Ketogenic Diet

The Ketogenic diet is a high fat, adequate protein, low carbohydrate diet. The diet mimics aspects of starvation by forcing the body to burn fats rather than carbohydrates for energy. Carbohydrates in food are converted into glucose, which is then used for energy.

If there is very little carbohydrate in the diet, the liver converts fat into fatty acids and ketone bodies. The ketone bodies pass into the brain and replace glucose as an energy source. The brain functions very well with ketone bodies.

Elevated ketone bodies in the blood, ketosis, leads to a reduction in the frequency of epileptic seizures[1] [2], slows or stops the growth of glioma brain cancers[3] [4] [5], improve brain function in patients with Alzheimer's disease[6]

The original therapeutic diet for pediatric epilepsy provides just enough protein for body growth and repair, and sufficient calories to maintain the correct weight for age and height. This classic ketogenic diet contains a 4:1 ratio by weight of fat to combined protein and carbohydrate. This is achieved by excluding high-carbohydrate foods such as starchy fruits and vegetables, bread, pasta, grains and sugar, while increasing the consumption of foods high in fat such as cream and butter.

Most dietary fat is made of molecules called long-chain triglycerides (LCTs). However, medium-chain triglycerides (MCTs)—made from fatty acids with shorter carbon chains than LCTs—are more ketogenic. A variant of the classic diet known as the MCT ketogenic diet uses a form of coconut oil, which is rich in MCTs, to provide around half the calories. As less overall fat is needed in this variant of the diet, a greater proportion of carbohydrate and protein can be consumed, allowing a greater variety of food choices.

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