

## **Key Facts and statements:**

If you lose muscle mass, your metabolic rate automatically slows down. The cutting of calories in your diet promotes fat storage by increasing the activity of the fat storage enzyme called lipoprotein lipase.

MCT's contribute less to fat storage than conventional fats or EVEN carbohydrates.

Dietary fats found in foods are called "long chain triglycerides" (LCT's) and are made up of long chain fatty acids (LCFA's), which are 16-22 carbon atoms in length. These fats are those that end up being stored on your body as fat.

Your body is 70% water, water and oil do not mix well. It is hard work for the body to digest fats, in particular on the gall bladder. The gall bladder breaks down fats into tiny fat droplets called micelles, which meet up with the protein carrier molecules which help transport the triglycerides. These protein and fat complexes are released from the intestine into the bloodstream through the thoracic duct (main duct of the lymphatic system). Once into the blood stream, fats are circulated through the body, and insulin causes the fat cells to absorb the fat molecules and store them as fat.

Medium Chain Triglycerides (MCT's) are made of medium chain fatty acids (MCFA's) and are only 6-12 carbon atoms long. They have a smaller molecular structure and are more soluble in water.

MCT's are transported directly from the small intestine to the liver by the main portal vein. They are turned into organic compounds called ketones which the muscles can use for energy. By the time the liver has used these ketones, there is little left to be stored as fat.

Best source of MCT's comes from an ultra purified form of fractionated coconut oil that has undergone a chemical purification process which has taken out all the long chain fatty acids.

MCT molecules have only 8.3 calories per gram. One tablespoon equals 14 grams and contains 115 calories.

The body can use MCT's for a number of processes, including muscle energy, fat burning and the production of adenosine triphosphate.

Hard gainers may find MCT's useful in adding muscle mass, as they are a good way of adding calories without the risk of fat gain associated with carbohydrates.

MCT's can play a huge part in restoring the thyroid gland to full function. Mercury, fluoride, refined sugars and grains all make life tough for the thyroid gland. Mercury may diminish thyroid function because it displaces the trace mineral selenium, which is involved in the conversion of thyroid hormones T4 to T3. Unsaturated oils block thyroid hormone secretion, when thyroid hormone is deficient; the body is exposed to increased levels of estrogens.