to start training. For soon the snow will thaw, the flowers will bloom, and race season will be upon us. Whether your desire is to end up on the podium or just to finish, there's an old adage I repeat to myself when training conditions are less than ideal: It's easier to stay in shape than to get in shape.

But how? You live in California, Dean, in a perpetual state of warm sunshine. Remember the rest of the country, it's freezing over here. Got anything for your bone-chilled compatriots? Perhaps.

Since we're tossing around old adages, here's another: Learn to love that which you hate. And the one thing I used to hate, really hate, were, burpees. Now I love burpees. Actually, it's more a love/hate relationship. I hate burpees, but I love the training benefit of burpees. So every morning it's 25 burpees upon waking. Sounds miserable, right? Well, it is. And I would encourage you to lean into the misery yourself. Perhaps start with ten, or even five. The main point is to begin the day on the right note, and burpees at sunrise achieves that goal.

Another suggestion to consider is staying on your feet all day (at least when you're not driving or doing anything that requires sitting). I'm fortunate to work

from home, so admittedly it's easier for me to remain standing all day, but it still takes discipline. From the moment I finish the morning burpees until the moment I tuck back under the sheets at night, I never sit down. Not only that, while I'm standing I'm constantly bouncing up and down on my toes and bending my knees. Even as I'm writing this story I'm bouncing about (thank goodness for auto-correct!). Try the all-day standing challenge two days a week and see if you can do it. If you're like me, it soon will become part of your training routine.

My final recommendation on getting a head start on spring fitness is to shed some of that additional winter insulation that's been accumulated over the past several months. If you're like me, you tend to add some weight during the colder months and trimming down can be beneficial. That's when I turn to **Hammer Phood** meal replacement for a little help. Hammer Phood is a high protein, low carb drink mix made with healthy plant-based fats and nothing artificial. What I like most about Hammer Phood is that it's thick, flavorful and satisfying, yet contains no emulsifiers or trans fats. Available in chocolate and vanilla, the ingredient list in Hammer Phood is short and pronounceable, unlike many other meal replacement products, so I have the confidence of knowing that what I'm eating is mumbo jumbo free.

EN



Dean Karnazes puts his own tips to the test. Photo courtesy of Dean Karnazes.

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Lisamarie_Lol Blizzard on Sunday and today 61 and windy, tomorrow snow storm on the horizon followed by... you guessed it. Heat! #howihammer



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EmilyElizabeth Good news! Getting older doesn't mean going slower. My fastest half in 6 friggin years! And RT PRed! Go us! #rungasparilla #howihammer



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Eri Tenório Super excited to announce my new partnership with my favorite brand of supplements ever! #howihammer

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HVWC_Junior racer @26cdelaney repping @hammernutrition at the PA district swimming meet. Water nor land can't hold Charlotte back! #howihammer



@mason_klein1



Mason Klein_I'm feeling much better since my crash and I'm already back to work. #howihammer



@jb_four



John Benham IV_Training for an Ultra marathon often means sacrificing daily activities, but when children have practices or competitions, I always try to put them first! -FAMILY. #howihammer



@runderful_t



Tony Deluca_Intervals and rewards. #howihammer



Four Pillars for Health and Wellness

by BRIAN FRANK

PEAK PERFORMANCE AND SUPREME HEALTH START HERE!

We've been helping people achieve peak performance and maximum health for over 36 years. While countless diets have come and gone, our recommendations for staying healthy and consuming a good diet have remained constant.

The basis of everything we do is diet because what you eat affects everything in your life. Eating a healthy diet with plenty of locally-grown, organic whole goods, very little sugar, low salt, and a robust supplement regimen will help you achieve optimum diet and nutrition. Here are our four ways to stay healthy.

1



AVOID SUGAR

Brian Frank often appropriately calls out sugar as the heinous, evil substance that it truly is. "Sugar," he adds, "is the devil!" For as long as there has been a Hammer Nutrition, our position has always been to limit—and we mean e-x-t-r-e-m-e-l-y limit—the amount of sugar you consume. The adverse health issues associated with sugar are far too many to list here, but some of the most serious are heart disease, type 2 diabetes, and several cancers.

2



SUPPLEMENT

If you want to look, feel, and perform your best, the first step is always a diet dominated by nutrient-dense whole foods. However, diet alone will no longer suffice. The main reason to eat whole foods is for their health-benefiting phytonutrients—but to obtain ideal amounts of vitamins and minerals, you must supplement. If you want to achieve your best performances in exercise sessions and events—and, even more importantly, enjoy optimal health—then daily supplementation is a necessity, not an option.

One of our *ENW* articles, "The Balanced Diet Myth and the Case for Supplementation," includes the following statement from Dr. Bruce Ames: "Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food. Inadequate intakes may result in chronic metabolic disruption, including mitochondrial decay."

So, consume an optimal diet as consistently as possible and augment that with sufficient amounts of vitamins, minerals, antioxidants, and auxiliary/complementary nutrients. This is the best way to more completely cover all your nutritional bases, allowing you to achieve higher-quality workouts, better results in your events, and, most importantly, superior health.

Sound advice with proven results for over 34 years

3



LIMIT SODIUM

Excess sodium—via processed foods, salting your food, etc.—may not be the devil, but it's darn close. Sodium is, of course, vital for health. However, far too many of us (9 out of 10 Americans, according to the American Heart Association) are consuming too much. The Daily Value for sodium for adults is 2,300 mg, with the AHA recommending an even lower, 1,500 mg/day amount. Unfortunately, the average intake is 3,400 mg daily, an amount that's more than double the AHA's recommendation.

Younger people are also consuming too much.

- The average intake for 6–10 years old is 2,900 mg per day
- The average intake for 14–18 years old is 3,700 mg per day

Clearly, we are all consuming too much sodium, and it not only negatively affects our athletic performance but also has serious health consequences. “Sodium—The Real Villain” (pages 40-41 in *Endurance News* #121), provides the sobering facts. One eye-opening finding from the research in that should make you take action:

The researchers found that nearly 58,000 cardiovascular deaths each year in the United States are due to more than 2 grams daily sodium consumption.

Too much sodium is a killer, and reducing your risk of life-threatening health consequences can only happen by lowering the amount of sodium in your diet.

4



EAT LOCALLY GROWN WHOLE FOODS

No one can fulfill nutritional needs from diet alone, but:

1. Consistent consumption of the best diet possible must be the top priority, ahead of supplementation.
2. Choosing and consuming locally grown, organic foods as much as possible is vital.

The primary reason to eat a variety of fresh fruits and vegetables is NOT for their vitamin and mineral content, but for the nearly countless health-benefiting phytochemicals that only they can provide. One example is a naturally-occurring flavonoid found in various fruits (mainly strawberries) called fisetin. Research has shown that fisetin has strong antioxidant properties (which helps neutralize the negative effects of free radicals) and appears to have numerous other health-boosting properties. Your best opportunity to give your body adequate amounts of fisetin is to eat whole strawberries and other fisetin-containing foods. Ditto for every other fruit and vegetable; you can only obtain the many health-benefiting nutrients they contain by eating them.

And locally grown, organic foods are picked at their peak ripeness, and have a shorter time from harvest to your consumption of them. That means higher amounts of that food's beneficial content for your body. Conventionally grown food, often harvested early to allow for shipment and distribution to stores is almost always lower in nutrients. Additionally, most (if not all) local growers adopt organic growing practices, which produces clean pure, clean food free of pesticides, herbicides, or other chemicals. EN

Blood Donation

It's also good for the Donor.



by DR. BAYNE FRENCH, MD DC

I was in the Red Cross some months ago and couldn't help but notice the sugary drinks and treats. After my fourth donut, I realized that these offerings might be a part of their business plan to entice donors.

I also noticed multiple posters of individuals providing testimonials about how blood products saved their lives. So I had another pastry. Turns out these nutritionally devoid treats were intended for consumption after the donation, so I just rescheduled.

It seems like there would be less of a blood product shortage if the personal health benefits

to the donator (benefactor) were promoted. So let's go over the steps involved with bloodletting: Schedule an appointment; get there, contending with the price of gas and clueless ogres traveling in the passing lane; heaps of paperwork (clicks); waiting; finger stick; more questions; pastries, er-not yet; large bore needle (the first time I donated I asked the technician "what do you plan on doing with THAT?!"); maybe a vein is hit, maybe it isn't; lengthy wait while the bag is filled; more pastries; drive to the pub. Enduring all of this because we care about our fellow human. No wonder there's a shortage.

There's something going on with a personal oil change that's biologically interesting. Maybe, all the hassle is not just good for the beneficiary but also for the benefactor. So let's take a peek at some data.

If you've read anything I've previously written, you're probably not shocked to learn that the studies on donor health benefits are all over the place. What is widely known and observed in numerous mammals is that iron accumulates with age. We usually ingest, absorb, and store more iron than our bone marrow needs to make red blood cells. I don't view this as a benign process. I've written about the oxidative damage iron is capable of in our bodies. Liu et al (*J Biol Chem.* 2022) studied how high iron detrimentally affected the genome (DNA) of mice. Specifically, high iron levels altered the rodent's anti-



Hammer athlete Tim Davis sprints his way through the Modesto Downtown Criterium. Photo: Katie Miu

THE DOCTOR IS IN DR. BAYNE FRENCH, MD DC

- Double Board Certified in Family Practice and Obesity Medicine
- Nutrition and Medical Weight Loss Specialist
- Hammer Nutrition Chief Medical Advisor
- Accomplished Spartan Athlete
- Proficient Outdoorsman and Mountain Survivalist
- Developer and founder of DeEvolution Lifestyle
- Developer and founder of LW Med

Dr. French is clearly not your average lab coat physician. Read more from Bayne on Endurance News Weekly.

oxidant pathways and affected genes that control circadian rhythms. Poor critters were being attacked by free radicals AND couldn't get a good night's sleep.

Yunce et al. (*J Basic Clin Physiol Pharmacol*. 2016) stole my thunder...several years ago. "One of the most important problems in finding blood donors is the inadequacy of volunteer numbers. To overcome this problem, one of the solutions we suggest is innovating new health benefits of blood donation". This genius looked at numerous chemicals in blood donors just before donation and 24 hours later. Significantly lower harmful compounds were noted after donation. And an elevation in the potent anti-oxidant Superoxide Dismutase was also seen. For a simple mountain person like me, less bad stuff/more good stuff seems worth being impaled with a needle the size of a pencil.

The microscopic chemical and mouse data are interesting, but what about cancer and heart disease? That's what we all care about, right?

Continued on page 30

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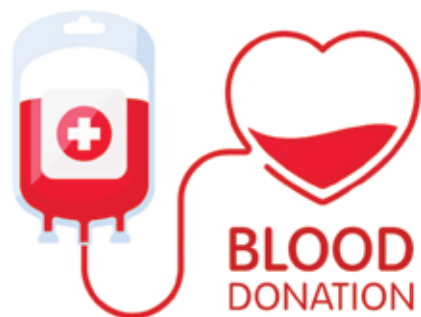
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Blood Donation

It's also good for the Donor.



Continued from page 29



Cancer

Merk et al. (*Int J Epidemiol.* 1990) looked at almost 40 thousand donors for up to 13 years. “Overall, significantly decreased cancer incidence was observed.”

Zhao et al. published a paper examining over 1 million Swedish blood donors. He cited numerous studies that noted associations between regular donors and lower lung, liver, colon, stomach, and esophagus cancer incidences. There had been previous concern that maybe regular donation increased some types of blood cancers like leukemia. Zhao et al. did not see this association in their extensive study.

Recently, Su et al. (*J Oncol.* 2022) compared 1.6 million donors with a matched non-donor group. Significant reductions in the incidence of liver, lung, lymphoma, and esophagus cancer in the donor group were noted.

Heart disease

Salonen et al. (*Am J Epidemiol.* 1998) hypothesized that reducing total body iron through blood donation could reduce the risk of a heart attack. The team followed 2,800 men for about 9 years and found “blood donors had an 88% reduced risk of acute myocardial infarction (heart attack), compared with non-blood donors.”

So surely a study of 38,000 men in 2001 would corroborate those findings (Ascherio et al. *Circulation.* 2001). Nope. These men were followed for 4 years, and the conclusion was “The study results do not support the hypothesis that reduced body iron stores lower coronary heart disease risk.” Are you starting to realize the shortcomings of medical studies? Apparently, sound research published in legitimate journals shows different outcomes. Four years of follow-up is a bit short, though.

Let's look at a powerful recent study called a Systematic Review. This is a summary paper of numerous other studies. Quee et al. (*Transfus Med Rev.* 2022) included 44 studies that met their inclusion criteria. Of those, 14 were found to be of high quality. Of these 14 good studies, 9 reported a heart disease protective effect.

Conclusion

We, the people, have starved and bled out for as long as you think we've been here. Something I don't care to debate with anyone. Consequently, we have developed a fantastic ability to store fat and iron through genetic mutations. These mutations were favorable for our forepeople. They are not so good for us today. I deem elevated iron stores a detrimental finding and screen for it routinely. Blood donation is a powerful preventative modality for individual health and disease risk reduction. I donate 2-3 times per year and do not think it has any detrimental effect on athletic performance. I'm just as slow and weak now as I've ever been. Our hemoglobin in red blood cells carries oxygen, not iron. It does not take an abundance of body iron for our bone marrow to incorporate an abundance of hemoglobin into our red blood cells.

Although there are many logistical steps involved with blood donation, it is worth it and becomes easier over time. When applied to the skin over a prominent vein for a couple hours before the donation, prescription numbing gels, including EMLA, can eliminate needle discomfort. Therefore, I recommend requesting an iron panel and ferritin level before donating, then yearly thereafter.

As always, educate yourselves and pursue what makes sense to you. You do not need to convince your medical provider or receive their permission. There's a good chance you're healthier than they are. And tougher. **EN**

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HOUSEKEEPING

from **HAMMER HQ** Important updates from **BRIAN FRANK**



The PERPETUEM saga is OVER

Nut Gels also make a comeback!

As you probably know, the transition from “Classic” (original) Perpetuem to the **New 2.0** tapioca version has been pretty bumpy with long outages and clumpy, “wet” iterations last year. Let me apologize again for the frustration you have experienced as a result.

The good news is that the missing ingredient has been found and the proper, Gold Standard, 2.0 “dry” product is in stock and ready to fuel your ultra energy needs!

The missing ingredient was tasteless, odorless dry soy lecithin powder! This is the exact ingredient that allowed us to develop Perpetuem in the

first place. After all, Perpetuem is basically Sustained Energy, with fat (soy lecithin) added. For reasons that I’ll never know, this ingredient became unavailable and so we struggled and toiled to find a replacement, without success. Now that we have found a reliable source for this, we can make both Perpetuem 2.0 and Classic the way it was intended and the way you remember it!!



PERPETUEM SOLIDS Coming back in June! During our lengthy search for a new manufacturer of the Solids, we also discovered that tapioca doesn’t like to be

compressed, so we cannot make solids with the 2.0 formula. As luck would have it, our original manufacturer from 2010, came back to life and is going to be producing all four flavors of Solids in both the Classic or Original corn maltodextrin recipe. Those should be in stock and flying off the shelves by June.



HAMMER GEL NUT FLAVORS RETURN

– The nightmare is almost over and the nut gels will return. Nocciaola and the other nut flavors will be back in stock by June or July. **EN**

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- Chocolate
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*"I've been using **Perpetuem** on my longer runs for the past 15 years. Your 2.0 is an excellent improvement. It's nice to have an improvement in a product I trust. Making things better is Hammer's trademark." - Dean V.*



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Support Healthy Blood Pressure by Drinking Coffee?

Quite Possibly!



by STEVE BORN

I've written a number of articles that discuss the health benefits of drinking coffee, including:

Coffee Protects Your DNA!

Coffee Drinkers Enjoy Lower Risk of Diabetes

Coffee Helps Protect Against Cognitive Decline

Coffee Drinkers Live Longer

A recent study that certainly caught me by surprise showed that men and women who drank 2-3 cups of coffee daily had lower blood pressure compared to those who didn't consume coffee.

Nearly 3,000 participants, all free from cardiovascular disease, were originally enrolled in the Brisighella Heart Study (BHS) in 1972. This particular study included over 1,500 of those participants. A year prior to the 1972 study, participants answered questionnaires regarding the number of cups of coffee they consumed on a daily basis. Clinical evaluations of these participants were conducted every four years, and included measurement of peripheral blood pressure, central aortic blood pressure, and more.

NOTE: Central aortic systolic blood pressure (cSBP) is the pressure seen by the heart, the brain,

and the kidneys. If properly measured, cSBP is closer associated with hypertension-mediated organ damage and prognosis, as compared with cuff-to-intraarterial brachial SBP (bSBP).

Lead study author, Arrigo Cicero, M.D., Ph.D., states, "The results are very clear: peripheral blood pressure was significantly lower in individuals consuming one to three cups of coffee a day than in non-coffee drinkers. And for the first time, we were also able to confirm these effects with regard to the central aortic pressure, the one close to the heart, where we observe an almost identical phenomenon with entirely similar values for habitual coffee drinkers compared to non-coffee drinkers."

The researchers also noted, "In this study, we did not observe any clinically relevant association between arterial stiffness and self-reported daily coffee consumption." (read more in *Coffee: It's A-Ok for Your Arteries* on *Endurance News Weekly*.)

So what about caffeine? Dr. Cicero responds, "Effectively, caffeine is just one of the several bioactive compounds in coffee, which contains amounts of phenolic compounds (i.e., chlorogenic

acids, cafestol, kahweol), alkaloids (trigonelin and, of course, caffeine), diterpenes (i.e., cafestol, kahweol) and other secondary metabolites all potentially involved in a large number of metabolic pathways in humans. Even though caffeine could increase BP levels (especially in individuals who usually do not drink coffee), the amount of coffee bioactive compounds seems to counterbalance this effect with a final neutral-to-positive effect on BP."

Regarding decaf coffee, Dr. Cicero states that while "we were not even able to estimate the consumption of decaffeinated coffee in our sample. However, considering the rural nature of the BHS population, it is possible to state with good approximation that most involved volunteers regularly drink caffeinated coffee."

Studies such as these—along with the previously listed studies—confirm the multiple benefits of drinking coffee. Think I'll have another cup of The Big Ring, one of the deliciously healthy 53x11 coffees! EN

References available upon request

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LEAN OUT! with PHOOD

by BRIAN FRANK

Now that we offer a true meal replacement product (MRP), many of you have been asking how to use it or incorporate it into your daily routine to good effect. Do keep in mind that this product was developed for athletes like me—who despite many hours a week of cardio training and a healthy diet, still have an extra 5, 10, or 15 pounds of excess body fat that provides additional insulation in winter, but not much other benefit. If you are already super lean, have a hummingbird metabolism, **HAMMER PHOOD** can and should be used in different way.



During the development of Hammer PHOOD, I tested three different methods that resulted in slow, medium, and fast fat loss. Actually four if you count the 72 hour fast I did on 3 servings a day of PHOOD. I don't recommend this unless done under the close guidance and supervision of a health care professional.

Hyper metabolic/Ectomorph athlete's uses for Phood

There is a great application for those of you who are on the other side of the spectrum. If you don't eat constantly, you lose weight! For you, intermittent fasting is not necessary, eating three square meals a day is a must and some solid snacks in between your meals are a must. This is where PHOOD comes in. The rich, high protein/fat formula provides satiety for hours and gives your furnace an excellent slow burning fuel. As a mid morning or mid afternoon snack, PHOOD can be an effective tool for you to protect against muscle cannibalization an ever-present concern for aging Ectomorphs.

METHOD 1—SLOW

For this test, I replaced breakfast with a serving of PHOOD. Still eat my normal lunch and dinner. No snacking after dinner. Depending on what you normally eat for breakfast, this represents a reduction of 250–300 in daily calories. This is mostly for convenience, but if practiced diligently, will result in leaning out a bit.

METHOD 2—MEDIUM

For this test I substituted a serving of PHOOD for dinner. Not my favorite way of eating, but by eating normal breakfast and lunch, then just PHOOD for dinner, my rate of weight loss increased noticeably, but there was a huge compromise of being a spectator at dinner! I like dinner too much to use this method for more than a week or two at a time.

METHOD 3—FAST

In this scenario, I am fasting until 11, having a serving of PHOOD for lunch. Then, regular dinner between 6 and 7 p.m. I have found this scenario to be my favorite as dinner time is social time. Once I reached my desired weight/bmi, I just switched to normal lunch and dinner, always limiting starchy carbs, but going big on high water content vegetables and greens.

Meal Replacement

never tasted

SO GOOD!



- NO cheap protein source
- NO added sugars
- NO artificial ingredients
- NO emulsifiers
- NO trans fat



- Hunger Satisfying
- Reduces cravings
- Supports weight loss

- Chocolate
- Vanilla

NO
ADDED
SUGARS



"Hammer Phood continues to be great! Tasty, easy to make and drink quickly on those mornings that I'm in a hurry to get going, and it keeps me full until time for my next meal. Keep up the great product!"
- John C.

15 Servings \$44.95 each
Single Serving \$3.49 each



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Vitamin D

Vital for Maintaining Muscle Strength as we age



by STEVE BORN

The day before his 88th birthday, Clint Eastwood was asked how he remained so young and active. Eastwood's reply, "I don't let the old man in." Love that!

While we can't halt aging altogether, we may be able to slow the process down—not "letting the old man in" for a while ("old woman" as well, of course)—via several areas, including diet, supplementation, exercise, getting sufficient sleep, and many others far too numerous to list here.

One area in delaying the aging process that's of importance, especially for athletes, is maintaining muscle strength, the loss of which is formally known as dynapenia. The National Center for Biotechnology Information elaborates, "Dynapenia (pronounced dah-yuh-nū-pē-nē-a, Greek translation for poverty of strength, power, or force) is the age-associated

loss of muscle strength that is not caused by neurologic or muscular diseases. Dynapenia predisposes older adults to an increased risk for functional limitations and mortality."

A study detailed in the peer-reviewed journal *Calcified Tissue International and Musculoskeletal Research* found a connection between lower levels of vitamin D and a greater risk of developing dynapenia. Data from over 3,200 men and women. Ages 50 and higher, was utilized for this study. None of the participants showed signs of dynapenia as determined by grip strength at the onset of the study. The participants' serum 25-hydroxyvitamin D levels were also measured at that time, and were categorized as sufficient, insufficient, or deficient. The researchers reassessed participants' grip strength after a four-year period.

Sufficient: 25-hydroxyvitamin D levels of at least 20 ng/mL

Insufficient: 25-hydroxyvitamin D levels of 12-20 ng/mL

Deficient: 25-hydroxyvitamin D levels of less than 12 ng/mL

IMPORTANT NOTE: Optimal range is between 50–80 ng/mL

The results showed that, compared to the Sufficient group, the Insufficient group had a significant 55% greater risk of developing dynapenia, while the Deficient group had a massive 70% greater risk.

One of the lead researchers, Dr. Tiago da Silva Alexandre, states, "Vitamin D is known to participate in various functions of the organism. It's a hormone and its many roles include helping to repair muscles and releasing calcium for muscle contraction kinetics. It was therefore expected to cause muscle alterations of some kind. That's exactly what our study


proved.” He continued, “Another conclusion to be derived from the results of the study is that it’s important to take vitamin D if you have a deficiency or insufficiency. It’s necessary to explain to people that they risk losing muscle strength if they don’t get enough vitamin D.”

One thing that should catch your eye is that the “sufficient” category started at a level (20 ng/mL) that’s far below the optimal level of 50–80 ng/mL. We don’t know how many of the participants were near or within the optimal level, but just think about how higher the risk of dynapenia would be if the “sufficient” group were not close to or inside the ideal 50-80 ng/mL level.

“ Vitamin D is arguably the most researched nutrient of all. The benefits include helping us maintain muscle strength as we get older, which is vitally important for everyone, not just athletes.

Summary

Vitamin D is arguably the most researched nutrient of all, and the benefits that optimal levels supply are numerous and wide-ranging. These benefits also include helping us maintain muscle strength as we get older, which is vitally important for everyone, not just athletes.

The best way to know how much vitamin D you need is via a 25-hydroxyvitamin D blood test, also called a 25(OH) D test. For many people, an amount of 2,000 IU (50 mcg) is oftentimes completely sufficient, and for others who may need more, it is an excellent starting point. 2,000 IU (50 mcg) is the amount found in one softgel capsule of **EnDuro D**. In addition, EnDuro D contains an ideal amount of vitamin K2, which provides its own powerful benefits, while complementing vitamin D perfectly. 

References available upon request

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*“Vitamin D is an underappreciated nutrient - especially for endurance training! I've noticed a ton of benefits in my overall health and performance since transitioning to **EnDuro D**.”*
- Toby B.



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Artificial Colors

They're Not Benign, They're Bad! by STEVE BORN

In the US there are seven certified FD&C dyes approved for use in foods. These are Yellow No. 5 (tartrazine), Yellow No. 6 (sunset yellow), Red No. 40 (allura red), Blue No. 2 (indigo carmine), and Blue No. 1 (brilliant blue), Green No. 3 (fast green), and Red No. 3 (erythrosine). These color additives are derived from petroleum products, with Red No. 40 the most prevalent dye identified in all food categories.

Artificial food colorings/artificial dyes may make a beverage or food source look more appealing to consume, and because aesthetics in foods matter to many people—especially children who are attracted to “pretty foods”—companies like to use them to help sell products. In fact, no less than five studies have shown that companies intentionally market foods using bright colors that appeal to children.

Additionally, the amounts of artificial food colors (AFCs) consumed has risen dramatically. In the 50's, the amount was 12 mg per person daily. In 2010, that number had risen over five-fold to fold to 62 mg per person daily. With the sharp increase

in processed foods, drink mixes, and sports beverages/fuels that contain AFCs, one can only imagine how much greater the amounts consumed are now.

Which leads to the question as to why they're considered a necessity in foods. Artificial colors/dyes have no nutritional value, they provide no positive effects on athletic performance and overall health, and they've been linked to deleterious issues, with much research done with children and behavioral disorders.

A very recent (12/2022) piece of research has produced a disturbing conclusion, “Chronic exposure of AR [Allura Red—Red No. 40] at a dose found in commonly consumed dietary products exacerbates experimental models of colitis in mice.”

General signs of colitis and ulcerative colitis include:

- Stomach cramps that come and go
- Constant belly pain
- Diarrhea
- Loss of appetite
- Mucus or blood in the stool
- Fatigue
- Joint pain

- Low fever

Dr. Minesh Khatri states that colitis is “a term used to describe inflammation in your large intestine, or colon. There are many causes, including ulcerative colitis (UC). That's a type of inflammatory bowel disease (IBD).”

In the United States, about 1 million people are affected with ulcerative colitis. The annual incidence is 10.4-12 cases per 100,000 people, and the prevalence rate is 35-100 cases per 100,000 people. Ulcerative colitis is three times more common than Crohn disease.

As to the seriousness of ulcerative colitis, Dr. William Faubion states, “Ulcerative colitis (UL-sur-uh-tiv koe-LIE-tis) is an inflammatory bowel disease (IBD) that causes inflammation and ulcers (sores) in your digestive tract. Ulcerative colitis affects the innermost lining of your large intestine, also called the colon, and rectum. In most people, symptoms usually develop over time, rather than suddenly. Ulcerative colitis can be draining and can sometimes lead to life-threatening complications.”

Continued on page 64

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- Sliced Avacado
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KITCHEN OF

LAURA LABELLE

**Berries
and Cream
Smoothie**

**HAMMER
53X11 Organic
COFFEE**



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In the Kitchen
today!





The “Magic” 200 Number and the Overprescribing of Statins

by STEVE BORN

Explanations, standard ranges of cholesterol numbers, and healthy level ranges of cholesterol numbers:

<p>TOTAL CHOLESTEROL</p> <p>A measure of the total amount of cholesterol in your blood. It includes both low-density lipoprotein (LDL) cholesterol and high-density lipoprotein (HDL) cholesterol.</p> <p>STANDARD 0 - 200 mg/dL</p> <p>HEALTHY 125 - 199 mg/dL</p> <p>NEARING HIGH 200 - 239 mg/dL</p> <p>HIGH at or above 240 mg/dL</p>	<p>NON-HDL CHOLESTEROL</p> <p>This number is your total cholesterol minus your HDL. Non-HDL includes LDL and other types of cholesterol such as VLDL (very-low-density lipoprotein).</p> <p>STANDARD 0 - 159 mg/dL</p> <p>HEALTHY Less than 130 mg/dL</p>
<p>HDL (GOOD) CHOLESTEROL</p> <p>Helps remove cholesterol from your arteries.</p> <p>STANDARD 40 - 90 mg/dL (women) 50 mg/dL (men)</p> <p>HEALTHY 40 mg/dL+ (women) 50 mg/dL + (men)</p>	<p>TRIGLYCERIDES</p> <p>A form of fat in your blood that can raise the risk for heart disease.</p> <p>STANDARD 0-150 mg/dL</p> <p>HEALTHY Less than 150 mg/dL</p>
<p>LDL (BAD) CHOLESTEROL</p> <p>The main source of cholesterol buildup and blockage in the arteries.</p> <p>STANDARD 0 - 130 mg/dL</p> <p>HEALTHY Less than 100 mg/dL</p>	<p>TOTAL CHOLESTEROL TO HDL-C (HDL CHOLESTEROL)</p> <p>STANDARD 0.0 – 5.0</p> <p>HEALTHY under 3.5</p>

BETTER PREDICTORS THAN THE “MAGIC” 200

Research suggests that the Total Cholesterol to HDL-C ratio may be the most important factor in determining “cholesterol health.” Therefore, if one’s HDL (“good”) cholesterol is the higher range of “healthy levels (ex: 75) compared to a fairly high LDL (“bad”) cholesterol number (ex: 120), it will still be in an ideal Total Cholesterol to HDL-C level.

Another marker that is more reliable in determining cardiovascular disease risk (heart attack and stroke) than Total Cholesterol, is the ratio of Triglycerides (TG) to HDL (“good”) cholesterol, or TG:HDL. Research has shown that those with the highest ratio of triglycerides to HDL cholesterol have 16 times the risk of heart attack as those with the lowest ratio of triglycerides to HDL.

To obtain the ratio, divide the HDL number by the TG number.

EXAMPLE:

TG is 125

HDL L is 175

175 divided by 125 = 1.4

IDEAL TG:HDL IS 2 OR LESS

HEALTHY TG:HDL IS 3

HIGH TG:HDL IS 3.5 IS HIGH

TOO HIGH TG:HDL IS 6 OR GREATER

Sadly, so many still stuck on the “magic” 200.

Unfortunately, there are many health care professionals who continue to look only at Total Cholesterol numbers as the primary risk factor for heart

“RESEARCH SUGGESTS THAT STATINS ARE BEING OVERPRESCRIBED AND SHOULD ONLY BE USED FOR HIGH-RISK INDIVIDUALS.”

disease. They will often suggest that patients whose Total Cholesterol level is even slightly over the ideal limit of 199 mg/dL begin a regimen of statin medications.

That’s a big problem.

For high-risk individuals, statins medications can provide significant benefits for lowering LDL cholesterol, but when prescribed as a preventative for low-risk individuals:

Those whose Total Cholesterol to HDL-C ratio is ideal at under 3.5

Those whose Triglycerides to HDL Cholesterol ratio is 3 or less

Those whose Total Cholesterol is above the “magic 200 number” and the low-borderline range (ex: 210 mg/dL)

... statin’s side effects clearly outweigh the benefits. Dr. Bayne French elaborates,

“There is certainly something powerful biologically going on with statin medications. In addition to lowering cholesterol, they lower inflammation and act as antioxidants. [However], to say that they are universally beneficial and indicated for everyone with elevated cholesterol is grossly inaccurate. Statins likely help reduce CVD in certain situations. Like men under 70 who have already had a heart attack, and men with numerous risk factors (elevated blood pressure, abdominal obesity, diabetes, smoking, etc.). As Abramson et al (*BMJ*. 2013) reported, for the majority of people for which statins are prescribed (specifically for “primary prevention,” people who DO NOT have heart disease), the benefit is lacking, while side effects and risks are significant.”

While some of these side effects are considered rare, why flirt with the potential for them to occur if a statin medication isn’t truly needed?

Read this article in its entirety on *Endurance News Weekly*



Race Caps still reign SUPREME!



- Prolongs endurance
- Helps increase energy
- Supports overall health

90 Capsules \$54.95



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THE PERILS OF LOADING

by BRIAN FRANK



When you have a big event, competition, or adventure, **DO NOT** attempt to load carbohydrates, water, or sodium.

IT DOES NOT WORK!



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

Maintaining constant calorie, fluid, and sodium intake while simultaneously reducing expenditures in the taper phase leading up to your event allows you to “load” all of these things as much as possible.

Hopefully, you have read our

fueling booklet, *SOS: 5 Secrets of Success*, and incorporated those practices immediately prior, during, and after your training and racing routine. But what do you do in the 72 hours prior to racing? Keep reading for the answers.

In the old days, athletes were erroneously told that consuming copious amounts of calories, fluid, and sodium during endurance events would allow them to achieve optimum performance. In the 80s, 400–600 calories, 40–60 ounces of fluids, and 1–3 grams of sodium per hour were recommended. Whenever exercise or competition went beyond three hours, stomach and GI problems were almost universal. Today it’s rare to find anyone still advocating

these crazy numbers, at least in the U.S. Europe and Asia are another story.

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

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

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



Darren Parham rounds a turn at Vail Lake. Photo: Eric Gonzales

WHAT ABOUT LIQUID ENDURANCE?

YES!



When it comes to fluids, drinking excess amounts only increases the risk of overly diluting blood levels of sodium and other electrolytic minerals.

That said, there is a way to maximize cellular fluid storage, and that's via the glycerol component in **Liquid Endurance**. Glycerol is a naturally produced metabolite of fatty-acid oxidation, and it absorbs rapidly when taken with water or sports drinks, increasing the water content in blood, cells, and extracellular spaces. All three of these compartments contribute to sweat volume, resulting in a significant increase in cooling efficiency during prolonged exercise.

The key to maximizing—not over-supplying, but naturally maximizing—how much fluid the cells can hold is to use a specific amount of Liquid Endurance in a specific amount of water (ranging from 16–28 ounces) for a three-day period prior to a hot-weather workout or event. Follow product dosing instructions for best results. **EN**



CARBS

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



WATER

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



SODIUM

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

FROM OUR ATHLETES

5 Questions with

Brock Walaska

1. How did you get into racing?

After years of steady improvement running distances from 5Ks to ultras, I eventually built the fitness base to be competitive in my age group. I made the podium at a local 10K and was immediately hooked on racing.

2. How did you hear about Hammer Nutrition?

I met a Hammer Athlete several years ago who recommended Endurolytes and Heed to me after I experienced muscle cramps during a marathon.

3. What are your go-to Hammer products?

Daily Essentials, Endurolytes®, Hammer Gel®, Sustained Energy®, Vegan Hammer Bars and Recoverite®.

4. I can't leave for a race weekend without...

My Hammer gear bag full of race day nutrition essentials, flip flops and recovery boots.

5. What keeps you motivated and Hammering everyday?

I love to train and race to see what I'm capable of. When you push beyond your comfort zone, you discover who you really are.

Photo courtesy of Brock Walaska.



ANGRY TORTOISE 50K, Bryceville, FL., Feb. 11, 2023

• 1st Place Age Group • 3rd Place Men's Group • 3rd Place Overall • 3:58:51

BLACK CANYON 100K



Scott Gaiser

- 1st Place Age Group
- 12:07:37



HAMMER Must-haves

Race Day Boost, Anti-Fatigue Caps, Endurance BCAA+, Hammer Gel®, Sustained Energy®, Perpetuem®, Hammer Bar®



Stella Springer

- 1st Place Age Group
- 11:20:12



HAMMER Must-haves

Hammer Gel®, Recoverite®, Perpetuem®



Nathan Moody

- 9th Place Age Group
- 10:53:08



HAMMER Must-haves

Hammer Gel®, HEED®, Recoverite®, Perpetuem®



Nick Castellano

- FLORIDA GNFS
- 1st Place Age Group



Justin Weisberger

- ST. PATTY'S DAY SPRINT TRIATHLON
- 1st Place Age Group
- 1:00:18.6



Gabi Suver

- PRO TRITHLON CLASH ENDURANCE MIAMI, FL

FROM OUR ATHLETES

Max Anstie



In 2022 & 2023 Max Anstie has been proving he is a podium contender across the 250 Class with an impressive 2nd Overall in the 2022 FIM World Supercross Championship and landing on the podium multiple times in the 2023 Monster Energy Supercross Season. Currently sitting second in the SuperMotorcross standings Max looks to continue his stellar season and improving his results with the help of Hammer!

Photos courtesy of Max Anstie.

Professional Monster Energy Supercross 250 East Coast

- 250 SX East Round 1 - 2nd Place
- 250 SX East Round 2 - 3rd Place
- 250 SX East Round 3 - 5th Place
- 250 SX East Round 4 - 2nd Place
- 250 SX East Round 5 - 5th Place

Notable Career Achievements

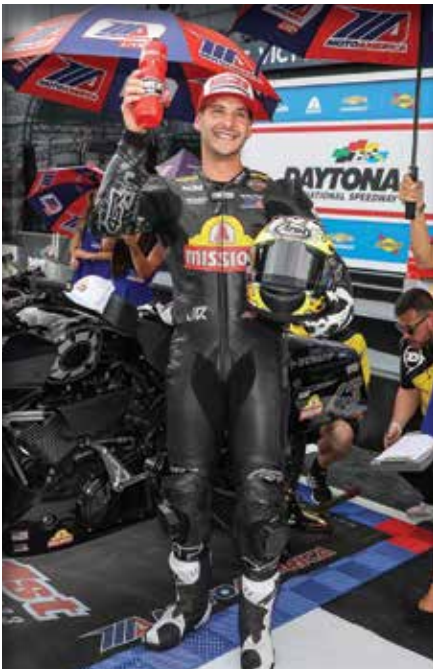
- 2022 FIM World Supercross Championship SX2 Runner-Up
- Rider for UK MXDN Team
- Currently 2nd in 2023 250 SMX Points Standings



HAMMER Must-haves

Race Caps Supreme, Premium Insurance Caps, HEED®, Fizz, Recoverite®, Hammer Gel®

James Rispoli



Photos courtesy of James Rispoli.

James “The Rocket” Rispoli showed his speed and set the tone for the season opener at Daytona International Speedway, winning the first race of King of the Baggers. A two-wheel enthusiast who came through the ranks of flat track, winning multiple AMA championships, not only goes fast on a bike but also is a realtor in Florida and runs a newly formed podcast, Pipe Dreams. HEED, Hammer Gel, Fully Charged, and Endurolytes fuel his winning ways and lifestyle!

Daytona International Speedway

- King of the Baggers Race 1 - 1st Place
- King of the Baggers Race 2 - 2nd Place

Notable Career Achievements

- AMA Supersport National Champion (2011, 2012)
- 2020 AFT Production Twins Champion



HAMMER Must-haves

HEED®, Recoverite®, Hammer Gel®, Fully Charged, Endurolytes®, Hammer Bars

Carol Cronin and **Kim Couranz**



Snape Midwinter Championships **KeyLargo, FL Feb 11, 2023**

• Net: 41 • Total: 57 • 4th Place

Results: Carol and Kim came 4th after the second day which caused them to be 9th overall after both days of racing

Rules: Winner is declared by the lowest score after 6 different races in two days. The first day was sunny and hot while the second day was very windy.



HAMMER Must-haves

Fizz, Endurolytes®, Hammer Gel®

Ryan and **Bryn Ingham**



Cactus Cup Mar 11, 2023 **McDowell Mountain Regional Park, AZ**

RYAN Ingham: • XC 42 Miles • 42nd Place AG • 3:47:50

BRYN Woodman:

• 3 Miles • 2nd Place AG • 7th Place Girls • 27:03

“Great Hammer representation at the event! Hammer banners all across the venue. Love going to Hammer-sponsored events knowing the aid stations have all of my favorite go-to’s!”



HAMMER Must-haves

Hammer Bar®, Recoverite®, HEED®, Hammer Gel®

Grant Woodman and **Sons**



Snow Moon Trail Night Run **Midland City, MI Feb 11, 2023**

GRANT Woodman:

• 25K • 3rd Place AG • 11th Place Mens • 14th Place OA

NOLAN Woodman:

• 5K • 1st Place AG • 1st Place Mens • 1st Place OA

MILES Woodman:

• 5K • 1st Place AG • 2nd Place Mens • 2nd Place OA



HAMMER Must-haves

Hammer Bar®, Endurolytes®Extreme, HEED®, Hammer Gel®

FROM OUR ATHLETES

IMSA: DAYTONA INTERNATIONAL SPEEDWAY

WAYNE TAYLOR RACING #10 WTR - Class: GTP 2nd Place



Ricky Taylor Filipe Albuquerque Louis Delétraz Bendon Hartley
Photos courtesy of Brian Cleary.

THOMAS MERRILL #17 AWA Racing - Class: LMP3 1st Place



Photo courtesy of Thomas Merrill.

The Superbowl of Endurance Sports Car racing for us here in America just so happens to be the season opener for the Wayne Taylor Racing crew and other Hammer-supported drivers/teams. The season kicks off for 24 Hours of flat out racing in the IMSA WeatherTech Sportscar Championship. Brian and I had the great opportunity to make the trek down to Daytona in late January to help in the days prior with pre/during/post-event

fueling and nutrition so that on race day, they could execute the plan to perfection. Needless to say, it paid off for all of the Hammer-supported drivers and teams (that didn't have mechanical failures), taking home respective 1st and 2nd places. With the incorporation of the "Hammer Bomb," proper hydration and recovery, it kept the drivers and teams sharp all week in the lead-up to the historic 24 Hours at Daytona,

having them firing on all cylinders during the race!



Hammer's own Brian Frank and Camryn Lingle working track-side to bring you all the action.



COLIN BRAUN and HELIO CASTRONOVES #60 Meyer Shank Racing - Class: GTP 1st Place

Photo courtesy of Colin Braun.



HAMMER Must-haves

Hammer Bombs, Recoverite®, and on-site expert fueling advice from Brian Frank.

MOBIL 1 12 HRS at SEBRING

TIM LEWIS and ROY BLOCK
IMSA Michelin Pilot Series
KMW Racing - Class: TCR 1st Place



Roy Block and Tim Lewis bounce back with a big win in Sebring after heartbreak in Daytona!



Photo credit: Sidelines Sports Photography.



RACE RECIPE

TOR GUDMUNDSEN

Grandmaster Ultra
Feb. 11, 2023 Littlefield, AZ



“Trip to the Arizona desert for the 2023 Grandmaster Ultras is a wrap. The best crew chief ever, my daughter Erica, came along for the trip and provided her typical exceptional support. Had a great time running in the beautiful desert landscape and ended up with the overall win in the 100K with 12:12:22. Thanks to the best RDs around Dan and Beiyi and their support staff for another amazing race. Thanks to HAMMER NUTRITION for great support and fueling in training and racing!”

FUELING RECIPE

PRE-RACE

Anti-Fatigue Caps, Tissue Rejuvenator, Endurance BCAA+, Fully Charged, Espresso Hammer Gel®

DURING

HEED®, Perpetuem®, Hammer Gel®, Endurolytes® Extreme, Anti-Fatigue Caps, Tissue Rejuvenator, Endurance BCAA+

RECOVERY

Recoverite®, Tissue Rejuvenator, Fizz

RESULTS

Finish Time: 12:12:22
Distance: 100K

Overall: 1st Place
Men's Group: 1st Place
Age Group: 1st Place



Christy Yiu Kit-Ching

Hammer Olympian



an interview by Ryan Fatheree

WOMEN'S HONK KONG RECORD HOLDER IN:

10km Time- 33:48

15km Time- 51:06

20km Time- 1:08:34

Half Marathon Time- 1:12:10

25km Time- 1:28:29

30km Time- 1:46:53

Marathon Time- 2:31:24

3000m Steeplechase Time- 10:25.81



Photos courtesy of Christy Yiu Kit-Ching



Participated in the 2016 Rio Olympics for Marathon with a time of 2:36:11 placing 39th.

What was training for the 2016 Olympics like, and how was that experience?

I'd use hell to describe those years of practice! I started training for my goal of the 2016 Olympic games in May 2014 and changed to a new coach, Mr. Shinetsu Murao, from Japan. After one to two months of training, I began to hesitate and doubt myself. My coach mainly set five days of exercises at an extremely high speed (for me) of intervals along with a 25km long run per week. It looked simple, but I was already exhausted to death.

However, this was just the beginning. I thought it might be

better after I turned to seek to be a full-time athlete as I could have more recovery time. So I planned to quit my nursing job in November 2014 as I could get money from the job contract gratuity, which was essential to maintain my running career. When I thought I could handle the training more easily, my coach had already scheduled a series of programs, competitions, and camps to get my body well-prepared for hitting the Olympic standards... Fortunately, I got my first Olympic ticket in May 2015.

Nevertheless, my coach became more aggressive and kept scheduling more packed competitions and camps. Many friends also asked me why my coach still trained me that hard after qualifying for the Olympics.

My Japanese coach was always highly demanding, and the level of Japanese athletes was so high that I was relatively weak compared to them. During those marathon training days, I felt lonely, depressed, and suffocated because I didn't have a training group or a training partner, and my coach was very serious and strict.

He often monitored my regimen strictly, like my body weight, every count of my exercise, time of each jogging lap. If I had injuries, my coach would say I did not care for my body well. But I know my coach wants me to think, learn and be smarter. I also want to thank my coach for bringing me multiple Hong Kong records that I never imagined possible!

Continued on page 64



Eliska Milifait

“Running gives me wings!”

I'd like to race every day. To fight for victory. To do my best. Nothing makes me happier. Running gives me wings. When I run, I'm happy, I'm myself, I'm unbeatable.



Photos courtesy of the Milifait family.

Above all, I love running in the mountains. That's where I lived with my parents and siblings, and that's where my sporting journey began. Mountain solitude in the Italian Dolomites. Only peaks, rocks, ravines, and wild streams are all around. My younger sister Mia Ronja and I spent every day running around the neighborhood. No climb was steep enough for us. No adventure crazy enough.

I fell in love with cross-country skiing, training, and racing with the Italian team weekly. My parents bought a ski cross-country equipment rental company and employed ski instructors. They ran an officially approved cross-country skiing track with a snowcat and artificial snow under the highest mountain in the Dolomites... and that's where it all started. On top of that, my mother runs, climbs rocks and glaciers, was a paraglider, a racing cyclist, an archer, and... I want to be like her in everything! I'm actually like her now; I can't be without sports. We are sport crazy :-)

Few of my peers were up to the task, and the older ones often looked at me as a kid they wouldn't compete with, let alone train with. So I started training more on my own and winning. That has stuck with me. I still like to run alone, and I run everywhere I can. We have our own team: Flying Angels Clan. Actually, I enjoy training with my younger sister and my brother Max. At races, I often persuade my parents to enter me in the older categories so that I can compete more than once on the same day. Me and running? That is: the self and unbridled desire, will urge, and 100% satisfaction.

When we grow up, we three siblings will all be world champions, and we will win the Olympic Games, as Emil Zátopek, our compatriot and the best endurance runner of all time, did. He also mainly trained alone; no one could keep up with him. It is no coincidence that this year I won the Zátopek 10 memorial race in Bohemia, which is run where Emil, “the Czech locomotive,” used to train. Actually, I won it for the third time.

Continued on page 65



HAMMER EVENTS



DIRTASTIC

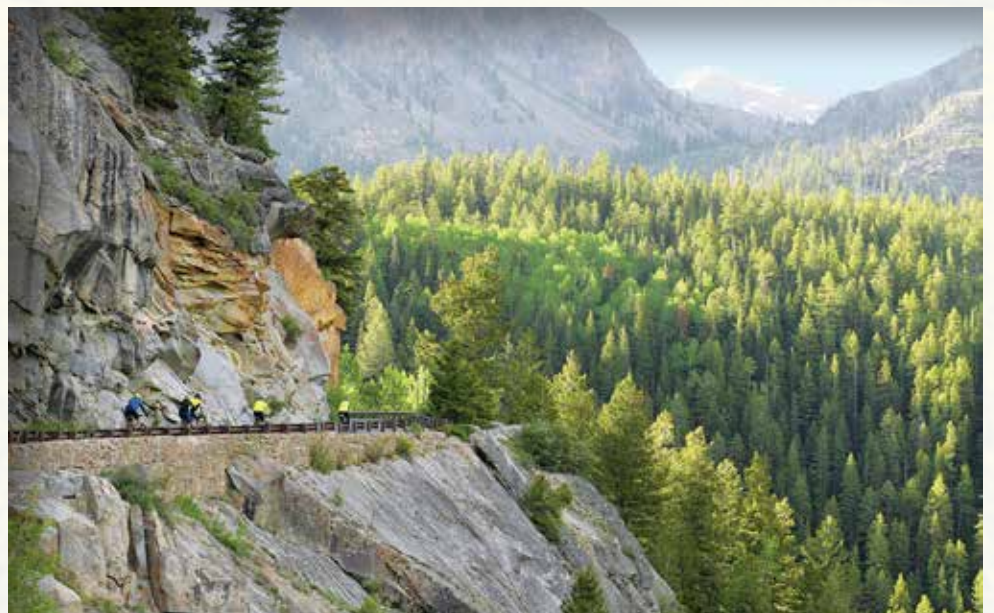
Dirtastic is owned and operated by certified instructor and moto enthusiast Kalyn Benaroya. Dirtastic “cultivates a strong community of women who ride through connections made on and off the bike”. Check out their events, skills sessions and riding tours!

MAMMOTH ENDURANCE

Former ultra-runner Craig Braun launched Mammoth Endurance and we are glad to be a part of his new venture! Mammoth Endurance offers the most challenging ultra-triathlons and ultra-runs. You can push yourself by taking on the Mammoth 140 or the Oregon Double Anvil Triathlon to name a few.

RIDE THE ROCKIES

We are solidifying our partnership with the iconic Ride The Rockies in 2023. The grueling challenge covers a total of 27,000 ft of vertical gain over 6 days starting in Fort Collins, CO and covering epic routes such as the Peak to Peak highway.





NOTABLE NEW EVENTS

Gone Fir A Run 50K

9.30.23

WA, Spokane

facebook.com/gonefirarun50k

This is a rolling river run with awesome views of the surrounding mountains, Spokane River valley, the CCC Suspension Bridge, and haystack rocks nearby. Runners will cover a varied terrain and trail. It is a beginner-intermediate course, with some short hills, rocks to tumble on, forest air to breathe, and open prairie. This is a beautiful course!!

North Winds gravel classic

7.16.23

Tug Hill region, NY

northwindsclassic.com/courses

The North Winds Gravel Classic is a timed-event set in the remote wilderness of the Tug Hill. With distances to suit riders of all capabilities and interest, The Classic is a showcase of the fastest gravel in the Northeast.

Telluride 100 MTB race (NUE series)

7.8.23

CO, Telluride

telluride100.com

Take on a high altitude battle in the form of a 50 mile & 100 mile course and get your climbing legs ready to fire!

Lassen Gravel Ride

9.9.23

CA, Susanville

bizzrunningcompany.com/lassengraveladventureride

Enjoy the spectacular scenery as you cruise through pine forests and beautiful mountain meadows.

Quest for The Crest

5.21.23

NC, Burnsville

runbuntours.com/questforthecrest

Quest for the Crest 50k has 11,300 ft of gain, 11,700 ft of loss on this challenging and often quoted hardest 50K in the country point to point race! All of the trails are extremely technical. You will be finding yourself climbing on all fours in Multiple Locations.

UPCOMING EVENTS

- 3/4 Minus Cykeltur**
5/5/23
Gravel Biking
Sandpoint, ID
springacyclery.com/three-quarter-minus-cykeltur
- Loess Hills Enduro**
5/6/23
Gravel Biking
Malvern, IA
loesshillsenduro.com
- QuickNDirty - Chain Smoker**
5/13/23
MTB
quickndirtymtb.com/race-info/chainsmoker
Campo, CA
- Mary's Peak 50K**
5/20/23
Ultra-Running
Blodgett, OR
oregontrailruns.com/marys-peak-trail-run
- Whitefish Marathon and Half**
5/20/23
Whitefish, MT
whitefishmarathon.com
- 24hr of Riverside**
5/27/23
MTB
Spokane, WA
24hoursofriverside.com
- Pine Island Gravel Odyssey**
6/10/23
Spearfish, SD
Gravel Biking
pineislandgravel.com
- Skull Gravel 120**
6/17/23
Gravel Biking
Burns, OR
skullgravel.com
- Ruby Roubaix Gravel Fondo**
6/24/23
Road Cycling
rubyrroubaix.com

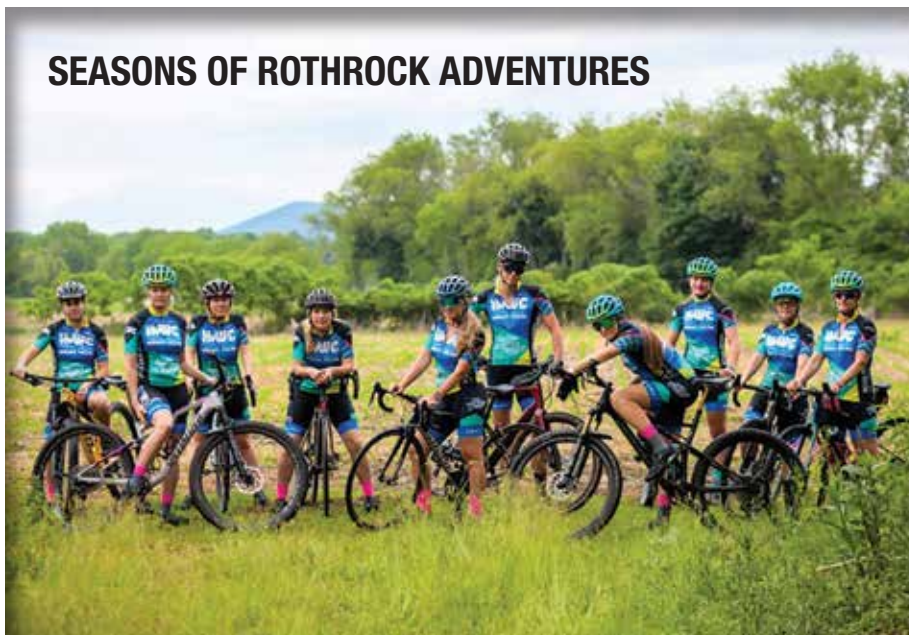
EXCITING NEW HAMMER EVENT PARTNERSHIPS



HAPPY VALLEY WOMEN CYCLING

We are honored to be renewing our partnership with the amazing group of women behind Happy Valley Women Cycling racing team. The team hosts GRIP (Grow, Renew, Inspire, Purpose), a bike retreat for women to gather and learn all about Gravel. They also host the Seasons of Rothrock Adventures, a challenging gravel and MTB series. The series kicks off with the Rothrock GRIT Gravel Grinder where 50% of the field is reserved for female participants and they fill every spot! We love their commitment to advance women's biking and racing!

SEASONS OF ROTHROCK ADVENTURES



The ladies of HWVC align in a formidable yet colorful pack and are ready to roll! Don't let the pink socks fool you - these women mean serious biking business.



TELLURIDE GRAVEL 100

This upcoming June, we will be kicking off our partnership with the Telluride Gravel Race. The race is only in its 2nd edition and will soon become a classic. The course will take riders through the majestic San Juan Mountains starting in the iconic mountain town of Telluride, CO. It offers two challenging courses: TO HELL U RIDE, 83 miles with 10K ascent and OUTLAW, 45 miles with 4.5K ascent. It is also part of the Colorado Gravel Series as of this year.





HAMMER NUTRITION since 1987



Come join us Under the Tent at the Whitefish Marathon!

May 20th, 2023

Whitefish, Montana, USA

Participate, support, or just come out to meet the crew. We'd love to meet you here in beautiful Whitefish, MT for our premier first event of the summer season.

The 2023 Whitefish Marathon is sure to be one for the books, with competition in a range of officially monitored timed distances. The out and back course boasts stunning views down country roads, lakeside trails, and incomparable Montana mountain terrain.

Meet @ultramarathon himself, Dean Karnazes!

You heard right, the Big Names are coming out to run Whitefish this year, and Hammer correspondent and contributor Dean Karnazes will be on course and at the Hammer booth for a meet-n-greet. So bring your books, your questions, and your cameras!

Meanwhile, members of our Hammer staff will be on sight to answer your fueling needs, talk shop, and take in the day with our Hammer family and friends. See you there!



Hammer Events Director Flavie Dokken, and Hammer Fueling Expert Steve Born, make sure athletes have all the fuel and knowledge they need.



Samples and swag keep athletes and newcomers coming back for more!



Hammer keeps athletes hydrated and recovery-ready on course.

All-in-One Convenience Myth

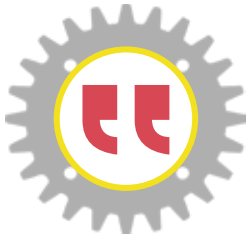
by BRIAN FRANK

When it comes to deciding on the best way to consume fluids, calories, and electrolytes during extended exercise (2+ hours), perhaps you are one of the athletes who thinks, “I just want everything in one bottle” because it sounds convenient and means that you

don’t have to think about fueling while you’re riding or running. Not surprisingly, this apparently logical approach has been heavily encouraged by companies selling “all-in-one” fueling products. They constantly tout the “convenience” of their all-in-one fuel product—“just drink this and you’ll be all set” they say.

My approach to fueling is 180 degrees opposite. I personally believe that the most effective way to fuel is by taking fluid (water), calories, and electrolytes separately and independent of each other. After you read my reasoning, I think you will agree that fueling using three separate “buckets,” as opposed to tossing everything in one “bucket,” is actually the most logical approach and guarantees the best possible outcome across the entire spectrum of conditions and applications you will encounter during 3, 6, 12, or more hours of continuous exercise.

The problem with combining your fluid, calories, and electrolytes into one container is that it will only meet your body’s needs in a very narrow set of temperature, duration, and intensity situations. I’ll illustrate my point by using an analogy of a single-speed bike vs. a 22-speed road bike. The single-speed bike represents the all-in-one fueling approach. This analogy excludes those of you who ride single-speed bikes for the added challenge—we’re only talking



“The problem with combining your fluid, calories, and electrolytes into one container is that it will only meet your body’s needs in a very narrow set of temperature, duration, and intensity situations.”

efficiency and maximum speed/minimum time from point A to point B here.

That single-speed bike will work great for you on relatively flat surfaces and at a speed that has you spinning between 70 and 100 rpm. But what happens when you encounter steep climbs or long descents? Now you are walking your bike up hill and coasting down due to your single gear option. The same is true with an all-in-one fuel. Single-speed bikes are cool, but for most of us, they have a pretty limited appeal and certainly would not be our choice if we were limited to owning only one bike. Same goes for the “all-in-one” fuel bottle—limited appeal and certainly not what I’d want my entire race to be dependent upon.

So, unless you always exercise in the exact same temperature and humidity (plus or minus five degrees and 5%, respectively) from start to finish, for no more than 2-3 hours, the all-in-one formula will leave you hanging every time.

Now consider the 22-speed bike. You can change gears to accommodate anything that comes your way—from short, steep climbs to long, grinding climbs, or long gradual descents—and still maintain maximum efficiency and pace. Thus, you have the same ability when you manage your fluid, calories, and electrolytes independently of each other and are able to make adjustments as conditions change. The flexibility afforded by



separating the fueling components during extended hours of exercise is crucial since the temperature, humidity, terrain, and pace will undoubtedly change significantly between the time you start and when you finish.

To bring the concept home, let’s consider a typical iron distance triathlon, double century, 100-mile MTB, 50-mile trail race, or the like—basically 6–24 hours of continuous exercise. These events start in the early morning hours when it’s nice and cool and continue on through the hottest part of the day, and sometimes back down to cooling temperatures. 20–30 degree variances are typical, and you may encounter as much as 50-degree temperature differences.

During the first few hours when it’s still cool, your caloric intake should be at your optimal level (for me, that’s 130–150 calories per hour), while fluid intake will be well below your max and the

need for electrolytes is minimal. However, as the heat intensifies and the body becomes increasingly depleted, you’ll need to reduce your hourly caloric intake (the body can process more calories in cool temps than in hot temps) while simultaneously increasing your fluid and electrolyte intake. These diverging needs can easily be met when you fuel separately. On the other hand, you cannot manage these changing requirements with an all-in-one fuel bottle. **EN**



“Unless you always exercise in the exact same temperature and humidity from start to finish, the all-in-one formula will leave you hanging every time.”

CONTINUED ARTICLES

Jeff Cuddeback Artificial Colors

Continued from page 14

(Just for the record, I have done Kona a total of 7 times spanning from 1985 to 2018. I have finished 2nd in my age group 4 times and have won the other 3, each in AG Record time). Your advice and concern for me during that phone call Brian, came at exactly the right time and for that I am eternally grateful.

You are a man of principal and I respect that. It is tempting to take the easy road in life, business, and training; but there are no shortcuts. At the end of the day we usually get what we deserve. I have replayed endlessly why I was not able to win Kona. It is extremely disappointing to have fallen short, especially because I was in good running fitness and had trained so hard. Rest assured my failure was not due to a lack of effort! I trained very well and an excellent nutritional plan. I made some mistakes out there and it hurts to fail. I also learned a lot and am evaluating my future racing goals. I do know however, that your support and that of Hammer Nutrition will continue to be instrumental in any future success I achieve. I look forward to our continued partnership and thank you for your advice, expertise, faith in me, and your friendship.

Stay well and strong,

Jeff Cuddeback

Continued from page 42

Back to the 12/2022 study, in which the researchers concluded:

“Humans are exposed to various chemical substances everyday through diet. Western diets are especially rich in synthetic colorants that enhance the appearance of foods to attract consumers, particularly children. Although several dietary risk factors that are associated with chronic diseases were identified, our knowledge on the role of these dietary components on IBD pathogenesis is still modest. Here, we provide evidence that a widely used synthetic colorant AR [Allura Red—Red No. 40] enhances colitis susceptibility.”

Summary

Artificial colors and dyes are in so many of the foods and drinks lining supermarket shelves, and they're ubiquitous in the sports nutrition world. Not Hammer Nutrition fuels, however; they include no artificial colors (sweeteners or preservatives either). Why? Because an ever-growing body of research is showing they are NOT benign substances, but instead contribute to some serious health disorders, including colitis.

Another reason Hammer fuels contain no artificial colors is because these substances provide NO benefits for improving athletic performance.

NONE. Sure, that bright red color may be appealing to the eye, but do you really need Red No. 40 to let you know that it's a fruit punch flavored drink? All Hammer Nutrition fuels contain either no colors at all (HEED), or they contain only healthy, natural colors, such as the beta-carotene in Orange Perpetuum 2.0.

If the combination of athletic performance AND overall health are of importance to you, we urge you to stay away from all artificial ingredients, including artificial colors, and fuel your efforts on the artificial ingredient-free Hammer Nutrition fuels. **EN**



Christy Yiu

Continued from page 54

How did you get introduced to Hammer Nutrition products?

I learned about Hammer Nutrition products from my friend, Suet, the fastest Hong Kong female in mountain ultra-racing. I asked her how to maintain endurance and physical strength for extended training and competition hours.

Afterward, she introduced the supplements she usually uses and connected me with the boss, Mr. Lo, of Hammer Nutrition, Hong Kong. After hearing the story from Suet and some more experiences from the other athletes from Mr. Lo, I want to apply the products and philosophy to my marathon training. "Hammer acts as the rechargeable batteries, which keep enriching my energy and refreshing my mind throughout the training." It is critical for endurance sports like marathons to maintain body fitness from the beginning until the end.

What keeps your mind focused during an intense race?

The time splits of the race, the changing body conditions, and the interactions with opponents already make my mind busy, and I could not have any distractions during the race.

What is your proudest accomplishment so far, and what is the next goal you're going towards?

My proudest accomplishment is that I could break the HK marathon record after giving birth. My next goal is to have one more baby!

What does running mean to you on a personal level?

Running has changed my personality and expanded my social circle and horizons. I was a short girl with low self-esteem and a lack of confidence. My mother only focused on schoolwork and often compared me to my brother and other classmates. Running gives me a sense of success and satisfaction. I gradually made many friends with other schools and running clubs and had a chance to explore the outside world during competitions representing Hong Kong. My life has never been the same, and became more professional.

What was the North Pole Marathon like?

North Pole Marathon was an exciting game, though it has many uncertainties that could be very challenging. This was my first time running a marathon on ice in such a cold environment, and I had to wear gear that I was unfamiliar with or used in regular marathon races. I still remembered my teammates, and I took it very seriously, and we did a practice run inside a frozen-meat warehouse with full gear. Finally, the game was completed in a long and several stumbles. Then I felt like I was beaten all over, and my knees were so sore. EN



HAMMER Must-haves

HEED®, Hammer Gel®, Endurolytes®
Fizz, Perpetuem®

Eliska Milifait

Continued from page 55

Fortunately, I have wonderful parents who devote all the necessary time to my sports training and home school. And I also have great partners, sponsors, and supporters who believe in me, help me, and, most of all, know that every sunflower seedling needs the utmost care and attention right from the start.

The adults around us children need to understand that without the help of others, the sunflower would not have grown and would not have become the one we want. Every single sporting child on the planet is that figurative sunflower. In the world around us, children should understand that helping us to develop... only when we have grown up, giving us confidence only when we are older, and supporting us... only when we have proved something, will mean that our performance and growth will no longer improve, no longer increase. It would be too late. Today we are the most important ones for you - don't forget! We deserve the maximum today! That is why I thank you for the partnership with such an amazing brand as Hammer Nutrition, and especially for the unwavering support of the importer of Hammer Nutrition products in the Czech Republic. KeepHammering! EN



Brock Walaska looks to sunny summer skies ahead on Lake Okeechobee.
Photo courtesy of Brock Walaska.







Endurance News

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PRSR STD
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HAMMER CBD

Still priced **25% less** over last year

- Improve sleep
- Ease aches and soreness
- Lessen recovery time

