

# ENDURANCE

## NEWS

BY HAMMER NUTRITION  
#122 November/December 2020  
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### *IN THIS ISSUE...*

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#### **Take Fewer Sick Days!**

New Research shows multivitamins reduced sick days by 60%

#### **A Year for New Products**

Cherry Bomb HEED, dog treats, and more

#### *PLUS...*

- **Biking from Cairo to Cape Town**
- **Changes to How Orders Work**





## TEN DOLLAR DOWNHILL

A rider rounds the corner during Whitefish Mountain Resort's (WMR) 10 Dollar Downhill series in August. WMR—home to award-winning skiing and mountain biking—sits above Whitefish and Hammer HQ. Whitefish is the perfect home for Hammer. It's full of hard-charging people who prefer an evening in the mountains to one indoors. Whether it's cycling, skiing, running, snowboarding, mountain biking, rock climbing, or any of the many other sports in Whitefish, you'll find that Hammer is never far from reach.







## Welcome to the 122<sup>nd</sup> issue of Endurance News!



As I pondered this last issue of *Endurance News* for 2020, I was reminded of the Grateful Dead song “Truckin” and its lyrics: “What a long strange trip it’s been.” This year, we focused heavily on improving our products and processes so we can continue providing you the best products to support and encourage your optimal immune function, overall health, AND athletic performance, as we have been doing without interruption since 1987. This issue is full of all of that, plus great feedback and stories from you.

We spend a lot of time talking about diet because that is what matters most. The products we offer cannot make up for a poor-quality diet, nor should they. Diet is a tricky subject and one that we have addressed from many different perspectives over the years. This issue continues the discussion of high-fat diets, with Dr. French and Steve Born weighing in. Our discussions are not meant to endorse any particular named diet. My hope is that your big takeaway will be to reduce sugar and sugar-like grains from your diet and replace them with healthy proteins and fats from animal or plant sources of your choosing.

I personally support any diet (plant, animal, or combo) that restricts or eliminates refined sugars and natural sugars as well. Conversely, any diet that allows free consumption of sugar or does not treat it as the heinous, evil substance that it truly is, is a bad diet. Sugar is the devil!

Which brings us to the next topic, the “balanced diet” myth. New research has exposed, once again that diet alone is not enough to avoid or minimize sickness—and this time people are listening. that diet alone is not enough to avoid or minimize sickness. If you have heard anyone say, “Vitamin supplements are a waste of money. Just eat a balanced diet and you’ll be fine,” they don’t know what they are talking about and are actually doing you a grave disservice by making verifiably false statements. On page 24, you will find the latest research demonstrating that taking a multivitamin, in addition to eating as balanced a diet as you can reduces sick days by 60%! That is not a small number or one that can easily be explained away. The point is simple, you NEED to be taking a high-quality multivitamin supplement daily. You don’t have to take Hammer’s, but you do have to take one if you are concerned about optimal health and immune function.

I know that many of you think we already have too many products, but we went ahead and developed some more anyway, and more are on the way next year. Our first non-human product is here and our pet-owner clients are loving the **Doggie Daily Essentials**. It is so much more than a CBD dog treat; read all about them on page 26. We have also added a new flavor of **HEED**® with caffeine in it. I named it “Cherry Bomb” so there would be no confusion! For those of you who like caffeine during exercise, this will give you another option in addition to our Espresso and Tropical flavored **Hammer Gel**®, Cola **Endurolytes**® Fizz, and Caffè Latte **Perpetuem**®.

Wishing you and yours a healthy and happy Thanksgiving and New Year! Enjoy the read, pass it on!

*Brian Frank*

Brian

**ON THE COVER:** John Benham IV hammers through the rain at the Land Between the Lakes 60K. John ran through the rain for 7:32:08. Before the race, he used Fully Charged, Anti-Fatigue Caps, Endurance BCAA+, Endurolytes®, Race Caps Supreme, Premium Insurance Caps, and Digest Caps. During the race, he used Lemon-Lime Fizz, Chocolate Hammer Gel®, Anti-Fatigue Caps, Endurance BCAA+, Endurolytes, and Perpetuem®. He topped it all off with a tall glass of Recoverite® at the finish line. Photo: Craig Gentry

## ENDURANCE NEWS

*The informed athlete's advantage since 1993*

AN EXCLUSIVE PUBLICATION OF:



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### MISSION

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

### OUR GUIDING PRINCIPLES

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

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

**Principles Before Profits:** Profits never take priority over our values. If it says “Hammer Nutrition,” it’s good for you.

### OUR CORE VALUES

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

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

Read our complete mission statement online at [hammernutrition.com/company/mission-statement](http://hammernutrition.com/company/mission-statement)



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## In this issue, take a deep dive into year-round diet and nutrition.

Read more on pages 12, 14, 26, 46, and 52

Dan stands guard over the Hammer aid station while he waits for his owner, Steph Russell, to finish the bike leg of the first annual Great Northern Whitewater Triathlon in West Glacier, MT. The event started with a 3.6-mile whitewater swim through Class III rapids along the border of Glacier National Park. Hammer was the exclusive fueling and hydration partner; supporting the participants with Hammer Gel®, HEED®, Endurolytes®, and Recoverite®.

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26

For the first time in 33 years, we created a product for our four-legged friends. These treats are built with the same level of excellence you expect from Hammer. In fact, calling them treats is a disservice because they are so much more than anything you can find for your dog on the shelves of your local pet shop.



50

**33 YEARS OF HAMMER NUTRITION MEMORIES**  
**Mike Sigety** navigates a waterfall during the MO Enduro Series in 2006. Look back at decades of memories from E-Caps and Hammer on **page 50**.



# JIMMY DAY A Masters-Level Hammer Story



Jimmy Day on a morning training ride in August 2020. Photo: Jennifer Day

Dear Brian,

You guys like a good Hammer Nutrition story. Here's mine!

I am 65 years old and have used your products almost exclusively for the last several years. To name a few specifically, I'll point out **Race Day Boost**, **Recoverite**®, and **HEED**®.

I have been a masters level bike racer since I was 45 years old. Five years ago, in 2015, I knew something was wrong. I was falling off the back and failing to complete races. That had never happened before.

A doctor friend badgered me into getting a stress test. Yep, there was a 90%-95% blockage in four arteries, which meant an open chest emergency quadruple bypass surgery for me. Then a long, slow, and painful recovery followed.

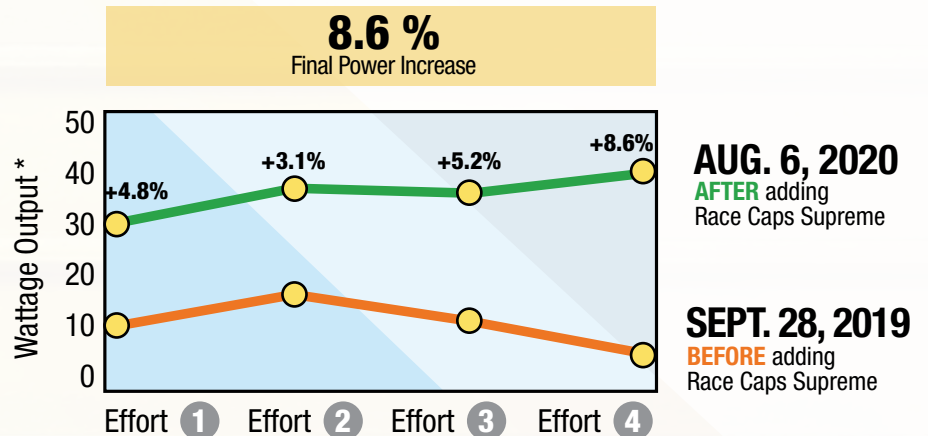
But I wanted to continue to be a bike racer. There was nothing (nothing!) on the internet about how to come back to fitness. So my coach and I had to make it up. It has been

quite a process, and I get a little stronger each year. Last summer at USA Cycling Mountain Bike National Championships in Winter Park, CO, I did it! I did something that I had never accomplished in the years before my surgery. I climbed up on the podium in a very talented and fit field.

Hammer Nutrition has been vital for me along the way. I recently began using **Race Caps Supreme** and am amazed by the results! My wattage output has climbed 5.6% after only 30 days of taking them. Here's the proof:

The workout I use for training is four 4-minute efforts with strict 3-minute recoveries in between. The short recovery time is what makes this workout tough. It is designed for system fail by the fourth interval. I went back through the Garmin archives to find two identical workouts.

**Workout #1** was before Race Caps Supreme on September 28, 2019. The temperature was 70°F.



\*This graph is an accurate to-scale representation of Jimmy's numbers. Jimmy asked that we use percentages to show his increases in order to keep his workout numbers private.



**“Same hill. Same bike. Same power meter. The power meter doesn’t lie.”**



# HOW TO HAMMER

## ESSENTIAL KNOWLEDGE

I was two months off a podium finish at USAC Mountain Bike Nationals in Winter Park, CO, at that time.

**Workout #2** was after 30 days of taking Race Caps Supreme on August 6, 2020. The temperature was 91°F.

The big story here is not just the 5.6%-watt average power gain. Compare effort #4 on the two workouts and notice the drastic increase during workout #2. Late efforts are where races are usually won!

I have used Race Day Boost with much success for many years as part of my preparation for big races. I never knew about Race Caps Supreme until they were recommended to me about a month ago. Same hill. Same bike. Same power meter. The power meter doesn't lie.

**Jimmy Day**



**SEND US YOUR LETTERS!**  
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**SHARE YOUR REVIEWS ON FACEBOOK!**  
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# #howihammer



josuebarron35



**Veteran Marine Cpl. Josue Barron** The most challenging day of my cycling career, 80 miles with an average speed of almost 20MPH. We are building strength with every ride!



lisa\_marie42



**Lisa Wawrzynowski** The reviews are in... @scooby\_the\_gsd pawsitively approves of Doggie Daily Essentials! This is a new product aimed to keep our furriends just as healthy as we are!



paul.monaco.12



**Paul Monaco** If it doesn't challenge you, it won't change you...



mindyprzeor



**Mindy Przeor** Diggin our new pantry setup!



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

RACE RECIPE

# JEN RESCHKE

Findley Lake Triathlon Festival



*"I raced today. Twice. A "local" triathlon where I raced a sprint tri (my first ever!) at 7AM then an Olympic at 9AM. I tell my friends I don't miss racing, because not racing has allowed me to do so much more this year...but...I do miss racing. I miss that fire of competition. But today I got to race, with LOTS of my friends which made it even more fantastic. A big thanks to Hammer Nutrition for the race entry and keeping me well fueled."* Photo: Mike Frame

## FUELING RECIPE

### PRE-RACE

**Espresso Hammer Gel®**  
**Endurance BCAA+**

### DURING

24 oz BOTTLE MIX:  
1 scoop **HEED®**  
1 serving **Tropical Hammer Gel**  
½ scoop **Endurolyses® Extreme Powder**

### RECOVERY

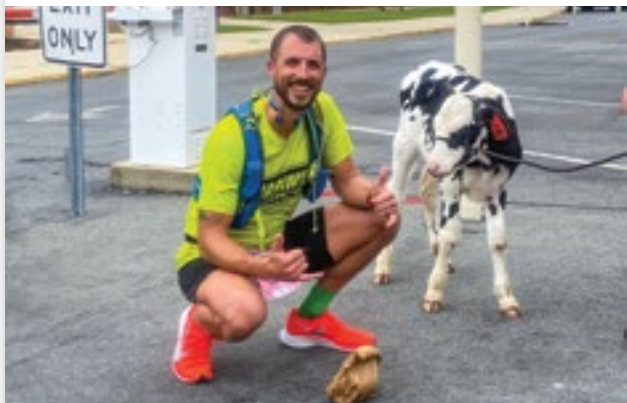
**Strawberry Recoverite®**

## RESULTS

Sprint: **1<sup>st</sup> place Female**  
**2<sup>nd</sup> place OA**  
Olympic: **1<sup>st</sup> place Female**  
**4<sup>th</sup> place OA**



fancypedals



**Zach Adams** So a real live race happened today! The Cow Town 10 miler. First and last race of the season. And while not the PR I was hoping for, it was still probably my best effort at this distance. Plus, I snagged first place in the old guy division on a very muggy and sticky day.



caitielewis



**Caitlin Lewis** Every one of us is unique with our nutritional needs, and I personally love and use Hammer supplements every day. But we are all different so we need to find what works for us. The colors are just a huge fabulous bonus.



# CAIRO TO CAPE TOWN

When Katja Steenkamp puts her mind to something, nothing can stand in her way. And in 2012, when she started playing around with the idea of biking across Africa, she knew she was in for a long haul. Over the next four years, Katja continued to dream, plan, and slowly inch her way toward turning that dream into reality. On January 14, 2016, Katja stood in the shadows of the pyramids in Cairo, Egypt, and began pedaling to Cape Town, South Africa. Her journey would take 120 days and cover over 12,000 km.

Start	<b>Cairo</b>
End	<b>Cape Town</b>
The Journey	<b>12,076 km, 90 riding days, 28 rest days</b>
Average km per day	<b>128</b>
Nights of "rough" camping	<b>65</b>
Countries	<b>Egypt, Sudan, Ethiopia, Kenya, Tanzania, Malawi, Zambia, Botswana, Namibia, South Africa</b>
Hammer Products	<b>Perpetuem®, HEED®, Endurolytes® Fizz, Endurolytes® Extreme, Premium Insurance Caps, Recoverite®</b>



Katja sails down the road as she pedals toward Nanyuki, Kenya. Shortly after this photo, Katja stepped on a tent peg that threatened to derail her trip. After some wound care, Katja climbed on the bike and cycled the next day powered almost solely by her non-injured leg.



Katja rides her mountain bike through the deserts of Egypt towards the beginning of Tour D'Afrique.



Katja rides her new gravel grinder across the desert near Solitaire, Namibia.



Katja took part in the Tour d'Afrique (TDA), which offers this monstrous bike tour across Africa. It's a once-in-a-lifetime trip if you're up for the challenge! The trip is also timed as a race. (As if navigating across a continent isn't enough already!) You can choose whether or not you want to be timed at the beginning. If you choose to be timed, the ride consists of 60 race days and 30 casual days. Katja, of course, chose to race!



Katja with the owner of a Sudanese shop where she stopped to resupply.

Ninety days in the saddle requires serious nutrition and recovery, and that's not to even mention that this ride across Africa took place in temperatures that rose above 105°F at times. Katja powered her entire ride with Hammer Nutrition, using **Chocolate and Strawberry-Vanilla Perpetuem®**, **Strawberry HEED®**, **Endurolytes® Extreme**, **Grape Endurolytes® Fizz**, **Premium Insurance Caps**, and **Orange-Vanilla Recoverite®**. Packing was a challenge for her, "Given that I took half of Hammer Nutrition's stock with me, I was left with little space for other things. My permanent bag consisted of merely **Perpetuem**, **Recoverite**, spare parts, medical supplies, and electronic equipment."

The ride took Katja across ten countries. Her days were rarely dull. From elephants and camels to hyenas and lions, there was always wildlife to enjoy. Plus, there was no shortage of surprises along the route—water stops that mysteriously vanished, rocks thrown from onlookers, and miles upon miles of washboard roads. Katja's biggest challenge, however, began as soon as she got on her bike.

Katja started the trip on her top-of-the-line dual suspension mountain bike. She did her research and thought it was the perfect choice. However, she realized on the first day that she was the only

one on a mountain bike! Everyone else had gravel grinders. Katja quickly discovered why, as day after day, the other riders outpaced her. She stayed competitive, but slowly slipped farther behind first place. In mid-March, her hometown bike shop, Revolution Cycles, and a friend from Cape Town were able to coordinate delivery of a new bike. In Nairobi, Kenya, Katja hopped onto her new gravel grinder and started gaining ground on the leaderboard.

Finishing the TDA is challenging enough, but Katja started eyeing a new goal as the miles wore on: winning it. She rode hard each race day and was able to steadily gain ground on the competition. Injuries and sickness started eating at her fellow riders. "The largest difference between me and the other riders was that I was in better health. I didn't get sick or suffer any injuries. I took **Premium Insurance Caps** every day—it's what kept me healthy and going strong."

After countless miles of deserts, sand dunes, and the occasional oasis, Katja crossed the border into South Africa with a narrow lead. Her closest competitor was only hours behind, which meant that she had to push the entire trip. She powered through the final race day to come away with the win—the first woman to ever win the Tour d'Afrique!



The win wasn't Katja's only accomplishment. She earned the badge of riding every single inch across Africa. Very few riders earn this during TDA due to injury, sickness, or fatigue. It truly was a herculean effort—one that couldn't have been done without Hammer fuels and **Premium Insurance Caps**. **EN**



Katja celebrates after winning the TDA and earning the distinction of riding the entire way without needing to catch a ride in the truck!



# Hammer's Four Pillars for Health and Wellness

Diet advice we've stood by for over 33 years

by ENDURANCE NEWS STAFF

**W**e've been helping people achieve peak performance and supreme health for over 33 years. Over those three decades, our recommendations for staying healthy and consuming a good diet have remained constant, while countless diets have come and gone. The basis of everything we do is diet, because what you eat affects everything in your life. Here are the four pillars of Hammer's dietary recommendations, which we've stood by since 1987.

## EAT LOCALLY GROWN, ORGANIC WHOLE FOODS

We readily admit that no one can fulfill nutritional needs from diet alone and that supplementation is essential. Yet, in the same breath, we're equally adamant that:

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

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

The second point is that locally grown, organic foods are picked at their peak ripeness, and have a shorter time from harvest to your consumption of them. That means higher amounts of that food's beneficial vitamin/mineral/phytonutrient content for your body. Conventionally grown food is harvested early to allow for shipment and distribution to stores, and over time its nutrient content will diminish. Additionally, most (if not all) local growers adopt organic growing practices, which produces clean pure food, free of pesticides, herbicides, or other chemicals.

## AVOID SUGAR

In his welcome letter, Brian appropriately called out sugar as “the heinous, evil substance that it truly is.” “Sugar,” he adds, “is the devil!” For as long as there has been a Hammer Nutrition, our position has always been to limit—and we mean e-x-t-r-e-m-e-l-y limit—the amount of sugar you consume. The negative health issues associated with sugar are far too many to list here, but some of the most serious ones are heart disease, type II diabetes, and several cancers. Want more? How about over 140 more! Check out the article “146 Reasons Sugar Ruins Your Health” by the highly respected nutritional scientist, Dr. Nancy Appleton, on our website.



### 146 Reasons Sugar Ruins Your Health

by Dr. Nancy Appleton

Take to heart the introduction to the article:

“When you read the following list of science-referenced, health-compromising consequences that are associated with sugar consumption, we are hopeful that it will have a profound impact on you. Remember, what you put in your body determines what you get out of it performance-wise. That's true not only when you're training and racing, but more importantly for everyday living.”





## LIMIT SODIUM

Excess sodium—via processed foods, salting your food, etc.—may not be the devil, but it’s darn close. Sodium is, of course, vital for health. However, far too many of us—9 out of 10 Americans, according to the American Heart Association (AHA)—are consuming too much.<sup>1</sup> The Daily Value for sodium for adults is 2300 mg, with the AHA recommending an even lower, 1500 mg/day amount. Unfortunately, the average intake is 3400 mg daily, an amount that’s more than double the AHA’s recommendation.

Younger people are also consuming too much.<sup>2</sup>

- The average intake for 6-10 years old is 2900 mg per day
- The average intake for 14-18 years old is 3700 mg per day

Clearly, we are all consuming too much sodium, and it not only negatively affects our athletic performance—and it negatively affects our athletic performance and has some very serious health consequences. “Sodium—The Real Villain” (pages 40-41 in *Endurance News* #121), provides the sobering facts.<sup>3</sup> One eye-opening finding from the research in that should make you take action:

*The researchers found that nearly 58,000 cardiovascular deaths each year in the United States could be attributed to daily sodium consumption greater than 2.0 grams.*

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


## SUPPLEMENT

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

One of our recent articles, “The Balanced Diet Myth and the Case for Supplementation,”<sup>4</sup> includes the following statement from Dr. Bruce Ames: “Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food. Inadequate intakes may result in chronic metabolic disruption, including mitochondrial decay.”<sup>5</sup>

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

## BOTTOM LINE

Eating a healthy diet with plenty of locally-grown, organic whole goods, very little sugar, low salt, and a robust supplement regimen will help you achieve optimum diet and nutrition. Peak performance and supreme health start here.  References available upon request

**What you eat affects everything in your life.**



# THE KETOGENIC DIET REVISITED

by STEVE BORN

Over the past couple of years, there probably has not been any diet more widely adopted or hotly debated than the ketogenic diet. In issue #114 of *Endurance News*, I wrote an article titled “Five Reasons Why We’re Anti-Ketogenic Diet.” Since that time, there have been numerous proponents of this diet, with at least an equal number of detractors. For someone (me) who relishes research findings and details, these research-based pros and cons have been most interesting.

Before I go on further, I want to first say to athletes who have been following this particular diet for athletic performance gains and have obtained noticeable improvements in their workouts and races: far be it from me to detract from those results. And if you tried other methods to improve the quality of your workouts and enjoy better race results but didn’t succeed until you adopted the ketogenic diet, then I would certainly apply the “if it ain’t broke, don’t fix it” rule.

That said, I still believe this particular diet yields the majority of its benefits in weight loss and not as many in athletic performance. You will get arguments from both sides regarding the ketogenic diet’s efficacy and safety used long term—I tend to think that it’s not the healthiest diet around when it’s adhered to too strictly and/or for too long. As I mentioned in my article in *EN #114*, “In fact, a panel of health experts recently evaluated 40 diets for several factors, including ease of adherence, nutritional value, safety, effectiveness for weight loss, and protective benefits against diabetes and heart disease. Their rankings were published in *U.S. News & World Report*, and the ketogenic diet was ranked near the very bottom in a tie for 38<sup>th</sup>.”<sup>1</sup>

Still, what I have been noticing—albeit fairly casually—is that some people are enjoying weight loss by following this diet. However, I believe that once that goal is achieved via the application of this restrictive diet, a modified ketogenic diet is in order, both for enhancing athletic performance and for overall health. While acknowledging that Dr. Bayne French and I don’t necessarily see eye-to-eye on all aspects of the ketogenic diet, we very much agree on these points:

- 1. Carbohydrate intake during exercise and immediately following is essential.**
- 2. A less-restrictive approach to the ketogenic diet (i.e., consuming more than 50 grams of carbs daily) will yield results.**

## CARBOHYDRATE INTAKE DURING/ FOLLOWING EXERCISE

I like to quote Dr. Rick Kattouf, who states, “Not only do carbohydrates provide energy for working muscles, they also assist in enabling fat metabolism. In short, carbohydrates need to be present for fat to be utilized for energy.”<sup>2</sup>

Additionally, research has shown that when carbohydrate levels are low, a substance known as pyruvate—which is formed during glucose metabolism—is unable to perform its job in the process of creating energy using oxygen (i.e., cellular respiration). When pyruvate is unable to perform its tasks—which it can only do in the presence of carbohydrates—the body’s ability to use fat as a fuel source significantly slows down or halts altogether. This same research shows that without replenishment of adequate amounts of carbohydrates, the body will cannibalize specific amino acids (BCAAs, alanine) from muscle tissues, which not only slows down metabolism, but also causes excess production of fatigue-causing ammonia.<sup>3</sup>

Dr. French and I are both on the same page regarding carbohydrate intake and timing. We need carbohydrates to fuel our bodies during exercise and to permit the vast amounts of calories from fatty acid stores to be used efficiently as an energy source. I didn’t come up with the saying “Fat burns in a carbohydrate flame”, but I firmly believe it and have used it frequently when consulting with athletes.

I also firmly believe that we need carbohydrates following exercise—both immediately afterward and in the next couple of hours (at least)—to kick-start the recovery process. One important aspect of that process is the restoration and increase of muscle glycogen stores.

“*The Ketogenic Diet Revisited*” by Steve Born continued on p. 16

# RACE CAPS SUPREME

THE ORIGINAL ENDURANCE SUPPLEMENT,  
AND STILL SECOND TO NONE!



“I DON'T LEAVE HOME WITHOUT IT”

*“Before my workouts, it gives me a boost and sustained power. I also take **Race Caps Supreme** during longer rides to finish with energy to spare. It certainly is a go-to supplement for me!”*

- Online Reviewer

- Prolongs endurance
- Increases energy
- Supports cardiovascular health
- Enhances cognitive function

90 Capsules  
\$49.95

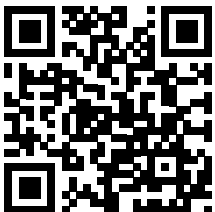
3 or more  
\$45.85



Aaron Plessinger, AMA Outdoor and Supercross National Champion, on a training ride in California. **Race Caps Supreme** is one of Aaron's favorite Hammer products. Photo: Swampmotive.com



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while supplies last

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Value

Use Promo Code **EN122C**



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800.336.1977



# Fat burns in a carbohydrate flame

THE KETOGENIC DIET REVISITED by STEVE BORN

Continued from p. 14

## A LESS-RESTRICTIVE APPROACH TO THE KETOGENIC DIET

I completely agree with Dr. French, who wrote in an article titled “Demystifying Keto” in the most recent issue of *Endurance News*, issue #121: “People who avoid ALL of the common carb sources listed above are most likely eating less than 50 grams of carb per day. It’s an important place to be if your goal is to produce ketones. Being in this sub-50 club is considered very low carb and may not be sustainable for most endurance athletes. Eating ‘good carbs’ that put you in the low carb range of 50-150 grams per day is a good long-term strategy. Many find this to be the sweet spot for athletic performance, palatability, and sustainability. Ketones will still be made in these carb ranges, especially if you’re supplementing fat and ketones.”

## Good Carbs

High-quality carbs provide a wide range of nutrients, including health-promoting plant chemicals called phytonutrients. Fiber helps to slow the digestion of sugars and starches, thus preventing large spikes in blood sugar and insulin associated with diabetes, heart disease, and weight gain.

- Broccoli
- Cauliflower
- Kale
- Brussels sprouts
- Strawberries
- Raspberries
- Blueberries
- Blackberries
- Walnuts
- Almonds
- Chia seeds
- Pecans

## MY TAKE ON CARBOHYDRATES AND THEIR RESTRICTION

Dr. French makes some strong points about carbohydrate intake on pages 18-21. My take on them is as follows:

1. Carb intake is about timing, with pre-, during-, and post-exercise carbohydrate consumption (especially the latter two) being imperative for enjoying high-quality workouts and races, and for supporting enhanced recovery between.
2. I believe the best way for athletes to enjoy the athletic performance benefits that the ketogenic diet appears to have is to modify it for a daily intake (aside from exercise) of 150-200 grams of carbohydrates.
3. While taking into account the semi-lengthy time that full glycogen restoration requires, we need to be extremely mindful of carbohydrate intake throughout the day, especially high-glycemic-index carbs. We can’t just be unrestrained carbaholics—the health issues associated with that are numerous and undeniable—and a 150-200-grams-per-day amount is doable for most athletes.

## FINAL THOUGHTS

I’ve never been a fan of dieting—at least not in the purest sense of the word—while training. Though I most certainly feel that being aware of what we eat in our daily diet is undeniably important—as we’re fond of saying, “the calories you consume always matter”—I feel that following a highly restrictive diet plan for any notable length of time is not compatible with athletic performance. To me, the training we do IS our way of dieting and maintaining our desired weight.

That said, while there may always be a healthy number of pros and cons regarding the ketogenic diet, a modified approach—permitting the intake of more grams of high-quality carbs, but not an unlimited amount, and certainly not “junk carbs” (processed foods, sugar, etc.)—may prove to be the key to both improved athletic performance and much better health. EN

References available upon request

# PHYTOMAX

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“Since using **Phytomax**, I have noticed more sustained energy and better sleep patterns. It can be challenging to get enough fresh vegetables in my diet, and this helps fill that void.”

- Online Reviewer

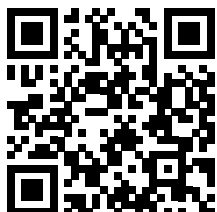
- Off the charts phytonutrients
- Boosts energy
- Strengthens immunity



Adam Sommers sprints to the finish line at the Le Griz 50 Mile Ultramarathon in Polebridge, MT.  
Photo: Madison Apple



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Ultramarathoner **Bryson Stafford** placed 6<sup>th</sup> overall in the J&J 50 mile race through southern Texas. Photo: No Sleep Media

# DEMYSTIFYING KETO **PART 2** Keto for High-Performance Athletes

by DR. BAYNE FRENCH, MD DC

**T**he Keto Diet (KD) is certainly mainstream, but there is still a lot of misinformation floating around—especially about athletic uses. You hear about it everywhere. Articles, magazines, people in line at the store, your friends—they’re all talking about it. In “Demystifying Keto, Part 1,” I explained the basics of the KD, what a ketone is, how the KD ties into our historic eating patterns, why weight loss occurs on the KD, what “Keto Flu” really is, and why I think hunger isn’t as bad as people think it is. In this article, we’re going to tackle how the KD applies to you: athletes who work out so much that normal people put them on the spectra of “insanity.”

## WHAT ABOUT ATHLETIC PERFORMANCE?

Dr. Dominic D’Agostino is a Ph.D. ketogenic researcher at the University of South Florida. He is also a powerlifter. I have read, watched, and listened to him at length and he outlines numerous ketogenic diet studies in athletes. Short-term performance studies in athletes have shown reduced performance, but it can take months to be fully keto-adapted. The FASTER study, performed by Jeff Volek, showed that keto-adapted athletes had fat oxidation enhanced by 200%. This means we are much more adept at burning fat, and liberating more energy!

As we look critically at what we eat, we must also look critically at how much we exercise. Many of you are on the right side of the bell curve. And it ain’t at all natural. (Just my opinion.) Regular intense exercise is unnatural, but I still do it. It makes sense, as Dr. D’agostino suggests, that perhaps upwards of 150 grams of carbs per day might be better for heavy cardio. This represents relatively low carb eating. The degree of ketosis this would result in is debatable and would need to be measured. High-level ketosis will likely not occur, but being on the ketosis spectrum is possible given the athlete’s likely efficient fat-burning abilities, low insulin levels, and high insulin sensitivity. Especially with fat and ketone salt supplementation.

## WHAT ABOUT BEING A *HYBRID*?

Is a mostly carb-adapted individual still able to use ketones and fatty acids more efficiently for fuel? Many experts would suggest that this is achievable and should be a topic for future studies. Minimizing carb and being in a ketogenic state during most of the day, reserving carb sources for exercise, is suggested by many as being the best of both worlds.

The focus being to relegate carb to its proper timing, such as before, during, and after workouts, when it's more likely to be utilized for energy and less likely to spike blood sugar (which then spikes insulin and leads to a myriad of metabolic consequences).

Many KD “experts” will suggest consuming 10-40 g of carb per day. Most of these folks, however, are less active than many of you reading this today. Although high-level endurance athletes that are fully keto-adapted can destroy it at these low carb intake levels, most athletes will perform much better at up to 200 grams of carb per day. Throughout the day, ketosis can still be maintained. And this still represents much less carb than what has been standardly advised.

For most individuals, properly timed carb intake will result in better workouts and the ability to go longer and faster. When you look at the effects of long-term elevated blood sugars and insulin levels, it's clear that these largely-preventable physiological states drive disease. With their resultant damage, it behooves us to ask ourselves just what in the hell are we doing.

A recent case study details the experiences of an elite triathlete who fueled with 60 g/hr of carbs during high-intensity training. He/she experienced meaningful performance improvements, even though he/she had consumed a low-carb high-fat diet for over 2 years.<sup>1</sup>

## THE GENESIS OF CARBS AND THE PREMIER ENDURANCE FUELING DIET

A KD as endurance fueling represents a radical paradigm shift from “carb is king” thinking.

High carb dieting as a necessity for exercise performance gained credence in the late '60s, when it was discovered that glycogen depletion caused fatigue and high-carb consumption maintained glycogen stores.<sup>2</sup>

Massive evidence has accumulated supporting this practice, resulting in entities like the Gatorade Sports Science Institute (GSSI).



The supremacy of the high-carb fueling paradigm for performance maximization has been indelibly etched in many minds. But by the late '60s, Dr. Cahill was coming to understand the human machine's robust capacity to adapt to low or no dietary carb availability.<sup>3</sup> He discovered that through well-preserved mechanisms lipid-based fuels supplanted glucose, through ketone production as a brain fuel and fatty acids for skeletal muscle. Now decades later, we're trying to reconcile all this, while facing bias and dogma.

The GSSI recommends that in the 24 hours before hard training or competition athletes should consume 7-12 grams of carbs per kilogram of body weight. Let's do some math . . . for a 150-pound athlete, that is 477-816 grams of carbs, or about 50 slices of bread. That does not pass my DIMADS test—in fact, it's lunacy. I heard recently that Oscar Mayer and Mountain Dew are also starting their own sport science institutes...

## POWER TO WEIGHT BUZZWORD

Much of success in sports involves the optimization of your power to weight ratio . . . enhancing power and muscle efficiency, while minimizing unnecessary weight.

Dr. D'Agustino, a powerlifter himself, determined that there was no muscle loss in his weight lifter ketogenic eating test subjects. These lifters consumed upwards of 85% fat and very low amounts of carb. They experienced an increase in muscle hypertrophy and power and a reduction in percent body fat. This “leaning out” process optimizes the power to weight ratio. From a primary care perspective, this results in a dramatically enhanced quality of life, less medication, less hospitalization, and greater independent and functional longevity. *Continued on next page*



## DEMYSTIFYING KETO PART 2

by DR. BAYNE FRENCH, MD DC

Continued from previous page

## F.A.S.T.E.R. STUDY

Dr. Volek et al. performed the Fat Adapted Substrate Oxidation in Trained Elite Runners (FASTER) study that was published in *Metabolism* in 2016.<sup>4</sup> The purpose was to study the extent of metabolic adaptations and differences between high carb eating athletes and low carb, high-fat eating athletes.

It involved 20 elite ultra-marathoners and IRONMAN distance triathletes, all in “racing condition.” Over half of them had sponsors, a third of them had course records, a fourth of them participated for Team USA, and some had national and international records. Through an extensive interview process, 10 carb eaters were found (carb:protein:fat ratio being 59:14:25) and 10 fat eaters were found (10:19:70). The two groups were very closely matched in every other category except diet and fueling practices. The low carb group consumed six times less carb during an average day than the high carb group (82 vs 684 g/day). What is very important to understand is that the low carb eating athletes had been doing so for an average of 20 months, thus they were considered fully keto-adapted.

Despite the two groups being considered closely matched, there are some interesting small differences between them:

	HC	LC
<b>% body fat</b>	9.6	7.8
<b>Lean mass, kg</b>	57.3	60.9
<b>Fat mass, kg</b>	6.5	5.5
<b>VO2 max</b>	64.3	64.7

From the above data, what observations can you make about the power-to-weight ratio?

# “Keto-adaptation provides an alternative to the supremacy of the high carbohydrate paradigm for endurance athletes.”

Pro Duathlete **Gabrielle Suver** training at the Weeki Wachee Preserve in Florida.  
Photo: Gregory Vasquez

Fat oxidation was 2.3-fold higher in the low carb group (1.54 g/minute vs 0.67 in the high carb group). Despite the marked differences in fuel usage, **there were no significant differences in resting muscle glycogen, exertion related glycogen depletion levels, and glycogen re-storage levels in recovery.** Restated, the low carb athletes possessed an extraordinarily high rate of fat oxidation but exhibited the SAME glycogen utilization and repletion patterns as the high carb athletes.

Several previous studies did not show preserved glycogen stores in low carb athletes.<sup>5,6,7</sup> These studies in general observed athletes consuming low amounts of carb for a much shorter period, indicating that the cellular mechanisms and metabolic pathways involving glycogen preservation and restoration take a longer time. Full keto-adaptation takes at least several months, not weeks.

Dr. Volek likened the muscle glycogen responses in the low

carb athletes to that of “Alaskan sled dogs.” These animals have tremendous endurance abilities and have been shown to maintain their glycogen stores despite running 160K per day for five days and eating high fat and only 15% carb.<sup>8</sup>

It’s important to realize that the FASTER study did not measure performance. Important future work would include studying truly keto-adapted athletes in regard to numerous strength and endurance measures.

For the first time, the FASTER study showed that well keto-adapted ultra-endurance athletes possess a dramatically enhanced ability to oxidize fats while maintaining normal skeletal muscle glycogen. Practically, the observations, in my opinion, lend credence to, and offer a viable rationale for, other dietary options available for endurance athletes. Dr. Volek states “Keto-adaptation provides an alternative to the supremacy of the high carbohydrate paradigm for endurance athletes.”



## SUMMARY

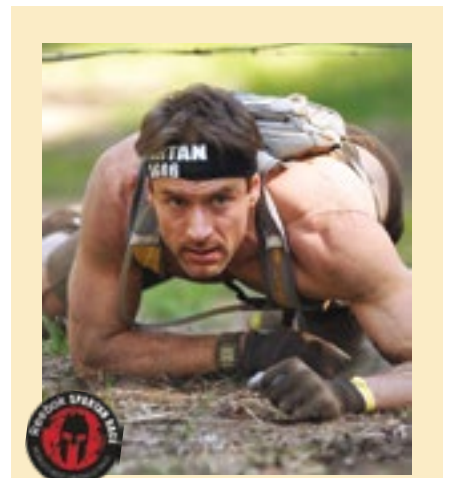
I was a carb eater and an excessive carb fueler. It's what I was taught and what represented orthodox sports nutrition advice. I had 10-12% body fat, felt pretty good, and pushed it extremely hard. My innards were not too thrilled, however. This did, at times, assist in putting distance between me and all those behind me, but it didn't take a genius to realize something wasn't right. I came to accept a period of physical and mental bonking, was always sore, and had nagging injuries. I also accepted eczema, acne, and excessive phlegm as just being a part of who Bayne French was. Years ago this all changed. I remember looking at my breakfast plate of eggs, meat, and sautéed spinach at Mother's Bistro in downtown Portland and feeling a sense of freedom, excitement, and empowerment at the absence of hash browns, pancakes, and toast. Over time my body fat percentage dropped to 7% and strength increased, as did stamina.

**I employed a “hybrid” strategy of LCHF living and reserved carb fueling via Perpetuem® to training and competition. This resulted in a 2016 second-place finish at the Spartan World Championships Ultra Beast Masters division in Lake Tahoe.**

It was a God-awful, nasty, brutal, austere mountain torture chamber of wind and cold, and I was never happier. Oh, and my skin, bloating, bonking, toots, phlegm, and injuries were dramatically better.

I want to perform at my best (at work, as a parent, and as an athlete), feel my best, and continue to do so for my entire life. I caution against making broad-stroke assumptions. Instead, come to understand what adaptations occur over time in response to LCHF eating and determine for yourself if those merits warrant experimentation. Maybe it's time for a paradigm shift in your diet. Take a look at what you're eating, how it makes you feel, and think about what you need to do to perform at your best. **EN**

References available upon request



Dr. Bayne French, MD DC, is Hammer Nutrition's medical advisor. Along with an MD from the University of Washington, Dr. French brings over 20 years of health experience, with a focus on wellness, to the Hammer team. Dr. French currently works at Glacier Medical Associates and is double board certified in Family Medicine and Obesity Medicine. Bayne picked up obstacle course racing in 2013. He won the Masters division of the Bigfork, MT Spartan Beast (2016) and the Monterey, CA Spartan Super (2016). He competed in the Spartan World Championship Ultra Beast in 2016 and earned a 2<sup>nd</sup> place finish in his division.





# You ask, we answer

Here are some of our most frequently asked questions.



**QUESTIONS FROM OUR ATHLETES**



**ANSWERS FROM OUR EXPERTS**

**?** The label for Perpetuem® in the powder form shows a “serving” (2 scoops or 69 g) as 270 calories, but the one for Perpetuem® Solids shows a “serving” (3 tablets or 26 g) as 100 calories. Are these single “servings” intended to be equal?

This is a great question! Four Perpetuem Solids tablets have nearly the same number of calories as one scoop of Perpetuem powder:

- **4 Perpetuem Solids tablets = 133.3 calories**
- **1 scoop of Perpetuem powder = 135 calories**

The reason for the difference is the two products are made by two different manufacturers. The manufacturer of Perpetuem Solids simply receives the bulk powder from the manufacturer that produces the powder and then compresses the powder into a chewable tablet. While it would certainly be easier to have one manufacturer do both, there are only a couple of manufacturers that have the appropriate machinery to make Perpetuem Solids.

Additionally, while it would be nice to have three tablets equal the same number of calories as one scoop of powder, the size you see is the largest the manufacturer can produce without the tablet

crumbling and breaking.

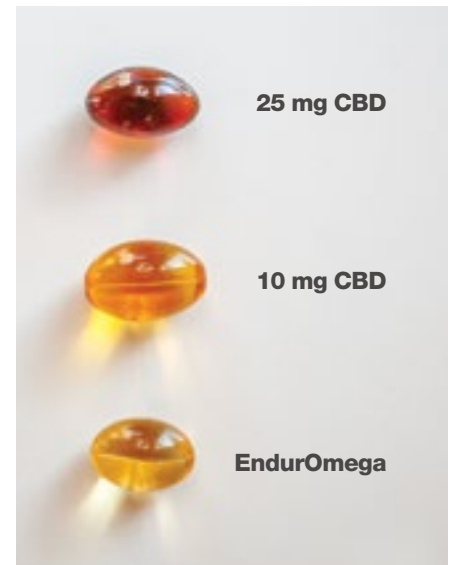
What we are required to list as a serving size is somewhat regulated by FDA labeling requirements, so what we currently do for many products is list the maximum anyone would take in an hour. That’s why Perpetuem powder has a 2-scoop/270-calories MAXIMUM serving size. As far as Perpetuem Solids tablets are concerned, since many athletes do not use them as their sole fuel—consuming that many Perpetuem Solids on an hourly basis would wear out a person’s jaw!—but rather as an occasional “something to chew instead of drink hour after hour” fuel, we list a theoretical maximum dose of 3 tablets, for a nice, even 100 calories.

Remember again that what you’re looking at is not so much the serving size of a given product, but rather how many total calories you need on an hourly basis, whether using one Hammer Nutrition fuel or a combination. Photo: Tyler Keck

EN

**?** My CBD softgels are a different color than the last ones I received. What happened?

Most likely, you switched from 10 mg softgels to the 25 mg or vice versa. The different potencies are colored differently to help identify them. We add curcumin to the 25 mg CBD softgel to give it a distinctly darker brown color. The other softgel in our supplement lineup, EndurOmega, is also a different color to help with identification. EN



**? I tried to refer a new customer, but they couldn't find the box to put my code in! They put it in the "Promo" box, but it wouldn't work. What's going wrong?**

The referral code has its own special box in the checkout process—it does not go in the "Promo" box. We know this is confusing and are working on a solution to make it easier to refer people. In the meantime, there are three ways you can enter a referral code:

1. Call us to place your order! We love talking with clients, current and new. Give us a call at **800.336.1977**, and we'll be able to put the referral code in the right place.
2. Enter the code in the **"Apply Referral Code"** box during step 2 of checkout. This box appears only on accounts that have never placed an order. It's located under the payment card section.
3. Leave us a note in the **"Extra Comments"** section at the end of checkout. Say something about placing your first order and include the code from the person who referred you. We'll take care of it on our end! **EN**

The screenshot shows a checkout form with fields for Security Number, Name on Card, and Apply a Gift Card. The 'Apply Referral Code' field is highlighted with a grey background and two red arrows pointing to it from the right. Below it is the 'Priority Customer Number' field, also with a red arrow pointing to it. At the bottom are 'Apply' and 'Remove' buttons.

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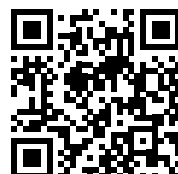


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Ryan Ingham showing his son how it's done while out for a training ride on the Noble Canyon MTB Trail. Both stay up to speed with their favorite Hammer Bars on hand. Photo courtesy of Ryan Ingham.



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# Take Fewer Sick Days

*Vitamin and mineral supplement users experience fewer sick days!*

by STEVE BORN

A remarkable new report in the journal *Nutrients*<sup>1</sup>—one that should garner front page headlines (but probably won't)—provides these eye-opening results:

 Compared to study participants taking a placebo, the **participants who took a multivitamin/mineral supplement had a 60+% reduction in the number of sick days!**

averaged 6.43 days of illness. It was also noted that the multivitamin/mineral supplement group experienced fewer illness symptoms than the placebo group and that those symptoms were noticeably milder.

In the report, researchers made some notable comments:


“Since multiple nutrients support immune function, older adults may benefit from multivitamin and mineral (MVM) supplements.”<sup>2</sup>

as much as possible.

- Avoiding packaged, processed foods and junk foods at all times.
- Consume low-sodium, minimal-to-no simple sugars (glucose, sucrose, fructose, etc.), but no artificial sweeteners, colors, flavors, or preservatives.

When it comes to the diet, our battle cry has always been “the quality of the calories you consume always matters.”

## DAILY SUPPLEMENTATION RESULTS FURTHER DISPELL THE MYTH OF THE “BALANCED DIET”

 Those same participants also reported fewer and milder illness-related symptoms!

This important research provides even more validity to the importance of vitamin and mineral supplementation, while also adding one more nail in the “you can get all the nutrients you need from a balanced diet” coffin.

This recent study involved healthy participants between 55 and 75 years of age. For 12 weeks, one group received a daily multivitamin/mineral supplement, while the other received an inactive placebo. Before and after this period, researchers measured the participants' blood vitamin/mineral status and various markers of immune function.

At the end of the study, the researchers noted that the participants who took the multivitamin/mineral supplement experienced an average of 2.29 sick days, while the placebo group

“Generally regarded as safe and readily available over the counter, dietary supplements have been used with few significant side effects in clinical studies.”<sup>3</sup>

“Although conflicting and contradictory studies exist, there is evidence suggesting that dietary supplementation with a combination of immunity-related micronutrients supports immune function and reduces risk or severity of infection.”<sup>3</sup>


“Indeed, targeted supplementation with these vitamins and minerals may provide additional protection at doses higher than the U.S. recommended dietary allowance (RDA).”<sup>4</sup>

### THOUGHTS FROM HAMMER NUTRITION

We have never deviated from our position that consuming the healthiest possible diet is top priority. This means:

- Eat whole grains and locally grown organic fruits and vegetables

Many so-called experts will tell you, “You don't need to take vitamins; just eat a good, balanced diet,” but the fact is that “the balanced diet” is a myth; you cannot obtain all the nutrients your body requires solely from your diet. Here's why:

 **There has never been a single clinical study that documents what comprises a balanced diet nor one that has demonstrated one's ability to meet basic nutrient requirements through whole foods alone.**

Studies show that food alone does not supply all the micronutrients we need to prevent deficiency, let alone achieve optimal health. Nutritional scientist, Bruce Ames, bluntly states, “Inadequate dietary intakes of vitamins and minerals are widespread, most likely due to excessive consumption of energy-rich, micronutrient-poor, refined food. Inadequate intakes may result in chronic metabolic disruption,



Participants who took a multivitamin/mineral supplement had a

**60+%**

**REDUCTION IN THE NUMBER OF SICK DAYS!**



including mitochondrial decay.”<sup>5</sup>

Another study concluded: “Nearly the entire U.S. population consumes a diet that is not on par with recommendations.”<sup>6</sup>

Even if we could obtain all the nutrients we need from our diet, it’s highly unlikely that any of us eat an ideal diet as consistently as we think we do. Dr. Dagfinn Aune states: “Our results suggest that although five portions of fruit and vegetables is good, ten a day is even better.” Do any of us ever come close to that? And daily? Most likely, no and no!

We believe that the primary reason to try and eat the healthiest diet possible—primarily a variety of fresh fruits and vegetables—is NOT so much for their vitamin and mineral content, but instead for the nearly countless health-benefiting phytochemicals that are found only in fruits and vegetables.

**BOTTOM LINE:**

To look, feel, and perform your best, the first step is always a diet dominated by nutrient-dense whole foods. But that alone will not suffice. To achieve your best performances in your workouts and events—and, even more importantly, enjoy optimal health, which, as this study’s results show, could very well mean fewer sick days—then **daily supplementation is a necessity, not an option.**

**THE SOLUTION—PREMIUM INSURANCE CAPS**

Every person—regardless of age, activity level, or dietary habits—will benefit greatly from the daily use of Premium Insurance Caps. Our potent multivitamin and mineral supplement contains Optimum Daily Intake amounts (not the bare-bones-minimum Recommended Daily Allowance or Daily Value amounts) of highly absorbable vitamins, minerals, and key auxiliary nutrients. Premium Insurance Caps is specifically formulated to fill in the gaps left by the modern diet. A few daily doses of two or more capsules are a surefire way to ensure that you have what you need to thrive.

EN

References available upon request

# PREMIUM INSURANCE CAPS

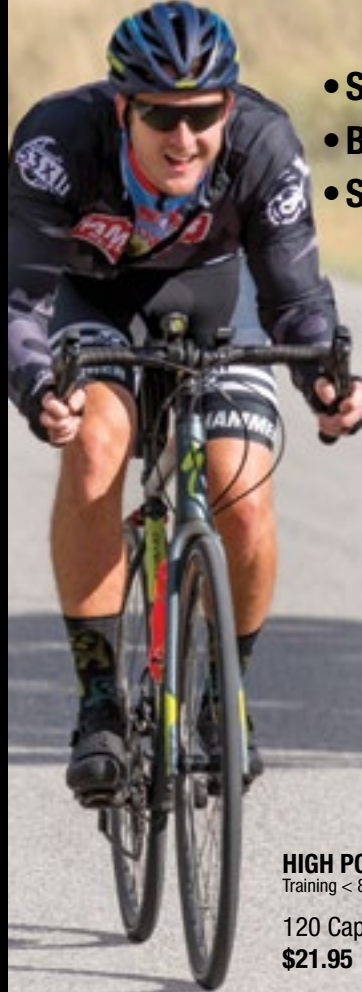
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**“OUTSTANDIING HEALTH SUPPLEMENT!”**

*“I have been using Premium Insurance Caps for many years and wouldn’t be able to keep up the hard miles if I didn’t use them. Outstanding health supplement!”*

- Online Reviewer



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



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120 Capsules	210 Capsules
<b>\$21.95</b>	<b>\$37.95</b>

**Drew Silvers** cruises down a Whitefish, MT road during a fall training ride. Drew powers his active lifestyle with Hammer Nutrition fuels and supplements. Photo: @jolenoz

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## Doggie Daily Essentials

Because your “best friend” deserves the best!

In September, we introduced our latest product, and for the first time in the history of Hammer Nutrition, it wasn’t a fuel or supplement or accessory intended for you. Nope, our latest product formulation is for your dog! And while we call them treats, the fact is that Doggie Daily Essentials is significantly more than that. It’s loaded with key ingredients (most of which aren’t found in any other dog food or treat) that support your dog’s overall health and well-being.

Just as we do with all our supplements and fuels designed for human consumption, we spent months developing Doggie Daily Essentials. Many of us at Hammer Nutrition are dog owners, and, just like you, we love our “best friends” so we weren’t about to cut corners on what Doggie Daily Essentials contains and, just as importantly, what it doesn’t contain.



Photo: Valentina Farabaugh



Our unique and comprehensive formula is great for your dog’s:

### JOINT and SKIN/COAT HEALTH

Each treat gives your dog “superstar” nutrients that support strong joints, alleviate soreness, and help maintain healthy skin and coat:

- Glucosamine (125 mg)
- MSM (125 mg)
- Boswellia Serrata (100 mg)
- Curcumin (25 mg)
- Undenatured Collagen Type II (1.25 mg)

### ENERGY PRODUCTION

While your canine companion may seem to have an endless supply of energy, the fact is that dogs—especially as they get older—need nutrients to help maintain that youthful energy. That’s why Doggie Daily Essentials contains:

- Acetyl-L-Carnitine (125 mg)
- Trimethylglycine (45 mg)
- CoQ10 (10 mg)

### RECOVERY/IMMUNE SYSTEM SUPPORT

Many of us might think that dogs don’t need much to recover after a long day of hiking, running, swimming, and playing. But they benefit as much as we humans do from antioxidants and other nutrients that can help maximize their recovery and support strong immune system functioning. That’s why we’ve included the following in each Doggie Daily Essentials treat:

- Ascorbyl Palmitate (12.5 mg)
- Alpha Lipoic Acid (5 mg)
- Hemp Oil Extract (5 mg) – Note: This is outstanding for enhancing digestive system function, vitality, and mood as well!

All of these ingredients are packed into Doggie Daily Essentials with a natural beef flavor from beef liver (NO artificial flavors). They work incredibly well and they taste great! That’s why, even after just a short period of time, Doggie Daily Essentials is already garnering 5-star (maybe it should be 5-bark) reviews!




### “NOTABLE IMPROVEMENTS FOR MY DOG’S ACL INJURY”

*“After my 8-year-old bulldog tore his cranial cruciate ligament, I’ve been searching for natural products that help manage his pain and increase mobility. Since starting him on Doggie Daily Essentials I’ve seen remarkable improvements in his stiffness and overall energy levels. He’s limping noticeably less after long walks and his vitality is more consistent throughout the day. Having a combination of powerful nutrients unified into one treat makes life far easier for me and makes my best friend’s quality of life more comfortable.” - Online Reviewer*



Of course, what’s not in Doggie Daily Essentials is just as important as what is in there. Unlike many other dog treats, Doggie Daily Essentials does not contain any of the following:

- **NO plant cellulose (AKA woodchips)**
- **NO artificial ingredients or preservatives**
- **NO corn or wheat**

We guarantee that your dog will love Doggie Daily Essentials and that you’ll love the benefits it provides! We offer this outstanding product in a 60-count tub and a sample bag of six treats. Both are in stock now, so don’t delay. Your “best friend” will thank you each and every day! 



# HAMMER CBD

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**"BEST ON THE MARKET!"**

*"I have used several CBD products in different strengths, but Hammer CBD is hands down the most effective! Night and day difference." - Online Reviewer*

- Aids quality sleep
- Boosts recovery
- Soothes soreness



Balm starting at **\$3.95**

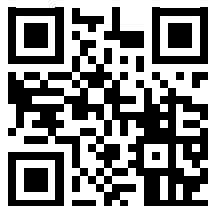
Oil Tinctures starting at **\$19.95**

Softgels starting at **\$39.95**



Hammer athlete **Naomi Haverlick** rides the Holy Rollers trail in Eureka Springs, AR.  
Photo: Francisco Ortiz

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# All Natural **HAMMER BODY CARE**



**H**ammer Nutrition launched its first body care product in 1994. Since then, we have introduced a number of great body care products. While these products have served us well, we have decided to go back to the drawing board to create an entirely new and improved line. All of these new products are in development right now. We're excited to share these new formulas with you.

We would like to point out one major change we're making, which is to lessen

the strong clove scent in many of our current body care products. Some people love it and some people hate it, but we decided it was too strong. The new line will have a light, clean fragrance. The new Hammer Body Care Line will be all-natural, made in Montana, and formulated for high-performance use. Look for a launch in 2021. EN

*Fresh new products.  
Same superior Hammer  
quality.*

- **Pelle Eccellente**
- **Hammer Balm**
- **Seat Saver**
- **Cool Feet**
- **Hammer Lips**



**All New Formulas  
New Light, Clean  
Fragrance  
100% all natural**



# MITO CAPS

Turn back the clock



**"I LOVE MITO CAPS!"**

*"I use **Mito Caps** every single day. I'm not a scientist but I know these caps play a big role in my overall health and provide exactly what I need on race days!" - Online Reviewer*

- Improves energy production
- Promotes overall wellness
- Improves fat metabolism

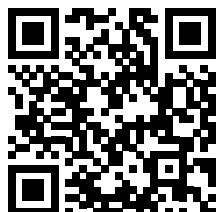


90 Capsules  
**\$24.95**



Miles Frank enjoys a season-opening ride up the scenic Going-to-the-Sun Road in Glacier National Park, Montana. Photo: Drew Silvers

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**2020** was a year of new and exciting products for Hammer Nutrition. We never stop striving to improve our products for you, our clients. Here are the things we added this year:

**CBD**

2020 was a huge year for CBD with new products across Hammer's entire Gold Standard CBD line! First, we introduced a 1500 mg CBD tincture, which is the most affordable CBD you can buy. Our CBD balm now comes in a new stick container for easy application. Plus, there's a new Balm Sample! Speaking of samples, we introduced 4-count softgel samples so everyone can easily try CBD and find their ideal dose.

**ChitoLean**

As the endurance season winds to a close and athletes begin tapering and thinking about holiday parties, ChitoLean is your ally to help with all the great food and heavy dinners. It's made with chitosan, which binds to fat and blocks its absorption.

**Cherry Bomb HEED®**

This new flavor of HEED finally landed this fall! Cherry Bomb HEED is everything you're used to from HEED—healthy, long-lasting energy with electrolytes—along with 25 mg of caffeine and 500 mg of taurine per serving. It's HEED with a kick!

**Doggie Daily Essentials**

Hammer's first product for your furry best friend! It's packed with human-grade ingredients from some of our most popular supplements for the overall health, recovery, mood, and well-being of your pup.

More exciting new products are in the works! In 2021, you'll also see a new body care line and the return of client-favorites **AO Booster** and **Phytomax**. **EN**

# HIGHLIGHTS

## 2020 New Products





# DOGGIE DAILY ESSENTIALS

## Complete CBD Dog Treat

Canine dietary supplement made with human-grade ingredients for overall health, recovery, and well-being.



**"THE ONLY CBD DOG TREAT TO GET!"**

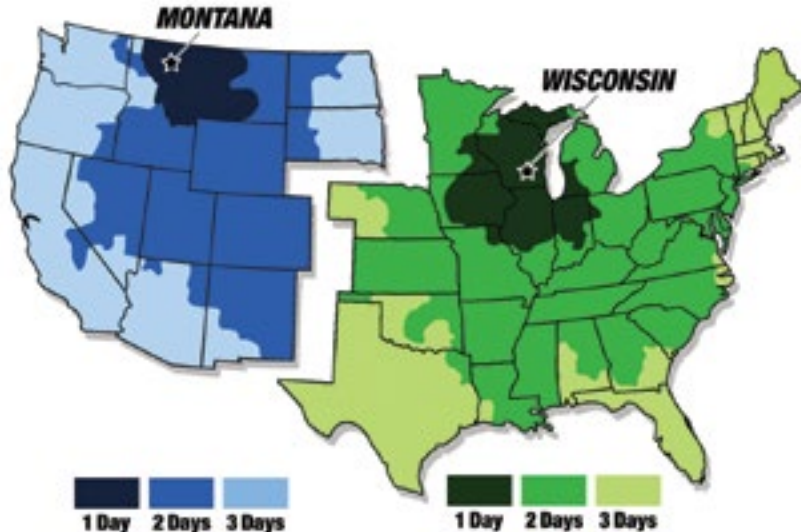
*"This is the only CBD treat that will calm my super active pup and help him recover after a long day of running and swimming."*  
- Online Reviewer

**6 Count Sample Pouch \$7.95**  
**60 Treats \$59.95**



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Product	Flavor/Color	Size	Price	Quantity	AMOUNT

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\$40 to \$99.99	\$7.95
\$100+	<b>FREE!</b> †
Shopping Local	NONE!

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Shipping \_\_\_\_\_  
Tax \_\_\_\_\_ See chart at left  
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† Free shipping only applies to shipments to a street address (no PO boxes) within the 48 contiguous states of the U.S.



## 5 RECOVER RIGHT AND REAP THE REWARDS



### Know and follow the 4 Rs for superior recovery, enhanced athletic performance, and better health.

by STEVE BORN

While there are several aspects involved in improving athletic performance and overall health, we are 100% convinced that proper recovery is at the top of the list. As athletes, we sometimes focus so intently on our training and equipment that we forget about recovering properly, and that's a big mistake.

If we neglect to take the proper steps for recovery, we will never get the full value out of the time and energy we spend in training. Remember, the gains we make in our training occur during recovery, but only in the presence of adequate rest and optimal nutritional support. If we don't attend to that, we not only miss out on the benefits of our workouts, we can also create more problems for ourselves such as getting sick or injured.

Recovery after exercise is always important. Always! Adopt and follow these four Rs consistently, and your body will reward you handsomely.

#### 1) REPLENISH

As soon as possible after your workouts—ideally within the first 30 minutes—replenish your body with complex carbohydrates and protein (whey protein isolate, if possible). Give your body this kind of support when it's most receptive to replenishment, and here is what it will do for you:

- Store more minutes of the premium, ready-to-use fuel known as muscle glycogen
- Strengthen your immune system
- “Kickstart” the rebuilding of muscle tissue
- Diminish soreness

**Recoverite®** provides your body with the perfect ratio of carbohydrates to protein, along with generous amounts of multi-beneficial L-glutamine (a whopping three grams per serving!); the potent antioxidant

L-carnosine; the “key to insulin utilization” nutrient, chromium; and a full-spectrum electrolyte profile. The result is rapid and enhanced recovery that allows you to obtain the maximum value from workouts and preps your body for your next workout or event.

#### 2) REHYDRATE

Although water has no real nutrient value, it's essential for performance, recovery, and health. Nearly two-thirds of our body is comprised of water, so we must drink enough of it, not just during workouts, but throughout the day. In addition to what you consume during exercise, aim for 1/2 fluid ounce of liquid per pound of body weight per day, mainly from clean, pure water. After a hard training session, you could be a bit dehydrated, so use non-training time to get your hydration back on track. Keep in mind that the water you use to prepare your **Recoverite** counts toward your daily hydration goal, so if you choose to mix it with only a small amount of water (say 4-8 ounces), be sure to follow up with additional water.

#### 3) RESUPPLY

After a tough workout or event, your body is begging for vitamins, minerals, and antioxidants. **Premium Insurance Caps** will resupply the vitamins and minerals (some antioxidants, too), and Hammer Nutrition's arsenal of potent antioxidant supplements—including **Mito Caps**, **Super Antioxidant**, and **AO Booster** (yes, we will have this great product back in stock soon)—will supply wide-ranging protection against the damaging effects of free radicals.

#### 4) REPAIR

When you regularly push your body hard in your workouts, it can take a toll on your muscles and joints. Without adequate rest and nutritional support, you may find yourself in that inhospitable place known as “over-training syndrome,” coupled with an increased potential for getting injured. **EN**

(above) Avid outdoor adventurer **Jacob Comer** relies on the 4 Rs to recover right and feel great on his arduous backpacking trips.

When it comes to endurance fueling...

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**CONCISE  
INFORMATION**

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Mitch DeYoung placed 3<sup>rd</sup> AG at the Fast Fitty Gravel race. He fueled on Caffé Latte Perpetuem®, Cola Endurolytes® Fizz, Anti-Fatigue Caps, Endurance BCAA+, Race Caps Supreme, Fully Charged, and Recoverite®. Photo: Jack Kunnen



FROM THE KITCHEN OF  
**LAURA LABELLE**

# Holiday Delights

With the Thanksgiving holiday approaching, I feel festive! And I have been dreaming about making savory tarts. When food enters my dreams, I have to go with it and make it happen. So, even though I typically try to keep my menus and recipes as simple and easy as possible, I have been enjoying a host of savory tarts with various fillings lately. These tarts are great for using as an appetizer, a side dish to accompany the main course, or an entrée with some nice salads on the side to complement the tart.

While it's very easy these days to buy a variety of crusts, I like to make my own, and I am supplying a recipe for that. I often make a triple or quadruple batch of crust, divide it into pieces, and freeze it. That way, when I want to make some tarts in a hurry, I don't have to go through making the dough and chilling it, etc.

Using your own homemade frozen dough is pretty easy. You can make flat circles and then freeze them. When you want to make a tart, remove the crusts from the freezer and let them thaw while you prepare the fillings. Then you can easily roll out the dough and either put it in your tart shell and fill it or pre-bake it, depending on the instructions for your recipe. Some recipes call for a pre-baked crust, and others instruct you to fill the crust and then bake as is.

But, again, if the task of making dough is too intimidating, ready-made crusts are available at grocery stores and most health food stores. There are various types of crusts, from sweet pie crust, savory crust, filo dough or puff pastry, and even gluten-free crusts! I suggest you decide what would work best for you with your "dough handling" comfort level. I use puff pastry from time to time if I'm in a rush, but filo dough is a personal favorite. It's just a little more time-consuming as it is so thin it requires the layering of butter and pastry repeatedly. The idea is to try different options and create your own work of art that is healthy and delicious.

We hope you will try some of our yummy *In the Kitchen with Hammer* dishes this holiday season. Many have been family favorites and are usually pretty quickly prepared and wholesome and nutritious. I have an amazing collection of seasonal salads and side dishes that are fun, easy to prepare, and delicious to share with family and friends. All of us at Hammer wish you a very happy and healthy Thanksgiving!

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 EN
 

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Acclaimed California-based chef Laura Labelle studied at *Ecole De Cordon Bleu* in Paris and received a "Grand Diplome" in cuisine and pastry. She has established two successful ventures, *Cafe Luna* and *Quality Food and Beverage*, and also worked as a personal chef for various celebrities and

for *Mix This* music studio. Laura is an accomplished open water swimmer and enjoys practicing yoga and sharing her cooking with family and friends.



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**TODAY!**

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## FROM THE KITCHEN OF **LAURA LABELLE**

### Savory 9" Tart Crust

#### INGREDIENTS

1 ½ cups flour  
¼ tsp salt  
9 Tbsp cold unsalted butter  
1 egg yolk  
1 Tbsp ice water

#### PREPARATION

Preheat oven to 350 degrees. Mix flour and salt together. Cut butter into small cubes. Then mix all ingredients together until you have a ball of evenly mixed dough. (The easiest way to do this is in a food processor on pulse.) Then chill dough slightly if it is too soft to work with.

Roll out the dough to about ¼ inch thick. Place dough in tart pan and use your fingers to press it into all areas, including the corners. Leave the edge extended about ¼ inch above the height of the rim of the tart pan, as the dough will shrink slightly.

I like to then chill the crust before weighting and pre-baking. With a fork, poke holes in the crust before lining with aluminum foil and filling with weights to hold it down. I use rice or beans.

Bake for about 15 minutes or till the edges start to brown. Remove from oven and adjust the heat for your tart recipe. Carefully remove weights and allow to cool. Add filling and return to the oven.

### Heirloom Tomato Tart

crust for 9" tart (see recipe)

#### INGREDIENTS

1 ½ lbs. ripe heirloom tomatoes  
¼ cup homemade or store-bought pesto  
1/3 cup Gruyère cheese  
1 Tbsp fresh chopped oregano  
3 large eggs  
1/3 cup heavy cream or milk substitute  
½ tsp Himalayan salt  
½ tsp cracked pepper

#### PREPARATION

Prepare crust according to the recipe at left, and allow to cool. Cut tomatoes into ½ inch slices and put in a colander to drain off excess liquid. Let stand for about 20 minutes.

Once crust has slightly cooled, spread an even layer of pesto inside the tart. Then sprinkle Gruyère cheese and fresh oregano over that.

In a separate bowl, mix the filling of eggs, cream, salt, and pepper. Arrange your tomato slices decoratively over pesto and cheese. Then pour the egg mixture over it. Swirl the tart to be sure the liquid is evenly distributed. Return to the oven for about 30-35 minutes.

Cool slightly before serving warm or enjoy cold later!

Makes 4 servings as a main course or 8 as a side dish.

### Mushroom Tart

crust for 9" tart (see recipe)

#### INGREDIENTS

1 cup chopped onions or leeks  
2 Tbsp ghee  
1 Tbsp herbs de Provence  
3 cups mixed mushrooms (shiitake, cremini, and French white)  
½ cup crumbled Gorgonzola cheese  
½ cup cream or oat milk  
3 eggs  
½ tsp sea salt  
½ tsp cracked pepper

#### PREPARATION

In a sauté pan, heat 1 Tbsp of the ghee. Add onions and cook until caramelized. Then add herbs de Provence. Once onions are sautéed, set aside. Heat remaining ghee and sauté the mushrooms.

Pour onions into the bottom of a pre-baked tart crust. Cover with mushroom mixture. Sprinkle cheese on the top.

In a separate bowl, mix the eggs, cream, salt, and pepper. Then pour over the onions and mushrooms.

Bake at 375 degrees till the center does not move when shaken, about 35-40 minutes.

Makes 4 servings as a main course or 8 as a side dish.



# Holiday Delights

## Banana Bread

Recipe courtesy of  
Zandy Mangold

### INGREDIENTS

1 cup whole wheat flour  
1 cup ground oatmeal  
2 tsp baking powder  
1 tsp salt  
2 Tbsp Hammer Whey  
Protein powder

2 Tbsp maple syrup  
1/3 cup dark brown sugar  
3 ripe bananas  
1 tsp vanilla  
1/3 cup coconut oil

### PREPARATION

Preheat oven to 375 degrees. Lightly grease a 9x5-inch loaf pan or iron skillet with vegetable oil. In a large bowl, mix all ingredients with a spatula or big spoon. Pour into loaf pan or iron skillet. Sprinkle raw cashew pieces on top. Bake for 33-37 minutes until a toothpick inserted into the center of the loaf comes out clean.

Banana Bread

Mushroom Tart

The Perfect Crust!

Tomato Tart







# Changes to How Orders are Processed



by BRIAN FRANK

As an innovation-focused company that has spent 33 years in a relentless pursuit of excellence, we spend a lot of time and resources looking for every possible way to make your interactions with us positive, productive, and that suit your preferences. This is especially true when it comes to the ordering process, which has changed dramatically over the past several years and continues to evolve at a rapid pace. So much so that we are coming up to a hard split between the way we handle web orders and phone orders, with the former going totally “new school” and the latter being “old school.” One thing that is not changing and never will is our total commitment to helping you in any way we can.

**“If you know exactly what you want and want it fast, web ordering is for you!”**

New school ordering via the website is literally the model of speed and efficiency. Orders submitted via the website will process automatically and ship in

minutes or hours with no human contact between the submit button and printing in the warehouse for fulfillment. You’ll also be able to completely manage your account through the site including subscriptions, shipping preferences, payment methods, and more. However, with speed and efficiency come some limitations. We’ll no longer be able to change an order once that submit button gets pushed. So, if you know exactly what you want and want it fast, or just prefer the digital shopping experience, web ordering is for you!

**“If you want a personally tailored fueling strategy for a big event, please call!”**

Old school ordering will always be available via our toll-free 800 number; the same one I have had since 1987. We are still here and will gladly take your call. In fact, I tell every one of my staff this one thing: **There is nothing any of us could be doing that is more important than answering a ringing phone to speak with a client.** What is

surprising to so many clients these days is that we actually want you to call us! You will never get an auto-attendant menu or oblivious “order taker” when you call Hammer. So, if you prefer to talk to a real person like me or Steve or one of my other happy, well-trained staff (who are eager to help you and not trying to sell you more than you need), please call! If you are not exactly sure which of our many products are best for you, please call. If you might want to change or add items to your order before it ships, please call! If you want a personally tailored fueling strategy for a big event, please call. If you have a 3-, 4-, or 5-digit client ID number, please call us—just like you used to 20-30 years ago!

Keep that feedback coming so we can continue to improve our products and processes to serve you better. You can reach us digitally by sending an email to [support@hammernutrition.com](mailto:support@hammernutrition.com) or by calling us at **800.336.1977**. We are here to help you through whatever medium you choose. **EN**

# WHEY PROTEIN

Your Muscles' Best Friend



**“ALL YOU NEED AND NOTHING MORE”**

*“Hammer **Whey Protein** mixes great, tastes great, and doesn't have a bunch of added sugar or weird ingredients. I have always enjoyed Hammer products and can rest assured I am getting quality and value in everything I order.” - Online Reviewer*

- **Strengthens immune system**
- **Maintains muscle strength**
- **Repairs sore muscles**
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**\$42.95**

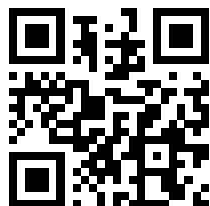
Single Serving Packets  
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- VANILLA
- CHOCOLATE
- STRAWBERRY
- UNFLAVORED



**Maria Phelps** shows off her Hammer strength after finishing her first Olympic triathlon at the RaceMT Triathlon in Great Falls. Maria finished in 2:36:15 fueled exclusively by Hammer.

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“Wonder molecule” benefits athletic performance and health

# TREMENDOUS TAURINE



by STEVE BORN

The amino acid taurine—found in **Fully Charged** and the new **Cherry Bomb HEED®**—has gotten an awfully bad and completely unfair rap over the years. The reason? It's an ingredient commonly found in the canned energy drinks you can find anywhere (especially gas stations). These drinks are typically loaded with a variety of unwanted stimulants, excess amounts of caffeine, and other non-beneficial ingredients. Taurine is the only good thing in those energy drinks!

Companies use it in energy drinks because of its well-known effects for helping increase focus, alertness, and concentration in a non-stimulant way. That's one of the primary reasons it's in **Fully Charged** and **Cherry Bomb HEED®**; however, there's so much more to this oft-maligned amino acid. In fact, the researchers in one study boldly stated, “Considering its broad distribution, its many cytoprotective attributes, and its functional significance in cell development, nutrition, and survival, taurine is undoubtedly one of the most essential substances in the body.”<sup>21</sup> Other researchers refer to taurine as “a wonder molecule.”<sup>22</sup>

**“You’d be hard-pressed to find a more versatile amino acid than taurine.”**

## GENERAL HEALTH

Taurine may be one of the most important nutrients to help protect against type II diabetes, since animal research shows that supplementation with taurine can help reduce its onset.<sup>3,4</sup> Studies with diabetic rats have shown that taurine helps by protecting against heart damage thanks to its ability to increase glucose transport into heart muscle cells, thus lowering blood glucose levels.<sup>5,6</sup>

Taurine is also a superb heart health nutrient because it helps alleviate hypertension. Taurine supplementation helps improve circulation, lower blood pressure, reduce arterial thickening, and enhance the beneficial effects of increased nitric oxide levels.<sup>7,8,9</sup>

Taurine also helps to maintain optimal retinal function,<sup>10</sup> and it's an extraordinarily beneficial nutrient for liver health.<sup>11,12,13</sup>

## ATHLETIC PERFORMANCE

Taurine supports enhanced athletic performance by:

- Reducing fatigue<sup>14</sup>
- Increasing  $VO_2$  max<sup>15</sup> (the amount of oxygen you can utilize during exercise)
- Increasing muscle and heart contractility, allowing for a greater exercise workload and improved cardiac output<sup>16,17</sup>
- Optimizing the proper functioning of electrolytic minerals<sup>18</sup>
- Extending endurance by decreasing the amount of lactic acid/lactate accumulation<sup>19,20</sup>
- Lessening muscle tissue breakdown<sup>21</sup>
- Enhancing recovery by providing antioxidant support to protect against free radical damage<sup>15</sup>

## SUMMARY

Unlike most other amino acids, taurine is not used to build proteins; however, because it serves so many important functions in the body—along with the fact that it's not readily available in the diet—taurine is classified as a conditionally essential amino acid.

For supporting many aspects of significantly improved athletic performance—with some pretty impressive cross-over benefits for overall health—you'd be hard-pressed to find a more versatile amino acid.

You'll find 500 mg of the “wonder molecule” known as taurine in every serving of **Fully Charged** and in each scoop of **Cherry Bomb HEED®**. EN

References available upon request

# HEED<sup>®</sup>

## Sugar-Free Fuel



**“I’LL USE HEED UNTIL I DIE!”**

*“The best, almost guaranteed to never get a cramp when using HEED. HEED is my go-to drink forever.”*  
- Online Reviewer

- Sustained energy
- No sugar crash
- Buffers lactic acid

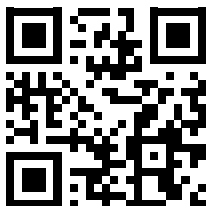


Single-serving packets **\$1.95**  
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 32 Servings **\$29.95**  
 80 Servings **\$64.95**

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- MELON
- CHERRY BOMB

Evan Perperis competes during his OCR America event. Evan completed a marathon-length OCR-style event every day for 8 straight days. He fueled his extended effort exclusively with Hammer. Along the way, Evan raised over \$5,000 for Folds of Honor. Photo: Bobby Ross for Stoke Shed

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# Dynamic Duo in Coffee Helps Protect Against Parkinson's

by STEVE BORN

The good news regarding coffee consumption continues to pour in. The latest is research from Rutgers University that suggests two of coffee's compounds—working synergistically—may be responsible for helping to slow down brain degeneration. One of those compounds is caffeine, which pretty much everyone is familiar with. The other compound is a fatty acid derivative of the neurotransmitter searntonin found in coffee. It is known as eicosanoyl-5-hydroxytryptamide, or EHT, and it is found in the waxy coating of the coffee bean.

Prior research showed that drinking coffee helps reduce the risk of developing Parkinson's disease, historically caffeine was given the credit for providing the protective benefits—even though coffee has more than a thousand compounds. Dr. M. Maral Mouradian decided to see if the others would also provide benefits.

In this study, Dr. Mouradian and her team separated mice into three groups: one received small doses of caffeine, another small doses of EHT, and the third received both caffeine and EHT. Neither caffeine nor EHT by itself was effective, but when combined they were shown to “inhibit the protein phosphatase 2A (PP2A) methylesterase so as to maintain PP2A in a highly active methylated state and mitigate the phenotype of  $\alpha$ -synuclein transgenic (SynTg) mice.”

In layman's terms, the researchers found that the caffeine/EHT combination boosted the activity of a catalyst that helps prevent the accumulation of damaging proteins in the brain. This is especially noteworthy because the researchers believe that this combination would not only address the symptoms of Parkinson's disease, but might also be able to slow or even stop the progression of the disease.

Coffee contains more than one thousand different compounds, so future research may find others to go along with caffeine and EHT in providing powerfully protective benefits for the brain. **EN**

REFERENCES: [www.pnas.org/content/115/51/E12053](http://www.pnas.org/content/115/51/E12053)

Photo: [perfectcreations.com](http://perfectcreations.com)





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

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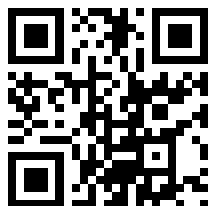
#### THE BIG RING - Sumatra

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

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# 6 Questions WITH HAMMER ATHLETES



## Lou D'Onofrio

### 1. **Where are you from?**

Southeastern Pennsylvania.

### 2. **What sport do you participate in?**

Primarily ultrarunning, but I've been known to throw in an Ironman for cross-training.

### 3. **How did you get into racing?**

Although I've been a runner all my life (with some fluctuations for career and family), reading the book *Ultramarathon Man: Confessions of an All-Night Runner* by Dean Karnazes lit a fire. It formed the foundation for the level of training, racing, and endurance lifestyle that I live today.

### 4. **How did you hear about Hammer Nutrition?**

I tried **Hammer Gel**® at an event and loved it. Once I learned more about Hammer as a company, the quality of their products, and their views on fueling, I loved it even more.

### 5. **I can't leave for a race weekend without:**

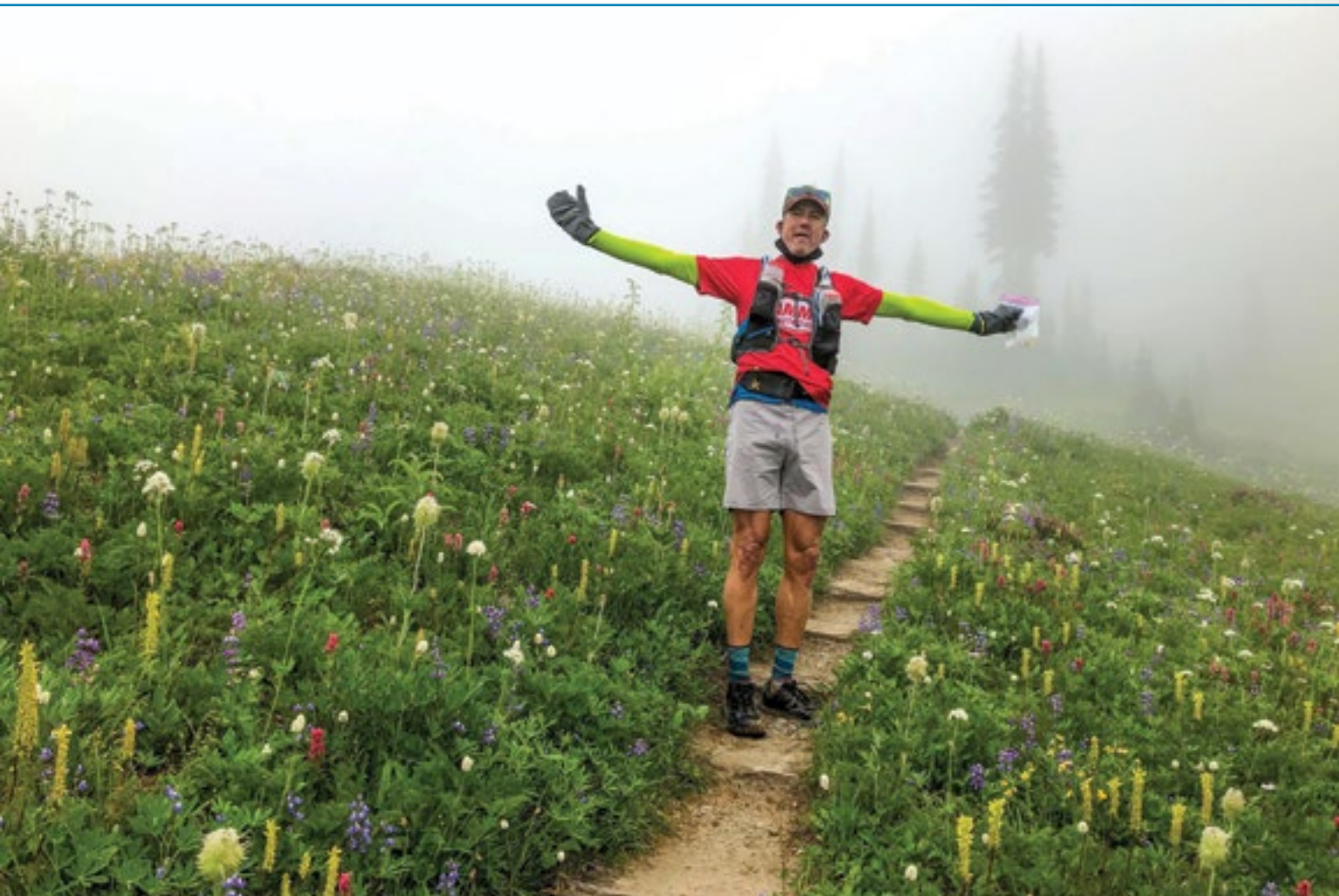
My stellar crew consisting of my wife Heather, my daughter Natalie, and my son Joey, who go with me as often as possible. We've raised our family in the endurance community; without their support, I wouldn't be able to pursue this passion.

### 6. **Favorite Hammer Nutrition products?**

**Nocciola Hammer Gel, Cola Endurolytes® Fizz, Recoverite®, Peanut Butter-Chocolate Whey Protein Bars, Race Caps Supreme, Endurolytes®, and Digest Caps.**

Lou at the top of Whiteface Mountain after ascending 2,963 feet over 3.95 miles.

Photo: Heather D'Onofrio



# Martin Criminale

## 1. *Where are you from?*

I was born in Princeton, NJ, but I have been living in Seattle, WA, for 50 years. So I call myself a Pacific Northwest native.

## 2. *What sport do you participate in?*

I am primarily an ultra trail runner, but I also love riding my bike! I came into competitive athletics through bicycle racing. After 20 years of that, I was looking for a new challenge so I turned to running. That led to trail running, which led to ultras. I have identified primarily as a trail runner since 2012.

## 3. *How did you hear about Hammer Nutrition?*

I was introduced to Hammer Nutrition back when I was racing bicycles. It can be hard to eat solid food while in a pack so I looked around for liquid food and discovered **Sustained Energy** and then **Perpetuem**® and then **Hammer Gel**. I loved it! **Perpetuem** has been my go-to for long events ever since.

*(above)* Martin running through the wildflowers on Wonderland Trail around Mt. Rainier. Photo: Lucca Criminale

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

A camera! I don't care if it's my phone, a digital point-and-shoot, or a GoPro. I love saving memories of every event, and I always stop during races to take pictures. The scenery is why I'm doing this after all.

## 5. *Favorite Hammer Nutrition supplement?*

This is a tough question as I have been using more and more of them. I'd say it's either **Tissue Rejuvenator** or **Hammer CBD softgels**. I have been taking **Tissue Rejuvenator** for years. And before Hammer started offering CBD, I was using another brand as I am a firm believer in the benefits of CBD for recovery.

## 6. *What keeps you motivated?*

I love being active! I don't really race to win. I race to see places I would otherwise never travel to. I also like pushing my body as the feeling of accomplishment is such a high. There is always someone faster than me, but we can all achieve plenty! Setting goals and achieving them is amazing no matter how old I am. I'm 56 years old now and have felt my body slowly decline, but that doesn't mean I enjoy getting out there any less.



# Sugar Consumption Increases Fat Deposits Around the Heart

by STEVE BORN

No athlete wants excess fat on their body. It slows them down and decreases athletic performance. And everyone, athlete or not, needs to be concerned about excess fat deposits especially around the heart. New research has revealed a connection between eating more sugar and the resulting fat deposits and negative health impacts across the entire human body—especially the heart.

A new study published in the *European Journal of Preventive Cardiology* reviewed the effects of sugar intake volume had on three different kinds of fat:<sup>1</sup>

#### Visceral adipose tissue (VAT)

- Fat tissue located deep in the abdomen and around internal organs

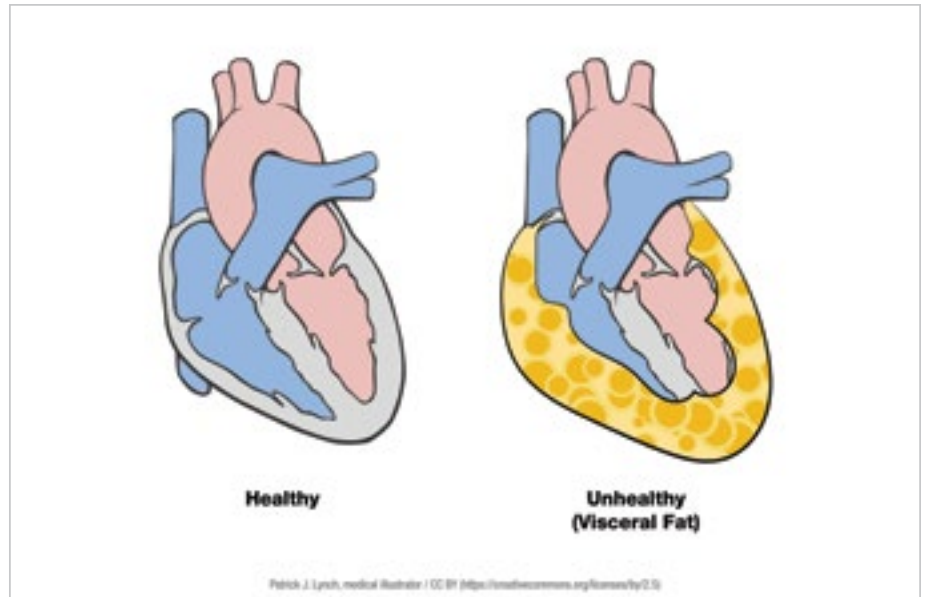
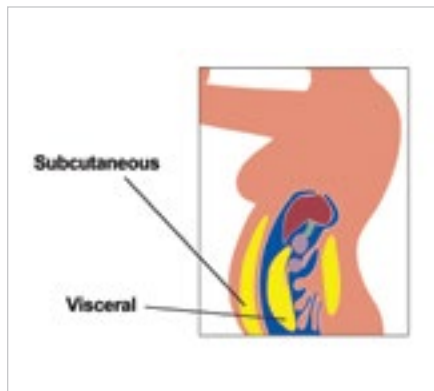
#### Subcutaneous adipose tissue (SAT)

- Fat tissue primarily located beneath the skin

#### Pericardial adipose tissue (PAT)

- Fat tissue located around the outer part of the heart

Researchers gathered existing and new data over a 25-year period from nearly 3100 men and women who took part in the Coronary Artery Risk Development in Young Adults (CARDIA) study that began in 1983.



After taking into account numerous variables (e.g., age, physical activity, and smoking and drinking status), researchers analyzed the data and found that participants who consumed more than 50 grams of added sugar daily had higher amounts of VAT, SAT, and PAT. While an increase in fat deposits anywhere is undesirable and associated with negative health issues, the increase in PAT is especially notable.

This is because, as aptly stated in other research, “Both abdominal visceral fat and pericardial fat (visceral fat around the heart) have a higher release of free fatty acids and inflammatory cytokines than subcutaneous fat. Because of its location, pericardial adipose tissue may constitute an especially harmful fat [deposit].”<sup>2</sup>

Increased fat deposits around the heart lead to several highly undesirable outcomes:

- **Atrial fibrillation**
- **Coronary artery calcification**
- **Reduced left ventricular function**
- **Coronary heart disease**

The researchers concluded that an increase in the volume of pericardial, visceral, and subcutaneous adipose tissues was associated with a high-sugar diet.

#### THOUGHTS FROM HAMMER NUTRITION

High-sugar diets—mostly from sugar-sweetened beverages and added sugars in processed foods—already associated with numerous health risks, like diabetes and obesity. No we know that excess sugar is also responsible for an increase in fat deposits around the heart, which is directly responsible for the high number of cardiovascular diseases.

The American Heart Association (AHA) recommends no more than 6 teaspoons (25 grams) of added sugar per day for women and 9 teaspoons (38 grams) for men.<sup>3</sup> Unfortunately, data culled from the 2015-2020 Dietary Guidelines for Americans shows that the average American consumes a whopping 17 teaspoons (71.14 grams) every day, translating into approximately 57 pounds of added sugar consumed each year, per person.<sup>4,5</sup>

At Hammer Nutrition, we’ve been preaching the same message since day one: To be a better athlete and, more importantly, to significantly stave off undesirable health consequences—especially cardiovascular diseases—we must reduce our sugar intake in our diets and in the fuels we consume! **EN**

References available upon request

# RECOVERITE®

Recoverite Today, Hammer Tomorrow



## “SOLVED MY RECOVERY ISSUES!”

“Ever since I started using **Recoverite**, recovery is no longer an issue. Love this product!” - Online Reviewer

- Restores muscle glycogen
- Reduces soreness
- Reduces fatigue
- Rebuilds muscle strength



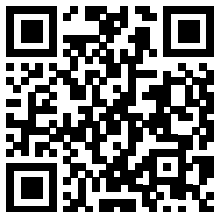
- ORANGE VANILLA
- VANILLA
- CHOCOLATE
- STRAWBERRY



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

Hammer athlete **Jason Poole** making it look easy on a trail run near Conifer, CO.  
 Photo: Patti Poole

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# THE EXCEPTION

by STEVE BORN

## “No Calories 3 Hours Prior to Exercise”

For as long as Hammer Nutrition has been advising endurance athletes on how to fuel properly, we have been recommending not to consume any calories for a three-hour period prior to the start of an endurance workout. This puts your body in the ideal physiological state to use its finite stores of muscle glycogen most efficiently, while also utilizing the vast amounts of calories from body fat stores more effectively.

Thanks to an excellent question recently posed to me, we've recently updated that recommendation. Check it out . . .



Jeff Shehan tops up before heading out at Herron Park in Kalispell, MT.  
Photo: Madison Apple

▶ **QUESTION:** I started taking Hammer products in the spring, and they have been amazing! However, almost everything education-wise on the Hammer website is devoted to endurance events that are longer than one hour. What is the recommended nutritional strategy for a 5 or 10k run? Since my times for both those distances are well under an hour, would it make sense to consume some carbohydrates prior to the race in order to accelerate glycogen utilization rates?

▶ **ANSWER:** The short answer to your question is “yes.” But ONLY if you have been very consistent with your training AND refueling your body ASAP after each workout. If you have then, you will have built up somewhere between 60-90 minutes of glycogen in the muscles, and that is the first fuel your body will use when you begin a workout or race.

When you're training/racing longer than 60 minutes (erring on the cautious/conservative side), you want your body to conserve those hard-earned glycogen stores as much as possible. For a workout or race that you're certain you'll be completing in less than 60 minutes, having a small amount of carbohydrates—a serving or two of **Hammer Gel**® or a 1-2-scoop bottle of **HEED**®—30-90 minutes prior to the start, may prove to be quite beneficial.

We wrote about this a while back, stating that prior to shorter-duration races, “Consuming a few easily digested carbohydrates (such as a serving or two of HEED or Hammer Gel) will advance performance. This



“Thanks to an excellent question . . . there's an update to our normal recommendation.”

is because carbohydrates consumed prior to exercise make the body super-expend its glycogen stores like a flood gate wide open.”

**What this means:** If you eat something 30-90 minutes prior to the start of a short-duration workout or race, thus causing the insulin “flood gates” to open, yes, you will be depleting your glycogen stores at maximum rates. However, when you're doing a race that you know you can complete in under 60 minutes—and assuming you have that much glycogen on board when you start—that will not be an issue and should enhance performance.

# HAMMER GEL<sup>®</sup>



**“I’VE BOUGHT THIS PRODUCT FOR YEARS!”**

*“I’ve used **Hammer Gel** for years for long matches when you need a boost. I also recommend it for my baseball players. It doesn’t upset your stomach and is a great ‘non-spike’ energy source.”- Online Reviewer*



Purchase a 26 Serving Jug and get a **FREE HAMMER FLASK**

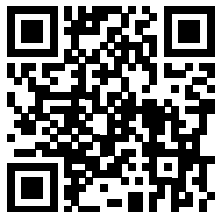
## SMOOTH, SUSTAINED ENERGY

No sugar crash, and deliciously convenient

Parkin Costain tears down the trails in Whitefish, Montana with plenty of **Hammer Gel** readily at hand for quick energy on the fly! Photo: Grant Augustine

26 Serving Jugs **\$19.95**  
Single-serving packets **\$1.40**

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# MEMORIES



**2004** Max Jenkins rides for the Hammer-sponsored Tieni Duro junior cycling team.



**2012** Samantha Lord takes a shot during the Ethan Allen Biathlon.



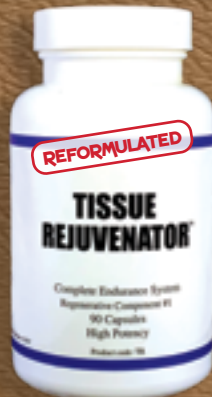
**2005** Derek Henderson celebrates a win in the Expert Class at the Eldora MSC Mountain States Cup.

1997

1998

2004

## SPOTLIGHT







**2007** The Hammer team rides the Lyle Pearson 200.



**2013** Dirk Himley and Steve Heaton compete during the Sea Otter Classic.



**2019** Dina Rios competes in the UC Davis Aggieathlon. She finished 4<sup>th</sup> AG and 10<sup>th</sup> OA. Photo: Lawrence Rios



**2006** A rider cruises during the 2006 Highline Hammer.

Thank you to all of our Hammer family, friends, and athletes for all of your support over the years!



**2012** The Coe family poses after completing a spring 5k.

**2006**

**2010**

**2016**

**2018**

**2020**





# NEW RESEARCH GLUCOSAMINE

by STEVE BORN



**G**lucosamine is a staple in joint-health formulas, including **Tissue Rejuvenator** and **Vegan Tissue Rejuvenator**, and it serves two main purposes:

- 1) Provides a key “raw material” that joints, ligaments, tendons, and connective tissue need for reparation, and to maintain strength and integrity
- 2) Helps alleviate aches and soreness in the joints and throughout the body



## Lowers Mortality Risk

New, exciting research published in *Annals of the Rheumatic Diseases* reveal an even more powerful benefit courtesy of glucosamine supplementation:

### LOWER MORTALITY RISK!

Researchers analyzed data from nearly 500,000 male and female participants, average age 56.6 years old who enrolled in the UK Biobank study from 2006 to 2010. At the beginning of the study, 19.1% reported regular use of glucosamine supplements.

During a follow-up period of 8.3 to 9.7 years (average = 8.9 years) 19,882 deaths were recorded, which included the following:

- **3,802** cardiovascular disease (CVD) deaths
- **8,090** cancer deaths
- **3,380** respiratory disease deaths
- **1,061** digestive disease deaths

Compared to those who did not regularly supplement with glucosamine, the participants who used glucosamine on a regular basis had a:

- **27%** lower risk of death from respiratory disease
- **26%** lower risk of death from digestive disease
- **18%** lower risk of death from cardiovascular disease (CVD)
- **6%** lower risk of death from cancer
- **15%** lower risk of death from any cause



...thanks to this eye-opening new research, perhaps we ALL should be taking one or both Tissue Rejuvenator products.



# TISSUE REJUVENATOR

Less pain.  
More gain.



**"I HAVE BEEN USING  
TISSUE REJUVENATOR  
FOR YEARS"**

*"At 44 years old, recovery is important and fundamental, and with **Tissue Rejuvenator**, I recover much faster."*  
- Online Reviewer

The researchers concluded that, "Regular glucosamine supplementation was associated with lower mortality due to all causes, cancer, CVD, respiratory and digestive diseases."

While specific amounts of glucosamine were not revealed in the study, it is believed that the range was 500 – 1500 milligrams per day.

## SUMMARY

Tissue Rejuvenator or Vegan Tissue Rejuvenator (or both!) are staples for thousands of Hammer Nutrition clients to help reduce soreness and to rebuild/strengthen joints, ligaments, tendons, and connective tissue. Who'd have thought that Glucosamine, would also help reduce the risk of numerous age-related diseases?

Thanks to this eye-opening new research, perhaps we ALL should be taking one or both Tissue Rejuvenator products, because they help so much more than joint health! **EN**



**Vivian LaBarreda** gets in a quick 8-mile training run fueled on Hammer while she preps for her next race.  
Photo: Whittier Pacers

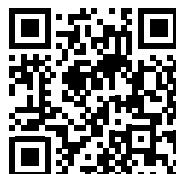
- Targets muscle soreness
- Optimizes joint mobility
- Maximizes recovery



TISSUE REJUVENATOR 120 Capsules  
**\$32.95**

**VEGAN** 120 Capsules  
**\$34.95**

**ORDER NOW!**



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References available upon request





## BÁRBARA HERNÁNDEZ

Triple Crown of Open Water Swimming

On September 30<sup>th</sup>, 2020, Bárbara Hernández finished her swim around Manhattan to become the first Chilean to ever complete the Triple Crown of Open Water Swimming. The achievement includes a 33.7k swim of the English Channel, a 32.5k swim of the Catalina Channel, and a 48.5k circumnavigation of Manhattan. Bárbara is an ambassador for Hammer Nutrition Chile and fuels her swims exclusively with Hammer. During her 7:59 hour swim around Manhattan, Bárbara fueled with **HEED**<sup>®</sup>, **Perpetuem**<sup>®</sup>, and **Hammer Gel**<sup>®</sup>. Her sights are already set on her next challenge: the Oceans Seven marathon swimming challenge. She will tackle the first leg of that challenge, the 47k Molokai Canal, in May 2021.

Photo: THD Lateral



## HAROLD GLEAVE

Marathon Runner

Dear Sean and the Hammer UK Team,

I hope all is well with you, as it is with me. This note is to give you a little of my background in running and using Hammer Nutrition. Not all, but a good number of my races have been run with the help of a measured use of **Perpetuem**.

I was born in 1942, but I didn't start running until 2002 at age 60. Since then, I've completed approximately 80 marathons and 30 half marathons. I'm already planning for my next race, which is the Milton Keynes Marathon on May 3, 2021.

Most important of all, the statistics of my long races highlight just how good **Perpetuem** works when the instructions (which are easy) are followed.

Best regards,  
*Harold*

MARATHON	PLACE
<b>2019 (age 77)</b>	
LONDON	1 <sup>st</sup> AG out of 26
HULL	1 <sup>st</sup> AG
<b>2018 (age 76)</b>	
LONDON	1 <sup>st</sup> AG out of 36
WHITE PEAK	1 <sup>st</sup> AG
HULL	1 <sup>st</sup> AG
<b>2017 (age 75)</b>	
BLACKPOOL	1 <sup>st</sup> AG
LIVERPOOL	1 <sup>st</sup> AG
TRAIL WALES	2 <sup>nd</sup> AG
SHAKESPEARE	3 <sup>rd</sup> AG



London Marathon 2019 Photo: MarthonFoto



Europe

## AURÉLIEN SANCHEZ

### GR10 Self-Supported FKT

Running parallel to the French-Spanish border, on the French side, the 866km-long **GR10** winds its way along *gaves* (Pyrenean streams) and through the valleys and cols of the Haute-Pyrenees from Hendaye on the Bay of Biscay on the Atlantic Ocean to Banyuls-sur-Mer on the Mediterranean Sea.



Photo: Julien Vilotte

“12 days, 5 hours, and 22 minutes: this is the time it took me to hike from the Mediterranean Sea to the Atlantic Ocean following the GR10. The overall GR10 record with support was held by Thierry Corbarieu who did it in 12 days 10 hours, so I am happy that I improved this record by a couple of hours.

I do not hold the overall record since Erik Clavery did it supported in under 10 days while I was on the trail, so now I hold only the record self-supported. Since I was self-supported, I had to face several challenges, such as wearing the same clothes until the end, sleeping on the trail with my small mattress and sleeping bag (without a tent), facing the weather conditions, navigating myself following the white and red blazes, planning food stops, and just being alone when it became difficult. It was twelve days of intense emotions, with magical moments discovering unique landscapes, but there were also tough moments thrown in.

I carried **Perpetuem** and **Recoverite**®, but I ran out after the first 3 days. The whole time I took **Endurance BCAA+**, **Tissue Rejuvenator**, and **Anti-Fatigue Caps**. I used those every day with a few extra on days 5 and 6 since I had more issues then.

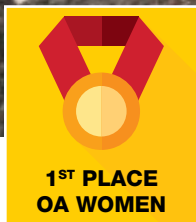
Also, I carried only 1 liter bottle for water that I refilled along the way. It was barely enough a couple of days, but I was lighter at least. The route was extremely difficult because it's very steep, and there are very few services. I was hungry many times, but eventually, it was OK.

Over the course of the trip, I lost about 8 kilos (about 17½ pounds) total!”





# FROM OUR ATHLETES



## PATTY JO STRUVE

Oregon 24

In September, Hammer athlete Patty Jo Struve took to her bike to race Mudslinger Events' Oregon 24. With limited racing this year, this was one of Patty's biggest events. The day started with Patty playing the National Anthem on her trumpet for all the riders before the race began. Once she was on the track, Patty set a pace of 1:30 per lap and didn't stop until after 5 laps. Patty pushed through the day and into the night, stopping only when she had to. A rough crash in the dark left her with an injured hand, but some quick first aid and a repurposed compression sock enabled her to get back out on the trail. Patty fueled with **Hammer Gel**®, **Race Caps Supreme**, **Mito Caps**, **Endurolytes**®, **Anti-Fatigue Caps**, and bottles of mixed **HEED**® and **Endurolytes**® Fizz. Patty finished with 12 laps and 132 total miles—enough for the overall win (women) as the oldest female competitor. Photo: Mudslinger Events

## BEVERLY ENSLOW

Kickapoo Endurance Race  
– Solo 10 Hours

"I had a serving of **Fully Charged** in each **Heed/Perpetuem**® mix bottle. Post-race I used **Recoverite**® and a full serving of **Xobaline**, **Tissue Rejuvenator**, **AO Booster**, **Super Antioxidant**, **Boron**, **Mito Caps**, **Race Caps Supreme**, **Endurance BCAA+**, and **EndurOmega**. Got to get them all in! The race was the ladies' solo 10-hour event. I exceeded my lap time estimate to complete 4 laps in 8.5 hours and called it a day to win the women's race by one lap." Photo: John Enslow





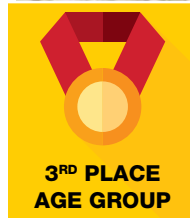


### MATT FLINT

Coors Light / Trail of Tears Triathlon  
– Sprint Distance

“We finally got to race our one and only triathlon of 2020. Aydan and I both fueled with Hammer Nutrition. We both felt amazing and placed well. Aydan placed 14<sup>th</sup> overall and won his AG. I was 26<sup>th</sup> overall and took 3<sup>rd</sup> in my AG. It was a 750m swim, a 15-mile bike, and a 4-mile run.

Before the race, I took **Premium Insurance Caps, Mito Caps, Race Caps Supreme, EndurOmega, Tissue Rejuvenator, Essential Mg, and Race Day Boost.** During the event, I fueled with **Fully Charged, Hammer Gel, and Perpetuem.** Afterward, I recovered with **Why Protein and Recoverite.**” Photo: Amy Flint



### HOWIE REDD

Telluride 100

“Thought I’d throw out some kudos for your supplements. I finished 3<sup>rd</sup> in the Men’s 50+. It was a VERY muddy T100 while using **Tropical Hammer Gel, Anti-Fatigue Caps, Endurolytes Extreme, and Fully Charged.** I prefer to use a flask instead of a single serving pouch. It’s faster to use and no trail trash. Every hour I had one gel and one of each capsule—no issues with energy. Anyways, long time happy user. Stay safe and enjoy Whitefish.” Photo: Craig Deboni



### RYDER SIGETY

GNCC Round 10 - Burr Oak

Ryder Sigety won the Burr Oak GNCC. This was his 6<sup>th</sup> consecutive GNCC win and is on track to be the only 2020 GNCC Youth class champion to be undefeated. Furthermore, he is undefeated for the entire 2020 season and has raced a lot more than only GNCC! Hammer products used: **Strawberry HEED, Vanilla Hammer Gel, Grape Fizz, Orange-Vanilla Recoverite.** Photo: Ken Hill





## HEAVEN'S PEAK

Hammer employee Josh Lewis set out with the goal to summit 100 peaks in 2020. Pictured here, he ascends Heaven's Peak in Glacier National Park on August 29<sup>th</sup>—his 125<sup>th</sup> summit for the year. He begins every climb with Fully Charged and Cola Fizz on the way to the trail. While climbing, he uses Hammer Gel<sup>®</sup>, Endurolytes<sup>®</sup>, Anti-Fatigue Caps, Endurance BCAA+, and Vegan Tissue Rejuvenator. Josh summited over 150 peaks in 2020 and is hoping for 100 new peaks in 2021.

Photo: Josh Lewis





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**Friends don't let friends overpay for CBD!**

Start referring your family and friends today! Our generous Referral Reward program is ideal for introducing all of your friends and family to the amazing benefits of CBD and getting some nice Hammer Bucks in your account! They get 15% off of their first order, and you get a 25% credit to your account.

If you are buying CBD somewhere else, you are probably paying too much!

And you may be getting an inferior product.

Hammer Nutrition, the leader in Endurance Nutrition for 33 years, is now the leader in CBD. After studying this amazing new product and using it for years, in 2018 we partnered with the largest vertically integrated producer, manufacturer, and distributor of hemp-derived phytocannabinoids (CBD) in North America. We have the research, education, and trained support staff to be your "go-to" for all things CBD.

**CBD SOFTGELS**

10 mg 4 ct	<b>\$0.17 per mg</b>
10 mg 30 ct	<b>\$0.13 per mg</b>
10 mg 90 ct	<b>\$0.10 per mg</b>
25 mg 4 ct	<b>\$0.13 per mg</b>
25 mg 30 ct	<b>\$0.09 per mg</b>
25 mg 90 ct	<b>\$0.08 per mg</b>

**CBD TINCTURES**

Hydro 250 mg	<b>\$0.10 per mg</b>
Classic 250 mg	<b>\$0.08 per mg</b>
Classic 750 mg	<b>\$0.08 per mg</b>
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30 mg 0.15 oz	<b>\$0.13 per mg</b>
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# Endurance News

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## DAILY ESSENTIALS KIT

*Perform your best every day*

- Increase energy levels
- Improve immune function
- Accelerate recovery



**“IT REALLY WORKS!”**

*“The **Daily Essentials Kit** is the perfect combination of everything your body needs to refresh itself from the everyday rigors of pushing your limits. You will be at peak performance!”*

*- Online Reviewer*



### Daily Essentials Kit Plus

Premium Insurance Caps, Mito Caps, and Race Caps Supreme, *plus* EnduroOmega

<b>1-Month</b>	<b>\$124.95</b>
<b>3-Month</b>	<b>\$359.95</b>