ISAGENIX®

Solutions to Transform Lives™

Live long. Live healthy.

THE SCIENCE BEHIND ISAGENIX

Gain A Winning Edge:

Nutrition for Athletic Performance

Live long. Live healthy.

A word from the chief...

Nutrition plays a central role when training for any sport. What you eat and drink on a daily basis can mean the difference between your body having low or high levels of energy, feeling powerful or weak, and operating sluggishly or at peak performance. If you're like most athletes, you've probably asked, "How can I use diet to reach my maximum potential?"

When your goal is to gain a winning edge, you'll want the best nutritional products backed by science. This is where Isagenix comes in for athletes and active individuals. Whether your sport involves endurance, high intensity, or strength and power, Isagenix can be geared for your active lifestyle.

That's the message of this Summer 2014 newsletter, which focuses on how easy it is for different athletes to use the Isagenix Energy & Performance System to fuel their optimal mental and physical performance.

Live well and adventurously,

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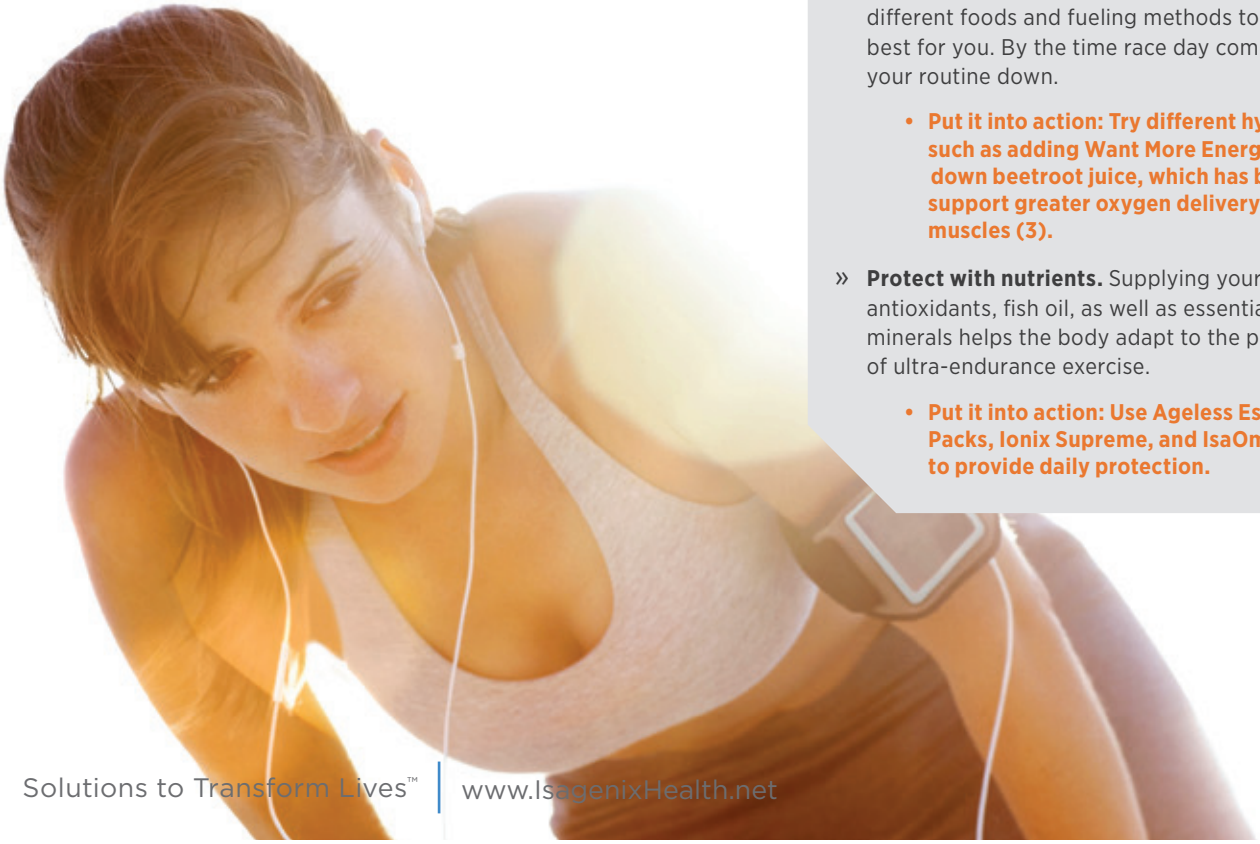
FUELING THE PERFECT RACE

Training for a marathon or triathlon takes dedication. It requires hours of hitting the pavement, pushing through ailments, and intense mental concentration. Proper nutrition can also be the difference between participating and competing in a race—and with so much of yourself invested in your goal, it's a training component you can't afford to ignore.

According to the American College of Sports Medicine, an endurance athlete is one who trains and competes for 90 minutes or longer. Carbohydrates are the most effective form of fuel to support endurance athletes because they are easily converted to energy by the body. We can store carbohydrate energy—in the form of glycogen in muscles and liver—but that can only last so long without replenishment.

The amount of glycogen stored (and how long you can rely on it for fuel) varies person to person. In general, a 150-pound man stores about 2000 calories of glycogen fuel (1) or approximately 90 minutes of exercise energy before glycogen stores become depleted and the body must rely on fat for fuel. Complete glycogen depletion results in reduced speed and efficiency, also known as "hitting the wall."

To avoid an energy crash during your race, it's essential to provide your body with proper fuel during your training as well as before, during, and after the race.



1 TRAINING NUTRITION:

During training, it's important to provide your body with quality nutrition so it can push through physically demanding workouts.

» **Not all carbohydrates are equal.** Your body needs carbohydrate fuel (glycogen) to perform, but don't think this means you can binge on cheesy lasagna dishes, gorge on doughnuts, or snack on potato chips. Focus on whole grains and fresh fruits and vegetables as your main carbohydrate sources. The key is to increase your intake of these healthy carbs.

- **Put it into action: Add banana and oats to your IsaLean or IsaLean Pro Shake.**

» **Protein isn't just for bodybuilders.** Because there's so much focus on carbohydrates for endurance athletes, protein is frequently ignored. Eating high-quality protein during your training can help maintain muscle mass, improve stamina and race time, speed recovery, and support a healthy immune system (2). Through balanced nutrition, you can keep your body healthy and primed for the race ahead.

- **Put it into action: Consume protein throughout the day, even when you're on the go with IsaLean bars.**

» **Time for trial and error.** Tolerance of certain foods differs for each individual. Training is the time to try different foods and fueling methods to see what works best for you. By the time race day comes, you'll have your routine down.

- **Put it into action: Try different hydration methods such as adding Want More Energy? to watered-down beetroot juice, which has been shown to support greater oxygen delivery to working muscles (3).**

» **Protect with nutrients.** Supplying your body with antioxidants, fish oil, as well as essential vitamins and minerals helps the body adapt to the physical stress of ultra-endurance exercise.

- **Put it into action: Use Ageless Essentials Daily Packs, Ionix Supreme, and IsaOmega Supreme to provide daily protection.**

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2 PRE-RACE DAY:

About three days before your race you'll cut back on training so your body is fully recovered when you're at the starting line. But that doesn't mean you should ditch your diet routine. The few days leading up to your race are the most important time for replenishing glycogen stores.

» **Moderately increase carbs.** Because your exercise output will decrease prior to your race, a degree of carb-loading will ensue just by sticking with your current diet. The percentage of carbohydrates that should be consumed differs from person to person, but on average about 60 to 70 percent of your calories should come from carbs (1). If your diet during training has allowed you to perform well, stick with that routine and increase carbohydrate sources slightly.

- **Put it into action: Try three scoops of IsaLean Shake, rather than two, to increase carbohydrate intake.**

3 RACE DAY:

Nervous (but excited) jitters are common on race day. Your appetite may be nonexistent, but don't pass on pre-race fuel.

» **Keep going with carbohydrates and caffeine.** In addition to eating a carb-centered meal before your race, consume carbohydrates during your race. This will prevent complete glycogen depletion so you don't "hit a wall." Also, consuming caffeine along with carbohydrate may spare the body from glycogen depletion and exhaustion (4).

- **Put it into action: Along with your carbohydrate-rich pre-race meal, take an e+ Natural Energy Shot.**

» **Stay hydrated.** It's very important to drink small amounts of water regularly during your competition. (Chugging down a lot at once can lead to an upset stomach.) Also, providing your body with water and electrolytes will prevent muscle cramps.

- **Put it into action: Take advantage of the water stations along the race. Even better, fill your "fuel belt" with Want More Energy? for electrolyte replenishment.**

4 POST-RACE DAY:

After hours of training, you have finally achieved your goal and completed your race. Thank your body for all the work it did by giving it the nourishment it craves.

» **Replenish glycogen and protein.** Even if you followed all the rules for loading up on carbohydrates before and during your race, you'll still have some work to do after your marathon or triathlon. Studies show carb uptake by muscle to be three and a half times greater after eating protein and carbohydrate together compared to smaller amounts of carbohydrate alone (5).

- **Put it into action: Drink your IsaLean or IsaLean Pro Shake with added carbohydrates to replenish glycogen and muscle.**

Competing in ultra-endurance races can be very rewarding and challenging. By nourishing your body properly, you can cross the finish line with a sense of accomplishment knowing you supplied your body with what it needed to succeed.

Want More Energy? for electrolyte replenishment

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NUTRITION FOR GAINS IN STRENGTH & POWER

PICTURED: Lori Harder, Fitness Competitor & Isagenix Millionaire.
Amen Iseghohi, Personal Trainer & Founder of the AmenZone Foundation.

While speed and lightening-fast reaction time matter, improving strength and power is the ultimate goal of athletes, as well as those who want to build more muscle. Many athletes find themselves slaving away in the gym, on the field, and at the track, only to fall short of their goals. Even the best training plan can fail without the right nutrition.

Along with a well-planned training regimen, knowing what to eat, when to eat, and how to supplement with Isagenix is key in creating a winning dietary strategy for keeping body fat in check while building muscle, strength, and power.

Carbohydrates are the first source of energy for strength and power athletes. A limited amount of carbs are stored as glycogen in muscle. When glycogen stores are too low to meet energy demands the consequence can be early fatigue, greater susceptibility to overtraining, and impaired immune function. For strength and power athletes, carb intake should increase on days with a higher training load. Matching carb intake with activity level will improve performance and workout quality while promoting recovery of glycogen stores between training sessions.

Protein is the major structural component of muscle. When dietary protein intake is too low, muscles will break down and gains in size, strength, and power will be compromised. But not all protein is equal. Much research suggests that whey protein, which is high in branched-chain amino acids (BCAAs), is a superior protein source for igniting muscle synthesis (1,2).

Consuming protein is not only great for promoting muscle gain, but also fat loss. Protein can suppress hunger more than fats or carbs (3,4) leading to reduced calorie intake. Protein is also highly thermogenic, meaning it requires a lot of extra energy just to absorb and digest. Whey protein is more thermogenic than other sources, which is a win-win for athletes trying to build muscle, burn fat, and get lean (3).

Healthy fats are also important for athletes. They're used as structural components of cellular membranes, hormone production, and are necessary for the absorption of fat-soluble vitamins. Similar to protein, fats can increase satiety to help prevent overeating and to keep body fat levels in check.

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The importance of carbs, protein, and fat in the diet is clear, and every athlete should strive to meet but not exceed calorie needs. In planning a dietary strategy to build muscle and boost strength and power, it's not just what you eat that matters—when you eat is also important.

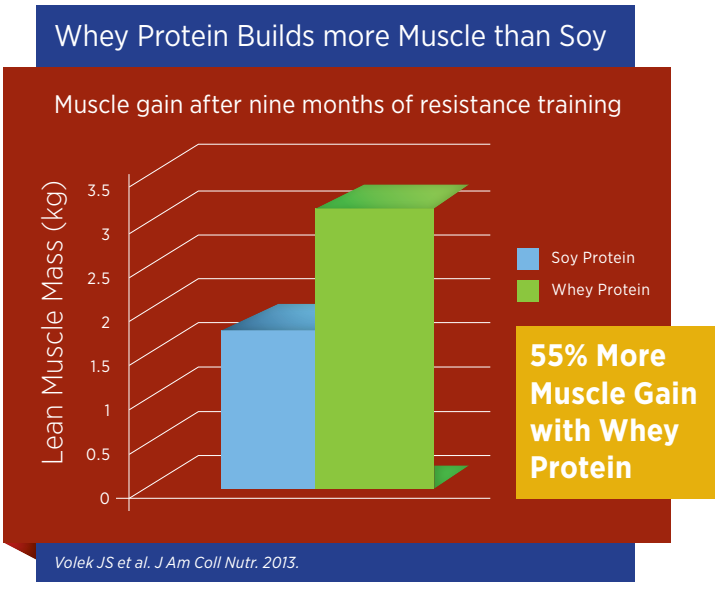
Muscle building can be maximized, muscle breakdown minimized, and hunger curbed when high-protein meals (20 to 40 grams protein) are eaten at regular intervals, four to five times per day (5,6). IsaLean and IsaLean Pro meal replacements fit perfectly into this plan with 24 and 36 grams of protein, respectively. The shakes are high in whey protein—the best type for building muscle and burning fat—and also contain low-glycemic carbohydrates for sustained energy, along with healthy fats and fiber for curbing hunger.

Like IsaLean shakes, IsaLean Bars are a good source of protein (approx. 20 grams). For athletes with a faster metabolism requiring extra calories and protein, IsaLean Bars also make a great snack and are especially convenient for on-the-go athletes.

Pre-Workout Nutrition

Optimal pre-workout nutrition should fuel the body with quick carbohydrate energy and BCAA-rich protein to stop muscle breakdown. Nutrients to boost focus and stamina are also necessary. Enter a workout fully charged by eating an IsaLean Bar 30 to 90 minutes before training and an e+ Natural Energy Shot within 30 minutes of training.

Providing 30 grams of carb energy, IsaLean Bars give you the fuel to lift heavier, run faster, and explode more powerfully. The payout is more gains in strength, power, and muscle mass as well as a quicker recovery. As an extra bonus, entering a workout fed results in greater calorie burning during the workout (7), a major benefit for athletes looking to shed fat. IsaLean Bars also supply 18 grams of BCAA-rich protein to help stop muscle loss caused by hard training.



Getting the most out of your workout requires the right mindset, too. This means being focused, motivated, and energized – all benefits supplied by e+ Natural Energy Shot. The combination of caffeine and Adaptogens in e+ Natural Energy Shot provides sustained energy in the face of extreme training.

Post-Workout Nutrition

Combining whey protein with a source of carbs within 30 minutes of finishing a workout will stimulate muscle growth and improve recovery (1). Intense exercise damages muscle, triggering a chain of events where muscle is repaired and rebuilt stronger. Having IsaPro post-workout amplifies this muscle remodeling, and adding carbs improves recovery by speeding the return of glycogen stores and the stress hormone cortisol to pre-exercise levels.

With 36 grams of pure whey protein concentrate in two scoops, IsaPro is your go-to post-workout solution for muscle building and repair. High in BCAAs and leucine to ignite muscle-building pathways, and with no considerable amounts of fiber or fat to slow the absorption, IsaPro provides amino acids to muscle for immediate use.

Following a workout, the body is sensitive to carbs making it the ideal time to restore depleted glycogen reserves. For athletes who train daily or more than once per day, taking advantage of this window by adding carbs such as fruit or oats to IsaPro will ensure you go into your next training session well-fueled. Additionally, carbs can also help lower cortisol—the "stress hormone" that helps provide fuel during exercise but can be detrimental to muscle tissue if it remains high after a workout.

For strength and power athletes, Isagenix has high-quality products to prime you for your workout, power you through training, and help you recover quickly and effectively.

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TRAIN HARDER AND LONGER WITH e+

When it comes to better workouts, proper nutrition and hydration play a big part. But athletes and exercisers would be wise to add the world's most widely consumed pick-me-up to their pre-workout routine: caffeine. Caffeine is one of the most effective, safe, and easy-to-consume performance boosters available.

Because moderate doses of caffeine are so effective at improving athletic performance, governing boards that regulate Olympic and collegiate sports consider it a "controlled or restricted substance" (1). This means that athletes can consume normal amounts, but large amounts indicate it's being used as a performance-enhancing substance and is not allowed. And really there's no need to over-consume caffeine. Excessive amounts don't have to be consumed for beneficial effects—studies show around 100 mg of caffeine can do the trick (2).

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Caffeine on the Brain and in Muscle

The reason why caffeine has such an effect on athletic performance has to do with the actions it exerts in the body—mainly in the brain and in muscle.

In the brain, caffeine blocks the action of a neurotransmitter that causes fatigue (3). This explains why athletes can work out longer, with more focus, and with higher energy after consuming caffeine. Caffeine also leads to increased release of endorphins following exercise, leading to increased feelings of happiness. Additionally, endorphins can decrease the perception of pain, which may translate to higher-intensity workouts (4).

When it comes to muscle, caffeine goes to work by improving fuel usage. During intense workouts, muscles are pulling from glycogen (stored carbohydrate) for fuel. Once glycogen runs out, however, fatigue or exhaustion will set in and you'll "hit the wall." But with caffeine, studies show muscles target fatty acids as fuel, sparing glycogen. This "fuel substitution" leads to more efficient fuel utilization and greater stores of glycogen that equate to longer workout times (5).

How to Use Caffeine for Better Workouts

The very real effects caffeine has on athletic performance are well-established, but when and how is the best way to take it? According to the International Society of Sports Nutrition, taking caffeine about an hour before exercise will yield the greatest benefits. It varies from person to person, with some studies having even shown benefits when taken only 15 to 30 minutes before exercise (5).

As for how much to consume, research supports as little as 100 milligrams up to 600 milligrams provide benefits. Beyond this amount, however, there doesn't seem to be any additional benefit of caffeine's effect on performance (5).

Unique Combination of Caffeine and Adaptogens: e+

What makes e+ stand out from the rest is its combination of naturally sourced caffeine from green tea and yerba mate and plant-based Adaptogens. This unique blend of Adaptogens and caffeine allows for a steady release of energy rather than a spike followed by a crash.

Additionally, a large body of evidence shows that Adaptogens can support endurance, stamina, and better recovery after exercise (6). For Example, eleuthero has been shown to improve endurance exercise and oxygen intake. Another adaptogen, rhodiola, may improve heart rate response to exercise.

No matter what type of athlete you are, whether professional or just heading to the gym, get the performance-boosting effect of e+. Don't work out without it.

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FAST FACT:

It can take 15-60 minutes for caffeine to reach peak plasma concentrations after consuming.

continued »

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HOW ISAGENIX e+ IMPROVES PERFORMANCE

Give your performance a boost with a unique blend of naturally sourced caffeine from green tea and yerba mate plus adaptogens including rhodiola and eleuthero.

YOU SNOOZE YOU WIN

When All-Star point guard Steve Nash talked to *The New York Times* about how he was going to stay on top of his game after so many years playing in the NBA, he didn't say that he would run more, lift more, or do anything special with his diet. He said he'd sleep more. "If you nap every game day, all those hours add up and it allows you to get through the season better," Nash told the newspaper (1).

Nash was on to something. It turned out in the newspaper's story that NBA players, along with NHL, were among the most likely professional athletes to take up napping because their games occur more often than others.

There are even NBA teams that have adopted training programs from Dr. Charles Czeisler, the Director of the Division of Sleep Medicine at Harvard Medical School and Chief of the Sleep Medicine Division at Brigham and Women's Hospital in Boston. They've dubbed him the "sleep doctor."

The nickname is no joke. In 2013, Dr. Czeisler wrote an article in *Nature* that between 50 and 70 million people in the United States suffer from sleep disorders and sleep deficiency, which is linked to greater risk of obesity, heart disease, depression, and stroke (2;3). Some 40 percent of people don't get enough sleep, while 25 percent report difficulty concentrating because of fatigue. Those numbers are expected to rise (2;3).

All things considered, we are a nation plagued by sleep troubles and that's sapping away at energy and performance. Recognizing this problem amongst their players is the reason why NBA teams seek Dr. Czeisler's recommendations for improving sleep quantity and quality for athletes.

As far as Dr. Czeisler's advice, he says to avoid caffeine at night and turn off electric lights—that means room lights, TVs, mobile phones, tablets, and more. He writes that light "affects our circadian rhythms more powerfully than any drug."

Sleep is "essential to our physical well-being," Dr. Czeisler writes, so it's important to consider how using artificial light at night affects our health and performance.

The way artificial light interferes with circadian rhythms is by suppressing the release of the pineal hormone, melatonin. Melatonin is a focus of Dr. Czeisler's lab because restoring the hormone in the brain can help to normalize circadian rhythms.

Moreover, Dr. Czeisler's lab is trying to understand how specific wavelengths of light, as well as their timing, duration, and intensity, act on photoreceptors in the eyes to determine circadian rhythms of humans.

The research is key for athletes because better regulation of sleep is vital for human performance. After all, it's during sleep that the majority of recovery and renewal of muscles and the brain take place. Not getting enough or good quality sleep daily can mean not making the necessary adaptations from training for improved performance during competition.

But as with NBA players, generally, most athletes don't have the luxury of a normal schedule or can avoid being surrounded by artificial lights. Quite the opposite—athletes often have the most hectic of schedules, resulting in "jet lag," and are under the spotlight more than the average person.

The decrease in their melatonin levels and interference in circadian rhythms these athletes experience can result in trouble falling asleep or staying asleep, and more sleepless hours can cut into athletic potential.

Another problem is that as athletes grow older, their melatonin levels generally drop over time. Nash, for example, at age 39, is likely to release less melatonin than younger counterparts, which can mean a big difference on the court in terms of energy levels.

Apart from minimizing the interference of artificial light and caffeine, there is one other method that scientific studies show works well to normalize circadian rhythms in anybody, helping them to fall asleep faster, have a better quality sleep, and wake up more refreshed (4). That method is melatonin supplementation to help reset the body's "sleep-wake" cycle.

One of the most common questions of athletes regarding supplementation is whether or not it's safe for them. All evidence considered, melatonin supplementation has not only shown to be well-tolerated and completely safe, even when used over the long-term, but also can counteract the effects of the harmful "drug" that is artificial light (4;5).

Isagenix Sleep Spray and Renewal is a melatonin supplement designed for ultimate convenience. The fast-acting spray is light for traveling and one that can be left by the bedside table for quick use prior to napping or sleeping at night, offering rewards of more rapid recovery after training for improving health and performance.

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How Different Athletes Can Use the Isagenix Energy and Performance System

	Endurance Athletes: * Engage in low to medium intensity activities that require stamina, elevating the heart rate for prolonged periods. **(Note: Menu is for pre-race day.)**	High-Intensity Athletes: * Engage in activities requiring repeated bouts of short, intense exercise including team sports like football, basketball, and soccer.	Bodybuilders: * Engage in weight training and supporting cardiovascular exercise to achieve maximal strength and aesthetic goals.
Breakfast	IsaLean Shake 16 oz orange juice 3/4 cup dry oatmeal 1/2 cup berries	Large whole-grain bagel 2 tbsp low-fat cream cheese 1 egg or 1/2 cup egg whites	1 cup dry oatmeal 1/2 cup strawberries Spinach omelet (1 egg or 1/2 cup egg whites)
Morning Snack	Large whole-grain bagel Nut butter Large banana	3/4 cup granola Apple	1/2 cup granola 1 cup fat-free Greek yogurt
Lunch	IsaLean Shake (3 scoops) Peanut butter and jelly sandwich 2 oz whole-grain crackers	IsaLean Pro Shake 1 cup peaches	IsaLean Pro Shake 1 cup berries
Afternoon Snack	1/2 cup granola 1/2 cup peaches	IsaLean Bar e+ Natural Energy Shot	IsaLean Bar e+ Natural Energy Shot
Post-workout	(No training prior to race day.)	1 scoop IsaPro 1 cup low-fat chocolate milk Large banana 1/3 cup oats	1 scoop IsaPro 1 cup Low-fat chocolate milk Large banana 1/3 cup oats
Dinner	2 cup cooked whole-grain pasta 3 oz. shrimp Dinner roll Side salad	4 oz. salmon Mixed vegetables 2 cup steamed brown rice	4 oz. chicken breast Steamed asparagus Large (10 oz.) sweet potato
	500 grams carb **120 grams protein (1.5 g/kg)** **50 grams fat** **2800 calories**	**375 grams carb** **170 grams protein (2.1 g/kg)** **50 grams fat** **2500 calories**	**325 grams carb** **190 grams protein (2.4 g/kg)** **30 grams fat** **2200 calories**