

# What Is a Brain Aneurysm?

Think of a weak spot in a balloon and how it feels stretched out and thin. A brain aneurysm is like that. It's a weak spot in the wall of a blood vessel inside the brain.

That area of the blood vessel gets worn out from constant flow of blood and bulges out, almost like a bubble. It can grow to the size of a small berry.

Although brain aneurysms sound alarming, most don't cause symptoms or health problems. You can enjoy a long life without ever realizing that you have a brain aneurysm.

But in rare cases, aneurysms can grow big, leak, or explode. Bleeding in the brain, known as hemorrhagic stroke, is very serious and requires urgent medical care.

## **A ruptured brain aneurysm can be life-threatening and lead to:**

- cerebral vasospasm (reduced blood flow to the brain)
- hydrocephalus (too much spinal fluid in the brain)
- coma
- permanent brain damage

## **Symptoms**

Get emergency care if you suddenly get an intensely painful headache, lose consciousness, or have some of these other symptoms of an aneurysm rupture:

- Nausea and vomiting
- Drowsiness
- Loss of balance such as walking and normal coordination
- Stiff neck
- Dilated pupils
- Sensitivity to light
- Sudden blurred or double vision
- Drooping eyelid
- Confusion or trouble with mental awareness
- Seizure

Although brain aneurysms usually don't show symptoms, they can press on the brain and nerves as they get bigger. See a doctor at once if you're having the following symptoms of an unruptured aneurysm:

- Headache
- Dilated pupils
- Blurred or double vision
- Pain above and behind an eye
- Drooping eyelid
- Hard time speaking
- Weakness and numbness in one side of your face

## **Causes**

Brain aneurysms usually develop as people age, becoming more common after 40. It's also possible to have a blood vessel defect at birth.

Women tend to have higher rates of aneurysms than men.

Aneurysms tend to form at the fork of blood vessels, places where they branch off, because those sections tend to be weaker. They are most commonly found in the base of the brain.

## **What Raises My Chances of Having One?**

Several things, including your medical history and lifestyle, can increase your odds of a brain aneurysm.

That includes atherosclerosis, a disease in which fat builds up inside the wall of your arteries (blood vessels that deliver oxygen-rich blood throughout your body). Other things that can come into play:

- Diseases affecting your blood or blood vessels
- High blood pressure
- Injury or trauma to your head
- Infection
- Cancer or tumors in head and neck
- Abnormalities at birth, such as tangled blood vessels in your brain
- Family history of brain aneurysms
- Alcohol consumption, especially binge drinking
- Smoking
- Drug abuse such as cocaine or amphetamines (stimulant drugs)

## Diagnosis

Several types of scans and tests can be used to figure out whether you have a brain aneurysm. They include:

**CT scan:** This exam creates images of your brain. You will lie on a table that slides into a CT scanner. A technician will inject contrast dye into one of your veins to make it easier to see the blood flow and spot aneurysms in your brain.

**MRI:** This exam is similar in that you lie on a table that slides into a scanner. The MRI uses magnetic field and radio waves to create detailed images of your brain and blood vessels. MRIs and CT scans can detect aneurysms larger than 3 to 5 millimeters.

The following tests are more invasive than CT or MRI scans. But they could give you and your doctors with a more complete picture of what's going on:

**Angiogram:** This test, considered the most reliable way to detect aneurysms, shows the weak spots in your blood vessels.

During the test, you lie on an X-ray table, and you will be given something to numb any pain.

Your doctor will insert a small flexible tube through a blood vessel in the leg. She will guide that tube, called a catheter, into the blood vessels in your neck that reach the brain.

She will inject a contrast dye into you, and X-rays will be taken that show all the blood vessels in the brain. This gives your doctor a map of your blood vessels, pinpointing the aneurysm.

**Cerebrospinal fluid test:** Your doctor may order this test if she suspects that an aneurysm may have ruptured.

You'll be given something to block any pain. A technician will inject a needle into you to draw spinal fluid. That fluid is tested to see whether it contains blood, which could indicate that an aneurysm has ruptured.

## Treatments for a Ruptured Aneurysm

You need treatment as soon as possible if you have a ruptured brain aneurysm, because it's likely that it will bleed again. Treatment involves stopping the blood flow into the aneurysm.

The procedures carry risks. Your doctor will figure out which treatment works best based your health, and the size, type, and location of the aneurysm.

**Surgical clipping:** A section of your skull is removed to locate the aneurysm. A metal clip is placed on the opening of the aneurysm to cut off the blood flow. Your skull is then sealed shut.

**Endovascular coiling:** This doesn't require surgery that opens the skull. Your doctor will insert a catheter into your groin to reach the affected blood vessel where the aneurysm is located.

She'll send tiny platinum coils through the tube and place them inside the aneurysm. The coils conform to the shape of the aneurysm, stopping the blood flow there. This may be safer than surgical clipping, but it has a higher chance of the aneurysm bleeding again.

**Flow diverter surgery:** This option is for larger brain aneurysms in which neither clipping nor coiling would work. In this procedure, your doctor inserts a stent, usually a metal mesh, inside the artery. It becomes a wall inside the vessel to divert blood away from the aneurysm.

## **Treatments for an Aneurysm that Hasn't Ruptured**

Small aneurysms that haven't ruptured and aren't causing symptoms may not need treatment. But this depends on your health and the aneurysm. You talk this all over with your doctors.

If you are living with a brain aneurysm that has not ruptured, lifestyle changes can help lower your chances of having it leak or pop:

- Don't use cocaine or other stimulant drugs.
- Stop smoking.
- Lower your blood pressure with diet and exercise.
- Limit your caffeine, because it can suddenly raise blood pressure.
- Avoid lifting heavy things; this also can raise your blood pressure.