



# Stroke Risk Factors

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*University of  
Pittsburgh  
Medical Center  
Information  
for Patients*

## What is a risk factor?

A risk factor is anything that increases your chance of illness, accidents, or other negative events. Risk factors may include:

- medical history
- genetic make-up
- personal habits
- life style
- aspects of the environment

## Stroke and risk factors

A stroke occurs when the brain's blood flow stops or when blood leaks into brain tissue. The oxygen supply to a part of the brain is interrupted by a stroke, causing brain cells in that area to die. This means that some parts of the body may not be able to function.

There are a number of risk factors that increase the chances of having a stroke. Some risk factors cannot be reversed or changed. They are uncontrollable. But you can do something about most of the risk factors for stroke. Some risk factors you can get rid of — like smoking. There are other risk factors you can't get rid of, but can control — like diabetes.

## Risk factors you cannot change

You cannot reverse the following risk factors for stroke. You should be aware of how these risk factors apply to you.

### *Age*

For every 10 years you live, your risk of having a stroke increases.

### *Gender*

Men have 2 times more risk for stroke than women have. But more women die of stroke than of breast cancer.

### *Race*

African Americans have 2 times more risk of stroke than other races have. Hispanics and Asians have the greatest risk for stroke from burst blood vessels. This type of stroke is called hemorrhagic (hem-er-RAJ-ik).

### *Past Stroke or TIA*

If you've already had a stroke or a mini-stroke (TIA), your risk for stroke is now greater. TIA stands for transient (TRANS-yent) ischemic (iss-KEY-mik) attack. TIAs do not cause lasting damage; however, they are a warning sign that a more serious stroke may occur.

### *Family History*

Your risk for stroke is greater when heart attack, stroke, or TIA runs in your family.

## Risk factors you can control

You can lower your risk of stroke when you cut out or reduce the other risk factors.

### *Smoking*

Smoking is a major risk for stroke for these reasons:

- Smoking causes your blood to clot easier.
- Smoking increases the build-up of plaque in your arteries.
- Every time you smoke, your arteries narrow and your blood pressure increases as a result of the nicotine.

*continued*

## STROKE RISK FACTORS

When you quit smoking, you decrease your risk of stroke. For help to quit smoking, call 800-533-UPMC (8762).

### *High Blood Pressure*

**The number one risk factor for stroke is high blood pressure.** Another name for high blood pressure is hypertension (hi-per-TEN-shun). When you control your blood pressure, you can greatly reduce your risk of stroke.

Talk to your doctor to learn what your blood pressure should be. Starting at age 55, you should get your blood pressure checked twice a year, unless your doctor advises more frequent checks. This helps you keep your blood pressure in the range set by your doctor. You should know your blood pressure numbers. In general, the top number should be less than 120, and the bottom number should be less than 80. The way to say a blood pressure would be “120 over 80,” for example. The top number is called systolic (sis-TOLL-ik) pressure. The bottom number is diastolic (die-es-TOLL-ik) pressure.

### *High Cholesterol*

An unhealthy cholesterol (co-LESS-ter-all) balance can lead to fat deposits in the arteries. These deposits are called plaque (PLAK). Plaque narrows the arteries and can lead to stroke. You should have your first cholesterol check at age 20. After that, follow your doctor’s guidelines for regular cholesterol testing. The best time for a cholesterol check is after you have not eaten for several hours.

You should learn what your cholesterol numbers are. Here is what your numbers should be:

- Total cholesterol should be lower than 200.
- Good cholesterol (HDL) should be higher than 35.
- Bad cholesterol (LDL) should be between 100 and 160, based on your health history.
- Triglycerides (try-GLISS-er-rides), which are fats, should be below 200.

To reach your goal, you may need diet, exercise, and medicine. If you had a stroke or TIA in the past, it’s **very important** to work hard to control your cholesterol to prevent stroke or a second stroke.

### *Carotid Disease*

The carotid (kuh-RAW-tid) arteries are the 2 main arteries that carry blood to your brain and neck. When plaque build-up narrows these arteries, carotid disease results. Medicine or surgery to clean out plaque in the carotid arteries can reduce the risk for stroke.

### *Heart Disease*

• **Atrial** (AY-tree-ol) **fibrillation** (fib-ril-LAY-shun) is a type of irregular heart beat. It is called “AF” for short. AF is a common cause of stroke. The irregular heart beat makes blood flow through the heart in a sluggish way. Blood clots may form and lead to a stroke.

As with high blood pressure, you can have AF and not know it. You should check your own heart beat regularly. Place the palm of your hand up. On the wrist just below the thumb, place 2 fingers and press lightly. Move the tips of your fingers until you find your pulse. Now count the number of beats for 1 full minute. Feel if the beats come at an even pace or if they are irregular. If you suspect your heart beat is irregular, call your doctor.

## STROKE RISK FACTORS

When you have AF, the goal of treatment is to restore a regular heart beat. When this is not possible, blood thinners may be prescribed.

**Getting treatment for AF helps reduce your risk of stroke.**

- **Heart attack** occurs when the blood supply to part of the heart is greatly reduced or stopped. The result may be injury to the heart muscle. The heart muscle is called the myocardium (my-oh-CAR-dee-um). Another name for heart attack is myocardial (my-oh-CAR-dee-ol) infarction (in-FARK-shun), or “MI.” 3 percent of people who have a heart attack will also have a stroke.
- **Congestive heart failure**, or “CHF” for short, is weakening of the heart muscle. The heart becomes less able to pump the amount of blood the body needs to perform various activities. In most cases, CHF is present along with other risk factors. Some of these are high blood pressure, diabetes, and past heart attack. Getting treatment for these conditions helps reduce your risk for stroke.
- **Valve disease** prevents the heart valves from working properly. Blood clots can result from valve disease. The blood clots may travel through the arteries to the brain and cause a stroke. Medicine and sometimes surgery can help reduce your stroke risk.

### *Diabetes*

When a blood vessel in the brain becomes blocked and stops blood flow, a stroke occurs. This type of stroke is called an ischemic (iss-KEY-mik) stroke. **Diabetes greatly increases your risk for an ischemic stroke.**

Some types of diabetes prevent the body from using its insulin to break down blood glucose (sugar). This is called insulin resistance. The result is lower levels of good cholesterol (HDL), which can cause blood clots to form.

The blood clots may travel to the brain and cause a stroke.

Diabetes also causes plaque to build up in the arteries at a faster rate. Plaque narrows the arteries. This is called hardening of the arteries, or atherosclerosis (ATH-er-oh-skler-OH-sis). In time, plaque build-up can block an artery and cause a stroke.

People with diabetes also tend to gain weight. Obesity can lead to high blood pressure and high cholesterol, which are both risk factors for stroke. **When blood glucose levels are high, damage from a stroke can be even worse.** Good control of diabetes can reduce your risk for stroke. For good control, it’s important to monitor and control blood glucose levels, follow your diet plan, and exercise.

### *Obesity*

Excess weight increases your risk of stroke. People who have a stroke or heart disease often have excess body fat around their lower belly, or abdomen. This is sometimes called an “apple shape.” Obesity also can bring other risk factors with it, such as high blood pressure, higher bad cholesterol, and diabetes. Weight control and exercise improve your circulation and help reduce other risk factors.

### *Lack of Physical Activity*

Exercise is important to help control weight, blood pressure, cholesterol, and diabetes — all risk factors for stroke.

### *Alcohol, Coffee, and Drug Use*

Heavy alcohol use increases risk for stroke. Drinking 3 or more cups of coffee a day may increase risk of stroke in older men with high blood pressure. **Use of street drugs, especially cocaine and amphetamines, is a major stroke risk for young adults.** Using steroids for body-building increases risk of stroke.

## STROKE RISK FACTORS

### *Poor Nutrition*

A diet high in fat, sugar, and salt puts you at risk for stroke. Studies show that eating 5 servings of fruit and vegetables a day will reduce your risk of stroke by 30 percent.

### *Stress*

Studies show a link between mental stress and narrowing of the carotid arteries. Learning and practicing ways to reduce stress may help reduce your stroke risk.

### *Estrogen*

Birth control pills and hormone replacement therapy (HRT) contain estrogen. The hormone estrogen may change the blood's clotting ability. Blood clots may then form, which can cause stroke.

## Resources

### **UPMC Stroke Institute**

412-647-8080

<http://stroke.upmc.com>

### **American Stroke Association**

toll-free 888-4-STROKE (888-478-7653)

[www.strokeassociation.org](http://www.strokeassociation.org)

### **National Stroke Association**

toll-free 800-STROKES (800-787-6537)

[www.stroke.org](http://www.stroke.org)

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For help in finding a doctor or health service that suits your needs, call the UPMC Referral Service at 412-647-UPMC (8762) or 800-533-UPMC (8762).

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