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CYCLISTS GUIDE TO SUPPLEMENTATION

Bio-Synergys comprehensive guide to cyclists and supplementation. In this short guide we explain which supplements will take your training to the next level.







SINCE 97' WE'VE BEEN FUELLING OLYMPIC AND COMMONWEALTH GOLD MEDALLISTS .

Our critically acclaimed and award winning supplements may have fuelled more PB's, gold medals and World Champions than any other brand.

The background image shows three road bicycles parked in a row against a grey, textured concrete wall. The wall has several small, circular indentations or rivets. The bicycles are dark-colored with thin tires and drop handlebars. They are parked on a wooden plank floor. The text "WHAT SPORTS SUPPLEMENTS SHOULD I BE USING?" is overlaid in the center in a large, white, sans-serif font.

**WHAT SPORTS
SUPPLEMENTS
SHOULD I BE
USING?**



Be smart, supplement with Bio-Synergy Omega 3, 6 & 9

Author of *Faster: the Obsession, Science and Luck Behind the World's Fastest Cyclists*, Michael Hutchinson writes that, "The one thing that I am 100% sure works - and more or less everyone I've ever spoken to about it agrees - is Omega 3 fatty acids, or fish oil".

Omega 3 fatty acids improve our recovery by decreasing inflammation in our muscles.

In fact, a study conducted back in 2008 and published in the *Journal of Cardiovascular Pharmacology* revealed the impact of this for athletes' endurance training. "The test subjects, who were trained cyclists, supplemented with omegas for a period of eight weeks". It was found that cyclists who took in omegas found it easier to perform the task well, needed less oxygen and maintained a lower heart rate throughout the test.



Increase pedal power with Creatine Plus®

Strength-to-weight ratio is something that's very important in cycling; you need to be a strong and powerful as you can to turn the pedals with force and light enough to carry yourself up the hills and creatine is proven to increase power output. It's more than a pure strength builder:

Creatine can help you ride harder for longer, finds a new study in the *International Journal of Sports Physiology and Performance*. After supplementing with creatine monohydrate for 6 days, men pedaled with more power and were more able to stave off fatigue than they could pre-creatine. So before you get in the saddle or go for a run, consider how Creatine Plus can improve your performance.



Recover faster with Bio-Synergy BCAA's®

There is no 'set weight' everyone should be, so aiming to keep muscle high and fat low is what we all strive for. It's often hard for keen cyclists to fit in resistance training for muscle and postural maintenance, and with cycling being a heavily catabolic and time consuming sport, it is important that you spend time preventing muscle breakdown.

So what can you do? Take BCAAs (Branched Chain Amino Acids) are essential building blocks of protein that need to be consumed through food sources; they cannot be created by our bodies independently. With this in mind, as well as a sound diet, we should be consuming a BCAA supplement to prevent muscle breakdown on the bike.

But how will this help you to perform better? You might say that you don't care about muscle mass, or anabolic supplements, well there's a myriad of ways in which they can help you to consistently race and ride better.

If you supply yourself with BCAAs during your rides and in between meals, then you're more likely to recover better when you get off the bike. Think of it as a constant stream of amino acids that your body can 'dip into' whenever and feed off; if the supply is always there, then your muscles shouldn't want to breakdown. Most body builders and strength athletes will take BCAAs every day, without fail, rest day or not; and this is to maintain a large amount of muscle. As a cyclist however, your goal is to maintain enough muscle to perform on the bike, so we recommend taking them before and during your ride.



Beat the bonk.. with L-glutamine

L-Glutamine has been unveiled as the 'everyman' supplement, holding a use for all athletes and weekend warriors. L- Glutamine is quite common in everyday foods, and our body holds onto stores of it already, so you're not taking in some un-natural substance, in fact you had it in you all along. The benefits of L Glutamine are similar

to other amino acids, in that they offer a 'reserve supply' effect, allowing you to carry on stronger for longer, without depleting levels. L glutamine is usually absorbed by the intestines, as they are crucial for repair and proper function of the digestive organs.

But how does this relate to cycling?

Well, put simply, if you're on a long endurance ride, you'll be whittling down your body's supplies of glutamine, which can leave you vulnerable and weak; we might be talking very slightly here, but that's what cycling's all about at elite level: marginal gains. A study published in the journal of "Medicine & Science in Sports & Exercise," showed the depletion of glutamine stores in the body of endurance cyclists is related to suppression of the immune system. Cyclists who supplement with glutamine can boost their immune system to help prevent illness. Glutamine helps in the healing and building of the muscles used during cycling. Without glutamine, these muscles would take longer to repair after each hard ride. So if you're always topped up, you've got a little less chance of being weak on the bike and hitting the proverbial wall! Beat the bonk.



Set a PB with Power-Beet®.

The science is that nitrate helps muscles work more efficiently using less oxygen to produce the same amount of power. Research has found that it improves the endurance capacity of athletes; as a result of the nitrate turning into nitric oxide in the body, reducing how much oxygen is burned up by exercise. In as little as a week, consumption with

Power-Beet seems to produce remarkable physiological benefits for endurance athletes such as cyclists. In particular, by enhancing blood flow in muscles, regular supplementation appears to be able to reduce the amount of oxygen needed by exercising muscles to sustain a given sub-maximal (ie not flat-out) workload, thereby increasing the muscles' efficiency and tolerance to high-intensity exercise, and extending endurance.



Joint Performance®

Don't let age and aches stand in the way of your performance.

From the 30s onwards, a number of physical changes take place in the average person's body. Aerobic capacity decreases, muscle mass reduces, muscle elasticity reduces, lung elasticity declines, bone density reduces, the metabolism slows,

body fat increases, joints ache and the immune system becomes weaker. These changes will have an adverse impact on cycling running performance, and probably the most preventable are joint related injuries and aches. Methylsulfonylmethane (MSM is an organic sulphur containing compound which naturally occurs in various fruits, vegetables, animals, and humans, with the most abundant natural source occurring in cow's milk (Williams, 1966; Pearson 1981). Research has shown MSM provides multiple health benefits including anti-inflammatory effects, antiatherosclerotic and antioxidant activity, sports performance benefits. In the area of joint health extensive clinical research

has demonstrated the utility of MSM in alleviating joint pain and stiffness while improving mobility. So daily supplementation with Bio-Synergy Joint Performance is ideal for cyclists and endurance runners.



Chop the wood with Thermogen®

Whether you cycle to get keep fit, race or for the comradery reducing body fat can be beneficial. There is no doubt that reducing body fat can have significant health benefits and cycling along with Thermogen can achieve this. If however you want to win races, then it is all about reducing weight and maintaining power output, so a reduction in body fat and the associated weight can help you power up even the steepest inclines.

The key ingredient in Thermogen is Yerba mate is a herb traditionally consumed in South America, where it's known for its energy-boosting properties and antioxidant properties. A recent Nutrition and Metabolism study investigated yerba mate's fat-burning properties during exercise. In a study, a group of fourteen men and women were recruited to partake in two sessions on an exercise bike. Each time their test on the bike was the same and each time they received a pill one hour before cycling.

The participants rode on the bike at increasing intensities every three minutes until they reached the limits of their ability to intake oxygen. The researchers measured performance, to determine how much energy was consumed. Results - both fat burning and the percentage of total energy expenditure that came from fat instead of carbs or protein both increased by 24%, as long as the intensity levels were submaximal, or below seventy percent of VO2 peak. For most people, this intensity would be equivalent to a heart rate of between 150 and 160 beats per minute.



Boost performance, with Caffeine boost®

FACT: Caffeine can boost performance, so swap your espresso for the Bio-Synergy Caffeine boost and get the full benefits.

A number of studies have shown significant performance increases in various endurance disciplines following caffeine supplementation.

Don't ignore the science:

In one study, elite runners improved their time in a treadmill run to exhaustion by 1.9% with caffeine. Caffeine boosted time to exhaustion in a cycling test by 15 minutes in another study. And in a study involving swimmers, caffeine was found to enhance performance in maximal-effort swims of up to 25 minutes' duration.

The scientific literature is pretty clear that, used correctly, caffeine does improve performance on the bike, especially short-term, high-intensity efforts. Bell and McLellan found that time to exhaustion during a high-intensity effort (80-percent VO2max) was greatly increased following caffeine dosing. So half an hour before you go out take 1-2 capsules and during a long ride consider taking a further 1 every 2 to 3 hours. If endurance and power are important to you, then Bio-Synergy Ribose can help.

A tough training regime can put a strain on even the fittest hearts and muscles, leaving them weakened for the next exercise session. When athletes take ribose before, during, and after exercise, however, they can better maintain the energy in their muscles and quickly restore any energy that may have been lost. In this way, athletes can keep their hearts and muscles in top

physiological condition for their next exercise session. Studies have proven even very small amounts of ribose, if taken orally, increased the energy recovery in stressed leg muscle by 100 percent.

Raising the dose to a level that would approximately equal 2.5 grams if taken orally increased recovery by about 250 percent, and the equivalent of a five-gram dose increased the recovery rate by a whopping 350 percent. At the maximum dose tested, the recovery increased by as much as 650 percent.

It generally takes no more than a few days to feel the effect of ribose supplementation. If you don't begin to feel an effect after two or three days, try increasing the dose. Remember, your heart and muscles continually burn energy, and it is possible that the smaller Ribose dose is simply not enough.

This is no doubt why Ed Burke PhD strongly advocates the use of Ribose in his most recent book 'Serious Cycling' So #makeithappen with Bio-Synergy Ribose.



Want better performance? Then you need Beta Performance®

A study performed by researchers at Wichita State University in Kansas found that HMB supplementation increased VO2max in well-trained cyclists by an average of 4%. Cyclists took 3 grams of HMB, during a two week period.

The results showed an improvement in VO2max, the researchers found that lactate levels increased, indicating that they were able to work harder, produce more lactate, and tolerate it more. That means an endurance athlete with a VO2max of 70 ml/kg/min could potentially raise his/her VO2max to about 73 ml/kg/min in just two weeks! That could easily be the difference between first and tenth place in a race.

Think what this could do for a road cyclist competing in a stage race. Beta Performance could be very useful for protecting the muscles from the damage of racing, allowing the athlete to recover more completely after each race. Imagine the advantage a cyclist would have in the final stages of a tour. For the same reasons, HMB may be very useful for any endurance athlete during their heavy training periods.





Whey Better®

Whey Better is an excellent source of protein, amino acids and vitamins. Whey Better is without a doubt one of the highest quality proteins available today, don't just take our word for it Essential Cyclist, the Triathlon Tutor and Men's Health have all given it a 5-star rating. So what is it about Whey Better, that makes it way better; Bio-Synergy Whey Better is produced right here in the UK using grass feed protein and is 100% whey isolate, globally recognised as the king of proteins due to its superior amino acid profile over 6.7g BCAA per serving and its ability to be absorbed and utilised by the body efficiently. As you would expect from Bio-Synergy it is also suitable for athletes and gluten free.

Each serving of Whey Better is virtually fat and carbohydrate free so it is ideal either as a standalone drink added to water or if you are feeling more adventurous a smoothie, oats and even for creating high protein snacks and pancakes. So why do you need protein? Each serving of Whey Better provides over 27g of protein which is the equivalent of a large chicken breast! But at a much lower price and a lot easier to prepare. Protein is essential for well-being and health and most research recommends that 20% of your diet should consist of protein and this increases with exercise.

"Whey products are very straight forward and simple which is a good thing because this is the type of product that most people will supplement with before anything else. Whey Better is a simple protein product to help you hit your daily MACROs it will assist you in building, repairing, maintaining and growing muscle and it tastes pretty good as well." - UK Supplement Reviews



Whey Hey®

Whey Hey is without a doubt one of the highest quality proteins available today, don't just take our word for it Men's Health have given it an 8.5-star rating. As you would expect from Bio-Synergy it is also suitable for athletes and gluten free. Each serving of Whey Hey is low fat and carbohydrates so it is ideal either as a standalone drink added to water or if you are feeling more adventurous a smoothie, oats and even for creating high protein snacks and pancakes. So why do you need protein? Whey Hey is a 100% natural protein shake that is gluten free and contains over 20g protein per serving, 4.8g BCAAs which is the equivalent of a large chicken breast! But at a much lower price and a lot easier to prepare and arguably tastier too.

Daily supplementation with a high quality protein supplement such as Whey Hey supports fat metabolism, preserves lean muscle & offsets the sometimes unpleasant sensations of carbohydrate restricted training, so whether you are a recreational or professional cyclist, swimmer or OCR'r Bio-Synergy's award winning protein powders and shakes can play an important role in your training and wellbeing. Protein is essential for wellbeing and health and most research recommends that 20% of your diet should consist of protein and this increases with exercise.

"Taste is king here. Bio-Synergy have obviously set out to make the best tasting shake they could. The nutritional content has suffered slightly because of this plan but they definitely succeeded in making an amazing tasting shake. Both of their offerings taste fantastic but its you're stance on the high sugar content that will probably sway you one way or the other with Whey Hey." - UK Supplement Reviews





Creatine Boost®

Since 1997 Bio-Synergy has been at the forefront of the development of sports supplements and shakes, which have won numerous accolades and set the benchmark for high quality and clean products.

Creatine Boost was launched in 1997 and was a ground breaking innovation as it was the first creatine powder to combine the benefits of creatine monohydrate with carbohydrates and the amino acid L-glutamine.

As you would expect from Bio-Synergy it is also suitable for athletes and gluten free. Creatine Boost will not only increase your power but allow you to increase the intensity of your training and recover faster.

Creatine is probably the most widely used sports nutrition supplement, but is often overlooked by endurance athletes as it is most closely associated with helping to increase lean muscle (which is important in endurance activities), but it also plays a role in reducing lactic acid build up and creating a pool of anaerobic/explosive energy which can be tapped into for a sprint finish or when extra power is needed.

Bio-Synergy Creatine Boost, provides a convenient and delicious way to supplement with Creatine as the refreshing orange flavoured drink is delicious.



Lean & Green®

Lean & Green is a ground breaking innovation as it was the first vegan protein to be free from soya & hemp.

As you would expect from Bio-Synergy it is delicious, suitable for athletes and gluten free. Each serving of Lean & Green is low fat and

carbohydrates so it is ideal either as a standalone drink added to water or if you are feeling more adventurous a smoothie, oats and even for creating high protein snacks and pancakes.

So why do you need protein? Lean & Green is a 100% natural protein shake that is gluten free and contains over 20g protein per serving, 2.8g BCAA's which is the equivalent of a large chicken breast! But at a much lower price and a lot easier to prepare and arguably tastier too. Daily supplementation with a high quality protein supplement such as Lean & Green supports fat metabolism, preserves lean muscle & offsets the sometimes unpleasant sensations of carbohydrate restricted training, so whether you are a recreational or professional cyclist, swimmer or OCR'r Bio-Synergy's award winning protein powders and shakes can play an important role in your training and wellbeing. Protein is essential for wellbeing and health and most research recommends that 20% of your diet should consist of protein and this increases with exercise.



Essential Sports Fuel®

Since 1997 Bio-Synergy has been at the forefront of the development of sports supplements and shakes, which have won numerous accolades and set the benchmark for high quality and clean products. Essential Sports Fuel was launched in 1999 following collaboration with the British & Irish Lions and was a ground breaking innovation, as it was the first recovery powder to combine the benefits of whey

protein with carbohydrates and the amino acids L-glutamine and HMB. As you would expect from Bio-Synergy it is delicious and also suitable for athletes and gluten free.

If you are serious about your performance and what to get the most from each session then recovery is key and choosing the right recovery drink is essential.

The combination of high quality whey protein and carbohydrates along with the amino acids L-glutamine and HMB is a proven formula to maximise recovery.

For best results enjoy a shake after every training session, ideally within 20 minutes.

Essential Sports Fuel® has been delivering results since 1999, so make sure you include it as part of your training regime and start reaping the benefits.

I really rate this product, it mixes well and tastes great - and offers the ultimate recovery after hard training sessions of multi day events / races - Luke Lawrence



Super shaker®

The Bio-Synergy™ Super Shaker Bottle combines style with convenience. Uniquely, the Super Shaker is effectively split into compartments for drinks, powders and supplements, creating two completely separate mixing compartments.

As you would expect from Bio-Synergy the DuelFuel shaker is BPA free and easy to clean.

Anyone who wants the convenience and the ability to store any three items knowing that they are secure. SuperShaker™ twin compartments have multiple uses including holding:

- Pre and Post workout nutrition such as Insanity and Whey Better
- Storage of a drink and healthy snack
- Keys, headphones, money and your intra-workout drink
- Or go large, and put the same drink in both compartments!



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'97 BIO-SYNERGY WAS FOUNDED OUT OF A PASSION FOR HEALTH AND FITNESS AND A DESIRE TO CREATE THE FIRST CLEAN, EFFECTIVE AND HIGH QUALITY RANGE OF SPORTS NUTRITION, TO THE SUPPORT THE GOALS OF ATHLETES AND FITNESS ENTHUSIASTS TO FUEL THEIR PERFORMANCE. BIO-SYNERGY SPORTS SUPPLEMENTS HAVE BEEN USED BY MANY OF THE WORLD'S MOST RESPECTED ATHLETES AND TEAMS



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