

The Importance of Fat for Health & Performance

Fat and its benefits

Essential fatty acids are one of the most beneficial nutrients in your diet, and are often the missing link in developing and maintaining good health and ultimately optimum performance. A misunderstanding of the role of fat and media led misinformation focusing on the health detriments of saturated fat, has led to an epidemic of fat phobia.

Consuming sources of essential fatty acids (oils, nuts, seeds, etc.) are needed for cellular health and proper hormone functioning. Fat sources such as butter, red meat, and cheeses that are high in saturated fat, can be harmful if over eaten. In fact, too much or too little of anything can be dangerous, so understanding the role of fat and ultimately your personal needs is important for optimal health and performance.

Consuming a balanced amount of healthy fat helps maintain health, prevent disease and facilitate optimal performance. Eating processed fats, such as hydrogenated oils and fried foods, contributes to metabolic dysfunction and disease.

Energy from Fat

The aerobic energy system depends on fatty acids as the primary fuel for the working muscles, which power us through the day. Fat produces energy and prevents excessive dependency upon sugar, as it helps stabilize blood sugar. Fats provide more than twice as much potential energy as carbohydrates or proteins, 9 calories per gram versus 4 calories per gram for carbohydrate and protein. Your body is capable of obtaining most of its energy from fat, up to 80 to 90%, if you're fat burning mechanism is working efficiently. The body even uses fat as a source of energy for heart muscle function. These fats, called phospholipids, normally are contained in the heart muscle and generate energy to make it work more efficiently.

What happens if you have not trained your body to use fat as your primary fuel source? Then you must use more sugar for energy. Low blood sugar symptoms include: mood swings, mental or physical fatigue, clumsiness, headaches, depression, allergies and other physical and mental challenges, depending on your susceptibility to an excess or deprivation of sugar in the blood. How can you avoid these sugar highs and sugar lows? By making sure you train your body to burn fat for energy. If your body is burning fat for energy while you exercise, your brain and nervous system will have enough sugar, which they require for energy. If the rest of your body takes too much of the brain's energy supply of sugar (from your liver & muscles), the brain will not function at peak performance and neither will the rest of your body.

A major factor of not having your body trained to use fat for energy is that it will store the fat. The body likes fat. It is a strong survival mechanism that developed over hundreds of years to survive during famines. Actually, the body likes fat so much; carbohydrates and proteins can be converted and stored as fat. Any excess calories get stored as fat.

The Hormonal System

The hormonal system is responsible for controlling virtually all healthy functions of the body. For the hormonal system to function properly, the body must produce proper amounts of the

appropriate hormones. Many glands, such as the adrenal glands, are dependent on fat for production of hormones.

In addition to the adrenal glands, the thymus, thyroid, kidneys and other glands use fats to help make hormones. The adrenals also require a specific fat, cholesterol, for the production of hormones such as progesterone and cortisone. The thymus gland regulates immunity and the body's defense systems. The thyroid regulates body temperature, weight and other metabolic functions, the kidneys hormones help regulate blood pressure, circulation and filtering of blood.

Many people are rightly concerned about their percentage of body fat. But hormonal problems, and the related health problems that stem from them, can be a problem for those whose body fat is too low. Without the right balance of fats in the system, the hormonal system cannot produce certain hormones.

Eicosanoid Balance

Hormone like substances, called eicosanoids, are necessary for normal cellular functions such as: regulating inflammation, hydration, circulation and free radical activity. Produced from dietary fat, eicosanoids are especially important for the role in controlling inflammation – the precursor to many chronic diseases including cancer, heart disease and Alzheimer's. Barry Sears, and “The Zone” offers some very good research on this. Many people have inflammatory conditions such as arthritis, tendinitis and anything ending with “-itis” could have an eicosanoid imbalance. But in many people, chronic inflammation goes on unidentified.

The balance of eicosanoids is also important for regulating blood pressure and hydration. An imbalance can produce high or low blood pressure or trigger constipation or diarrhea. Eicosanoid imbalance may also be associated with menstrual cramps, blood clotting, tumor growth and other problems.

Insulation

The body's ability to store fat permits humans to live in most climates, even those of extreme heat or cold. In areas of warmer conditions, stored body fat provides protection from the heat. In cooler areas, increased fat storages below the skin helps prevent too much heat from leaving the body. In warmer climates, fat prevents too much water from leaving the body, which can result in dehydration that causes dry, scaly skin.

Digestion

Because so many people digest food poorly, a common result of stress, they do not always absorb the nutrients in foods. Your diet may be the best in the world but it's all for nothing if you can't properly digest and absorb the nutrients they contain. Bile from the gallbladder, triggered by fat in the diet, helps aide in the digestion and absorption of fats and fat soluble vitamins.

Most of the fats in the diet are digested in the small intestine – this process involves breaking the fat into smaller particles. The pancreas, liver, gallbladder and large intestine are also involved in the digestive process. Any of these organs not working properly could have a negative effect on fat metabolism. If there is not enough fat in the diet, not enough bile will be secreted.

The secretion of bile into the small intestine makes you're dietary fat digestible. Certain lipase containing foods such as avocados & extra virgin olive oil can greatly aid digestion of fat. Fat also helps regulate the rate of stomach emptying. Fats in a meal slow stomach emptying allowing for better digestion of protein and helping prevent the spiking of insulin with carbohydrate intake. If you're always hungry, it may be because your meals are too low in fat and your stomach is emptying too fast which causes your blood sugar to rise and drop quickly. Additionally, fats protect the inner lining of the stomach and intestines from irritating substances in the diet, such as alcohol and spicy food.

Supporting function

Fat offers physical support and protection of vital body parts, including the organs and glands. Fat acts as a natural, built in shock absorber, cushioning joints and vital organs from the wear and tear of everyday life and helping prevent organs from damage.

Vitamin and mineral regulation

Most people know that vitamin D is produced by exposure of the skin to the sun. However, it is actually cholesterol in the skin that allows this reaction to occur. Sunlight chemically changes cholesterol in the skin that allows this reaction to occur. Sunlight chemically changes cholesterol in the skin through the process of irradiation to vitamin D-3.

This newly formed vitamin D is then absorbed into the blood, allowing calcium and phosphorus to be properly absorbed from the intestinal tract. Without the vitamin D, calcium and phosphorus would not be well absorbed and deficiencies of both would occur. But without cholesterol the entire process would not occur.

There's another important connection between calcium & fat. Calcium needs to be carried from the blood and taken into the bones and muscle cells. For this to happen, certain prostaglandins, made from fat, are needed. If there is not enough fat to make adequate prostaglandins, too little calcium enters the bone. When this happens, the results can be stress fractures, osteoporosis and collapsed vertebrae. Without enough calcium in muscles, tightness, spasms or cramping can occur since calcium is needed to relax muscles. Unused calcium may be stored, sometimes in the as kidney stones or in the muscles, tendons or joint space as calcium deposits, as bone spurs.

Besides vitamin D, other vitamins including A, E & K rely on fat for proper absorption and utilization. These important vitamins are present primarily in fatty foods, and the body cannot make an adequate amount of these vitamins to ensure continued good health. Additionally these vitamins require fat in the intestines in order to be absorbed. With this in mind, a low fat diet could lead to deficiency of these vitamins.

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