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Student Works

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Ketogenic Diets

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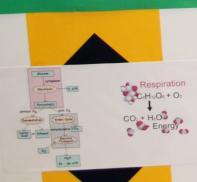


What are ketogenic diets?

A Ketogenic diet is one that is lowcarbohydrate, high fat and moderate levels of protein. While on the diet your body believes itself to be starving and begins to burn fats instead of carbohydrates. This process may lead to ketosis. Some popular examples of this diet would be Atkins, South Beach and Ideal Protein.

Traditional Body Fuel

- · Carbohydrates is the main fuel for the body which breaks down to glucose.
- The glucose is then put through a process called cellular respiration which gives our body the energy it needs to survive through production of ATP.
- ATP or adensoine triphosphate (C₁₀H₁₆N₄O₁₃P₃) contains chemical energy that is stored through phosphate bonds. This energy is used for metabolic processes and is known as the universal energy of



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Alternative Body Fuel

When your body is depleted of carbohydrates stored as glycogen it then needs to find an alternative source of fuel.

This is when Ketosis can take place...

- Ketosis is when your body starts breaking down stored fat cells and using them for energy. This is a condition in which small carbon fragments known as ketone bodies are at high levels in your blood.

 Fat is formed with one glycerol attached to three fatty acids through an ester
- The glycerol is detached and can be put into the cellular respiration through

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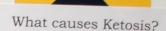


What are Ketone Bodies?

Ketone bodies are organic acids which are converted in the liver from fatty acids. They are a byproduct of an excess amount of acetyl CoA enzyme when fat is broken down and used as an energy source.







- · Ketosis in the body happens when fat is used for
- After the body has used all the glycogen stored from excess glucose it will begin to create fuel for the body through gluconeogenesis.
- · This happens when diabetics are unable to utilized glucose and those who are on a low carbohydrate diet, alcoholics, and in starvation.

Effects of Ketosis

- Weight loss is one major effect of ketosis. Your body becomes fat burning instead of carbohydrate burning.
- Ketosis puts our bodies into what is known as "starvation" mode. The body begins to feel less hungry and therefore people tend to eat less than they may normally.
- Your body begins to burn stored fat for fuel producing excess ketones in the process of creating energy.



Results

- · After being on a Ketogenic diet you can expect to see significant weight loss as well as body mass index reduction.
- · Total cholesterol, LDL cholesterol (bad), and triglycerides levels have been known to decrease greatly. Your HDL cholesterol (good) should increase.
- · No negative side effects of a Ketognic diet have been proven.