

Reversing Diabetes

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Diabetes is a chronic condition that affects the way a body handles sugar or glucose. When people eat, their glucose levels rise, and the hormone insulin is released from the pancreas into the bloodstream. Insulin acts as a door-opener, allowing the glucose to enter the cells so that it can be transformed into energy for the body. However, diabetics lack the key for this door-opening ability. The body's blood-glucose levels rise higher than normal and the body cannot properly utilize insulin to manage the elevated blood glucose levels. This is called insulin resistance<sup>2</sup>. Diabetics who have higher than normal levels of insulin resistance are prescribed insulin injections to take daily. Insulin dependency has been touted as a lifelong commitment, but recent studies are proving that to be false. Insulin dependency can be reversed by fostering a healthy lifestyle.

There are two types of diabetes. Type 1 diabetes is often called juvenile diabetes, as it is usually diagnosed in children or teenagers. Type 1 diabetes occurs when the body does not produce insulin. Type 2 diabetes, also called adult-onset diabetes, is when the body creates insulin but the cells do not properly digest the glucose in the bloodstream<sup>3</sup>. Type 1 diabetes is incurable, but some physicians believe that type 2 can be reversed.

The main causes of diabetes are genetics and obesity<sup>4</sup>. Genetic propensity to become diabetic is based on family history and ethnicity. Obesity, caused by high caloric intake and physical inactivity, often leads to insulin resistance because the body cannot produce enough insulin to support the higher levels of sugar entering the body.

This is where the theory of insulin-dependent reversal comes in. If a person with diabetes consumes foods that require less insulin to be digested, the body, in theory, will be capable of digesting a smaller amount of glucose and turning it into energy. Foods with lower glucose levels are vegetables, whole grains, legumes, and lean proteins. Removing common carbohydrates like

processed wheat, sugary foods and drinks, foods containing high fructose corn syrup, and other foods lacking in nutritional value will lower blood glucose levels significantly, thus allowing the body's natural levels of insulin to work properly<sup>1</sup>.

Physical activity can also reverse insulin dependency because muscles use glucose more efficiently than fat<sup>1</sup>. Using muscles through exercise will help the body absorb the blood glucose. In addition, exercise helps keep one's body in the target blood glucose range, creating less of a need for more insulin production.

Diabetes, or insulin resistance, is a long-term chronic condition with which many people suffer. However, with proper nutrition and a regulated exercise regimen, insulin dependency in people with type 2 diabetes can be reversed.

## References

1. Collins, S. Can you reverse type 2 diabetes? [Internet]. Atlanta, GA. WebMD. 2016 Jan 10 [cited: 2016 Apr 27]. Available from: <http://www.webmd.com/diabetes/type-2-diabetes-guide/reversing-type-2-diabetes?page=2>
2. Diabetes. Bethesda, MD. National Institute of Health (NIH). 2015 Aug 12 [cited: 2016 Apr 27]. Available from: <https://www.nlm.nih.gov/medlineplus/diabetes.html>
3. Facts about type 2 [Internet]. Alexandria, VA. 2013 Aug 1 [cited 2016 Apr 27]. Available from: <http://www.diabetes.org/diabetes-basics/type-2/facts-about-type-2.html?loc=db-slabnav>
4. What causes diabetes? [Internet]. New York. Department of Health. 2015 Jan [cited: 2016 Apr 27]. Available from: [https://www.health.ny.gov/diseases/conditions/diabetes/what\\_causes\\_diabetes.htm](https://www.health.ny.gov/diseases/conditions/diabetes/what_causes_diabetes.htm)