

Understanding Diabetes

Jared Henderson

Human Physiology 102

Professor Martin

Diabetes is a chronic disease that causes the body's glucose levels to rise higher than normal so that the body does not create enough—or properly use—insulin to break down the glucose¹. Diabetes affects more than 30% of adults and has many causes, symptoms, and treatment options.

Glucose is more commonly known as sugar. Glucose is in many foods, including fruit, bread, and pasta. When these foods are digested, they are turned into sugar and absorbed into the bloodstream to be converted into energy. The bodies of individuals with diabetes are unable to convert the sugar in the bloodstream into energy due to insulin resistance. Insulin is a hormone, or “chemical messenger,” created in the pancreas². Insulin acts as a key, unlocking the glucose's natural energy and allowing that energy to flow into the bloodstream; unfortunately, people with diabetes do not hold the key. Often, insulin resistance is a matter of overconsumption. If there is too much sugar in the bloodstream, meaning an individual has consumed too much glucose, the body might not be able to produce enough insulin to break down the glucose.

There are a multitude of treatments for diabetes available, ranging from all-natural to chemical medications. The majority of people with diabetes are prescribed insulin shots and medication. Insulin shots are made of pork pancreas or synthetically created to be identical to human insulin³. The insulin is injected directly into the fat under the skin. Insulin cannot be ingested, as the body's natural digestion process will break it down before it enters the bloodstream.

Natural remedies range from simply eating more healthfully and exercising to taking all-natural supplements such as ginseng, magnesium, and chromium. Diet and exercise can help lower the amounts of glucose in the body, therefore making it easier for the body to produce enough insulin. Some believe that ginseng helps prevent blood-sugar levels from rising after

eating. Magnesium is touted to assist insulin production, and chromium is believed to reduce blood-sugar levels⁴. However, the efficacy of these supplements has not been scientifically proven.

Diabetes is a disease that many Americans currently face. Insulin resistance comes in many forms and has many causes. Treatment options are available, but there is no official cure for diabetes.

References

1. Type 2 [Internet]. American Diabetes Association. Alexandria, VA. c2016 [cited 30 Apr 2016]. Available from:<http://www.diabetes.org/diabetes-basics/type-2/?loc=hottopics>
2. Hess-Fischel, A. What is insulin? [Internet]. EndocrineWeb. Montclair, NJ. Last updated 6 Apr 2016 [cited 29 Apr 2016]. Available from:
<http://www.endocrineweb.com/conditions/type-1-diabetes/what-insulin>
3. Insulin administration [Internet]. Diabetes Care. Jan 24;27(1).
4. Orenstein, B.W. 9 supplements that may help diabetes. Everyday Health. Last updated 29 Aug 2011 [cited 29 Apr 2016]. Available from: <http://www.everydayhealth.com/type-2-diabetes/9-supplements-that-may-help-diabetes.aspx>