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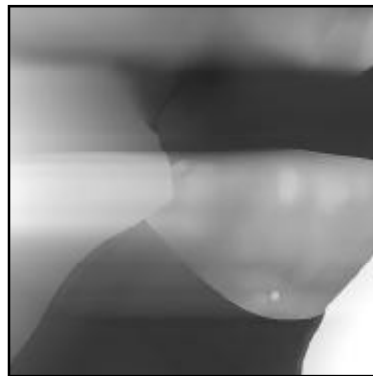
## Update 1:

Gaining Muscle  
and Staying Lean



## Update 2:

Diet to Lose Fat  
and Stay Lean



## Update 3:

Ultra High Energy  
Diets For Athletes



# UPDATES

RESULTS . . . THAT'S WHAT YOU GET FROM PARRILLO PRODUCTS

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# Gaining Muscle and Staying Lean: A Common Sense Approach

by John Parrillo

Are you training hard but not putting on enough muscle? The answer is simple: eat more calories. The problem is how do you eat plenty of calories to make muscle without getting fat at the same time?

Whether you gain muscle or fat depends largely on what foods you eat. While too many calories from any food can make you fat, some foods have much more tendency to make you fat than others. To prove it to yourself, just pull out 1000 calories of rice and chicken from your diet and replace it with 1000 calories of cheese burgers and french fries and see what happens. You have to learn to structure your diet so that you supply calories

lean and muscular. Your worst enemies are fatty foods and simple sugars. Conventional dietary fats are very prone to be stored as body fat. After being digested, these fats are transported to fat depots and stored. Simple sugars and other refined carbohydrates are released into the bloodstream more rapidly than they can be used for energy or converted to glycogen. This elicits a large insulin release which in turn causes the excess sugar to be converted to fat. On the other hand, excess calories from protein and unrefined complex carbohydrates have less tendency to be stored as fat. Good lean protein sources include skinless chicken breast, skinless turkey breast, fish, and egg whites. Good sources of starchy carbs are beans, rice, potatoes, peas, corn, and oatmeal. We also recommend you eat a lot of fibrous vegetables such as spinach, lettuce, carrots, broccoli, green beans, and asparagus.

And here's where CapTri® fits in. CapTri® provides 8.3 calories per gram - twice the caloric density of protein or carbohydrates. But in-



stead of being stored as body fat CapTri® is immediately burned to release energy (1). Whereas conventional fats are stored in body fat depots, CapTri® is transported directly to the liver where it is converted into energy (1). If eating regular food is like throwing a log on the fire, then eating CapTri® is like pouring gasoline on the fire. This makes CapTri® an ideal energy source for bodybuilders and

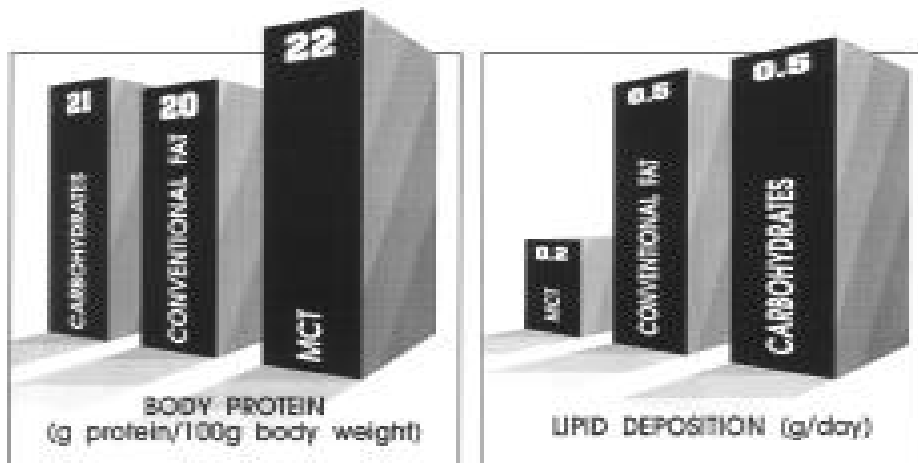
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***You have to learn to structure your diet so that you supply calories from foods that don't make you fat.***

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from foods that don't make you fat. There are different kinds of calories. Some foods make you fat and some foods just naturally make you

## Gaining Muscle and Staying Lean: A Common Sense Approach



*Effects of feeding carbohydrates, conventional fat, and MCT on body composition in the rat. MCT feeding resulted in 5 and 10% increases in body protein as compared to feeding carbohydrates or conventional fats, respectively. Daily lipid deposition was 60% less in the MCT group. Data from Crozier et al, 1987, table 2.*

other athletes - it allows you to consume a ton of calories without getting fat.

The replacement of conventional dietary fats with lipids like CapTri® results in much less body fat (2,3). This is not so surprising since CapTri® is immediately burned for energy while regular fats are just stored as body fat. The amazing thing is that diets containing lipids like CapTri® result in less fat gain than even low-fat diets (2,3). In other words, CapTri® results in less fat gain than carbohydrates. And if your weight goes up, and it's not fat, then it must be lean mass.

To understand this you have to know something about carbohydrate metabolism. Carbohydrates are released into the bloodstream as glucose and this stimulates the pancreas to release insulin. Insulin in turn causes cells to absorb glucose and amino acids, supporting growth. For this reason many people consider insulin to be the most powerful anabolic (growth-promoting) hormone. However, insulin and glucose also promote fat accumulation by increasing storage of fatty acids in fat

cells. So the same hormone which promotes growth also promotes fat storage. If carbohydrates are released into the bloodstream faster than they can be used for energy and to replace glycogen, the excess will be stored as fat.

The enzymes that make new body

even in the presence of insulin (2). This suggests that CapTri® may permit you to derive the anabolic effect of insulin while avoiding its fat-promoting effects. Could this be the reason athletes on our diet experience increased muscularity with decreased body fat?

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***If eating food is like throwing a log on the fire, then eating CapTri® is like pouring gasoline on the fire. This makes CapTri® an ideal energy source for bodybuilders and other athletes because it allows you to consume a ton of calories without getting fat.***

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fat and convert glucose into fat are less active if lipids like CapTri® are included in the diet. Insulin normally stimulates these fat-storing enzymes to store any excess calories as fat. The amazing thing is that when lipids like CapTri® are included in the diet these fat-making enzymes are less active—

The anti-catabolic properties of CapTri® are another good reason to include it in your mass building diet. Studies show that lipids like CapTri® spare body protein (7). Structured lipids, which contain medium chain fatty acids, improve nitrogen balance and are believed to increase weight by protein re-

## Gaining Muscle and Staying Lean: A Common Sense Approach

tention whereas conventional fats contribute to weight gain by increasing body fat (7, 8). Medium chain triglycerides like CapTri® increase protein synthesis in the liver more so than conventional fats or glucose (7). Also, after glycogen stores have been depleted the branched chain amino acids leucine, isoleucine, and valine are oxidized as fuel in the muscles. In the liver, CapTri® is converted into ketone bodies which are released into the bloodstream and used as fuel (1). "Skeletal muscle can readily burn ketone bodies for fuel and may spare the oxidation of branched chain amino acids and reduce skeletal muscle protein catabolism," (6). The sparing of BCAA would leave these amino acids available to build muscles instead of being burned as fuel.

CapTri® is a special lipid called a medium chain triglyceride which is purified from coconut oil by fractional distillation. This is the same way that jet fuel is purified from crude oil. CapTri® has a different molecular structure than regular fats and this results in it being immediately burned for energy instead of being stored as body fat (1). In CapTri®, all of the harmful long chain fats have been removed, leaving only a pure energy source which is absorbed and metabolized as rapidly as glucose (1). CapTri® is burned so fast that it doesn't have a chance to be stored as fat.

To derive the maximum benefit from CapTri®, or any other supplement, use it in conjunction with the proper diet. The **Parrillo Performance Nutrition Program**, by John Parrillo, describes the ulti-

mate diet for bodybuilders. How to eat to gain muscle and lose fat. Proper nutrition is the foundation of bodybuilding success. We provide the information you need to make your effort in the gym pay off - big time. What sets us apart is our program is based on sound, basic principles of healthy nutrition. With Parrillo, food comes first, then supplements. We find that basic nutrition gets better results than high-tech hype. We're here to show you how to get big. Now.

CapTri® is the most highly refined, ultrapurified MCT on the market. The formulation of CapTri® was specifically designed for people who want to be as lean as possible. CapTri® is available exclusively from Parrillo Performance. If you need to go up in

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*Just one tablespoon of CapTri® with each meal provides the quality calories your body needs for adding lean body mass and keeping bodyfat to a minimum.*

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calories to put on more muscle, try CapTri®.

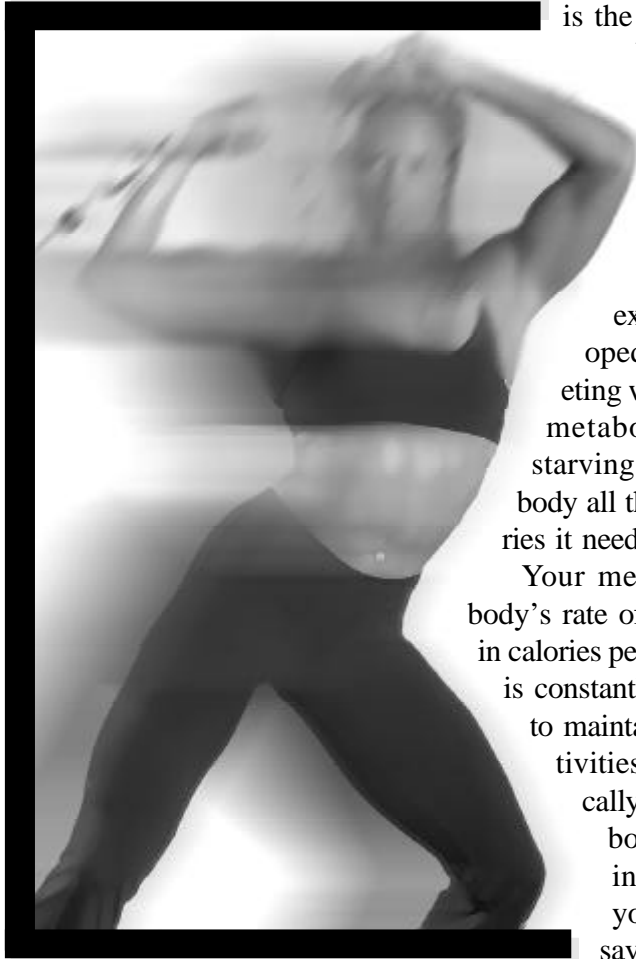
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# Diet to Lose Fat and Stay Lean

by John Parrillo



is the foundation of body-building success. When it comes to fat loss, there are no miracles or shortcuts. It takes a good lean diet and plenty of aerobic exercise. We've developed an approach to dieting we call "building your metabolism." Instead of starving yourself, give your body all the nutrients and calories it needs to be healthy.

Your metabolic rate is your body's rate of energy expenditure, in calories per hour (1). Your body is constantly consuming energy to maintain itself and fuel activities. When you drastically reduce calories your body thinks it's starving, so it slows down your metabolic rate to save fuel. You actually

lose more muscle than fat during low calorie diets. And since muscular tissue burns more calories per hour than fat tissue, if you lose muscle mass your metabolic rate automatically slows down.

Paradoxically, drastically cutting calories actually promotes fat storage by increasing the activity of a fat storage enzyme called lipoprotein lipase (2). When your body's starving it wants to hold on to all the fat it can, to try and ensure its survival. Your body fat stores rep-

resent an energy reserve to keep you alive until the famine passes. So during a low calorie diet you do lose weight, but most of it is muscle and water. And in the process your metabolism slows down and your fat storage systems are cranked up. So when you resume normal caloric consumption you gain back the weight you lost, if not more. The difference is you lost mostly muscle and you gain back mostly fat, so the net result of your diet is that you're fatter than when you started. This is why low calorie diets are not effective.

So what do you do? How can you achieve an energy deficit without losing muscle and activating your fat storage systems? By feeding your body the right combinations of foods, at the right times, you can shift your metabolism into an anabolic, fat-burning mode. That's what the **Parrillo Performance Nutrition Program** is all about. By speeding up your metabolism you can achieve an energy deficit without cutting calories.

As you know, different foods have different effects on your body. Foods like cheese burgers and french fries tend to make you fat. On the other hand, it's hard to get fat eating rice and fish. Scientists call this "food efficiency" - the calories consumed of a particular food divided by the resulting weight gain (3). The higher the food efficiency, the more that food

People used to believe that the way to lose weight is just to eat less. And sure enough, if you consume less calories than you expend then you'll lose weight. But whether the weight you lose is muscle or fat depends on how you do it. Just like a certain diet helps you stay lean while you're gaining muscle, the proper diet will help you hold onto your muscle while you're losing fat.

We believe that proper nutrition

## Diet to Lose Fat and Stay Lean

contributes to weight gain. Foods with a low food efficiency are more prone to be burned for energy instead of being converted to body weight.

CapTri® is a special kind of fat called a medium chain triglyceride. CapTri® harnesses the energy density of fat but is not stored as body fat (4). The molecular structure of CapTri® results in it being metabolized differently than conventional fats. Instead of being transported to fat depots like regular fats, CapTri® is transported directly to the liver and is immediately burned to produce energy (4, 5). As a result, CapTri® has a lower food efficiency than regular fats (3, 5). When conventional dietary fats are replaced with lipids like CapTri®, test animals stay much leaner (6, 7). Probably the most amazing thing is that lipids like CapTri® also have a lower food efficiency than carbohydrates (3, 8). This means that it's harder for your body to convert CapTri® into fat than it is to store excess carbohydrates as fat.

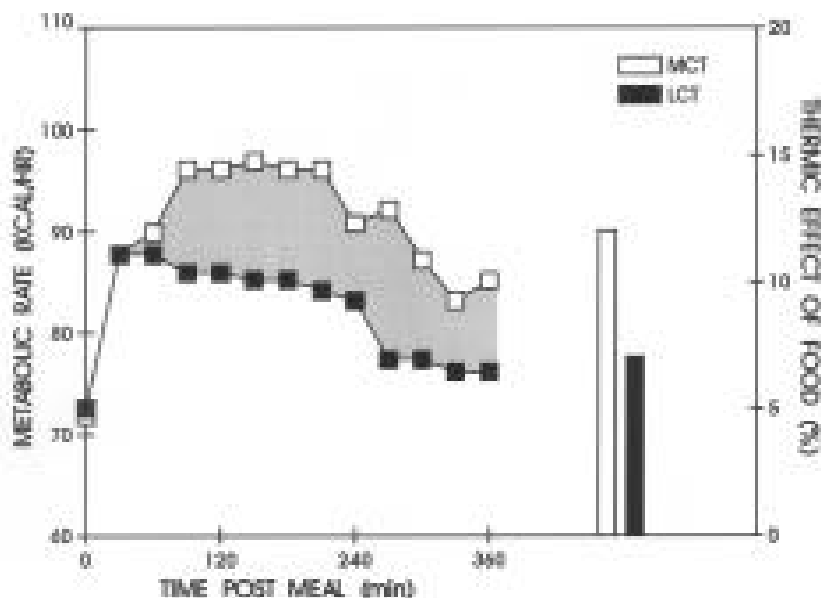
Bodybuilders use CapTri® while dieting because it has a lower food efficiency than carbohydrates and conventional fats (3, 6, 7, 8). CapTri® is burned rapidly in the liver (4, 5) and some of the energy is released as body heat in a process known as thermogenesis. The thermogenic effect is probably the most important reason why CapTri® has such a low food efficiency (5, 7, 9, 10). Instead of being stored as fat, excess calories from CapTri® are converted to body heat, and this means you burn

more calories per hour. This explains why calories from CapTri® contribute less to fat stores than an equivalent number of calories from conventional fats or carbohydrates (3, 6, 7, 8).

Scientific studies have shown that when lipids like CapTri® are used in place of carbohydrates, body fat stores are lower (3, 8). And less carbohydrates are converted into fat, even in the presence of insulin (8). Insulin is an anabolic hormone which is released from the pancreas in response to an increase in blood glucose (sugar). Insulin causes cells to absorb glucose and amino acids, thereby stimulating

growth. Unfortunately, insulin also causes fat cells to absorb glucose and fatty acids, stimulating fat storage. Fat storage enzymes are less active when lipids like CapTri® are added to the diet, even under conditions of insulin stimulation (8).

Bodybuilders have used low-carb diets for years. When you reduce carbs you in turn reduce insulin (remember, insulin promotes fat storage) and activate the carnitine shuttle. The carnitine shuttle is a transport system which moves fatty acids inside mitochondria - the furnaces inside cells where foods are burned for energy. Carbohydrate metabolism generates a by-prod-



**Metabolic rate for the six hour period following MCT- or LCT-containing meals. The thermic effect of feeding (TEF) was calculated as the metabolic rate following feeding minus the fasting metabolic rate, in Calories per hour. The area between the curves (shaded represents the difference in TEF for MCT and LCT. The bar graph at right expresses TEF as percent of total ingested energy (1,000 Calories). Since CapTri is more efficiently converted to energy, it has less tendency to store as body fat.**

## Diet to Lose Fat and Stay Lean

uct called malonyl-CoA, which inhibits the carnitine shuttle. This is why not much body fat is burned for energy as long as carbohydrate fuel is available. During low carb diets no malonyl-CoA is produced so the carnitine shuttle is activated. The body shifts into a fat-burning mode. Glucagon is another hormone, also produced by the pancreas, but with the opposite actions of insulin. After you eat a big carbohydrate meal your body releases insulin which causes cells to absorb glucose. Some of the glucose is used for energy and the excess is stored as glycogen and fat. As the blood glucose level goes down, the insulin level goes down too. After your cells run out of glucose, glucagon is released as a signal to begin burning fat.

The problem with the old low-carb diets is that you don't have much energy and your metabolism slows down because you're not consuming enough calories. You're really not consuming any fuels that your body likes to use for energy. In the new low-carb strategy, you use CapTri® in place of starchy carbs. This results in decreased insulin production and increased glucagon release. The carnitine shuttle is active and fat metabolism proceeds at a maximal rate. The calories from CapTri® provide the energy you need to keep training hard. Also, by substituting CapTri® for an equivalent number of calories from carbohydrates you avoid the slow-down in metabolic rate which inevitably results from calorie-restricted diets. Since CapTri® has a lower food efficiency than carbohydrates, this

means your calories will be burned instead of being stored as fat.

CapTri® is the most highly refined, ultrapurified MCT on the market. The formulation of CapTri® was specifically designed for people who want to be as lean as possible. CapTri® is available exclusively from Parrillo Performance. So if you're looking for a good source of calories to provide energy while dieting, try CapTri®. And do your aerobics.

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*CapTri®, as a regular supplement to your nutrition program, gives you the calories to stay lean and maintain energy while cutting carbohydrates.*

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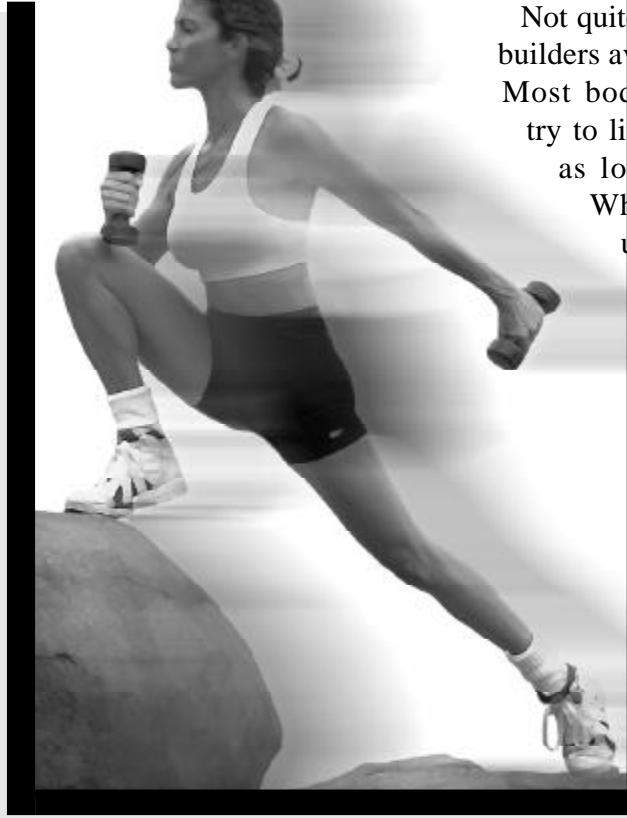
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# Ultra High Energy Diets for Athletes

by John Parrillo



Not quite. As you know, bodybuilders avoid fat like the plague. Most bodybuilders these days try to limit fat consumption to as low as 5% of calories.

What's the problem with using fat as an energy source?

The main thing is that dietary fat has a very strong tendency to deposit as body fat instead of being burned for energy. Here's why: Conventional dietary fats are not soluble in water and this makes them very hard for your body to digest and absorb. In fact, the fat molecules

can't even get into the capillary beds of the small intestine. Inside intestinal cells these fats are incorporated into carrier particles called chylomicrons (1). The chylomicrons are released from the small intestine into the lymphatic system, a network of vessels throughout the body for transporting large particles. The chylomicrons are released from the lymphatic system into the bloodstream through the thoracic duct, in the neck. Once in the general circulation the chylomicrons are transported throughout the body - including to fat stores. The presence of glucose and insulin stimulates fat cells to store

the fat molecules as body fat. So most of the fat on your plate is going to end up on your waist or hips.

Why doesn't your body just go ahead and burn the fat as fuel instead of storing it? There are two primary forms of fuel your body uses for energy: fat and carbohydrate. Carbohydrate is your body's favorite. It burns the carbs first and saves the fat for later. Why? Because fat is twice as concentrated in calories as carbs, your body reserves fat for its storage form of energy. By storing energy as fat it can compact more energy into a smaller space.

Fats are converted into energy in the mitochondria - little furnaces inside cells where foods are burned. The problem is regular fats can't make it into the mitochondria by themselves - they have to be carried inside by a transport system called the carnitine shuttle (1). And the carnitine shuttle isn't very active as long as carbohydrate fuels are available. Carbohydrate metabolism generates a by-product called malonyl-CoA, which inhibits the carnitine shuttle (1). This is the reason your body doesn't burn much fat for energy until the carbs are used up.

CapTri® is a member of a class of lipids called medium chain triglycerides. CapTri® has a different molecular structure than body fat, so your body doesn't just automatically store it in fat depots. In fact,

Athletes and other extremely active people have an increased need for energy. Some bodybuilders and endurance athletes consume 8,000 to 10,000 calories a day to fuel their activities and support growth. That's about five times as much energy as sedentary people. Fat is nature's most concentrated energy source, providing 9 calories per gram - twice the caloric density of protein or carbohydrate. The liver and muscles are capable of metabolizing large amounts of fat for energy. So fat should be a great source of energy for athletes, right?

your body treats it more like a carbohydrate (2). Remember how regular fats are incorporated into chylomicrons, transported via the lymphatic system, and are ultimately delivered to fat cells? CapTri® is a much smaller molecule and is more soluble in water, and this results in it following a different metabolic pathway.

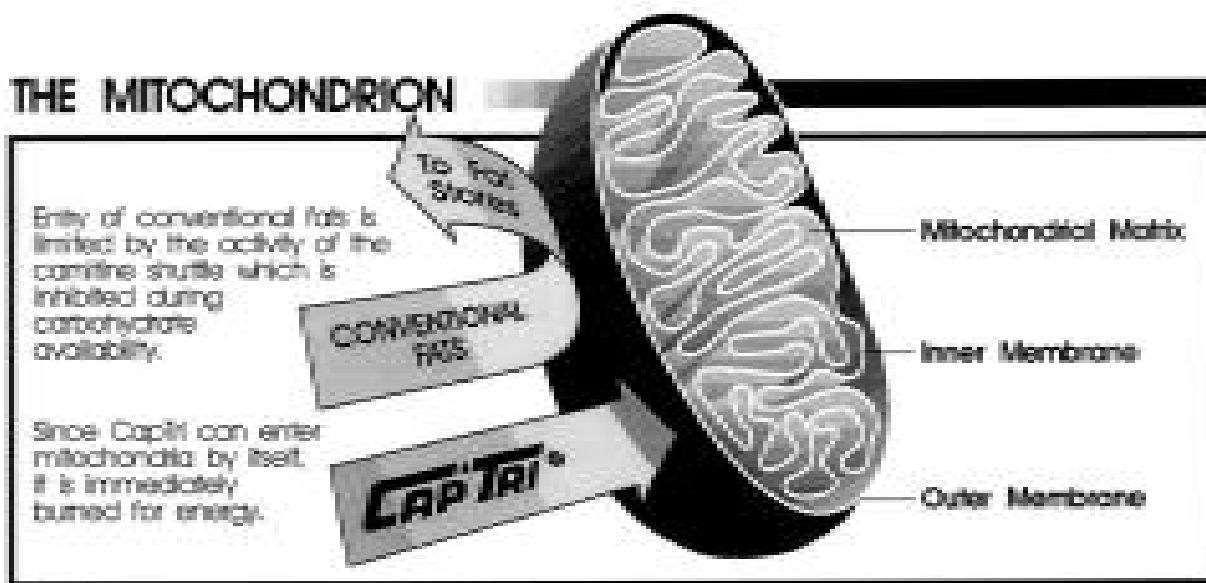
CapTri® is transported directly from the small intestine to the liver by the portal vein (1,2). In the liver CapTri® is immediately burned to produce energy (3). In contrast to conventional fats, CapTri® can get into the mitochondria by itself and doesn't require the carnitine shuttle (1,2). Therefore, CapTri® is burned at the same time as carbohydrates (4). Inside mitochondria, CapTri® is burned in a process called beta-oxidation. Blocks of two carbon atoms are removed from the fatty acid chain, generating a metabolic intermediate called acetyl-CoA.

The acetyl-CoA can then experience various metabolic fates, including ATP production via the Krebs cycle and oxidative phosphorylation, fatty acid synthesis or elongation, and formation of ketone bodies (2).

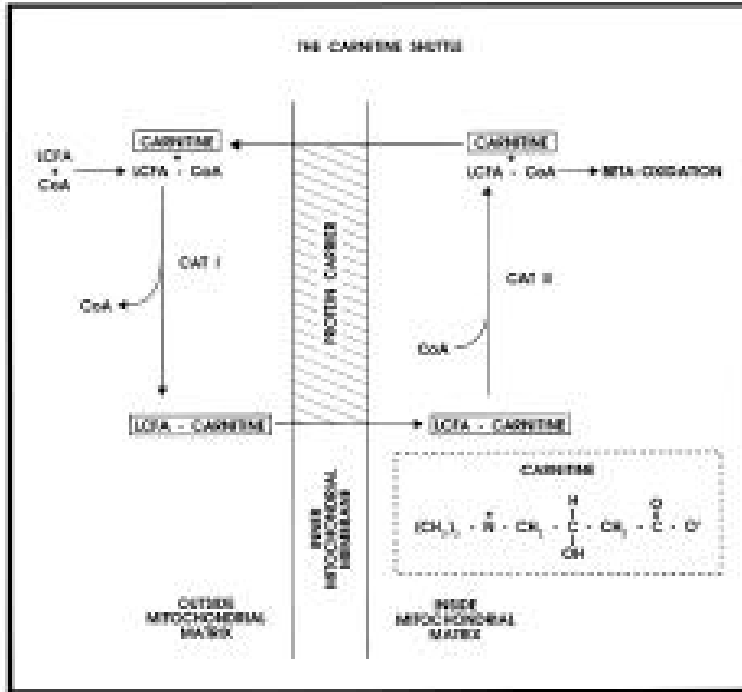
How does the energy from CapTri® get to my muscles? Since CapTri® does not require the carnitine shuttle for entry into mitochondria, it bypasses the rate limiting step in fatty acid oxidation. Medium chain fatty acids are thus burned much more rapidly and extensively than conventional fats (2). In the liver CapTri® is metabolized so rapidly that the capacity of the Krebs cycle can be overwhelmed (2). A major portion of the acetyl-CoA is then directed toward the synthesis of ketone bodies (2). The ketone bodies are released into the bloodstream and are taken up by muscles and used as fuel (3). Ketone bodies are a fast burning fuel

and are used quite efficiently by muscles (3). Ketone bodies have been observed to decrease glucose uptake and utilization (5). An added benefit is that the ketones produced from CapTri® also spare the oxidation of branched chain amino acids, leaving them available for use as protein in the muscles instead of being burned as fuel (3).

Bodybuilders and endurance athletes know all too well that when you run out of glycogen, you run out of energy. Your body can store a very limited amount of carbohydrate, in the form of glycogen, in the liver and muscles. Scientists have shown that depletion of a muscle's glycogen reserve coincides with the onset of fatigue (6). It's especially noticeable when you're on a low-carb diet getting ready for a show. Lipids like CapTri® have been shown to decrease glucose uptake and utilization (5) resulting in



**The mitochondrion. Entry of conventional fats is limited by the activity of the carnitine shuttle. Since CapTri® can enter by itself, it is immediately burned for energy.**



**Figure 2: The Carnitine Shuttle.**

a glucose-sparing effect (7). Unlike conventional fats, CapTri® can be burned for energy even while there are still plenty of carbohydrate fuels available (4). This additional energy source makes the glycogen last longer. And if your glycogen reserves last longer you'll have longer, more intense workouts.

Bodybuilders use CapTri® to provide energy for long hard workouts. Endurance athletes mix CapTri® into drinks so that they can go farther before running out of glycogen. CapTri® is the most highly refined, ultrapurified MCT on the market. The formulation of CapTri® was specifically designed for people who want to be as lean as possible. CapTri® is available exclusively from Parrillo Performance. If you're looking for a concentrated source of calories which can readily be used for energy, try CapTri®.

One tablespoon of **CapTri®** is loaded with 114 calories, as many as a 6.5 ounce baked potato. CapTri® provides bodybuilders and endurance athletes a high-density energy source immediately available to be used as fuel.



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