

The Function and Effect of Glucose

Diabetics are generally familiar with the term "glucose." Visits to the doctor's office may result in conversations that include phrases such as "blood glucose level" and "blood glucose test." Since a diabetic's health has a lot to do with controlling blood sugar levels, it is important to understand the function of glucose in the body and the effect it has on diabetics.

What is Glucose?

Glucose is a monosaccharide, or "simple sugar" found in a variety of organisms. In plants, glucose is a result of photosynthesis. Glucose is stored by plants as granules of starch.

Animals process glucose through glycogenolysis, or the breakdown of glycogen. Glucose provides animals with energy. If the energy is not needed, then the animal will store the glucose as body fat. Animals that hibernate use this fat reserve to sustain themselves during the winter.

How Does Glucose Function in the Human Body?

In the human body, glucose is the primary energy supply. Humans digest carbohydrates into a type of sugar that they can then convert into energy. There are a broad variety of healthful foods that provide sugars and starches. Some of the more healthful carbohydrates that can be digested and easily converted into glucose are grains, pasta, rice, fruits, a few vegetables, and potatoes.

How does the human body break down glucose?

Our detailed digestive system works hard to properly utilize the glucose we take into our bodies. With the help of enzymes and bile, our digestive system breaks down carbohydrates into glucose. The energy that results from this amazing process is then absorbed into the bloodstream through the small intestine. Glucose is eventually joined by a chemical the pancreas secretes - insulin. Insulin and glucose fuel the body and give humans the energy to think, act, and move about.

What is Diabetes?

When a person has diabetes, they have high blood sugar. This high blood sugar could be a result of insufficient insulin production, or a result of cells not responding properly to the insulin production.

There are 3 major diabetes types:

Type 1: Type 1 diabetes is a result of the body not producing sufficient insulin. Type 1 diabetes is also often referred to as *insulin-dependent diabetes*. A person with this type of diabetes needs to inject insulin into their body on a regular basis.

Type 2: A person with Type 2 diabetes has cells that do not use insulin properly. This condition also sometimes includes a failure to produce sufficient insulin.

Gestational diabetes: Gestational diabetes is a unique form of diabetes found in pregnant women who have never had diabetes before pregnancy. They develop a high level of blood glucose during their pregnancy. While Gestational diabetes poses a risk to the mother and the child, it is treatable.

How Does Glucose Have an Effect on Diabetics?

The amount of glucose a person has in his or her blood is determined by blood sugar levels, or the serum glucose level. These levels naturally fluctuate during exercise, following meals, and after fasting (early mornings). With diabetics, however, glucose level fluctuation is more profound. High blood sugar - or glucose - can be very serious. People who have glucose levels that are not properly regulated can increase their chances of developing diabetes.

How Can Diabetics Keep Blood Glucose Levels Under Control?

It is very important for diabetics to measure their blood glucose level on a regular basis. Diabetics with Type 1 diabetes may check their blood before each meal. They may even measure their insulin levels as frequently as 5 times each day. Type 2 diabetics often control their disease by diet. They may test their insulin levels several times each week. It is best for each individual to consult his or her physician. With the help of a trained professional a person can determine what type of diabetes they have and the best way to treat and test glucose levels.

Caffeine and Your Body

Every morning, thousands of people head straight to the coffee pot after their alarm goes off. Some may even feel that they cannot make it through their day without a little caffeine to get them started. Caffeine is one of the most commonly used stimulants around the world. Many who have become addicted to caffeine find it very difficult to give up. The thought of surviving even a day without caffeine is enough to put a loyal coffee drinker in a bad mood. The headache that results from a morning without caffeine is often interpreted as a painful reminder that cannot be ignored.

Health Risks

The frequent consumption of caffeine causes health risks that some individuals may not understand. Caffeine consumption disrupts the normal sleep patterns of the human body. It can also carry the blame for causing painful migraines. Caffeine causes a sudden decrease in the blood sugar levels of the body. It also inhibits the body's ability to absorb minerals and vitamins from the food that is consumed. Unbalanced caffeine consumption on a regular basis can cause major health problems.

When the human body becomes accustomed to the continuous intake of caffeine each day, it begins to rely on it in the same way it would a drug. When some attempt to give up caffeine, their body is unable to immediately adapt. The headache associated with the withdrawal from caffeine usually occurs within twenty-four hours of disrupting a pattern of caffeine consumption. In many cases, the withdrawal symptoms are so unbearable that the person may decide to revert back to their old habits. The best way to give up caffeine is the gradual way. Instead of quitting immediately, individuals could carefully reduce the amount of caffeine they consume each day. A gradual caffeine reduction can help caffeine lovers give up their addiction and ease withdrawal symptoms.

Healthy Energy for the Body

Moderate consumption of caffeine has little or no side effects on the human body. Addiction occurs only when caffeine consumption becomes excessive. Without consuming caffeine, some people feel sluggish. Fortunately, there is another option for people who only consume caffeinated products to give their body a boost in energy. There are a variety of natural energy supplements that are caffeine free. These natural energy supplements can be taken to give your body the energy boost it needs. When individuals do not let their caffeine consumption get out of control, they can avoid addiction and keep their body healthy.

The Function and Health Benefits of Coenzyme Q10

Coenzyme Q10, or CoQ10, is one of the most important enzymes produced by the human body. It plays a major role in the production of energy. It also serves as a powerful antioxidant to protect our internal body parts from extensive damage. It is so essential to the human body, that even the smallest deficiency of CoQ10 can cause adverse consequences. Coenzyme Q10 is produced and consumed by the body at the cellular level. If a person suffers from a deficiency, supplements of the enzyme can be taken to make up for the loss.

How does Coenzyme Q10 work?

The human body produces and stores energy in the form of Adenosine Triphosphate (ATP) molecules. ATP molecules are produced internally by the cells of the body through biochemical reactions involving fats, carbohydrates, and oxygen. CoQ10 helps trigger the biochemical reactions that result in the production of ATP molecules. The molecules are then stored as reserve energy in the muscles of the body. These stored ATP molecules are important because they provide the energy the body needs. Since the energy is provided in small intervals, ATP molecules need to be produced continuously. Coenzyme Q10 needs to be present to trigger the reactions needed for continuous production. When there is a deficiency in CoQ10, the body does not produce a sufficient amount of ATP. A Coenzyme Q10 deficiency can result in fatigue and cause other problems for the body.

CoQ10 also acts as an effective antioxidant. It protects the body from the scavenging effect of oxidation on the internal organs of the body. Free radicals are atoms that contain unpaired electrons. In order to even out the effect of the unpaired electrons, the atoms either accept or donate electrons from other atoms. In their search for electrons, free radicals can cause extensive damage to the internal organs of the body. Antioxidants give up electrons freely. This can help reduce the free radicals and the effects of oxidation on the body. Since Coenzyme Q10 is produced by almost all the cells of the body, it is extremely effective as an antioxidant.

Benefits of Coenzyme Q10

The benefits of CoQ10 are extensive. It can be used in the treatment of a wide variety of health conditions. Coenzyme Q10 helps to reduce inflammation, control blood pressure, convert nutrients into energy, and to control weight. In addition to these, CoQ10 has also proved to produce some interesting benefits in women. It has been observed that women who take regular supplements of Coenzyme Q10 during their pregnancy face lesser complications during their delivery. Menopause is also an important phase in the life of a woman. During menopause women need extra energy. Since the production of CoQ10 reduces with age, artificial supplements of Coenzyme Q10 can help women ease menopausal discomforts.

Another benefit of CoQ10 is its use in the treatment of cancer patients. The link between CoQ10 production and cancer has been under investigation for many years. Coenzyme Q10 has proven to be a key factor in the ongoing battle to prevent breast cancer and other forms of cancer. It has been observed that CoQ10 helps the immune system function properly. The cells of cancer patients have been found to produce lower amounts of CoQ10 than normal. Artificial supplements of Coenzyme Q10 can help strengthen the body's immune system and thereby prevent the growth of cancer cells. It has also been observed that CoQ10 helps protect the hearts

of cancer patients from doxorubicin. Doxorubicin is an anticancer medication that can result in heart damage. Several other benefits of Coenzyme Q10 in cancer patients are under study. Since numerous positive results have been observed thus far, Coenzyme Q10 is undoubtedly a positive factor in the treatment and prevention of various malignancies.

Migraines are a health condition that can cause a lot of pain. When migraines occur, they can be disturbing and disabling. Oftentimes migraine sufferers may become nauseated. In some individuals, bright light may even trigger a migraine. Migraine attacks can last anywhere from hours to several days. Studies have proven that one of the major causes of migraines is insufficient energy production in the cells of the body. In these cases, Coenzyme Q10 can help trigger the biochemical reactions that result in the production of energy rich ATP molecules. This production can help protect the body from migraines.

CoQ10 is used in the treatment of wrinkles and a variety of skin care creams that can be used to treat numerous skin diseases. It is also used to treat patients with cardiovascular disease. CoQ10 is very beneficial and highly profitable. Whether it is being used as a supplement for a deficiency, or simply as a way to improve overall health, Coenzyme Q10 is truly an asset to the human body.

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