

## Alzheimer's Disease and Type 2 Diabetes: What Is the Link?

Nearly 21 million people in the United States have diabetes. Six million of them don't even know it.\*

### Who gets diabetes?

Most people with diabetes have Type 2 diabetes. It usually strikes adults. Type 2 is linked to lack of exercise and being overweight. Anyone can get diabetes, but some adults are at higher risk than others:

- people over 65
- Hispanic Americans
- African Americans
- Native Americans
- Asian Americans
- Pacific Islanders

### How does diabetes affect health?

When diabetes is not controlled, too much sugar remains in the blood. Over time, this can damage organs. Type 2 diabetes puts people at risk for these illnesses:

- heart disease
- stroke
- blindness
- kidney failure
- nerve problems

### How does Type 2 diabetes affect the brain?

Type 2 diabetes can also harm the brain. Compared to people without diabetes, more people with diabetes get dementia. A person with dementia has a harder and harder time remembering things and thinking clearly. The most common dementia is Alzheimer's disease. Another form is vascular dementia. Both Alzheimer's disease and vascular dementia may be linked to diabetes.

### How does Type 2 diabetes start?

Before getting Type 2 diabetes, a person may have blood sugar levels that are higher than normal. High blood sugar levels may be a sign of insulin resistance. Insulin is a hormone that helps the body change blood sugar into energy. Eventually, insulin resistance can make blood sugar rise higher, and diabetes will develop. Levels above 126 mg/dL signal diabetes.

People with insulin resistance often have:

- a big waistline: at least 40 inches for men or 35 inches for women
- low levels of HDL, or "good" cholesterol: below 40 mg/dL for men or 50 mg/dL for women

\* Diabetes: Disabling Disease to Double by 2050. CDC, January 2007.

<http://www.cdc.gov/nccdphp/publications/aag/ddt.htm>

- high levels of triglycerides (another blood fat): above 150 mg/dL
- high blood pressure: at least 130/85
- blood sugar a little higher than normal: above 100 or 110 mg/dL

### **What is the diabetes-dementia link?**

Doctors don't know yet what causes Alzheimer's disease or exactly how diabetes and dementia are connected. But they do know that insulin resistance, high blood sugar or diabetes can harm the brain in several ways:

- Insulin resistance and Type 2 diabetes increase the risk of heart disease and stroke. These conditions hurt the heart and blood vessels. Damaged blood vessels in the brain may contribute to Alzheimer's disease.
- The brain depends on many different chemicals. Too much insulin may upset the balance of these chemicals. Some of these changes may help trigger Alzheimer's disease.
- High blood sugar causes inflammation. This may damage brain cells and help Alzheimer's to develop.

### **Could diabetes medicines help treat or prevent Alzheimer's?**

Scientists wonder whether Type 2 diabetes medicines can help prevent or treat Alzheimer's. They are testing some of these drugs to see if they help.

### **How can diabetes be prevented?**

Preventing diabetes may not stop dementia. But diabetes causes many other health problems. So, preventing diabetes is a good idea in itself.

Three changes can cut the risk of developing diabetes:

1. losing at least 5 percent of body weight. That's just 10 pounds in someone weighing 200 pounds.
2. exercising at least 30 minutes five days a week
3. eating a healthy, low-fat diet

It's also important to work with your doctor to detect the first signs of insulin resistance or diabetes. Have your weight, blood pressure, cholesterol, and blood sugar checked regularly. Even if you get diabetes, treating it can help prevent complications.

The Alzheimer's Association is the leading voluntary health organization in Alzheimer care, support and research.

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