

Stroke Basics: Types of Stroke, Risk Factors

What is a stroke?

A stroke occurs when the **blood supply** to one or more areas of the brain is **blocked**. Without a blood supply, the affected part of the brain is damaged. This is a stroke. The blood supply can be interrupted in two ways:

1. A **blood clot** can block a blood vessel that leads to an area of the brain. This is called an **ischemic stroke**. Most strokes (about 87%) are ischemic strokes.
 - Sometimes a temporary blood clot can cause stroke-like symptoms, but then they go away. This is called a **TIA, or transient ischemic attack**. This can be a warning sign for a stroke.
2. A blood vessel leading to an area of the brain can burst or leak, causing **bleeding** within the brain. This is called a **hemorrhagic stroke**. About 13% of strokes are hemorrhagic strokes.
 - This is often related to long-standing high blood pressure. Less common causes include problems with the structure of the blood vessels, such as aneurysms or arteriovenous malformations (AVMs).

ISCHEMIC
STROKE

HEMORRHAGIC
STROKE

How does a stroke affect me?

Not all strokes are the same. How a stroke affects you depends on the area where the stroke happened and how big the affected area is.

Stroke affecting the cerebrum

Because the cerebrum is the largest area of the brain, many strokes affect the cerebrum, which controls thoughts, reasoning, emotions, memory, muscle function, and more. The nature of any problems will depend in part on which side (hemisphere) of the cerebrum is affected, and which area (or lobe).

The right and left sides of the cerebrum

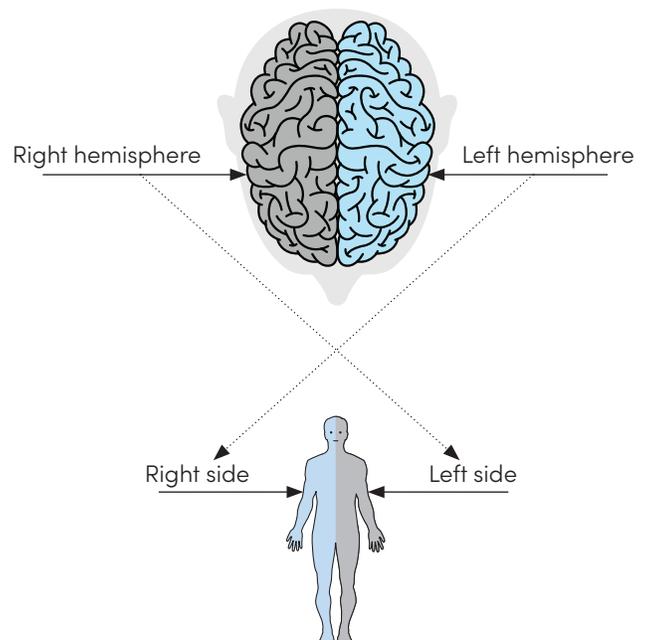
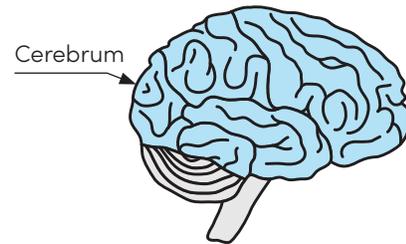
Here are some things that we may see when either the right or left side of the cerebrum is affected by stroke. Each side controls the opposite side of the body.

Right side

- Weakness or paralysis on the **left** side of the body
- Vision problems
- May cause behavior changes
- Memory loss

Left side

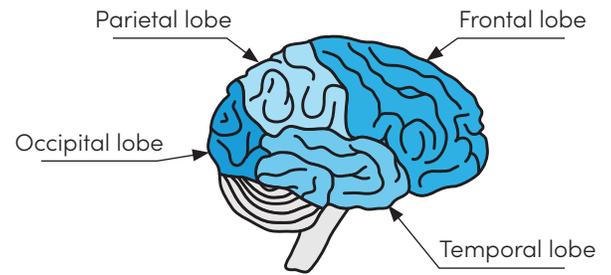
- Weakness or paralysis on the **right** side of the body
- Speech/language problems
- May cause behavior changes
- Memory loss



The lobes of the cerebrum

Each lobe has two sides, right and left.

- The **occipital** lobes are located at the back of the brain. A stroke in this area may affect vision.
- The **temporal** lobes are located on side of the skull (near the ears). A stroke in this area may affect hearing and emotions.
- The **frontal** lobes are the largest; they are located behind the forehead. A stroke in this area may affect thinking, learning, and judgment; it may also affect voluntary movements and some aspects of personality.
- The **parietal** lobes are located above the occipital lobes. A stroke in this area may affect balance and experiencing sensations.

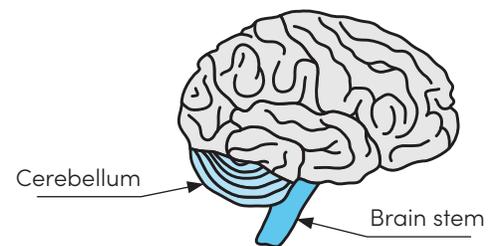


Stroke affecting the cerebellum

A stroke in this area can affect **movement, balance,** and **coordination.**

Stroke affecting the brain stem

A brain stem stroke can cause a wide variety of symptoms, depending on how extensive the damage is. This can include **dizziness, imbalance,** or **slurred speech.** In more severe cases, level of consciousness can be affected, and the person may not be able to move anything below the neck.



Risk factors

Some things increase your risk for stroke. These can be grouped into three types: (1) Risk factors that you can control; (2) having certain other health conditions; (3) things you can't control, such as your age and gender.

Risk factors that you can control

Check the ones that apply to you. Your nurse can help.

High blood pressure

- High blood pressure is a leading cause of stroke; it is the most significant risk factor you can control.
- If you have high blood pressure, it can be treated with medications and diet. Follow your doctor's advice to reduce your risk.

Smoking

- Smoking damages blood vessels, increasing risk for stroke.
- Women who smoke while using hormone-based birth control have an even higher risk.
- Low-nicotine cigarettes do not lower the risk.
- Talk to your nurse or doctor about strategies to quit.

Diabetes

- Type 1 and Type 2 diabetes increase your risk for stroke.
- Keep your blood sugar in your target range to help reduce risk.
- Work with your doctor to make sure your A1C is less than 7.

❑ **Saturated fat and salt in your diet**

- Diets high in saturated fat (animal fat) and sodium (salt) can increase your risk.
- Aim for a well-balanced diet rich in fresh fruits and vegetables.

❑ **Overweight**

- Being overweight can increase your risk of high blood pressure, diabetes, heart disease, and stroke. Even a small weight loss can make a significant difference in your risk.
- The BMI – body mass index – is a number reflecting your height and weight. Keep your body mass index (BMI) less than 25. Ask your doctor for a referral to a nutritionist if you need help with a weight loss plan.

❑ **High blood cholesterol**

- High levels of certain kinds of cholesterol can increase your risk for stroke.
- Be sure to take any cholesterol-lowering medicine your doctor has prescribed.
- Following a diet low in saturated fats can help lower cholesterol.

❑ **Not exercising**

- Physical activity can promote brain and cardiovascular health and reduce your risk for stroke.
- Make small goals when beginning a physical activity plan. Start by taking a brisk walk or take the stairs whenever you can. It is important to incorporate physical activity into your day for your overall health.

Health conditions that can increase your risk for stroke

Certain health conditions can increase your stroke risk. If you have any of these, you can decrease your risk by following your doctor's instructions for managing each condition and making sure you are decreasing your "controllable" risk factors.

Check the ones that apply to you.

❑ **Coronary artery disease or peripheral artery disease**

- Coronary artery disease is when the arteries of the heart become clogged with fatty deposits, which can lead to heart attack.
- Peripheral artery disease is a narrowing of blood vessels in the legs or arms.
- If you have these conditions, it can signal overall problems with your arteries, including an increased risk of stroke.

❑ **Atrial fibrillation**

- Atrial fibrillation (sometimes called Afib) causes the heart's upper chambers to beat incorrectly. This can allow the blood to pool and clot. The clots can then travel to the brain and cause a stroke.
- If you have Afib, your doctor will tell you if you need special treatment to reduce your stroke risk.
- Sleep apnea can be linked to Afib and is associated with increased stroke risk.

❑ **Other heart disease**

- Heart failure, heart valve disease, congenital heart defects, and cardiomyopathy (enlarged heart) can increase your risk for stroke.

❑ **Sickle cell disease**

- Sickle cell disease is a treatable genetic disorder that mainly affects African-American and Hispanic populations. "Sickled" red blood cells are less able to carry oxygen to the body's tissues and organs.
- These cells also tend to stick to blood vessel walls, which can block arteries to the brain and cause a stroke.

❑ **History of prior stroke or TIA**

- Those who have had a stroke in the past are at increased risk for another.
- A history of TIA (transient ischemic attack) also increases risk.
- If you've had a stroke or TIA, it's especially important to work on your controllable risk factors in order to decrease your risk.

❑ **Substance use disorder**

- If you've had problems with addiction to alcohol or drugs, this may increase your risk of stroke.

Risk factors that you can't control

Some risk factors for stroke are out of your control. The more you have, the more important it becomes for you to make lifestyle changes related to controllable risk factors, and to follow your doctor's advice about managing other health conditions. This will help decrease your risk.

Check the ones that apply to you.

❑ **Older age**

- Although stroke can occur at any age, the risk for stroke doubles after the age of 55.

❑ **Being female**

- It is estimated that more women suffer and die from stroke than men each year.
- Women are at an increased risk for stroke if they smoke while using hormone-based contraceptives. Women's risks also increase if they are on post-menopausal hormone therapy, or have a history of preeclampsia/eclampsia or gestational diabetes.

❑ **Family history**

- If you have family members who have suffered a stroke, you are at an increased risk. Be sure to tell your doctor if any family members have had a stroke.

❑ **Ethnicity**

- Many ethnic populations in the US suffer a disproportional risk of having a stroke. In particular, African-Americans are at greatest risk for both stroke and dying from stroke.
- Other ethnic groups with increased risk include Hispanics; native populations, including American Indian, and native populations from Alaska and Hawaii; Asian-Americans; and native Pacific Islanders.

While you are in the hospital, your nurse will talk to you about your risk factors and what you can do to decrease your risk. For more, see the section, "Stroke Recovery and Stroke Self-Care" in this folder.