

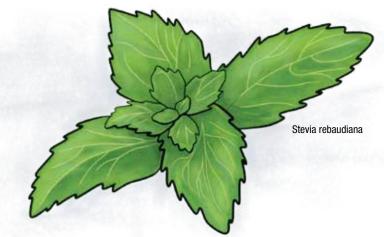
Hammer Nutrition's healthy sweeteners

BY STEVE BORN

Refined simple sugars? Artificial flavors, sweeteners, colors, or preservatives? Chemical processing agents? You won't find them in Hammer Nutrition fuels! Healthy options are the only options we want in our fuels and in your body! We have no doubt the following ingredients used in our fuels are undeniably better choices.

Energy Smart™

While the production process of Energy SmartTM is a heavily guarded, trademarked secret, rest assured that the "end product" is not a simple sugar (like glucose or fructose), but rather a medium- to long-chain carbohydrate, made by combining naturally occurring, unrefined sugars from fruit plus specially developed medium-chain carbohydrates from grain. In simplest terms, the proprietary process of making Energy SmartTM involves taking the short-chain sugar (saccharide) molecules from fruit and adding more saccharide molecules from grain. The FDA guidelines rate Energy SmartTM as an "other carbohydrate," neither simple nor complex. Dr. Bill Misner writes, "The unique biochemistry of Energy SmartTM raises blood glucose as fast as sucrose (table sugar) and faster than fructose and, when ingested, human physiology interprets the biochemistry of Energy SmartTM as a complex carbohydrate, resulting in gradual but welcome increases to serum blood sugar levels."



Xylitol

This natural substance that can be found in a variety of fibrous fruits and vegetables is also known as birch sugar, primarily because it is usually extracted/produced from birch trees. (It can also be extracted and produced from corn cobs.) The human body naturally produces over 15 grams of xylitol every day by way of normal metabolic processes.

Xylitol also promotes oral health, as it does not ferment and support the acid-producing bacteria that cause tooth decay. That's why you'll find this unique sweetener in gum, toothpaste, and mouthwash, and it's one of the reasons why we include small amounts of it in many Hammer Nutrition fuels.

Note that xylitol may cause stomach distress and/or have a laxative effect when consumed in high doses. It has no known toxicity, though; people have consumed as much as 400 grams daily for long periods with no ill effects. Generally, xylitol-induced gastric stress occurs as a laxative effect in xylitol-sensitive people who consume 30 grams in a single dose or multiple doses in a short period of time.

It is also believed that xylitol is unsafe for consumption by dogs; therefore, we do not recommend you feed your dog any xylitolcontaining products, including HEED or Recoverite, nor any products that are made for human consumption.

Stevia

This extract (steviosides) is derived from the leaves of Stevia rebaudiana, a plant native to subtropical and tropical Central and South America. Stevia's sweet taste, considered to be up to 300 times sweeter than sugar, means that minimal amounts are necessary to sweeten a product. Stevia is non-caloric and does not affect blood sugar levels, therefore it is safe for diabetics. Stevia may help to lower elevated blood pressure while not affecting people with normal blood pressure. Like xylitol, stevia does not support acidproducing bacteria responsible for tooth decay.



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Welcome to the 106th issue of Endurance News!



he 30th anniversary party is in full swing here at Hammer and we have you to thank for making it all possible! For the few thousand of you who are receiving your first issue of this publication, I'd like to again say "welcome to the Hammer family." You now have friends in Montana who want nothing more than to help you succeed in your quest for optimum health and physical performance.

If you find yourself in Whitefish, Montana, stop by and let us give you a tour. If not, then feel free to give us a call. Our friendly, knowledgeable and patient client advisers are standing by, ready to answer questions, help you solve problems and generally get your fueling and nutrition program completely dialed in.

Up until the past 10 years or so, all of our clients called in and spoke to me or one of my staff to place their orders and get product and fueling advice. Those were the good old days! Maybe it's because it's so hard to get a real person on the phone at most companies, let alone someone who is more than "an order taker" these days, but we are lucky if 1/3 of our clients call us. Believe it or not, I actually would prefer that more of you call us!

Why is that? Because it's usually only through a phone interaction that we can really help you figure out which products you really need and which ones you don't! Honestly, our goal is to sell you ONLY the products you need and will benefit the most from using. If you have been ordering by internet only, consider giving us a call to review what you are doing and what you are using to make sure you are not missing anything!

It's hot outside, which means it's Endurolytes weather! With big events on the horizon, that is one product you definitely do not want to be without. Especially if you are a Fizz user, since we eliminated the white residue and made the flavors "brighter," without raising the price. Now that the competition has reformulated their product to eliminate the PEG and artificial sweetener (we commend them on this move!), Fizz is still superior in that it provides a full spectrum, proportionately balanced array of electrolytic minerals instead of just a bunch of sodium and scattering of potassium. Of course the fact that Fizz is priced 30-50% less doesn't hurt either!

Another product that you probably don't want to go without is Fully Charged. I call it "motivation in a jar" and have been using it before afternoon workouts for more than a year now. It never fails in that application. However, believe it or not, I have a newfound appreciation for this product when used during long consecutive days or riding. In fact, I think it might be even more powerful when used DURING long, hard exercise periods.

Recently I was riding 6-8 hours each day for 10 days. I would put one scoop of Fully Charged in my 1st morning bottle and repeat that with my first bottle after lunch. I could barely believe how much stronger I was, every mile, every pedal stroke. So much so, that it drew a lot of comments from others in the group, who I have been riding with for 20 years. By the third day, most of the others were looking for their scoops of FC for their morning and after lunch bottles. I was happy to oblige, it just made the freight train at the front bigger!

Now, in response to your myriad of requests, we are producing Fully Charged in handy, portable single serving stick packs! That's apparently another unique attribute of Hammer—we actually read ALL of the feedback we receive, and whenever possible, we do what you want us to!

Through this publication and our other free educational resources, you can count on us to continue advocating a healthy diet full of whole foods, sourced locally whenever possible, supported by prudent supplementation. We always have and will continue to promote stringent moderation of sugar, wheat, dairy, artificial sweeteners, chemicals, additives and preservatives.

Without exception, all of our products are in keeping with this "enlightened"

approach to achieving and maintaining optimum health and physical performance. Combining this dietary approach with our products and our exclusive fueling protocols is a recipe for success that simply cannot be denied. It may not be as sexy as the other brands that are promoting sugar, salt, bacon and beer, but I'm ok with that.

Consumer trends continue to bolster our philosophy that every calorie you put in your body matters! The growing aversion to industrially produced "Frankenfoods" in favor of locally grown organic produce, sustainably produced animal and vegetable proteins, holistic health alternatives, and the avoidance of chemicals, preservatives and artificial sweeteners only serves to affirm the rocksolid principles that have guided Hammer Nutrition in 1987.

With new brands and products popping up almost daily, how does a brand that is celebrating 30 years on the leading edge of sport nutrition stay at the forefront of the market? Simple: constant innovation while refining and improving existing products simultaneously! From our flagship supplement Race Caps Supreme (reformulated three times since 1987), to one of our newest products, the Vegan Protein (introduced in 2014, reformulated in 2016), we never rest on our laurels. In fact, we continuously and simultaneously develop new groundbreaking products, while also evaluating every one of our existing products for improvement, based on new research and new ingredients that come on the market.

With Hammer, you get the best of both worlds – tried and true, proven effective products from a 30-year-old brand you can trust AND the newest, cutting edge products on the market. Of course, our 5-star customer service and endless educational resources are just a free bonus!

I'd love your feedback on our products, service and knowledge, so please be sure to let us know what you think! Email support@hammernutrition.com or me directly suggestions@hammernutrition.com

So, enjoy the read and recycle this issue by sharing it with a friend, or two or three.

Brian Frank
Hammer Nutrition Owner

On the cover: Hammer athlete Neal Collick on a run in the Michigan countryside. Photo: Aaron Peterson



In this issue, Hammer Nutrition focuses on the battle against diabetes. Pictured above is diabetic Hammer Athlete Peter Van Rompaey. Read more about Peter's exploits on page 16.

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BY MALTE ECKERT

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Timo Vogel and Hammer athlete Malte Eckert are all smiles during the Madeira Island Ultra. Photo: CanoFotoSports Fotografía Profesional Deportiva



Fully Charged Stick Packs are now available and are super convenient for energy on the go.

Starting Lines Letters from Hammer Nutrition Athletes & Client



Ryan Sipes enjoying a "cross-training" workout in the tall Kentucky bluegrass. Photo: Courtesy Ryan Sipes

ISDE success!

I race dirtbikes professionally in the GNCC Series and motocross. My cross-training involves mountain biking and running, and Hammer gets me through the long sessions! I really like Endurolytes since I sweat a lot and have frequent problems with cramping. Endurolytes are the only reason I'm not laying on the ground cramped into a pretzel! I also use Whey Protein at night and Recoverite after workouts. Premium Insurance Caps and Tissue Rejuvenator help bridge the gaps in my diet. Hammer has been a huge part of my success in racing, and was hugely important in the International Six Davs Enduro in 2015 when I became the first American ever to win the Individual Overall. It's six 8-hour days straight of riding and it really breaks you down. I loaded up on Hammer products and felt good the entire time. Thanks for the help guys!

-Ryan Sipes

For the Silver Medal

"Hammer Nutrition was key to a successful weekend of racing at the Duathlon National Championships in Bend, Oregon, last weekend (6/17-18). Sprint distance races only required some HEED and Endurolytes during the race, but Recoverite between races helped me to an age group National Championship in the non-drafting race and a silver medal on the second day in the draft legal race!"

-Joel Kinnunen

Hammer. Simply the Best.

"Hammer. Simply the Best. I really put it to the test this last week at the Bryce Canyon 100 mile run. The Hammer Gels zip me up without the GI stress, and the Hammer Bars, specifically the Chocolate Peanut Butter, gave me fuel throughout the night to get myself into 5th place female. I wonder if Hammer could fuel me for a 200 mile run... I guess there is only one way to find out!"

-Tonya Keyes-Christianson

Recover Right with Recoverite

"I've been using HEED and Recoverite consistently for a few months and I highly recommend them! Customer service required on a recent order issue was amazing. I look forward to continuing to try additional products!"

-Mary Andersen

100 Ton Club

"You may be familiar with the concept behind 'The 100 Ton Club.' It's basically lifting 100 tons, yes, 200,000 pounds, in a day's time. So, by my 58th birthday (May 8th) I hoped to do it in under 2 hours. Gulp... Results? I did it, 200,990 pounds in 1:40:22. Whew! And it was thanks to Hammer Nutrition. As an endurance athlete and climber, I have long been a fan of Hammer (HEED, Hammer Gels, and Vegan Protein are my faves!). Thanks again folks for helping make this latest challenge a success!"

-Dr. Chris Stout

First Hammer Ride

"This was the first ride where I tried out the Hammer Nutrition products fully. I used Perpetuem for fuel and Endurolyte capsules to prevent cramping. It was like being on rocket fuel!! Never have I felt so strong over so many miles. Once we had left London I put the power down and we were off!! I can't believe the difference it made. Poor Lee Velo had a job to hang on my wheel, but he did, achieving his best 100 mile time. I'm looking forward to seeing what Hammer can do for me going forwards..."

-Georgina Cleere



SEND US YOUR LETTERS!

We love hearing from you!

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

letters@hammernutrition.com

CORRECTIONS #105:

In our 30th Anniversary motivational quotes feature, the 'Sailing is the easy part' photo was cropped incorrectly. Carol Newman Cronin and team member Kim Courantz should have been pictured with their US Women's Snipe Nationals trophy. Carol was cropped out of the photo and Kim was shown with a competitor. Carol has been a Hammer customer since 2000, not 2015 as it reads in the caption.



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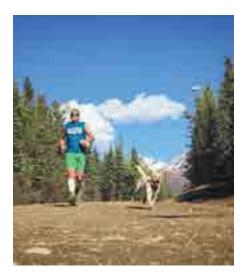
HAMMER HAPPENINGS ON FACEBOOK. INSTAGRAM & TWITTER. USE THE HASHTAG TO SHARE YOUR PHOTOS!



Ryan Ingham Endurance Hammered the Whiskey Basin 88k!! Hammer Fully Charged, Hammer Gel, Fizz and Perpetuem kept me feeling great!! Followed it up with Recoverite post race!! #howihammer



@wade performance_coaching Great swim session today. I have a love hate relationship with my 10x 100 on 1:20 (with 5 sec rest). #triathlon #irondad #performancecoaching #HammerTime #howihammer



@akworm Easy recovery day with the d-o-g. Beautiful spring in AK. Love this time of year. #alaska #trailrunning #optoutside#howihammer #365project 134/365



@thegraveldefender I love how vegan friendly @hammernutrition is. #vegancyclist #vegan #protein #fuelrightfeelgreat #howihammer



@hectormento First run after a month and half of my ankle injury, without pain and annoyance, good feeling. #howihammer #hammernutrition #tri #swimbikerun



@paddlefishsports 60 MILES... 4 friends, 3 days, 2 nights... self-supported SUP trip paddling the North Fork of the Flathead, from the Canadian border to the confluence of the Middle Fork. We enjoyed warm temps, blue skies and Glacier Park at some of her best #riverSUP #paddle406 #paddlefishtribe #howihammer #hammernutrition



Jacoby Cole "I ran in the Badger State 10k in Green Bay, WI. I set a new PR and earned a 4th place finish with a time of 37:59! My first race with new Hammer #fullycharged. Coincidence? I think not!!! #howihammer #PR #podium #success #endurance #race #run



@etienneblums1989 Finally finished a race at @ultratrailaustralia! A 6th place too, pretty stuffed now! #trustedinthewild #hammernutritionaus #howihammer

Glad to be a part of your transformation Neal!



@superiorrunner

Transformation Tuesday #howihammer #trail #transformation #runmichigan #running #trailrunning #ultramarathon

Read about Neal Collick on page 14









Keep the conversation going!

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



Bee-Ware Honey

the not-so-sweet endurance fuel

BY STEVE BORN



If you're like some athletes, you might be tempted to consider using honey as a natural DIY energy fuel. "And why not?" you might ask. "Honey supplies carbohydrates, it's natural, and it's inexpensive." But while these things may be true, the fact is that honey makes a very poor energy fuel for endurance athletes, particularly in comparison to complex carbohydrates, such as maltodextrin. Here are the "highs" and "lows" of honey, and why you should save it for sweetening your tea or cornbread.

HIGH simple sugar content LOW calorie donation

Nearly 80% of honey's makeup is in the form of simple sugars such as fructose (a.k.a. levulose), glucose, and sucrose. In order to match body fluid osmolality parameters (280 - 302 mOsm), simple sugars must be mixed in calorie-weak concentrations of only 6-8%. Any higher than that and the potential for stomach distress increases dramatically. By comparison, the maltodextrin used in Hammer Gel, HEED, and other Hammer Nutrition fuels can be mixed in 15-18% solutions and still be digested efficiently, providing significantly more calories for energy production.

HIGH fructose content increases stomach distress

More than one-third (38%) of honey is in the form of fructose, probably the poorest energy source there is. Additionally, it's estimated that 35% of people have fructose malabsorption. For those who have this digestive condition, consuming just 1-2 grams of fructose hourly is enough to cause gastrointestinal issues such as bloating, gas, and diarrhea.

LOW Glycemic Index rating

When exercising, you don't want to wait for your fuel's energy to kick in.
Unfortunately, with a Glycemic Index (GI) rating ranging as low as a paltry 58 to a mediocre-at-best high of 78, honey will make you wait longer for that energy than you might like to on race day.
Maltodextrin, on the other end of the spectrum, provides energy fast; it has an ideal-for-exercise GI rating that ranges from 100-136.

HIGH acidity

During exercise, you're already producing a fair amount of acid—both stomach acid and systemic acid from muscle metabolism. The last thing you want to do is consume a fuel that adds to that acid "burden." But with the pH of honey being an extremely acidic 3.9, that's exactly what you'll be doing when you consume it. The results? A much greater likelihood of stomach distress, nausea, cramping and bonking. Maltodextrin, however, has an ideal, close-to-neutral pH of 6.5 for smooth and easy digestion, dependable energy, and the best possible results during workouts and races.

Bottom line: If you're looking for quick-acting, high-quality, long-lasting energy during exercise, maltodextrin beats honey, hands down!

Convenient, great tasting energy no sugar-letdown



Rock solid sustained energy

■ No sugar "crash"

Contains muscle-sparing amino acids

Kamil Leniak fueling in Hammer en route to a 1st Overall finish at the Columbus Trail 42K! Photo: Jacek Deneka

Our Customers Say It Best * * * * *

"On a recent long run, I tossed my Hammer Gel in my water pack and when the time came, the flavor was delicious and easily consumed in small doses.

26 Serving Jug

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Nonstop Negative News About NSAIDs

BY ANDREYA GROZIK

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

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

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

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

People with cardiovascular conditions should be especially cautious about NSAIDs. Michelle Bally, an epidemiologist at

Increased risk of heart attack during first week of use

Celecoxib (Celebrex)

Ibuprofen (Advil. Motrin) Diclofenac (Votaren)

Naproxen

University of Montreal Hospital Research Center and lead researcher in the study, says, "I want people to have a conversation with their doctor. People are often not aware of their own baseline cardiovascular risk. You may want to stay with NSAIDs, or you may want to consider other treatments."

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

High daily doses include:

- Celecoxib (Celebrex) > 200 mg
- Diclofenac (Voltaren, Cambia, Solaraze) > 100 mg
- Ibuprofen (Advil) >1200 mg
- Naproxen (Midol, Aleve, Naprelan) > 750 mg.

Source: CBS News

Some of the more common side effects of NSAIDs include nausea, vomiting, diarrhea, constipation, decreased appetite, dizziness, headache, drowsiness, stomach pain, liver or kidney problems,

stomach ulcers, heartburn, tinnitus (ringing in ears), increased blood pressure, and increased bleeding.

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

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

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It's Never Too Late

to find your best path

BY ANDREYA GROZIK

Neal Collick, of Negaunee, MI, may think he got a late start running, but he hasn't let that slow him down. Today, at 37, he is a Hammer Sponsored Athlete, running faster than ever.

Everything changed for Neal in 2011. Readjusting to civilian life after the Marines was not easy for him, but that year a friend asked him to join her for a half-marathon— his first one. "She challenged me," he said, "then I began challenging myself." This was the start of his running saga.

Neal said he felt awful after his first marathon, and he took it upon himself to find out *why*. He started becoming more aware of how he was feeling, along with changing his eating habits. Before this, he was eating high-calorie foods like pizza to bulk up. He has since realized that his healthiest natural weight is actually quite lean.

Having suffered from ulcerative colitis for years, Neal also started monitoring what he ate and eliminating various foods, such as those with gluten. He found that eliminating meat was what helped him feel the best, but he noted that everyone is different. The majority of what he eats now is what he calls "quality food," such as vegetables, salads, eggs and beans.

Recovery for him is an ongoing process, he explained, which requires day-to-day training, daily nutrition, following a solid



Neal Collick (right) enjoying the experience immediately after winning the 2016 Marquette Trail 50 with race director, Andrew Grosvenor. Photo: Terra Montoya Wissbaum

training program, and consistency throughout. "I take Hammer Vegan Protein regularly. It's especially helpful immediately following a hard workout or race." He also relies on Hammer HEED, Endurolytes, and Peanut Butter Hammer Gel for both training and races.

In addition to paying attention to his body and health, and making some changes, Neal revealed another secret to his success: not comparing himself to others. "There are so many faster people," he said, "compare yourself to yourself, and focus on how far you've come."



Neal pictured with his son Chase at a training event put on by the Northern Michigan University Women's Track Team. Photo: Courtesy Neal Collick

Neal's fourteen-year-old son, Chase, is following in his proverbial footsteps. This was his second year on the track team. He ran the last two miles of Grandma's Marathon in Duluth with Neal, and ran the Boston 5K a few days before the 2015 Boston Marathon. For father and son, it's "not just about the running." They pick races in interesting places where they can see and do other things together.

"He loves the Chicago marathon," Neal added.

Last fall, Neal ran the 100-mile Javelina Jundred in Fountain Hills, AZ. It was at the end of October, with temperatures near 100 degrees Fahrenheit. "Endurolytes were a key factor, and helped me to finish in 17 hours and 37 minutes," he said.

Neal's most recent race, Spring Superior 50K, in Minnesota, taught him more about himself. "It was my first 50K. Although I have done longer distances, this course had some significant elevation gains which made it that much more important to understand my body and how much effort I could handle during the race."

One of his recent personal successes was cutting his marathon time in half at the Boston Marathon this past April. "What a place to do it!" he exclaimed. His finishing time was 2:51. When asked how he achieved such a feat, he answered, "Training is unique to each person. I am constantly evolving what works." His finishing time at his first marathon was 5:46.

Another race that really stands out for Neal is the Hammer Sponsored Marquette Trail 50 Mile that he ran last August: "Completing it was always something I had hoped to do. I trained all summer on the course. Race day was spectacular because I knew nearly everybody running or working the aid stations. I smiled the entire way and ended up setting a new course record and winning the event. I know it was all made

possible by the cheers and support everybody gave me that day."

As for his proudest race, it's "a tough one to pick," he replied. "I think each of them has a special meaning to me for their own reason. Whether I finished a new distance, ran with great friends, or set a new personal record, I love each and every one of them. I enjoy making race weekend about more than just the race itself." This includes spending time with family and friends, and seeing new places.

Running helped Neal regroup after returning home from his time in the military, and has also given him more direction in life. He has become more involved in the community, helps with races, volunteers, and likes to be involved in motivational things. He has lead and co-lead clinics on running and nutrition. "It's motivating to see people pushing their limits, whatever their abilities," he said.

Kicking off Wellness Month and Walk Across America at the local elementary school, Lakeview, was very rewarding to him, as the children were very enthusiastic. He is passionate about "getting people out, and keeping people active." He has worked with local gyms to help promote an active lifestyle, and is also involved in a program called GOgetoutside.

Looking back, Neal sometimes wonders, What if? What if he had started running when he was younger? His former school counselor reminds him that maybe he wouldn't

be running now, and that the path he's on today is a good one.

Neal's advice for runners of all ages:

- 1 "Keep it basic, just run"
- 2 "Don't get overwhelmed"
- 3 "If it's not fun, you're going too fast- slow down, go with a friend"
- 4 "Switch scenery"
- 5 "Compare yourself to yourself" and keep trying to reach your own personal goals
- 6 "Pat yourself on the back"
- "Pay attention to your body"



Hammer athlete Travis McWhorter on an afternoon training run. Photo: Courtesy Travis McWhorter

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Diabetic athlete Peter Van Rompaey

finishes legendary Marathon des Sables

BY JEFF TROUPE

The Marathon des Sables is described by many as one of the toughest footraces on earth. Everything that one needs to complete the 5-day, 5-stage 250K foot race needs to be carried in a backpack weighing roughly 12kg while negotiating some of the harshest terrain imaginable. Temperatures can soar up to 120 degrees Fahrenheit-dangerous conditions for even the most fit of runners. April 7th marked the kickoff of the 2017 edition with 1350 athletes poised to race through the sand dunes and inhospitable rocky terrain of the Moroccan Sahara Desert. Among them was Hammer Sponsored Athlete Peter Van Rompaey who set out to become just the second diabetic athlete from Belgium to complete the course.

A few months prior to the Marathon des Sables, Peter completed a 50K training run on the North C. Trail which winds through the dunes of Koksijde, Belgium. "I have said since I was first diagnosed at age ten: diabetes will not stop me," he recalls. For the last 32 years, Peter has had to closely monitor his diet while

taking daily insulin injections to properly balance his blood sugar. Peter credits Hammer Nutrition for providing the fuel he needs for his rigorous training. HEED, Race Caps Supreme, Mito Caps, Perpetuem, Hammer Bars, and Recoverite are among his favorite training



companions. The dunes of the North C. Trail provided a tough test before his trek to Morocco.

Peter has found a great deal of inspiration from his fellow diabetic Belgian athletes. During a recent long-distance race, Peter met



Olivier Kronal from Heverlee. In 2015. Oliver succeeded in his quest to become the first ever Belgian with type-1 diabetes to finish the legendary Marathon des Sables. "That was beyond inspirational for me," says Peter. He also looks to former professional soccer player

> on the Belgian Anderlecht team, Pär Zetterberg, as someone who demonstrates that athletes with diabetes can compete at the highest levels in sports.

Part of Peter's desire to complete the Marathon des Sables is to raise money for the youth department of the Diabetes League. "I want to raise money for camps and awareness, but I also want young people to know that they can still live an active life despite being diabetic. I hope to raise more than 1,000 euro."

With only four weeks before to his departure to Morocco, Peter was physically and

mentally ready for the wear and tear he would subject his body to in the desert. Figuring out how to carry all his necessities in his backpack was another challenge that required serious consideration. The majority of his backpack would be filled with food. Room would also be needed

for a mattress and sleeping bag. Thankfully, race directors would provide tents at the end of each stage with seven athletes occupying each tent. The two large water bottles he would carry could be refilled at each checkpoint. Peter also had his fueling plan dialed in with Perpetuem, Endurolytes Extreme, Anti Fatigue Caps, Hammer Gel and Hammer Bars. "I carry a Freestyle Libre, a small wireless device that connects with a sensor on my arm and displays my precise blood sugar," explains the athlete.

Peter got the green light to compete

in the race from Dr. Pascale Abrams, Endocrine Disease Specialist at the Saint Augustine Hospital. Peter reassured his wife Kristien, also a type-1 diabetic, that he would keep her and their four children briefed on his progress and condition during the multi-day event. "I was a bit scared," confesses Kristien.

Peter completed the grueling event in 55:56:14, achieving his goal. His biggest challenges were the heat, short rest periods between stages, wearing a 12kg (26.5 lbs) backpack, and the limited amount of water available to drink. Monitoring his blood sugar was a constant challenge and the 86K Stage-4 was the toughest day.

When asked if he had advice for athletes who want to participate in the event, Peter replied, "take a full year to train and train on tough terrain with 12kg (26.5 lbs) backpack and get plenty of rest between training sessions. Get used to climbing on rocks and sleeping on the ground. During your race, don't forget to enjoy the moment. Proper fueling is essential for this. Go with Hammer Nutrition!"

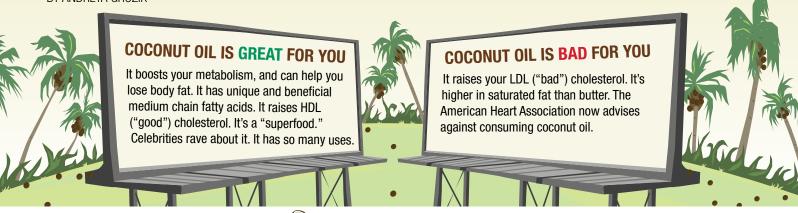
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Coconut Oil Confusion & Controversy

BY ANDREYA GROZIK



There are very differing views on coconut oil, but which one is correct? The information has been so conflicting, which can be very confusing for consumers. In their recent review of findings on saturated fat, the American Heart Association (AHA) stated. "Because coconut oil increases LDL cholesterol, a cause of cardiovascular disease, and has no known offsetting favorable effects, we advise against the use of coconut oil."

Coconut oil is 82% saturated fat, which makes it an easy target. The effects of saturated health on our health are still being debated, however, and it has not been proven that saturated fats cause disease. Dr. Mark Hyman, a physician and author, says, "It will take a while for the world to catch up with the false idea that low-fat and low-cholesterol diets won't save us from heart disease." In fact. there are plenty of recent studies and meta-analyses (combining data from multiple studies) showing that reducing saturated fat does not lower the risk of heart attack, heart disease, stroke, or death.

The AHA study claims that coconut oil can raise LDL cholesterol, but heart health involves more than just one component, and the other factors should be considered, and discussed with your doctor:



ALL FATS ARE NOT EQUAL

While coconut oil has a high saturated fat content, many experts believe that not all saturated fats should be treated equally. Dr. Elizabeth Klodas, a cardiologist and author, recognizes the complexity of the issue: "The data generally shows that LDL levels do go up when coconut oil is consumed, but not as much as if an equivalent amount of butter were consumed. And, also unlike animal-based saturated fats, coconut oil does not seem to trigger an inflammatory response." Dr. Walter Willett, a physician, nutrition researcher, and Harvard professor says, "Plantbased oils are more than just fats. They contain many antioxidants and other substances, so their overall effects on health can't be predicted just by the changes in LDL and HDL." Coconut oil contains medium chain fatty acids, which the body processes differently than other fats, offering unique health benefits.

Coconut oil, however, has some competition. Dr. Willett says. "I don't think coconut oil is as

healthful as vegetable oils like olive oil and soybean oil, which are mainly unsaturated fat and therefore lower LDL and increase HDL." Dr. Klodas also recommends considering other options: "Of all the saturated fat options, coconut oil is the best one. But you're still better off eating a handful of nuts or using flax seed, linseed or olive oil on your salad—especially if you're trying to keep your LDL down."

Despite our culture's long-term avoidance of fat, our bodies need it for healthy processes. For instance, some fat with a meal helps the body absorb nutrients. Dr. Hyman confirms their importance, "We need cholesterol and saturated fat for the health of every cell membrane, for your brain cells, your sex hormones, and more."



THE WHOLE PICTURE

Dr. Joseph Mercola, a natural health expert, tells us, "Saturated fats, and most particularly coconut oil, are a vital part of the human diet." This is especially the case in other parts of the world, where,

| | Total cholesterol | HDL cholesterol | LDL cholesterol | Triglycerides |
|------------|----------------------|--------------------|--------------------|---------------|
| Good | Less than 200 | 40 or higher | Less than 100 | Less than 149 |
| Borderline | 200–239 | n/a | 130–159 | 150–199 |
| High | 240 or higher | n/a | 160 or higher | 200 or higher |
| Low | n/a | Less than 40 | n/a | n/a |

Source: The National Heart, Lung, and Blood Institute. Values are in mg/dL (milligrams per deciliter).

surprisingly, incidences of heart disease are actually very low. In a 1981 study, published in the American Journal of Clinical Nutrition, the habitual diets (with coconut as their main source of energy) of two Polynesian populations were studied. The results may surprise you: "Vascular disease is uncommon in both populations and there is no evidence of the high saturated fat intake having a harmful effect in these populations."

Taking a look at your complete dietary profile can help you determine where coconut oil should fit in. Nutritionist Emily Maguire says in her blog, "If you are someone that eats a diet that is mostly based on that of real foods, low in sugar and processed products, then having coconut oil, along with other fats

(such as olive oil, nuts and seeds, avocado, etc.) will probably be of benefit. If you are someone that has a diet high in sugary, fat(ty), and processed foods, then adding coconut oil on top of this would not be advisable."

With coconut oil, like many other things in life, moderation seems to be the key. According to Dr. Willett, "There's no problem using coconut oil occasionally." If you love your coconut oil, you don't need to give it up, maybe just use it less frequently. Balance and variety are important components of nutrition as well. Melissa Hartwig, author and co-founder of the dietary program Whole30, offers some sensible advice about coconut oil: "Don't make it your only form of added fat. Include a variety of fats, like stuff we all agree is hearthealthy (like extra-virgin olive oil, olives, avocados, and avocado oil)."

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Large Vitamin C Doses

Larger doses of vitamin C may reduce the duration of the common cold

BY STEVE BORN

The relationship between vitamin C dosage and its effects on the duration of the common cold symptoms may extend to 6-8 grams per day.

Dozens of animal studies using different animal species have found that vitamin C significantly prevents and alleviates infections caused by diverse bacteria, viruses, and protozoa. Given the universal nature of the effect of vitamin C against various infections in different animal species, it also seems evident that vitamin C influences the susceptibility to, and the severity of, infections in humans. However, the practical importance of vitamin C in human infections is not known.

The common cold is the most extensively studied infection regarding the effects of vitamin C. The majority of controlled trials have used a modest dosage of only 1 g per day of vitamin C. The pooled effect of all published studies has shown a statistically highly significant difference between the vitamin C and placebo groups, which indicates a genuine biological effect. However, the optimal doses and the maximal effects of vitamin C on the common cold are unknown. The trials that used doses higher than 1 g per day

usually found greater effects than trials with exactly 1 g per day, which suggests a dose dependent effect. Nevertheless, definitive conclusions cannot be made from such a comparison because of numerous confounding differences between the trials. The most valid examination of dose-response is therefore within a single trial that has randomly selected trial groups with different vitamin C doses, so that exposure to viruses is similar and the outcome definition is identical in the study groups.

Dr. Harri Hemilä from the University of Helsinki, Finland, analyzed the findings of two randomized trials, each of which investigated the effects of two vitamin C doses on the duration of the common cold. The first trial administered 3 g/day vitamin C to two study groups, 6 g/day to a third group, and the fourth group was administered a placebo. Compared with the placebo group the 6 g/day dose shortened colds by 17%, twice as much as the 3 g/day doses did. The second trial administered 4 g/ day and 8 g/day vitamin C, and placebo to different groups, but only on the first day of the cold.

Compared with the placebo group, the 8 g/day dose shortened colds by 19%, twice as much as the

4 g/day dose did. Both studies revealed a significant dose-response relationship between the vitamin C dosage and the duration of the common cold. The dose-response relationship in these two trials was also quite linear up to the levels of 6-8 g/day, thus it is possible that even higher doses may lead to still greater reductions in the duration of the common cold. Dr. Hemilä notes that there have been proposals that vitamin C doses should be over 15 g/day for the best treatment of colds, but the highest doses that have so far been investigated in randomized trials have been much lower.

Dr. Hemilä concludes that "given the consistent effect of vitamin C on the duration of colds, and its safety and low cost, it would be worthwhile for individual common cold patients to test whether therapeutic 8 g/day vitamin C is beneficial for them. Self-dosing of vitamin C must be started as soon as possible after the onset of common cold symptoms to be most effective." Dr Hemilä also states that further therapeutic trials should be carried out to investigate the dose-response relation in the region of over 8 g/ day of vitamin C.

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Fueling for the Marathon with **Hammer Nutrition**

I started running marathons relatively late in life (1998) but did not have my best times until my 50th year (2010) and thereafter. By then, I had devised a better nutritional system using Hammer Nutrition. All three of those times, two standalone Houston Marathons at 2:59 and one Ironman marathon segment at 3:19, came when I had a nutrition plan that emphasized using a fuel belt with Sustained Energy, Hammer Gel, and sometimes Endurolytes, depending on the temperature.

I found that the more I could rely on my own calories, the better the odds of running the fastest pace in the marathon. Good nutrition also ensured the most consistently paced long training runs of 18-21 miles in the months before the race. also using the fuel belt with water fountains along the training course. I've proven this method both in cold and hot weather.

Why not just drink the fluids provided at the aid stations? The caloric quality required for me to run a 2:59 marathon is much greater than just a 3:30 jogging marathon and I can't do that with just simple-sugar drinks. But even for slower long training runs, you

should eat the same way you will in the marathon.

It's hard to recommend exact amounts of Hammer Products to use, or even exactly which flavors to use, because taste varies and you should enjoy what you ingest to race your best. For me, running most of my marathons in an Ironman, it helps me to drink the plainer tasting drinks like Sustained Energy's plain flavor with modest protein for most of the day on the bike and early run. I then move to Hammer Gels for the later parts of the race, emphasizing more caffeine to keep me alert and going hard when I'm tired. Note that I'm a 185-pound male at 5'11", which is big for a triathlete and huge for a marathon runner, so smaller men and women will need less and will be able to digest less than I do.

For the standalone marathon, I try to start with a fuel belt that has two or three 7-ounce bottles, though I've raced with as many as four in a marathon or on a training run where I might not find a water fountain for hours.

Nowadays, my ideal load for a 55-60F day in a standalone marathon

would be two fuel belt bottles mixed at what I call "double strength," at 125 calories per bottle meaning I would only drink half the bottle at a time (about three swallows for me running), and mix that with a hand-up cup of water at the aid station. That makes for four chances to drink Hammer products at miles 5, 10, 15, and 20. In addition to those calories, I would carry three Hammer Gel packets flavors like Espresso or Tangerine in a fuel-belt-bag or tri-short pocket to administer at miles 6, 12, and 18. Add all this together and you have over 550 calories, which is enough to get me through a relatively coolweather standalone marathon. I drink just water at most other aid stations.

If it's going to be a warmer marathon, I would add Endurolytes products, maybe 3-4 capsules for the race, but that could be more if it's very hot, such as an Ironman marathon in the afternoon in Texas or Hawaii. I would also add an additional two fuel-belt bottles to be picked up at the Ironman special needs station. Drink even more water at each aid station, so that a typical aid station strategy might be: drink some Hammer Gel mixed in the bottle before the aid station.

then drink two cups of water at the aid station.

When you start drinking a lot more water, you should take in more electrolytes. The only way to know the exact amount is to practice in training. Since I don't like to fumble with capsules while running, I mix the Endurolytes powder directly into the fuel belt bottles.

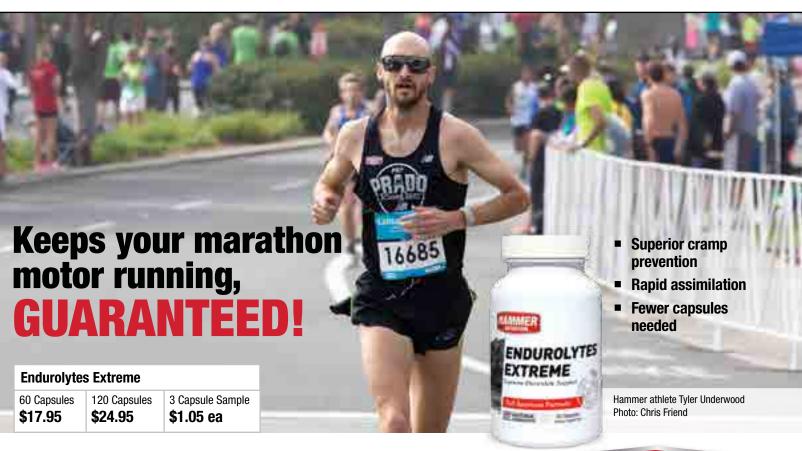
Although I've had my best times sticking to my own products as much as possible during the race, if you drop a bottle or miscalculate, you can drink some of the race fluid, especially in the later sections, because vou've

built a good cushion of complex carbohydrates. I also like to increase the proportion of Hammer Gel to Sustained Energy the farther the race goes. My first bottle might be all Sustained Energy or maybe 50%, and my last bottle is often all Hammer Gel with no protein. Some people have trouble digesting any protein at all during a race and those people should stick with Hammer Gel throughout.

Racing is all about confidence, and confidence comes from controlling as many variables as you can. Hammer Nutrition gives me the confidence to plan nutrition so I can focus on pacing and passing my rivals in the final miles.

Tom Rodgers is an Ironman All-World Gold Status triathlete, 10-time Ironman Hawaii finisher, elite coach, video producer and the author of The Perfect Distance: Triathlete's Guide to Long-Course Training from Velo Press. He's finished 35 marathons, including three Boston Marathons. He coaches Ironman World Champions, beginners, and everyone in between at IronTriathlon.coach. Before becoming a full-time endurance coach, he designed extreme physiology experiments and trained astronauts for the International Space Station at NASA in Houston.





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THE ATYPICAL HAMMER ATHLETE

In each issue of Endurance News, we highlight some of the less conventional ways our nutritional fuels help people. From firefighters to farmers, Hammer Nutrition customers use our products far and wide to produce amazing results. Hammer's "atypical athletes" show how smart fueling benefits others beyond cycling and running. This issue, we feature Chris Hanson. Here, Chris talks about his recent win at the US Squash Championships, and how Hammer products fueled his title run.

Nice get!

Hammer athlete wins US Squash Championships BY CHRIS HANSON



I am a professional squash player competing on the PSA World Tour, an international circuit of the most competitive squash players in the world. I have been playing squash since I was four years old and competing professionally since 2013. During my squash career, I have been named a three-time First Team All American at Dartmouth College, risen to a career-high of #66 in the world on the PSA Tour, and have become the U.S. National Champion.

Squash is one of the fastest growing sports in the United States and the physical and mental demands of the game are uniquely challenging. It is often described as "physical chess." A squash match consists of two players competing on an indoor court to win points. Win 11 points to win a game, win three games to win the match.

To succeed in squash, a player has to have the right mix of seemingly opposite athletic attributes—speed and agility, and also endurance; strength to repeatedly lunge in and out of positions, and also flexibility and extended range of motion. Squash is one of the most demanding sports out there. Forbes Magazine has even rated squash as the world's healthiest sport, just ahead of rowing and climbing.

I started using Hammer Nutrition

products four years ago, specifically to help meet these grueling demands of squash. The first product I tried was Endurolytes Fizz in an attempt to avoid cramping during particularly long training sessions and matches. I had previously been prone to cramping in matches and practices lasting longer than an hour, and needed a solution. After a week of use, I was sold. I have not had a serious bout of cramping during competition or training ever since.

I quickly expanded my fueling efforts from Endurolytes Fizz to the wider range of Hammer Nutrition products to meet all of my body's needs. Hammer products have helped me go to another level completely. It's not only important to push yourself in one training session; you have to be able to push yourself training session after training session to get results. Armed with my favorite Hammer fueling (HEED, Fully Charged) and recovery products (Hammer Whey, Recoverite, Tissue Rejuvenator), I have been able to sustain the heavy training volume required to keep taking my game to the next level without my body breaking down.

With the help of Hammer Nutrition, I recently achieved one of my most important career goals: winning the U.S. National Championships. I was sidelined from competition for almost all of the 2016 due to injury, so coming back and winning the U.S. title for the first time in March was truly an unbelievable experience. I am now looking forward to an intense training schedule this spring and summer in New York City, where I am based, ahead of the 2017-2018 tournament season starting in September. Given the results I have already achieved from teaming up with Hammer Nutrition, I am incredibly optimistic about the future of my squash career and reaching my next goals!

How A Pro Squash Player Hammers:

Pre-training:

Hammer Gel, Fully Charged, Digest Caps

During training:

HEED, Endurolytes

Post-Training:

Recoverite, Hammer Whey, Tissue Rejuvenator, Amino Endurance

Hammer Gel, Endurolytes, Digest Caps

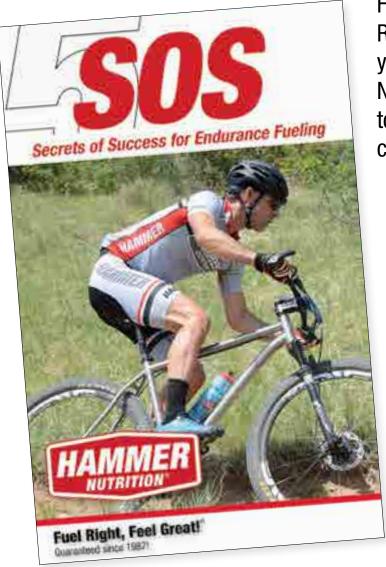
During match:

HEED, Endurolytes

Post-Match:

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Wheat: An everyday dietary danger

BY WILLIAM DAVIS, MD.



What food can cause devastating inflammatory intestinal destruction that, if unrecognized, can lead to disability and death?

Increase blood sugar higher and faster than table sugar? Trigger autoimmune inflammation in the thyroid? Create intestinal bloating, cramps, and alternating diarrhea and constipation, often labeled as irritable bowel syndrome? Weaken the muscle controlling food exit from the esophagus to the stomach, resulting in reflux esophagitis (heartburn)? Worsen schizophrenia in susceptible individuals? Contribute to behavioral outbursts in children with autism? Increase the risk of or worsen various inflammatory diseases such as rheumatoid arthritis, ulcerative colitis, dermatitis herpetiformis, systemic lupus, pancreatitis, and increase measures of inflammation? Cause unexplained anemia, mood swings, fatigue. fibromyalgia, eczema, and osteoporosis?

That food is wheat. Yes, the ubiquitous grain we are urged to eat more and more by the USDA, the American Heart Association, the American Dietetic Association. and the American Diabetes Association. Wheat is among the most destructive ingredients in the modern diet, worse than sugar, worse than high-fructose corn syrup, worse than any fat. What other common food can result in such an extensive list of diseases. even death?

Few foods occupy the exalted position that wheat has gained, earning over 20,000 research publications in the medical literature over the past 30 years, many studies detailing the

destructive and sometimes fatal nature of this common dietary product. Celiac disease affects more than two million Americans. The medical literature is filled with case reports of deaths from this disease, often after years of struggle with incapacitating intestinal dysfunction and encephalopathy (brain inflammation).

What happens when you remove wheat from the diet? Experience at our clinic has shown that the majority of people quickly shed excess weight in the first few weeks, selectively lost from the abdomen (what I call "wheat belly"); blood sugar plummets; triglycerides drop up to several hundred milligrams, HDL increases, LDL drops (yes,

wheat elimination is a means of achieving marked reduction in LDL, especially the small, heart disease-causing variety); and C-reactive protein plummets. In addition, intestinal complaints like pain, gas, and bloating improve or disappear; gastroesophageal reflux often disappears; rashes improve; inflammatory conditions like rheumatoid arthritis improve; diabetes (adult or type 2) is more easily controlled; and behavioral disorders and mood improve.

In people who have celiac disease, the meticulous avoidance of wheat gluten and gluten from other sources, including rye, spelt, and barley, will be necessary. But there are millions of Americans who are suffering wheat-intolerance in some form, from skin rashes to arthritis to depression, who are wheat sensitive but remain unaware.

Beware of the food industry's efforts to capitalize on wheat intolerance with products known as "gluten free." These are generally foods that don't trigger the inflammatory response of wheat, but still cause high blood sugar, weight gain, and other abnormalities.









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BY ENDURANCE NEWS STAFF

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Hammer athlete Evan Perperis loves his Solids. "I've been using Perpetuem Solids for three years now during Spartan events, ultras, and at the World's Toughest Mudder. The solids take a few minutes to break up and chew, but I notice a change in energy and a fullness very quickly."

Every 3 tablets of Perpetuem Solids contain 100 calories. For ultra distance events or exercise that



lasts longer than 2 hours, use Perpetuem Solids alone or in combination with our other Hammer fuels, such as HEED, Perpetuem, Sustained Energy, or Hammer Gel.

(Please note: we advise that you eat them slowly and be mindful if you have dentures or dental concerns). 💷

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Answers to frequently asked questions about **Hammer Supplements** BY ENDURANCE NEWS STAFF

I'm at a high altitude Motocross race with a friend this weekend and she is struggling with elevation sickness. I'm wondering if Endurolytes or Xobaline would help at all. It's all I have with me. Any suggestions for helping her with this?

When I crewed for a cyclist competing in the Race Across America, we supplemented her with Xobaline when she was on the high altitude part of the route in through most of Wyoming and Colorado. I can't speak for altitude sickness, which can lead to serious medical consequences, but it did help her

deal with the altitude better.

The minerals in Endurolytes are very important; too much fluid without electrolytes can also create a serious situation (hyponatremia) that can be exacerbated in high altitudes. She needs to be consuming ample amounts of fluid along with Endurolytes. The ginger root component in Endurolytes will be helpful in dealing with nausea.

I cannot make any kind of medical diagnosis, but I think that giving her 1 Xobaline tablet (dissolved under the tongue) now and 4-5 hours from now would be appropriate. She should also take 3 Endurolytes (not Endurolytes Extreme, "regular" Endurolytes) now and again 3 hours later with water. Avoid alcohol and consume minimal-to-no caffeine.



Recently I've had a few vegan triathletes join our team. Recoverite is out, due to the whey. What would you suggest for these athletes to get the optimal 3:1 carb to maximize their recovery?

Great question! You can make a really solid vegan recovery drink by mixing our vegan protein and

HEED for a 3:1 carb-protein ratio. Every two-scoop serving of Recoverite contains 170 calories. 33 grams of carbohydrates, and 10 grams of whey protein. To make a similar recovery drink using Hammer Vegan Protein:

Start with 1 slightly heaping scoop of HEED which has

approximately 115 calories from roughly 30 grams of carbohydrates. then add 1/2 scoop of Hammer Vegan Protein which equals 55 calories from 10 grams of protein and 2.5 grams of carbohydrates.

Total carbohydrates: 32.5 grams

Total protein: 10 grams Total calories: 170

Flavor suggestions:



Lemon-Lime HEED + Vanilla Hammer Vegan Protein = **Citrus Dairy Free Vegan Recoverite**



Strawberry HEED + Strawberry Hammer Vegan Protein = **Strawberry Dairy Free Vegan Recoverite**



Unflavored HEED + Chocolate Hammer Vegan Protein = Chocolate Dairy Free Vegan Recoverite

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Paddlefish Sports Montana on the North Fork of the Flathead River. Photo: Courtetsy Paddlefish Sports

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Riding for the Cure Stephan Rosen completes his 15th Napa Valley

Tour de Cure BY JEFE TROUPE

Stephan Rosen on an evening ride with friends across the Carquinez Bridge. Photo: Stephan Rosen

There are many reasons people get involved in the sport of cycling. Improved fitness, the camaraderie within the cycling community, love of the outdoors, and the challenge of striving for new goals are some of the answers that many cyclists would give, and for good reason. And while 10-year Hammer Sponsored Athlete Stephan Rosen enjoys these aspects of the sport, he has found yet another reason to ride.

Stephan has been "serious" about cycling since 1982 when he purchased a Miyata 912, which he used to commute (rain or snow) to his job at New York's Columbia University. Back in California, Stephan was introduced to Hammer CEO Brian Frank by mutual friend and riding companion, Arlan Alumbaugh. It was then that Stephan became serious about his fueling and supplementation as well.

Since 2003, Stephan has participated in the Napa Valley Tour de Cure, the premier fundraising event for the American Diabetes Association (ADA). In the months leading up to the event, riders raise sponsorship dollars as lump sum donations or on a permile basis. Riders of all abilities can participate as the Napa Valley

Tour now has five courses, which range in distance from 10 to 100 miles. A true century buff, Stephan has continued for 15 years to raise money for diabetes research and awareness about this devastating disease. "I continue to ride in honor of my friend Joe Zalla, who organized the first team with which I rode my first 100 miles for the ADA, and Olivia Vogele (whose father & grandfather are very

special to me), and many others, to

support my friends with diabetes,

and to raise awareness and money

for this important cause."

The Napa Valley Tour begins in the picturesque village of Yountville, California and takes riders through some of the world's premiere grape growing country. Just beyond the 20 mile point, riders begin to climb as they exit the Napa Valley and begin to enter the Alexander Valley. The course loops around the quaint town of Healdsburg before returning to Yountville. The May

weather in the valley is ideal for cycling with temperatures usually in the 70's, moderated by the cooling effect from the San Francisco Bay and nearby Pacific Ocean.

Each of the 15 rides has been special to Stephan, but the 2017 ride has been especially meaningful. As he reflected on his most recent Tour Stephan said, "Every Tour has its place, however, this year the support I received was over the top. That heartfelt and unselfish support both emotionally and financially gave me a great

sense of pride and hope." The financial support that Stephan garnered was indeed impressive. Stephan raised a total of \$13,415, the fourth largest total of any individual fundraiser.

His team, the Big C Express is comprised mainly of members of Stephan's Cycle Fit class which he teaches at the Big C Fitness Club in Concord, CA. The stationary bike class has been a great way to get people more involved with cycling. Stephan inspires his students to achieve new heights as more Big C Express members participated in the century Tour de Cure ride in 2017 than ever before. When asked what he enjoys most about being a Cycle-Fit instructor, Stephen replied, "I like playing MY music loud! I love seeing my students respond to my efforts, to motivate them. I love music and putting

playlists together, telling stories of rides (often my recent adventures) to get them to dig deep, and hearing afterwards that they loved the class. It does not get much better than that."

Stephan achieved a PR in the Diablo Challenge last October, an 11.2 mile, 3,249 foot ascent to the top of the Bay Area's second highest peak. He credits Hammer Nutrition for this achievement, which he describes as his biggest in recent memory. Stephan uses almost all of Hammer's products yet is more "scientific" when fueling for cycling than his other athletic endeavors. "My supplementation for longer/ harder events or training consists of pre-ride Endurolytes, Race Cap Supremes, Endurance Aminos, and Anti-Fatigue caps. Fully Charged is my new secret weapon! I also love Race Day Boost for 'special'

occasions as I can ride harder with it. I tend to fuel with Hammer Gel for short (less than 2-hour) rides, but my go to fuel is a bottle with two scoops of Sustained Energy and one scoop of Lemon-Lime HEED. I'll also carry pre-made baggies of that mix for the longer rides. Sometimes I will also add a scoop of Fully Charged to that mix. My supplementation is regimented. I use the coin pouches and every hour I take four Endurolytes, two Endurance Aminos, and two Anti-Fatigue Caps."

The American Diabetes Association has 80 Tour de Cure events in cities all across the United States. For event listings in your area, please visit tour.diabetes.org Click the donate button to sponsor Stephan, or any of the other inspirational athletes participating in a Tour de Cure event.





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PE Teacher: Mindy Przeor

completes Black Canyon Trail 100K

BY JEFF TROUPE

Brinton Elementary in Mesa Arizona has a very special PE teacher, Mindy Przeor. Mindy has been faithfully using Hammer Nutrition products since 2009 when a Hammer Nutrition representative introduced her to them at her local triathlon shop. She really liked the products and Hammer's fueling and replenishment philosophies, but it was the results that kept her coming back. "In sixteen months of training, the last twelve of which I was on Hammer exclusively, my half marathon time dropped almost 40 minutes. My 5K time dropped to 21 minutes, and my next marathon was a 3:34; a 90 minute improvement from my previous marathon!"

In 2012, Mindy and her husband Kris, also an avid runner, were accepted as Hammer Sponsored Athletes. Kris also has seen great results with Hammer products and recently clocked in at 2:57 at the Phoenix Marathon. Mindy never saw herself tackling anything longer than a 50K, but at the behest of her best friend and training partner Leilah, the Black Canyon 100K became her next challenge.

There were three scheduled 20-mile training runs in the months leading up to the race located in different sections of the course. Mindy recalls after the first training run, "I felt good with my training. My nutrition was dialed in with Hammer and I hit the miles I needed to hit. I ended up getting several weekends of long back-to-back runs in through December and January. I also made sure to get in some good rest weekends to make sure I gave my

body enough time to recover and stay healthy."

Although the race takes place in February, a typically mild weather month for much of Arizona, temperatures can soar into the nineties. The 2017 edition of the event had its own challenges, as record rain and snow pounded the region in the weeks leading up to the race rendering the trails a muddy mess.

The course begins in Mayer, Arizona, at a high school track, and winds its way through the Black Canyon trail to its terminus at the Emery Henderson Trailhead near the desert outpost of New River for a net elevation loss. A key feature to the course is a crossing of the Aqua Fria River at the 50K mark. But with rivers and creeks swelled to capacity, including the Agua Fria, race directors were forced to alter the course to an out and back with the start and finish now being in Mayer. This meant that the second half of the race was now transformed into a brutal climb for the already tired legs.

Athletes were able to place drop bags at four of the ten aid stations spaced throughout the course. These numbers were cut in half when the course was modified to an out and back. Mindy's drop bags were loaded to the gills with dry clothing, first aid items, Hammer Gel, and Sustained Energy.

Mindy made it to the 50K point and was surprised to find friends there to cheer her on. The second half

2017 **BLACK CANYON TRAIL** -100K-MAYER HIGH SCHOOL TRACK (START AND FINISH) **BLACK CANYON CITY** TURNAROUND 50K POINT (2017 ONLY) AGUA FRIA RIVER NEW RIVER **EMERY HENDERSON** TRAILHEAD TO PHOENIX (ORIGINAL FINISH)

> was going to be tough, an uphill climb. The rain was holding off which was a good sign. As part of her strategy, Mindy would have a pacer during certain sections of the course, including the final 12.5

miles, to keep her on track and for encouragement.

The final four-and-a-half miles felt like an eternity to complete. It had been raining since mile 38 which made this last section very slick. The temperatures were dropping and the wind was picking up. Hypothermia was a true danger which other runners fell victim to and thus could not finish the race. "The climbs on this section were brutal and I was not moving fast. Plus, the more we climbed, the windier and colder it got. I was very grateful to have my pacer Shannon talking to me and keeping me moving!"

Mindy crossed the finish line at 12:04 a.m., completing the Black

Canyon 100K with a time of 17:04:20. Out of 324 runners to start the race, only 250 completed it under the 20-hour cutoff mark. She was presented with her Black Canyon 100K belt buckle, and a big serving of Recoverite. "I am so glad I went and did this! It was an experience I won't soon forget and it was quite empowering," said Mindy.



HOW MINDY HAMMERED

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Carbs are King

Benefits Of Complex Carbs Over Simple Sugars BY STEVE BORN

Athletes know that carbohydrates are king when it comes to fueling during exercise. Unfortunately, choosing a fuel with the right carbohydrate continues to be very frustrating and confusing for many athletes—especially now, given the abundance of "cutting edge" sports fuels on the market and their hype. But if you care about having higher-quality workouts and better race results, choosing the right carb makes an enormous difference.

The contenders: complex carbohydrates and simple sugars

Hammer Nutrition has consistently and emphatically maintained that endurance athletes will perform significantly better if they fuel their bodies during exercise only with complex carbohydrates, avoiding simple sugars. Not surprisingly, Hammer Nutrition fuels are comprised only of complex carbohydrates (maltodextrin), with no added simple sugars (glucose, sucrose, or fructose). Other companies, however, are increasingly producing sports fuels composed of simple sugars, whether solo or in combination and occasionally with maltodextrin included as well—touting them as a superior exercise fuel.

So what is the best carbohydrate for the endurance athlete? Does maltodextrin stand alone as the premier source of carbohydrate

energy—or do simple sugars and/ or a combination of simple sugars reign supreme? To answer these questions, let's first take a look at how your body responds to different sugars. This involves a basic understanding of "osmolality."

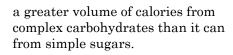
What is osmolality?

Osmolality is the concentration of a solution's dissolved particles, or solutes, that can permeate a cell membrane and thus contribute to osmotic pressure (think: osmosis).

Among other things, it determines how many calories can be efficiently absorbed from the gut. The osmolality of body fluid is 280-303 mOsm, so the solution of the fuel you're consuming must be within those isotonic parameters for the fuel to be efficiently transported to the bloodstream for eventual conversion to energy. Some points to keep in mind about osmolality:

The higher the simple sugar content, the higher the solution osmolality, the less of it is absorbed immediately. If you consume a simple sugar fuel, your body will only permit a 6-8% solution for fuel replacement, which severely limits the amount of calories that are available for energy production.

Maltodextrin matches body fluid osmolality at concentrations as high as 15-18%. That means that your system can comfortably digest



Put it to the test

Exercise pace makes a big difference with regard to the ease of digestion of food and fuel. At a more leisurely pace, athletes can digest just about anything and in high quantities. Boost the intensity above "recovery pace," however, and the osmolality of the fuel you're consuming DOES matter!

We repeatedly observe that when athletes consume carbohydrate solutions containing either glucose or fructose, or bothcombinations that supposedly increase carbohydrate oxidation rate—they usually experience gastrointestinal upset. This is why we remain convinced that the ideal carbohydrate source for athletes engaged in moderateto-high intensity training and racing is complex carbohydrates (maltodextrin) only, and it's why Hammer Nutrition fuels are formulated the way they are. For 30 years and counting, thousands of athletes have enjoyed better workouts and race results—without uncomfortable GI distress—using Hammer Nutrition fuels and adopting our protocols. Put our fuels to the test against anything else out there, and we guarantee that you will too.



Hammer athlete Steven Terry picks up the pace on an afternoon ride. Photo: Courtesy Steven Terry

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European Distributor Visit

Pictured Above: Budpest by night! One of the prettiest cities I've ever seen.

In June, I was fortunate to be able to take an extended trip to visit our new Hammer distributor for Hungary and Switzerland, as well as our long time distributor for the UK. In between all of that, I managed to squeeze in a 10-day ride around the island of Sardegna with my Italian family from the ASD Berti bike club that I have been riding with now for 20 years. Some might wonder if this is really a business trip or just an excuse to travel with my bike and ride around beautiful countries. With a completely straight face, and in all truth, it's both! Having been an International Business major in college, it's fitting that Hammer is now in over 25 foreign countries and growing strong.

Despite all of our modern

technology, nothing can replicate the benefits of spending several days getting to really know someone and learn about their operations and how they do business. I seek to do this with every distributor we work with in each foreign country. It's doubly important for me, because we are expecting each distributor to basically replicate our US modelmulti-channel sales, big education and customer support efforts, ambassadors, sponsored athletes and events, etc. As a result, my visits are more like business boot camps, where I spend 8-12 hours a day working alongside our distributor and their staff at events, in their offices, on rides, over meals and often after dinner into the wee hours of the night. Since I have a unique way of

doing business (principles before profits, etc.) spending only a few days in each country sometimes seems inadequate, which is why it's necessary to go back and check on them from time to time and to maintain continuous contact via phone and email in between visits.

Hungary - I arrived in Budapest late on the evening of June 1st with Krisztian Bezzegh cheerfully waiting to pick me up. We hit the ground running at 7a.m. the next morning going to a masters swim workout and meeting a group of his ambassadors and clients before continuing with shop visits. We finished the day loading his van. The next morning we set off to the riverside resort village of Szentendre (aka Saint Andrews) where we set up a booth for the





With Remo Thony overlooking beautiful Lake Lugano in Switzerland.

Solomon Ultra Trail Hungary event. We expo'd there all weekend, did a few rode rides to get my legs under me, and finished off the trip with a day and evening of sight seeing around the beautiful city of Budapest - by far the cleanest, friendliest big European city I have had the pleasure to visit. I can't wait to go back!

Switzerland - Although we have had distribution in Switzerland for over 13 years, much of that time it has been more theoretical than actual. Thus, I am very excited about Remo Thony, our 3rd and newest distributor. He's young, ambitious and already has a strong ecommerce/direct-to-consumer background. We met up in Lugano, on the Italian border for two days of long rides and longer talks. It was a most productive visit and we are eager to put the Swiss program into high gear.

UK - My fourth and final week in Europe was spend with Bill

Tawana, his brother, and their family at their new home outside of London, near Essex. It was the first time I had ever spent in England outside of London. I really enjoyed the rural communities and the riding was great as well. Bill is in a rebuilding phase right now with a lot of changes because of their

living arrangement. We are hopeful that Hammer UK can grow to be a force in sports nutrition in the UK where the market is big, but totally dominated by brands selling cheap products filled with-you guessed it-sugar, salt and citric acid! They have deep pockets and don't play nice on the B2B side, so we are going around them and straight to the consumer-as we originally did in the US, and have successfully done in every other country we've entered.



Hammer Hungary distributor Krisztian Bezzegh, ready for business at Solomon Ultra Trail Hungary.



In front of the Tea House with a bunch of fast chaps from the Victoria Cycling Clubbooth at Solomon Ultra Trail Hungary in Szentendre.

"Consumption of large amounts of HFCS may be one of the primary culprits in the global epidemic of type- 2 diabetes."



HFCS consumption & type 2 diabetes



Add another reason to the list of why High Fructose Corn Syrup (HFCS) should be avoided at all costs. The results of a study by researchers from the U.S. and Great Britain show that consumption of large amounts of HFCS may be one of the primary culprits in the global epidemic of type-2 diabetes. Published in Global Public Health, their research found a greater prevalence of the disease—an astonishing 20% higher rate of type-2 diabetes—in the countries with the highest rates of HFCS consumption.

Disturbingly, the U.S. had the highest per-capita consumption of HFCS out of all 42 countries studied, an alarmingly high 55 pounds per year. You read that correctly—55 pounds annually! Though that amount is

astronomical, it shouldn't come as too much of a surprise to you, considering that the U.S. is the largest producer of HFCS. What's also disturbing is that Mexico's HFCS intake has been on the rise, dramatically so, ever since the U.S. started exporting HFCS after trade restrictions were lifted in 2008.

The lead study author, Dr. Michael Goran, stated, "High fructose corn syrup appears to pose a serious public health problem on a global scale. The study adds to a growing body of scientific literature that indicates high fructose corn syrup consumption may result in negative health consequences distinct from and more deleterious than natural sugar."

Type-2 diabetes, the most common form of this disease, is caused

by high levels of sugar in the blood. The Center for Disease Control estimates that there are 1.4 million new diagnoses of diabetes in the U.S. each year and 1.5 million deaths from diabetes worldwide. According to the International Diabetes Federation, more than 400 million people around the world are afflicted with diabetes (90% have type-2 diabetes). The World Health Organization estimates that worldwide deaths from diabetes will double by 2030. Clearly, thanks to the widespread availability of HFCS, this worldwide epidemic can become even worse. If you want to take a significant preventative step toward protecting yourself against type-2 diabetes, avoid HFCS!

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I recently spent an entire weekend working on CrossFit regionals athletes in the West region. It was an incredible weekend and I began to make some observations about different recovery patterns and strategies.

How quickly an athlete recovers depends on several factors including diet and nutrition, level of training (professional versus amateur), and how well an athlete takes care of their body (overall health). The thought and preparation that goes into a training session often overshadows the little thought put into what comes after a very important part of training: the recovery.

Here are my top 3 recommendations for my athletes for better recovery:

↓ 1. Smart training. Whether you have a coach or you coach yourself through your season, training smart is key to getting to the finish line with the least amount of issues and for longevity in the sport. Overtraining is an athlete's worst enemy and is something that should be avoided as much as possible. During one workout, depending on the level of difficulty, the body needs time to rebuild the muscle and tissue damage. This is often noticed when the day-after soreness begins to kick in. The body needs time to heal. The amount of damage the body sustains is going to be different per athlete per workout.

Determining proper recovery time depends greatly on the body's conditioning, the intensity and duration of the training session. Suggestions differ for everyone, but taking 1-3 rest days during the week is a good place to start.

2. Keep up with "body work". For those that train every single day at any level, "body work" is imperative because of the stress and strain. Chiropractors, massage therapists and physical therapists have great tools to identify weak and tight areas, which effect workouts and the length of time needed to recover. Imbalances in muscles (from weakness or tightness) can cause altered gait patterns that effect efficiency and how joints move. The body is connected from head to foot, so pain in the shoulder may be caused by an imbalance in the hip or foot. If the aches can be avoided and the movement improved, time spent recovering will be more efficient. At the end of every season, taking time to rest is imperative before training season starts again. Listen to your coach or spend a good while resting and lightly training.

3. Fuel right. Recovering well is also determined by your nutrition. Optimizing macronutrient (protein, fat and carbohydrate) intake for your body and your training level can make the biggest difference in how you feel, from the next day to the day of your event. Try to

choose foods with higher nutrient density like vegetables over bread. Choose foods high in antioxidants like blueberries to counteract the damage from training. For particularly sore days, increase your vitamin C intake with oranges. The average athlete should consume between 1-2 grams per kilogram of bodyweight of protein for optimal training and recovery (to find your average weight in kilograms, multiply your weight in pounds by 0.4536).



Dr. Kirstin Lauritzen is a Chiropractor in Portland, Oregon, & a candidate for a Masters in Nutrition and Functional Medicine. She holds bachelor degrees in Psychology and Neuroscience, Spanish, and Human Biology. She has recently competed in several half marathons and is taking on her first triathlon this year. Dr. Lauritzen specializes in educating others about nutrition and its importance in life, especially in the lives of athletes. She's been hammering since 2011. For more information: www.discoverfunctionalnutrition.com or find her practice at www.lauritzenchiropractic.com.

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FROM THE KITCHEN OF

LAURA LABELLE



BY LAURA LABELLE

Lately, I have been becoming more aware of my carbohydrate intake. As I age, I realize my body responds differently to carb consumption. More specifically, I feel like the more simple carbs I allow in my diet, the more unwanted weight I gain. One thing is certain: "Not all carbs are created equally," to quote Brian Frank- and he couldn't be more right. There is a major difference between simple carbohydrates and complex, and how our body processes and metabolizes both. While most weight loss plans these days encourage you to "avoid carbs," the real trick is identifying "the right carbs," not avoiding them altogether.

Carbohydrates are made up of three major components: fiber, starch and sugar. Fiber and starch are complex carbs, while sugar is a simple carb. Choosing the "right" carbs is really determined by the ratios of these micronutrients, and how you consume them.

Simple carbohydrates include

pastries, pasta, most breads, and cereals. For me, these are the easiest to "go to". I have been working on providing a large variety of alternative recipes in our newly revised edition of "In The Kitchen With Hammer Nutrition" to help our readers make easy, less simplecarb meal choices. Our bodies process simple carbohydrates like sugar, which causes our insulin to spike and has an immediate negative effect on our liver. This is not an optimally desired return of energy output for your exercise needs.

Complex carbohydrates include whole grains, starchy veggies, and legumes. Your body will not process these nutrients like a sugar; rather, it will use them as a slower burning energy source, allowing your body to use the much-needed fiber. A complex carbohydrate will be slowly metabolized and easily converted to usable energy. This is the sweet zone we like to target for pre-, during and post-workout nutritional needs.

Hopefully you will have fun with some of the new recipes, and substitute a yummy veggie dish or salad for an easy rice or pasta fix. It's fun to mix it up a bit and start eating differently. Over time, you will see a difference in your body mass and energy levels.



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



"I ordered the **Vanilla Whey Protein** and it tastes great. I mix it with a smoothie in the mornings and feel like I have sustained energy all day. I run multiple marathons and ultras a year and train hard in-between. I knew I needed more protein in my diet and the **Whey Protein** fills in that gap."

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Quick Veggie Saute Makes 2-4 servings

Ingredients:

- 1 Tbsp organic avocado oil
- 1 medium sweet onion
- 1 bunch of broccolini
- 2 medium zucchinis

Seasonings: see suggestions below

Oriental Seasoning:

- 1 Tbsp of fresh ginger, grated
- 2 cloves garlic, minced
- 1/2 cup chopped cilantro
- 2 Tbsp coconut aminos

French Country Seasoning:

- 1 Tbsp herbes de Provence
- 1 clove garlic, minced
- 1 tsp grated fresh lemon rind

Preparation:

In a cast iron skillet add oil. Toss in the onions, sliced in larger moon shapes. Add largely cut broccolini and long sticks of zucchini. Mix for 7 minutes so veggies are bright in color, preserving enzymes and minerals. Season with either Oriental or French Country Seasoning.

Optional: grilled meat, fish or poultry

A light meal that does not require a carbohydrate, perfect for a warm summer night.



Creamy Miso Dressing

Ingredients:

- 2 shallots, minced
- 1 clove garlic
- 2 Tbsp lime juice
- 2 Tbsp white miso
- 2/3 cup organic olive oil
- 1/3 cup water

Preparation:

Put all ingredients in a blender and pulse until mixed and creamy! Enjoy over your favorite salad, poultry or chicken.



Zesty Artichoke and Lemon Dip

Ingredients:

- 2 cloves garlic
- 2 shallots, peeled
- 2 Tbsp lemon juice
- 1/2 cup mayonnaise (vegan optional)
- 1 Tbsp apple cider vinegar
- 3/4 cup cooked lima beans
- 1 Tbsp fresh parsley
- 1/2 tsp Himalayan salt
- 1 tsp mustard seeds
- Fresh black pepper to taste
- 2 1/2 cups drained cooked artichoke hearts

Optional: 1 roasted and seeded jalapeno, minced

Preparation:

In your food processor, mix garlic, shallots and lemon juice. Mince shallots and garlic. Add remaining ingredients except for the artichokes. Add artichokes last and pulse minimally. Serve with veggie sticks or your favorite rice crackers.



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with Hammer Nutrition

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3 common coffee myths, debunked

BY VANESSA GAILEY

Approximately 54% of American adults have at least one cup of joe daily, according to the National Coffee Association. That's more than 125 million coffee drinkers each day in the U.S. With so many connoisseurs, you'd think that most of us would be better educated as to the facts about coffee, but the popular myths abound. Here's a look at some of the common ones, debunked!



Bulk coffee beans in bins at the grocery store are the best to buy.



Beans stored in supermarket display bins are exposed to oxygen and light, some of the worst factors for degradation of a bean's flavor. Also, the bins can become covered with coffee oils, which turn rancid over time. For the freshest beans, buy directly from micro-roasters like 53x11 Coffee.



There's more caffeine in dark roasts than in light roasts.



Caffeine is a component of the bean, and while roasting coffee to different degrees helps develop different tastes, it does not affect caffeine significantly. In fact, a lighter roast will have approximately 0.1% more caffeine content than a dark, a negligible amount. How much caffeine your morning cup contains is much more affected by your choice of brewing method and varietal.



Coffee has no health benefits. Coffee has been making headlines for the past several years due to its high amounts of antioxidants and number of potential health benefits, including prevention of prostate cancer, type-2 diabetes, and Parkinson's disease. Every workday morning, we brew 53x11 Coffee in the employee lunchroom at Hammer Nutrition for a 100% organic, Fair

Trade Certified start to the day. Our advice? Skip the sugary, artificially flavored sweeteners and creamers that so many people add to their coffees. Instead, brew a quality cup of 53x11 and enjoy a coffee so delicious, you won't want to add anything to it—all of the potential health benefits and none of the empty sugar-laden calories.

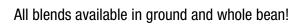


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- 100% organic
- Micro-batch roasted





Our organic, fair-trade coffee is guaranteed fresh and delicious, no matter which of our palette-pleasing blends you choose. Our beans are roasted in micro-batches to order and are shipped within 1-2 weeks of roasting.



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| SUMATRA | 2 oz. \$2.95 12 oz. \$13.95 |
|-----------------|---|
| THE EARLY BREAK | |
| MEDILIM DOACT | 12 oz \$13 Q 5 |

MEDIUM ROAST......12 oz. \$13.95

THE CHAIN BREAKER

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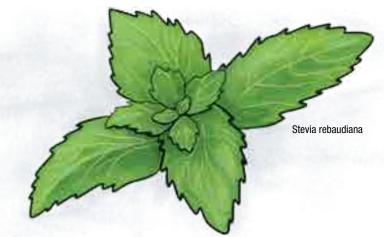
Hammer Nutrition's healthy sweeteners

BY STEVE BORN

Refined simple sugars? Artificial flavors, sweeteners, colors, or preservatives? Chemical processing agents? You won't find them in Hammer Nutrition fuels! Healthy options are the only options we want in our fuels and in your body! We have no doubt the following ingredients used in our fuels are undeniably better choices.

Energy Smart™

While the production process of Energy SmartTM is a heavily guarded, trademarked secret, rest assured that the "end product" is not a simple sugar (like glucose or fructose), but rather a medium- to long-chain carbohydrate, made by combining naturally occurring, unrefined sugars from fruit plus specially developed medium-chain carbohydrates from grain. In simplest terms, the proprietary process of making Energy SmartTM involves taking the short-chain sugar (saccharide) molecules from fruit and adding more saccharide molecules from grain. The FDA guidelines rate Energy SmartTM as an "other carbohydrate," neither simple nor complex. Dr. Bill Misner writes, "The unique biochemistry of Energy SmartTM raises blood glucose as fast as sucrose (table sugar) and faster than fructose and, when ingested, human physiology interprets the biochemistry of Energy SmartTM as a complex carbohydrate, resulting in gradual but welcome increases to serum blood sugar levels."



Xylitol

This natural substance that can be found in a variety of fibrous fruits and vegetables is also known as birch sugar, primarily because it is usually extracted/produced from birch trees. (It can also be extracted and produced from corn cobs.) The human body naturally produces over 15 grams of xylitol every day by way of normal metabolic processes.

Xylitol also promotes oral health, as it does not ferment and support the acid-producing bacteria that cause tooth decay. That's why you'll find this unique sweetener in gum, toothpaste, and mouthwash, and it's one of the reasons why we include small amounts of it in many Hammer Nutrition fuels.

Note that xylitol may cause stomach distress and/or have a laxative effect when consumed in high doses. It has no known toxicity, though; people have consumed as much as 400 grams daily for long periods with no ill effects. Generally, xylitol-induced gastric stress occurs as a laxative effect in xylitol-sensitive people who consume 30 grams in a single dose or multiple doses in a short period of time.

It is also believed that xylitol is unsafe for consumption by dogs; therefore, we do not recommend you feed your dog any xylitolcontaining products, including HEED or Recoverite, nor any products that are made for human consumption.

Stevia

This extract (steviosides) is derived from the leaves of Stevia rebaudiana, a plant native to subtropical and tropical Central and South America. Stevia's sweet taste, considered to be up to 300 times sweeter than sugar, means that minimal amounts are necessary to sweeten a product. Stevia is non-caloric and does not affect blood sugar levels, therefore it is safe for diabetics. Stevia may help to lower elevated blood pressure while not affecting people with normal blood pressure. Like xylitol, stevia does not support acidproducing bacteria responsible for tooth decay.



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A roundup of nutritional news, tips and tidbits



The Importance of Omega-3 Fatty Acids

Our bodies can't make omega-3 and omega-6 essential fatty acids (EFA), which is why they are "essential." They must be obtained from dietary sources. While mostto-all of us consume far more omega-6 than we need, our diets almost always come up short on omega-3 intake. Research suggests that an approximate 1:3 omega-3 to omega-6 ratio is ideal, but estimates of today's diet reveal that this ratio averages around 1:20. While omega-6 EFA's are necessary for optimal health, the excessive amounts typically found in our diets today are believed to be the culprit behind many diseases, such as cardiovascular disease, many types

of cancer, and inflammatory and autoimmune diseases. But a diet that contains higher amounts of omega-3 EFA, and has a balance of omega-3/omega-6 near the ideal 1:3 ratio, helps reduce the risks of these negative health consequences.

Why Not Get Omega-3 From Flaxseed Oil?

In the world of fats it's hard to beat flaxseed oil. It has an attractive EFA makeup, with 54% omega-3 (from alpha Linolenic Acid, or ALA), 14% omega-6 (Linoleic Acid), and the rest being primarily various monounsaturated fats and a small percentage of saturated fats. However, given the fact that most diets are already overloaded with omega-6 fatty acids, the omega-6 in flaxseed oil isn't really necessary. In fact, for highest absorption rates,



Hammer Nutrition's Enduromega is packed with omega-3s from molecularly distilled and deodorized Atlantic menhaden.

it's believed that omega-6 fatty acids should not be consumed with omega-3 fatty acids, as they use a common enzyme for absorption. The heart-healthy eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are omega-3's found only in fish. While our bodies can convert some ALA to EPA and DHA, it's most likely a very miniscule amount (as low as 1%.) To get the maximum benefit from omega-3, choose EPA and DHA over ALA.

Ingredient Spotlight: Astaxanthin

Astaxanthin is a red-pigmented carotenoid derived mainly from microalgae that gives salmon, shrimp, and flamingos their lovely color after they eat it. It is a very potent yet safe antioxidantsignificantly more powerful than beta-carotene, vitamin C, and vitamin E in its antioxidant strength—that offers many remarkable benefits from head to toe.



Hammer Nutrition's AO Booster provides 2.5mg of astaxanthin per capsule.

Research shows that taking astaxanthin:

- Strengthens the human cardiovascular system. For example, it reduces oxidative damage from strenuous exercise in the skeletal and heart muscles. Exercise produces damaging free radicals, but astaxanthin neutralizes them.
- Promotes eye health: benefits vision, prevents eve diseases, and protects eyes from blindness. Astaxanthin crosses the blood-retinal barrier unlike other antioxidants.
- · Reduces skin aging and improves skin texture.
- Has incredible anti-inflammatory powers.
- Has anti-histaminic properties, in combination with gingko extract, for those with asthma and allergies.
- Boosts the immune system.

Research is promising that astaxanthin may help to:

- Prevent several types of cancer.
- Decrease fat accumulation by burning fatty acids in the body more efficiently for fuel.
- Improve brain health, reduce risk for brain diseases, and slow cognitive decline. Astaxanthin crosses the blood-brain barrier, unlike many other antioxidants, and may be a "brain food."
- Reduce stroke and improve motor function after stroke.
- Increase energy and exercise endurance.
- Improve exercise recovery.
- Protect skin against UV damage, sunburn, and radiation.
- Inhibit weight gain.
- Prevent neurodegenerative diseases.



Product Shelf Life Explained

All Hammer Nutrition products carry a "best-by," "manufactured on" or "manufacturing date," based on FDA requirements for that particular type of product. Use the chart below to easily understand and identify the age and usage window of your favorite Hammer Nutrition fuels and supplements.



"Best By" date is 2 years beyond the date of manufacture.

• Hammer Dietary Supplements

Currently carry a "Manufacturing Date." We suggest a use window that extends 3-4 years beyond that date, but we leave that to the discretion of the consumer.

Hammer Food Bars -

"Expiration" date is 18 months beyond the date of manufacture.

Hammer Powdered Fuels
 (Recoverite, HEED, Perpetuem,
 Perpetuem Solids, Proteins, etc.)

"Best By" date is 3 years beyond the date of manufacture.

• Endurolytes, Endurolytes Fizz

"Best By" date is 4 years beyond the date of manufacture for Endurolytes, 2 years for Fizz.



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he conclusion of a recent study published in the April edition of the journal, Stroke, was direct and to-thepoint: "Artificially sweetened soft drink consumption was associated with a higher risk of stroke and dementia."

Both sugar- and artificiallysweetened beverage intake have been linked to cardiometabolic risk factors (the chances of having diabetes, heart disease or stroke), which increase the risk of cerebrovascular disease— a group of conditions that affect the supply of blood to the brain—and dementia.

This particular study, which included nearly 3,000 participants over 45 years old involved in the Framingham Heart Study Offspring cohort, showed that while consumers of sugar drinks and artificially sweetened drinks were at increased risk for having smaller brains and advanced brain aging,

the consumption of one artificially sweetened diet soda daily was associated with triple the risk of suffering a stroke or becoming demented.

While the increased incidences of dementia and stroke were associated only with those consuming artificially sweetened drinks, experts strongly recommend that people not switch back to sugar-sweetened drinks. Sugarsweetened sodas contain copious amounts of sugar, which has been associated with numerous negative health consequences, including:

- Weight gain
- Diabetes
- High blood pressure, high cholesterol, heart attacks, and strokes

According to renowned nutritional expert, Dr. Gabe Mirkin, "Accumulating evidence shows that sugared drinks are harmful to your health. Several recent studies suggest that artificial sweeteners may also be harmful to your health. The safest drink for quenching thirst appears to be water. Unsweetened coffee and tea appear to be safe choices also."

Bottom line: Staying away from both sugar- and artificially sweetened-drinks—even more so the latter, it appears from this latest study—will help keep you clear of the many diseases and health issues associated with both.

None of the Hammer Nutrition fuels has ever contained any artificial ingredients, including artificial sweeteners. Instead, we use the healthy sweeteners xylitol and stevia. In addition to naturally sweetening the product, both xylitol and stevia promote positive oral health, as neither ferment and support the acid-producing bacteria that cause tooth decay.

**BUPERCHARGE your cells' powerplant | Improves energy production | | Superior antioxidant support | | Improves fat metabolism | Harnmer athlete Sibyl Govan at the HITS 70.3 in Palm Springs, California. Photo: CaptivatingPhotos

The mitochondria are the power plants of your cells. Mito Caps give them the nutrition they need to stay stoked.

Our Customers Say It Best * * *

"I have made **Mito Caps** part of my daily essential supplements due to the amazing results I have seen in with my overall energy. There is no quick energy spike or drastic crash while taking this. I highly recommend this as part of your daily and training nutrition"

90 Capsules **\$24.95**



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For heart health, so sweet

BY ENDURANCE NEWS STAFF

It's no surprise that consuming a lot of sugar has never been associated with good health. Research links high sugar intakes with a number of risk factors for heart disease such as obesity, hypertension, and type 2 diabetes. However, "most of those studies focused on sugarsweetened beverages and not total intake of sugar," states Dr. Quanhe Yang. In a study about added sugar headed by Dr. Yang and published in the journal JAMA Internal Medicine, the results were alarming: higher amounts of added sugar are correlated with a significantly increased risk of death from cardiovascular disease.

The World Health Organization recommends consuming less than 10% of your daily calories from added sugars; the American Heart Association's recommendation is approximately 7%. After reviewing several years of data involving nearly 12,000 participants in the National Health and Nutrition Examination Survey (NHANES), Dr. Yang and his team found that more than 70% of U.S. adults consume 10% or more of their daily calories from added sugars, with 10% of adults consuming a diet

comprised of 25% or more from added sugars ("added sugars" was defined as sodas/other sweetened beverages, grain- and dairy-based desserts, candy, and other processed foods, but not naturally occurring sugar found in fruits and fruit juices.)

Dr. Yang's study and countless others confirm a simple truth small amounts of sugar occasionally in the daily diet are okay, but a lot is not. For optimal health and longevity, pay attention to the

total percentage of calories you consume from sugar, and make it a goal to adjust accordingly. If you're like most Americans, a significant decrease in your sugar intake is in order, and that shouldn't be a difficult decision to make or task to accomplish. After all, one of the sweetest things in life is a healthy heart and body, and the ability to continue participating in the activities you love.

Taking into account other heart disease factors such as diet, weight, physical activity, high blood pressure, and total cholesterol, researchers examined the association between added sugar and an increased risk of death from heart disease. Their findings were dramatic and sobering:

- People who consumed between 17% and 21% of their daily calories from added sugar had a 38% increased risk of dying from cardiovascular disease, as compared to those whose diets contained less than 10% of its calories from added sugars.
- Diets containing more than 21% of their total calories from added sugars were associated with an approximately 50% greater risk of dying from cardiovascular disease.
- The risk of dying from cardiovascular disease nearly tripled for those consuming more than 25% of their calories from added sugar.



120 Capsules \$19.95

210 Capsules \$34.85

Our Customers Say It Best $\star\star\star\star\star$

"Hammer Nutrition's **Premium Insurance Caps** fills in the gaps that heavy training can create in your armor."

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United Kingdom



Royal Air Force Regiment 75 at Hammer Nutrition headquarters in Whitefish, MT. Photo: Micah Benson

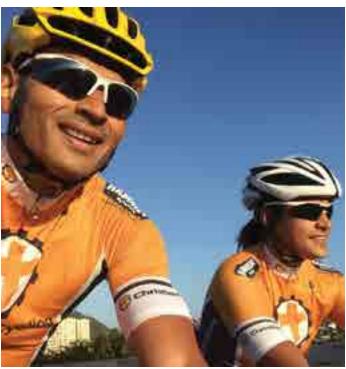
For the 75th anniversary of the Royal Air Force, the UK decided to do a series of events that stretch across 4 continents and 3 oceans. Members of the Corps are undertaking strenuous and adventurous training as they conquer mountains and seas whilst traversing testing and inspiring terrain under the name "Exercise DIAMOND ROCK." The series is spit up into a number of legs with each team dominating their part of the mission. Leg 3, taken on by Royal Air Force Regiment 75 is a team mountain biking from Canada to New Mexico on the continental divide. They stopped by Hammer Headquarters and got geared up with Fully Charged, Recoverite, Endurolytes, and Perpetuem. They have about a month of riding left until they make it to their final destination of Antelope Wells, NM and complete their journey.





Hammer Mexico put on a running class in partnership with one of their local dealers. A sponsored athlete, Fabiola Corona, and German Silva, a retired Olympic runner, back-to-back New York City Marathon winner, and the owner of the store, also joined them. They split the group of 75+ runners into 3 distances, 5k, 12k & 15k. Before the run they presented a brief intro on Hammer Nutrition plus handed out some samples. (HEED for the long runs and FIZZ for the shorter ones). At the end of the day they did a raffle for some Hammer fuels and also offered a 10% discount on the products. Fabiola Corona then shared some tips based on her own experience on how to use Hammer products. Photo: Courtesy Juan Miguel Martínez





Ricardo Chang the Panamá Spoke director for Christian Cycling and his wife Claudia riding on the Cinta Costera 3 in Panama City, Panama Photo: Ricardo Chang



* price per tablet



"Endurolytes Fizz is convenient and easy to use anywhere. I keep some at home and in my desk at work. I drink it on my shorter rides when I don't need the extra calories or during the day before workouts. I highly recommend Endurolytes Fizz!"

Endurolytes Fizz is a convenient, refreshing way to replenish electrolytes for those who prefer not to take capsules. Try it today!

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Cut Back on Salt **Reduce Nightly Urination Frequency**

BY ENDURANCE NEWS STAFF

Frequently needing to wake up and use the bathroom during night/early morning hours is a condition called nocturia, which affects both men and women equally. According to the National Association for Continence (NAFC), "1 in 3 adults over the age of 30 make at least two trips to the bathroom every night. And while the majority of those who are dealing with nocturia are usually over the age of 60, it can happen at any age."

It is believed that 65% of adults between the ages of 55 and 85 deal with this issue at least a few times every week.

Nocturia needs to be taken seriously because it negatively impacts the quality and quantity of sleep received, which interferes with almost every aspect of everyday health. In the words of Drs. Emin Aydur and Roger Dmochowski, "The bother experienced by patients with nocturia as well as the impact on quality of life, daytime functioning, and overall health can be severe."

Fortunately, a very real solution may have been found, and it could be as simple as consuming less salt. A study led by Dr. Matsuo Tomohiro from Nagasaki University in Japan involved 321 patients with nocturia

who consumed a high-salt diet, defined as at least 8 grams/day men and at least 7 grams/day for women. Prior to the study, participants received guidance on how to reduce salt consumption, measurements were used to estimate daily salt intake for each participant, and various urinary parameters were recorded over a 12-week period.

When 223 of the study participants cut their salt by 25% (from 10.7 grams to 8 grams a day), their nightly bathroom visits decreased from an average of 2.3 trips to 1.4 times. For the 98 subjects who increased their salt intake from 9.9 grams daily to 11 grams daily, the need to urinate increased from 2.3 times/night to 2.7 times/night.

Dr. Tomohiro states, "This is the

first study to measure how salt intake affects the frequency of going to the bathroom. Night time urination is a real problem for many people, especially as they get older. This work holds out the possibility that a simple dietary modification might significantly improve the quality of life for many people".

Dr. Marcus Drake from the University of Bristol in the United Kingdom adds, "The body becomes less efficient at dealing with salt as we get older or in ill health; so we can end up accumulating salt, leading to rather unstable urine production, particularly during the night. Here we have a useful study showing how we need to consider all influences to have the best chance to improve the symptom."

Limiting salt intake benefits many areas of human health. Now, according to this exciting new research, it appears the benefits now include helping us obtain a sufficient amount of uninterrupted nightly sleep, an undeniably important factor in overall health.





The 2017 Glacier football team during a training camp earlier this year. Photo: Casey Lamping

Glacier High School Football



In 2007, Glacier High School in Kalispell, MT, opened its doors. Seven years later, they were holding their first AA Montana football State Championship. That's the second fastest team to win the title in Montana history. They have eight straight quarter-final and six straight semi-final appearances. With a number of records already under their belt, and over 50 players going on to play college ball, they have put up quite a name for themselves.

We had the opportunity to sit down and speak with head coach Grady Bennett about how he uses Hammer Products and how they can help a high school football team. "I love Hammer products as they have personally been a game changer for me." said Bennett. "When I first discovered them, I was getting into some epic mountain bike rides and after about six or seven hours on long, tough trails. I was having some serious issues bonking and getting pretty sick. A

friend introduced me to Hammer Gel on a ride. After it helped me to make it down the mountain, I was convinced. Now, I use a wide variety of Hammer products for before, during, and after training and races. I can't even imagine my life now without Hammer."

When asked how Hammer makes a difference to the team, he responded, "As a head football coach, it was easy to convince all of my players to incorporate Hammer products into their training and game-time fueling. There are so many products out there, but after an early season game when several of our players were struggling with cramping issues and having a tough time finishing strong in the 4th quarter, I decided to invest and purchase the entire team a surplus of Hammer products for before, during, and after our games."

"Thanks to the Hammer Gels, HEED, and Endurolytes, we have kept energy levels consistently high and eliminated cramps during games. This has allowed us to be a very strong team for all four quarters! Thanks to Recoverite and Whey Protein, our guys recover quicker and are ready to get right back to work the next day in

preparation for the next opponent."

After suffering a tough loss in the championship game last year, the Wolfpack is coming back with a vengeance this upcoming season. Let's wish them well as they go after it! Hammer on!

"We have kept energy levels consistently high and eliminated cramps during games. This has allowed us to be a very strong team for all four quarters!"

HOW THE WOLFPACK HAMMERS

• Pre-training: Hammer Gel

• During training: HEED, Endurolytes, Gel

• Post-training: Recoverite, Whey Protein



Christian Cycling



Pictured left to right: Jeff Hoffman, Jonathan Butler, Doris Osorio, Rudy Marin and Todd Zuleger Photo: Todd Zuleger

Christian Cycling has had a busy season thus far. We have hosted several successful races across the United States with our two biggest being Dash for Cash in Northern California and Wheels of Thunder in Colorado. We had a group who recently attended the Sea Otter Classic and represented us there in the Gran Fondo. Some of our members enjoyed successful race finishes; others achieved personal bests and accomplished key goals they had set. One of our main focuses is building friendships and offering support to one another on and off the bike. We are blessed to have many members in the US and in countries across the world (Brazil, Honduras, Panama, France, Kenya and Uganda). We would love to have you come ride with us!

Once Again Racing



Garrett Lucas laying it down at the Larkinville Criterium in the Men's Elite Race. Photo Ron Grucela

Once Again Racing, sponsored by Once Again Nut Butter, is a grassroots team that works to develop cycling in Western New York. Founded in 2012, the team supports beginner to elite athletes of all ages including multiple junior NYS Champions along with adult amateurs who compete in dozens of events per season across criterium, road bike, cyclocross, mtb, gravel, and triathlon racing. The team also hosts multiple events per season including The Mudslinger Gravel Series and The Rock Race Weekend.

Southeast Endurance Project



David Hall during a gravel grinder. Photo: Peter McCall

David Hall racing for the Southeast Endurance Project, at the front of the pack in the Outspokin Dirty 50 gravel grind race. David would go on to finish in the top 5 out of the 100+ rider field.

CSUF Titans



CSUF Mens cycling team. Photo: Steve Ng

California State University of Fullerton is the 2nd largest school in the University of California and Cal State system. They are a self-funded cycling team that competes and puts on fundraisers to give back to the community. They race with 34 other teams in their conference. Last season, they had 9 podium finishes with five 1st places, two 2nd, two 3rd places, and a team 1st place in an omnium event. Favorite products include HEED, Perpetuem, Recoverite, Endurolytes Fizz, Race Day Boost, Endurance Aminos and Hammer Gel.



ADVENTURE RACING PADDLE SPORTS RUNNING TRIATHLON

WE SUPPORT: YOUR SPORT

Whatever your sport, you'll find plenty of challenging Hammer Nutrition-sponsored events to choose from this summer. We've already got more than 160 events on our calendar for the upcoming months, covering pretty much everything associated with endurance, and more requests for sponsorship support are pouring in daily. Here's just a sampling of the exciting summer events that we are honored to support:

CYCLING **SWIMMING** *MOTOCROSS* SKIING



STURGIS GRAN FONDO (ROAD CYCLE)

STURGIS, SD

The 3rd annual Sturgis Gran Fondo will start on the streets of historic downtown Sturgis. The route is a cyclist's dream on the roads that the local riders love; Vanocker Canvon Road, Nemo Road and Mt. Rushmore Road. There will be aid stations along the way. At the halfway point, our lunch stop is at Mt. Rushmore. Then it's around that historic mountain and back to the finish line in Sturgis where your time will be electronically recorded and where you'll collect your finisher's patch.

sturgisgranfondo.com

AUGUST 26, 2017

SHAWNEE HILLS ULTRA RUNS

OZARK. IL

The event is held at Camp Ondessonk, Ozark, Illinois, on August 26-27, 2017. There will be miles of great running through the beautiful Shawnee National Forest, the best food in all of Ozark, IL, free beverages, and schwag give away. We will also, have the kids FUN RUN, vendor expo, and the rustic cabins.

shawneehills100.weebly.com

AUGUST 26, 2017

BARRON LAKE TRIATHLON

NILES. MI

A \$600 Prize purse will be awarded to the overall winners of the Long Sprint Triathlon.

barronlaketri.com

AUGUST 26, 2017

OCHOCO GRAVEL ROUBAIX GRAVEL GRINDER

PRINEVILLE, OR

This 119-mile route will feature 8,713 feet of climbing. The route will start at the Crook County Fair Grounds in Prineville and proceed north up McKay toward the Ochoco National Forest, looping past the Ochoco Divide and

Big Summit Prairie. About 40% of the ride will be gravel with paved sections throughout. There will be 4 aid stations along the course.

ochocogravelroubaix.com

AUGUST 26, 2017

MISSOURI RIVER RAMPAGE MTB

GREAT FALLS, MT

The Missouri River Rampage is a USAC sanctioned Mountain Bike Race in Great Falls. Montana with Cat 1-3 races and a Junior event. The race is scheduled for Sunday August 27, 2017. Cat 3 starts at 8:00 am. Cat 2 starts at 8:15 am. and Cat 1 starts at 8:30 am. A Juniors race will follow the adult events. The race will start from the Lewis and Clark Overlook at the east end of Giant Springs Road in Great Falls, Motnana. The race will take place on the South Shore Trail. The courses have a mix of flats, hills, and unique technical portions. The race runs along the mighty Missouri River.

sportoften.com/event/32251/missouri-riverrampage-mountain-bike-race-and-expo-2017

AUGUST 27, 2017

VALLEY FORGE MARATHON SWIM

EAGLEVILLE. PA

An 8 Mile assisted Open Water Swim from Bridgeport to Valley Forge National Park and back in the Schuylkill River.

frenchcreekracing.com/events.html

SEPTEMBER 1, 2017



YELLOWSTONE KELLY MOUNTAINMAN TRIATHLON

BILLINGS, MT

Join us in Billings, Montana for the 2nd Annual Yellowstone Kelly MountainMan Triathlon. This event is the first and only USAT sanctioned triathlon in Billings. On August 27th, you can take a dip in Lake Elmo State Park, ride a bike through the hills going out of the Heights, and run around the lake! After you finish your respective race, you can enjoy a local brew provided by Thirsty Street Brewing. This will be an event you don't want to miss!

ykmountainmantri.com

AUGUST 27, 2017

U.S. OCR CHAMPIONSHIPS

MOUNTAIN HOME, TX

Adventurey LLC, organizers of the independent Obstacle Course Racing World Championships, announced today the launch of the first United States Obstacle Course Racing Championships (USOCRC) to be held on Labor Day weekend, September 2 & 3, at Y.O. Ranch Headquarters, in Mountain Home, Texas.

<u>usocrchamps.com/united-states-obstacle-course-racing-championships-announced</u>

SEPTEMBER 2, 2017

SHENANDOAH MOUNTAIN 100 BACKCOUNTRY MTB RACE

STOKESVILLE, VA

Sunday, September 3rd, 2017–19th Annual Shenandoah MTN 100.

mtntouring.com

SEPTEMBER 3, 2017

SUPERIOR FALLS TRAIL RACES (ULTRAS)

LUTSEN. MN

The Afton Trail Run 50km, is one of the most challenging and beautiful trail races anywhere.

aftontrailrun.com

SEPTEMBER 8, 2017

INCREDOUBLEMAN TRAITHLON

SACKETS HARBOR, NY

Two days of triathlons / aquabikes with the only back to back half distance races in the world! Be a part of history in taking on this challenge.

incredoubleman.com

SEPTEMBER 9, 2017

AMTRAK CENTURY (ROAD CYCLE)

IRVINE, CA

Come out and join your fellow cyclists in the most scenic biking event down the S. California Coast! This is 100 miles of road riding from Irvine to San Diego over flat to rolling terrain with approximately 3200' of elevation gain. You can also celebrate with your friends on the infamous Amtrak train ride back to Irvine.

ocwheelmen.org/page/show/424134-about-the-ride-fag

SEPTEMBER 9, 2017

MIGHTY MISSISSINEWA TRI

PERU. IN

Swim 500 yards in Mississinewa Reservoir. The swim will begin and finish at the beach. Bike 16.6 miles on roads around Mississinewa Reservoir. Run 3.75 miles on the Old Frances Slocum Trail Road and Moswa hiking trail. mightymississinewatriathlon.itsyourrace.com/ event.aspx?id=5823

SEPTEMBER 9, 2017

TEAM FOSTER 100 (ROAD CYCLE)

PHILADELPHIA. PA

Our marquee event each year is the 100-mile bike ride from Philly to Cape May, the Foster 100. Through this effort we honor Captain Erick Foster, our foundation's namesake and inspiration. Mount up!

teamfoster.org

SEPTEMBER 16, 2017

VIRGINIA CITY 100M ONE-DAY RIDE (EQUESTRIAN)

CARSON CITY, NV

October 5th, 1968 marked the inaugural Virginia City 100 ride, known at its onset as the Nevada All-State Trail Ride, 100 Mile - One Day. Cliff Lewis and Dean Hubbard approached Nick Mansfield who hosted the start and finish of the Ride at his 102 Ranch in Sparks, NV. They wanted to make sure that the trail included all the great features of the area.

nastr.org/VC100-50th.htm

SEPTEMBER 16, 2017

LENAWEE BIKE TOUR, FONDO & MTR

THOMPSONVILLE, MI

Our event features a two-day combined program with on road & MTB chip timed routes with great food & spirits community camaraderie.

rotarylenaweebiketour.com

SEPTEMBER 16-17, 2017

DEVIL'S CHALLENGE TRIATHLON

BARABOO, WI

The Devil's Challenge Triathlon closes out the 2017 WI Tri Series! This scenic sprint tri in mid September is the perfect way to finish up your racing season. After a 1/4-mile swim in Devil's Lake, challenge yourself with a hilly 15-mile bike ride through the Baraboo bluffs and a 5K run through the roads of Devil's Lake State Park.

devilschallengetri.com

SEPTEMBER 17, 2017

continued from previous page

REVIVAL AT THREE PEAKS (MTB)

CEDAR CITY, UT

A new mountain bike race and festival are coming to Cedar City. The Revival is about to happen. Join us among the trails of the Three Peaks Recreational Area for three days of riding, racing and reveling on bikes in the Southwestern Utah desert, a place some call God's country. Sermons will begin Friday evening and will adjourn Sunday afternoon.

ridesouthernutah.com

SEPTEMBER 23, 2017

TWO MOON 24HR (MTB)

GLENDO, WY

24 hour racing is coming to Glendo in 2017! Join the Laramie Racing crew (LMBS, Gowdy Grinder) for Wyoming's only 24 hour mountain bike race. Get a group of your most adventurous friends together for a relay team, and come enjoy some challenging trails.

twomoon24.com

SEPTEMBER 23, 2017

DIRT DIGGLER (GRAVEL GRINDER)

HENDERSONVILLE, NC

The 3rd Annual Dirt Diggler Gravel Grinder is this fall! Starting and finishing at the REEB Ranch, this course will feature a backcountry/ gravel road tour through Transylvania and Henderson counties. A great 50/50 blend of paved and gravel roads through DuPont State Forest and gated private property, and ending on 2 miles of single track. Riders are supported with our well-marked course, chip timing, fully supported rest stops with medical assistance available, and SAG wagons. blueridgeadventures.net/dirt-diggler/race-2

SEPTEMBER 23, 2017

TAR HEEL YOUTH TRIATHLON

CARY, NC

Our mission is to promote youth fitness and fun through multisport activities. Our vision is to increase the number of youth involved in multisport in the State of North Carolina.

kidstrinc.org

SEPTEMBER 24, 2017

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MISSION VIEJO, CA

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SEPTEMBER 24. 2017

YO MOMMA'S OLD SCHOOL TRAIL RUN (ULTRA)

CIRCLEVILLE. OH

Yo Mommas Old School will be using our first ever trail course in a 4-mile loop that's beautiful and has everything you



YRVA24 & RVA6 (MTB)

MAIDENS, VA

The RVA24 and RVA6 endurance mountain bike relay races were born from the "18 Hour Scouts Honor" race founded by Cycles Ed in 2003. In 2009, a passionate endurance mountain bike race team known as "Richmond ASR" took over the reins!

rva24hourrace.com

OCTOBER 7-8, 2017

could want packed into it. Course is 97% trail and a handful or creek crossings, some rolling hills and a few short but steep climbs. The trails are wellgroomed. Bring your family and friends, pop-up tents and enjoy lake!

50sforyomomma.com/yo-mommas-old-school

SEPTEMBER 24, 2017

MICHIGAN GRAVEL RACES (GRAVEL GRINDER)

GRAND RAPIDS, MI

Eight uniquely different gravel centric events. Both male and female racers may choose to challenge themselves in the short or long course category. Racers registered for the series will accumulate points at events throughout the season.

michigangravelraceseries.com

OCTOBER 8, 2017

CASCO BAY ISLANDS SWIMRUN (OWS/RUN - MORE THAN A TRIATHLON)

PORTLAND, ME

Inspired by the island to island swimrun race series OTILLO. originating in Sweden in 2006, two multisport veterans are pleased to again present the only OTILLO-style swim/ run event in North America. SwimRun will test competitors with runs across varied island terrain and miles of open water swimming. This year, take part in the Long Course event: 5 miles of open water swimming and nearly 15 miles of overland routing over ten islands. Simultaneously, a Short Course event will consist of approximately 2.25 miles of swimming and 6.5 miles of overland racing over four islands.

usa-swimrun.com

OCTOBER 13. 2017

CRIMSON CANYONS CRUSH ADENTURE RUN (ULTRA)

RICHFIELD. UT

This run links together several canyons and remote ATV trails into a grand adventure run. Run up a slot-like red rock canyon, trek atop a packed natural clay fin under colorful hills, power up and scream down remote ATV trails along a ridgeline, and follow a stream carved canyon back to town. There will be a half-marathon distance, a marathon distance, and an ultramarathon of 70km (43 mile).

crimsoncanyons.com

OCTOBER 14, 2017

FERAL HOG (ULTRA)

BATAVIA, OH

The Feral Hog 50k is a one loop course traversing the backpack and perimeter trails of East Fork State Park. The majority of this course is on trails that were first blazed by a man training to traverse the world on foot, Steve Newman, aka the World Walker.

feraladventures.com/feral-hog-50k

OCTOBER 17, 2017

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Karl Kruger first ever to finish R2AK via stand up paddle board BY JEFF TROUPE

Traveling by water is a way of life for Orcas Island residents. This is not a Swiss Family Robinson type of island by any means, as there are roughly 5,000 residents on the pine-covered island, 65 miles north of Seattle. But getting there requires boarding a ferry or your own private watercraft.

Karl Kruger, his wife Jess, and their daughter Dagny greatly enjoy life on Orcas Island, and exemplify self-reliant islanders. They have called it home for ten years now, and operate their own charter sailboat business, Kruger Escapes.

Karl has been paddling since a very young age and discovered stand up paddleboard (SUP) six years ago. "I absolutely love paddling in the San Juan Islands. There are so many microclimates and small rocks and inlets. There is so much to see. I believe this is SUP heaven here on the Salish Sea."

In 2015, a nearby boat race piqued Karl's interest— the inaugural Race to Alaska (R2AK), extending roughly 750 miles from Port Townsend, WA to Ketchikan, AK. The race has very few rules but two are very important: motorized boats are prohibited, and teams cannot have a support crew. The focus is on the spirit of self-reliance. A humorous prize structure awards

\$10,000 to the winning team, while the runner-up receives "a pretty good" set of steak knives.

Karl decided to participate in the 2016 race, not with a sailboat like you may expect, but by way of SUP. Unfortunately, Karl's SUP was badly damaged by rough conditions. He was forced to withdraw, spoiling his attempt to become the first ever SUP racer to complete the course.

This early June, however, with a beefed-up new 19-foot board and another year of hard training behind him, Karl again set out to achieve his daunting goal. He circumnavigated the San Juan Islands (36-42 miles) several times in all weather conditions in the months leading up to the race. He also paddled with a friend during the winter, and intentionally chose days with big winds and swells, common in the San Juans.

The R2AK consists of two legs. The first leg is a 40-mile untimed trek from Port Townsend, across the formidable Strait of Juan de Fuca, to Victoria Canada. This section is a proving ground to weed out those who are not prepared for the full journey. The second leg is where the race really begins and takes competitors north as they navigate numerous, channels, straits, coastal inlets, and lastly Alaska's inside

passage on the route north to Ketchikan.

The winning team, a small sailboat crew, finished the race in just over four days. Karl, the only member of team Heart of Gold, finished in the middle of the pack in 14 days, 6 hours, and 17 minutes, achieving his goal of becoming the first ever SUP finisher in the R2AK. He was met in Ketchikan at the finisher's dock by a group of spectators, most importantly were his wife and daughter, where he rang the finishers bell just over two weeks after leaving Victoria.

Karl's rigorous physical and mental training schedule, knowledge of the region's waters, and self-reliant nature were key to his ability to endure unpredictable waters for that long duration. Nutrition was key.

Hammer Nutrition products were the sole source of calories that I carried. I would drink coffee, eat a Hammer Gel, and would use **Perpetuem Solids** and **Hammer Gel** all day. After my shift I would use four scoops of Recoverite and 3 of Whey Protein, and one scoop of Fully Charged and four bars. That's it. For two weeks I paddled 766 miles in 15 days and only lost about 15 pounds.

Karl said there were many memorable moments from the race. "I paddled along with a humpback whale for several miles in Johnstone Strait which was amazing. There was also a point where I was 20 miles from land in any direction. The silence was incredible." There were some less tranquil moments that stood out as well. He said,

"While rounding Cape Caution, there was a 2-3 meter swell running. It was so ALIVE!"

With his amazing journey behind him, and time to reflect on his accomplishment, Karl has also thought about future goals. He would like to sail the 2018 R2AK instead of SUP. He also wants to purchase a

powerboat for his charter business to take customers to the choice downwinding spots. "I would love to start an annual event here in the Sound. We have some rowdy good stretches of water here for downwind runs and I would love to create an event for that specifically."

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Reduce sodium intake: lose less sodium during exercise

BY ENDURANCE NEWS STAFF

Hammer Nutrition has taken an aggressive stance on the importance of reducing sodium in the daily diet for years, long before the American Heart Association issued the press release, "American Heart Association supports lower sodium limits for most Americans." In a nutshell, the AHA "recommended that most people strive to lower the amount of sodium consumed daily to less than 1,500 mg, to prevent or manage high blood pressure, a major but modifiable risk factor for heart attack and stroke." The same recommendation still stands today as a general guideline for sodium consumption.

The question we continue to hear far too frequently from athletes is: Does this recommendation apply to athletes or is it limited to sedentary people? And does a lowsodium diet help or inhibit athletic performance?

Dr. Bill Misner comments: "It is our observation over the years that athletes who consume above 3 grams (3,000 mg) of sodium per day tend to require more sodium during an event than those athletes whose sodium intake is 2 grams (2,000 mg) or less per day."

Furthermore, athletes with a high Body Mass Index (BMI). high body fat percentage, whose acclimatization training is inadequate, or whose fitness is inadequate for pace imposed, all have an increased the risk of sodium depletion state in hyperthermic (hot weather) conditions. I agree that fluid overload and sodium underdose in hyperthermic conditions is a medical emergency. However, preevent sodium intake in anticipation of a sodium-depletion event must be carefully orchestrated. I do not recommend hyper-dosage of sodium-rich substances during sedentary times to resolve exerciseinduced sodium depletion. Sodium depletion can be anticipated by modest prerace supplementation of Race Day Boost or, just prior to the event, Endurolytes or Endurolytes Fizz.

Prolonged dietary sodium overdose compromises health and, in our observation, performance in those athletes so inclined. I have no record of any athlete whose diet consumed during the days before an endurance event was too low in daily intake of sodium. I do have evidence from many athletes whose dietary practice of excess sodium intake was problematic, compromising performance due to the sudden change that sodium loss presented.

Dr. Misner's comments reflect the

same philosophy we have been promoting at Hammer Nutrition for many years. Lowering the sodium intake in your diet will positively affect your athletic performance as well as your overall health. As we have mentioned over and over, the body is very adept at storing sufficient amounts of sodium so you will start your workouts and races with plenty of sodium "on board". The difference is that, unlike people who consume a high-sodium diet, an athlete who adopts a low-sodium diet will not lose sodium at the same high rates; they will utilize those stores more efficiently and conserve them more thoroughly.

In the words of Dr. Misner, "Evidence supports limiting sodium intake during rest and exercise. The harmful effect of chronic sodium overdose-above the body's daily need-is a real and present danger, compromising optimal health. Chemical messengers and hormones help the body to spare serum sodium loss."

Hammer Nutrition has always advocated a low-sodium diet and moderate sodium intake during exercise. Many articles in previous issues of Endurance News, as well as those on our website, clearly and convincingly make the case for a low-sodium diet. For more information on how sodium can affect your race-day performance and overall health, check out the Knowledge section at hammernutrition.com



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Hammer sponsored athlete Mindy Przeor testing her skills on coastal rocks. Read more about Mindy on page 34. Photo: Courtesy Mindy Przeor









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YOURSELF

know your Hammer facts!



- A good goal is to consume less than mg of sodium daily.
- Replenish with a full spectrum of electrolytes, with no more than ____ to ___ mg of salt (sodium chloride) an hour.



3 Complex carbohydrates like _____ raise blood insulin more effectively than simple sugars and will not result in blood sugar crash.



Fuel

- According to Hammer Nutrition, _____ is best!
- During exercise longer than two hours, consume ____ to ____ calories per hour.



- During exercise, a good gauge for hourly fluid intake is to fluid ounces per hour.
- Maintain daily fluid intake of _____ ounces of water per pound of body weight.



S For maximum glycogen replenishment, consume to grams of complex carbohydrates as soon as possible after exercise.

How did you score?:

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9 30-20 **9** 30-20

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8 correct: **Sponsored Athlete** 6 & up: **Brand Ambassador**

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6.0

120 10 180

3 maltodextrin

1300

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Hammer Sponsored Athlete Steven Terry met his match at TommyKnocker 10 with what turned out to be a brutal course with much storm damage and six river crossings full of ice cold water per lap. Hydrating Energy Electrolyte Drink HEED

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Photo: Light Benders Visuals

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My Hammer Time on Madeira Island Ultra-Trail 2017

BY MALTE ECKERT

Before the race:

It is late at night and all the runners just got on the bus to Porto Moniz, where we will run 115K across Madeira Island (1,067 K SW of Portugal) during the next day. I just finish my last drink of Fully Charged and set up my equipment. We are now at the starting line and counting the minutes and I get a Hammer Gel ready.

on! We are on our way to the first climb of the day. I am armed with a multi-hour bottle of Perpetuem, which helps me out for the next eight hours. The climb feels endless and I nearly run out of water. This is my first challenge of the race, just two hours in. I need a small break. Luckily Timo Vogel, my running mate, finishes the first peak with me and we fuel up at the first aid station of the race.

02:30 We are running through the night. We've been running for 2.5 hours. I lost my bottle of Hammer Espresso Gel. What a pity.

Endurolytes Extreme in The night passes by, and the Perpetuem mix. We with the first sunlight we close will be high up in the in on the marathon mark. More mountains, and I know climbing, stairs, and steps ahead. that there will be a lot of sun and no shade at The Madeira Island Ultra all, which is tough. trail is very tough and technical. Timo and **14:30** As I run from food we arrive on station to food Pico Ruivo, we station, picking load up with up speed. I am using Anti-Fatigue Caps every hour and my Malte Eckert on a steep climb at the MIUT. legs feel great Photo: CanoFotoSports Fotografía Profesional Deportiva throughout the

12:00 (noon) As we reach kilometer 59, we have a drop bag and a longer break to fuel up. Then we ready ourselves for the next long and hard climb of the race. I leave out the Perpetuem in the last hour to get some solid food here, drink a Fully Charged and mix my next multi-hour bottle of Perpetuem. I always have Endurance Aminos and

whole race.

more water and get ready for the last hard climb of the race to Pico Areeiro. Nine kilometers to go and we will reach the highest point of the race (1,818 m.)

16:10 We make it to Picio Areeiro! After this point, there will be only one "small" climb, and then we will start to descend and hit the long and hard downhill track to Machico.



17:15 After the first few kilometers on the downhill, we reduce the pace and start power walking.

19:15 Luckily, Timo lets me run ahead and finish the last 25 kilometers of the race, as I felt very good at this point.

From here, I begin to enjoy the MIUT race very much. I head downhill to the next aid station, fill up my water bottle, set up my headlamp for the sunset, and reach the most beautiful part of the race: the coastline. Leaving the aid station, I feel awesome and start running a 5:20 to 5:30 pace. Just 19 kilometers to go, on a nice "wave." No big climbs. I keep the pace up and overtake a lot of runners here, and have a bit of Perpetuem every 20 to 30 minutes to keep my energy levels consistent. I keep passing a lot of runners and the next aid station is coming up. Now it's a bit

tricky as the night comes in, and I really have to focus on the track and my steps. I am still fast, and it still feels amazing. Unbelievable! After leaving the coastline. I reach the last technical passage after I will hit Madeira's well-known Levadas. They are concrete, so running fast is now more possible than ever. I know there is one more aid station ahead where I will get my last water refill. Another runner has picked up their pace and is following closely. After we reach a last small downhill, the track gets slippery and we both fall. I manage to fall soft and get up quick. The other runner slows his pace and I am alone again in the last kilometer. I can see the city and hear the people on the finish line. I keep it fast until I reach the last 200 meters, and then slow down to enjoy this amazing walk. The city is alive and welcomes every runner warmly.

23:16 I

I hit the finish line at the

MIUT 2017! A race I will never, ever forget.

After the race:

I immediately drink a self-made Recoverite with 1 full scoop of HEED and 1/2 scoop of Hammer Nutrition Vegan Protein, and take 4 Endurance Amino caps. The next morning I drink another full scoop of Vegan Protein and take 2 Endurance Amino caps. I can't believe that after three days my legs feel good again so I go on a small 10K recovery run.



Malte and Timo celebrate a long climb at the MIUT. Photo: CanoFotoSports Fotografía Profesional Deportiva

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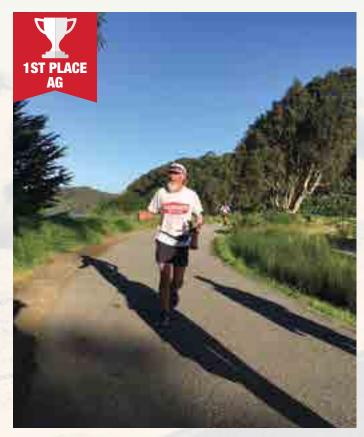
of their first order credited to your account (FREE Hammer stuff)!



For complete details visit bit.ly/hammerlove

FROM **OUR ATHLETES**

For the last thirty years, our athletes have been the heart and soul of Hammer Nutrition. Our mission to bring a unique line of effective and healthy endurance fuels and supplements to the market was founded on the desire to empower athletes and help them reach peak performance. Our "From Our Athletes" section features submissions from athletes at every level, ranging from elite pros who have been competing for decades to beginners completing their very first race. This is just a small cross section of the thousands of Hammer athletes around the world who are establishing Hammer's reputation for having safe, natural, and performance-proven results. Congratulations to everyone here on their accomplishments. We look forward to hearing from everyone else as they hammer strong in 2017. Best wishes to all!

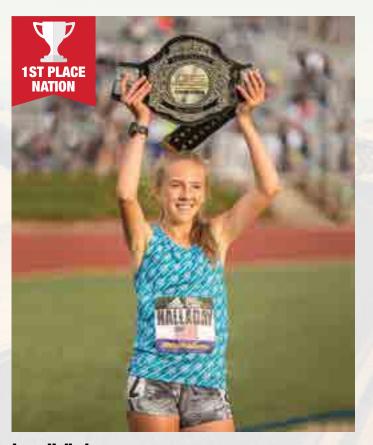


Breese White

Ruth Anderson Memorial Ultras

"I ran the Ruth Anderson Memorial Ultras 50k sponsored by Hammer Nutrition. What a privilege it was to run this event with my Hammer colors flying. My fueling plan included Perpeteum, Endurolytes Extreme, Anti-fatigue Caps, and Hammer Gels for a change of pace. 1st place AG. Energy was great throughout!"

Photo: Steve Jaber



Lexy Halladay

Adidas Dream Mile Boost Boston Games

Lexy Halladay was only 1 out of 11 to be invited to the Adidas Dream Mile Boost Boston Games. She won the race beating some of the top runners in the Nation. Her time of 4:41.80 also broke the Freshman state record set by Mary Decker Slaney that held for 44 years. Lexy uses Hammer Whey Protein before bed every night as a quality source of rebuilding and recovery. She also depends on Recoverite after hard races and workouts.

Photo: Adidas Boost Boston Games



Evan Perperis

Conquer The Gauntlet Atlanta

"First Conquer The Gauntlet of 2017 and I must say I forgot how challenging they are. Heart rate was maxed out all the way through. The 2nd to last obstacle was a quarter pipe. That was at the end of a short but very hard race."

Photo: Amy Perperis



Travis McWhorter

Cedro Peak 50K

"I placed 3rd overall and set a new PR by 26 minutes in the 50K! I attribute half my success to my nutrition game plan. I used Race Caps Supreme, Anti-Fatigue Caps, and Endurance Aminos pre-race. I continued to take them every hour and also ate Montana Huckleberry and Apple Cinnamon Gels every thirty minutes."

Photo: Sarah Winfrey Jackson



Joel Kinnunen

Ironman 70.3 Chattanooga

Hammer Sponsored Athlete, Joel Kinnunen, finished third out of 250 athletes at the Ironman 70.3 Chattanooga in May. His recipe for success? Consistent training, a well executed taper, and a perfected nutrition strategy. "Before the race, I loaded with Race Day Boost for four days. On race day, I ate breakfast three hours prior to the race, took one serving of Fully Charged 30 minutes prior and a Hammer Gel 10 minutes prior to start. I used Sustained Energy, HEED, Hammer Gel and Endurolytes Extreme on the bike, and Hammer Gel and Endurolytes Extreme during the run, drinking only water at the aid stations." The results speak for themselves. Joel says, "I came off the bike feeling strong with no signs of fatigue or cramping. I had a great run, with the fastest run split in my age group [50-54] by over two minutes."

Photo: Stephanie Kinnunen



Carol Newman Cronin and Kim Couranz

US Womens Snipe Nationals

Carol Newman Cronin and Kim Couranz proudly display their US Women's Snipe Nationals 2017 trophy. Carol has been a Hammer Nutrition sponsored athlete since 2014 and customer since 2000.

Photo: Courtesy Carol Newman Cronin



Keith Rieger

Kona Five Ultra-Triathlon

"I recently completed the Kona Five Ultra-Triathlon... 5 Iron Distance Triathlons (on the Kona Ironman World Championship Course)... in 5 Days (120 Hour Cut Off)... all Self Supported (No Crew for 120 Hours)."

Photo: Courtesy Keith Rieger



Erica Lazarus

Singer Island Sprint Triathlon.

Erica placed first overall female at the Singer Island Sprint Triathlon. She had fun racing with her training partner and friend, Alicia Schultz, who is also a Hammer Sponsored Athlete. Alicia placed 1st overall female masters and represented us well at the Hammer sponsored triathlon.

Photo Courtesy Erica Lazarus (right) with Alicia Schultz



Nick Modrzejewski

Saint Louis Triathlon

"My first race of 2017 went incredibly smooth. Hammer Fully Charged prepared my body for the threshold efforts of Olympic distance racing while Gels and HEED fueled me through the race. It was a great day to race with ideal conditions. Fueling, weather, and training brought about PRs in all 3 disciplines and the overall win for the day."

Photo: Amy Modrzejewski



Mike Driver

The Original Growler

"The Gunnison Growler Mountain Bike Race is the Books! The 2017 version kept up its tough reputation. 103 K length, and 8,000 feet of climbing. Great Nutrition is essential for the energy demands of a 6 hour MTB Race. 6 bottles of HEED, 2 Hammer Gel flasks, 2 Perpetuem flasks, and 6 Endurance Amino's helped me to a 2nd Place finish. Thanks Hammer!!"

Photo: Kristy Driver



Chris Geck Mountain-to-Sea 50K Photo: Chris Geck



Lincoln Murdoch Hickory Grove Duathlon Photo: Courtesy Lincoln Murdoch



Bruce Dale2017 Swamp Stomp 5K Mud and OCR
Photo: Jill Dale



Jason Poole Jemez Mountain 50-Mile Trail Run Photo: Patti Poole



Brian ZahmFast n Furious Duathlon/ SMW
Championship
Photo: Angela Zahm



Michael Gordon Onionman Olympic Triathlon Photo: James Richman

RACE RECIPE JASON LAFAVE MIDLAND DOW RUN

HALF MARATHON



Jason LaFave smiles after successfully defending his Half Marathon masters title with a time of 1:19. Photo: Midland Daily News

Daily Regiment: 1 Xobaline 2 Endurance Amino, Essential Mg 4 Tissue Rejuvenator, Anti Fatigue

90 Mins prior: 1 Serving of Orange

Vanilla Perpetuem

30 Mins prior: 1 Huckleberry Gel,

1 Endurolyte Extreme

50 Mins During: 1 Huckleberry Gel **After:** 1 Serving of Orange Vanilla

Recoverite

RESULTS

"This race was to test how I was feeling leading into an A race for me the following week. My plan was to execute 6:05-6:10 miles the whole way and hit a 1:20 finish time. I ran the first 1.5 miles with my good friend Matt Frazier. After he eased off, I ran very even and felt like I nailed the nutritional piece for my race. I finished 2nd overall for the race, with the 4th fastest time ever for the event."



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