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Ketogenic Diets

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**Ketogenic Diets**

**What are ketogenic diets?**

A Ketogenic diet is one that is low-carbohydrate, 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 adenosine triphosphate (C\textsubscript{10}H\textsubscript{16}N\textsubscript{5}O\textsubscript{5}P\textsubscript{3}) contains chemical energy that is stored through phosphate bonds. This energy is used for metabolic processes and is known as the universal energy of the body.

**Alternative Body Fuel**

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

This is when Ketosis can take place...

- **Ketosis** is when your body begins breaking down stored fats and using them for fuel. It is a natural process calledketosis known as ketosis.
- A ketone is formed with one glucose attached to three fatty acids through an ester bond.
- This process of ketosis helps the body to utilize fat as an energy source.

**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.

**What are Ketone Bodies?**

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

**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 Ketogenic diet have been proven.