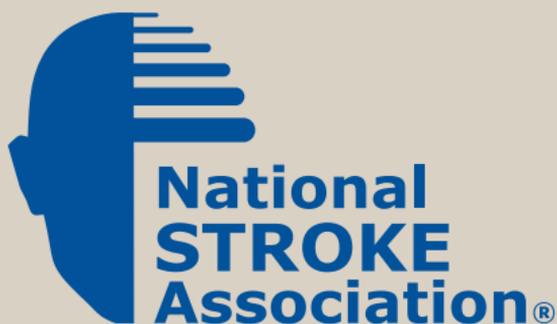


Diabetes and Stroke



Understanding the
connection between
diabetes and the
increased risk
of stroke

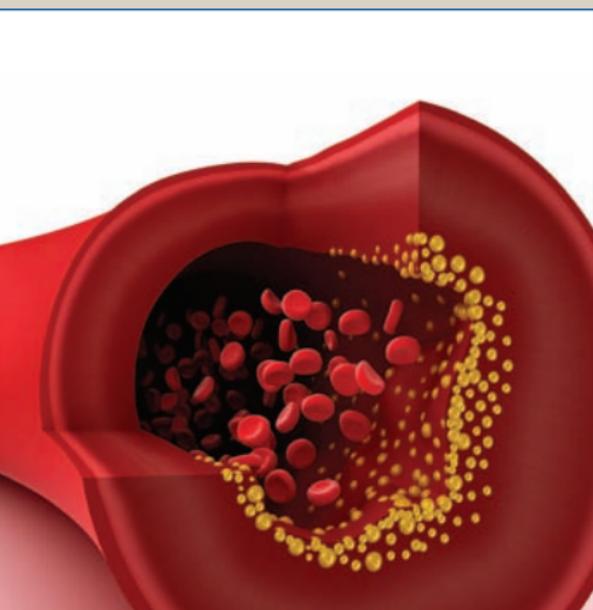


Make the Connection

Almost 26 million people in the U.S.—roughly 8 percent of the population—have diabetes. Another 79 million people have pre-diabetes, a condition in which blood glucose levels are higher than normal. Many of these people will be diagnosed with Type 2 diabetes within 10 years.

People who have diabetes are two to four times more likely to have a stroke than people who do not have diabetes. They also tend to develop heart disease or have strokes at an earlier age than people without diabetes.

Knowing this, it's important to understand the connection between diabetes and stroke, recognize the risk factors and take steps to stay healthy.



Why Does Diabetes Often Lead to Stroke?

The connection between diabetes and stroke has to do with the way the body handles blood glucose to make energy.

Most of the food we eat is broken down into glucose to give us energy. Glucose enters the bloodstream and travels to cells throughout the body after food is digested. In order for glucose to actually enter cells and provide energy, it needs a hormone called insulin.

It is the pancreas's job to produce this insulin in the right amounts. In people who have diabetes, the pancreas does not make insulin (Type 1 diabetes), or it makes too little insulin or the cells in the muscles, liver and fat do not use insulin the right way (Type 2 diabetes).

What happens then is people with diabetes end up with too much glucose in their blood, while their cells don't receive enough energy. Over time, this glucose can lead to increased fatty deposits or clots on the insides of the blood vessel walls. These clots can narrow or block the blood vessels in the brain or neck, cutting off the blood supply, stopping oxygen from getting to the brain and causing a stroke.

Understanding the Risk

Risk Factors for Stroke

Because of the potential for high blood glucose levels, diabetes itself is a risk factor for stroke. Yet, many people with stroke also have other conditions that put them even more at risk.

These risk factors include:

- Being over age 55
- Being African-American
- Already having had a stroke or heart disease
- Having a family history of heart disease
- Being overweight
- Smoking



Risk Factors for Diabetes and Stroke

Another reason for the strong connection between diabetes and stroke is that some risk factors for stroke are also risk factors for diabetes. Pre-diabetes, sometimes called metabolic syndrome, is a cluster of four conditions that are all related to metabolism. Having two or more of the conditions at the same time can increase your risk of both diabetes and stroke.

These conditions include:

- An “apple” shape or obesity concentrated around your waist
- High blood pressure
- High blood glucose levels
- High cholesterol



What You Can Do

If you have diabetes, you can take steps to keep your heart and blood vessels healthy and ward off your risks of stroke.

Maintain a heart-healthy diet

Eat at least 14 grams of fiber daily for every 1,000 calories consumed. Keep cholesterol down to 300 milligrams a day.



Don't smoke

Smoking doubles the risk for stroke.

Maintain a healthy weight

Having a waist measurement of 35 inches or more for women or 40 inches or more for men raises the risk for diabetes.

Exercise every day

Be sure to talk to your doctor before starting any exercise program.



Limit alcohol

This means no more than one drink a day for women, and no more than two drinks a day for men.

Talk to your doctor

Ask your doctor about preventive medicines, including taking a low dose of aspirin every day. Also keep your doctor informed. Discuss your risks and let him or her know about any changes in your appearance or the way you feel.

Know Your Numbers

Another important step is to get regular testing and talk to your doctor to make sure you're doing all you can to keep your body healthy. This includes knowing the "ABCs" of diabetes.

ABCs of Diabetes	Target number
A1C test This test shows your average blood glucose levels for the past three months. The test should be performed two to four times a year.	Below 7%
Blood glucose	Before meals: 90 to 130 mg/dL 1 to 2 hours after the start of meals: Less than 180 mg/dL
Blood pressure	Below 130/80 mm HG
Cholesterol	
Total cholesterol	Under 200 mg/dL
LDL: "bad" cholesterol	Under 100 mg/dL
Triglycerides	Under 150 mg/dL
HDL: "good" cholesterol	For men: Above 40 mg/dL For women: Above 50 mg/dL

It is a good idea to check these levels regularly and talk to your doctor about the results. He or she can help you reach your target numbers with diet, exercise and possible medications.

Be Informed, Be Healthy

People with diabetes can live long, healthy lives, free from health problems, including heart disease and stroke. Recognizing the connection between diabetes and stroke is the first step to lowering stroke risk.



To learn more, contact your doctor or visit
www.stroke.org/diabetes

Warning Signs

Learn the many warning signs of a stroke. Act **FAST** and **CALL 9-1-1 IMMEDIATELY** at any sign of a stroke. Use **FAST** to remember warning signs:

F

FACE: Ask the person to smile. Does one side of the face droop?

A

ARMS: Ask the person to raise both arms. Does one arm drift downward?

S

SPEECH: Ask the person to repeat a simple phrase. Is their speech slurred or strange?

T

TIME: If you observe any of these signs, call 9-1-1 immediately.

NOTE THE TIME WHEN ANY SYMPTOMS FIRST APPEAR. If given within *three hours* of the first symptom, there is an FDA-approved clot-buster medication that may reduce long-term disability for the most common type of stroke.

LEARN ABOUT MORE SIGNS OF STROKE AT

www.stroke.gov

of Stroke



e.org/symp

National Stroke Association's mission is to reduce the incidence and impact of stroke by developing compelling education and programs focused on prevention, treatment, rehabilitation and support for all impacted by stroke.

A stroke is a brain attack that occurs when a blood clot blocks an artery or a blood vessel breaks, interrupting blood flow to an area of the brain. Brain cells begin to die.

CALL 9-1-1 IMMEDIATELY IF YOU SEE ONE OR MORE SIGNS OF A STROKE.



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**1-800-STROKES
(787-6537)**

www.stroke.org