

Subarachnoid hemorrhage

[Request an Appointment](#)[Symptoms & causes](#)[Diagnosis & treatment](#)[Doctors & departments](#)[Care at Mayo Clinic](#)

Diagnosis

To diagnose a subarachnoid hemorrhage, your health care provider is likely to recommend:

- **CT scan.** This imaging test can detect bleeding in the brain. While a CT scan is a highly effective test when performed properly, the scan may not find the bleed if you have a low red blood cell count (anemia) and only a small amount of blood is lost during the bleed. Your doctor may inject a contrast dye to view your blood vessels in greater detail (CT angiogram).
- **MRI.** This imaging test also can detect bleeding in the brain. Your health care provider might inject a dye into a blood vessel to view the arteries and veins in greater detail (MR angiogram) and to highlight blood flow. This may show signs of a subarachnoid hemorrhage in rare cases when the signs don't show on a CT scan.
- **Cerebral angiography.** Your provider inserts a long, thin tube (catheter) into an artery and threads it to your brain. Dye is injected into the blood vessels of your brain to make them visible under X-ray imaging. Your provider might

recommend cerebral angiography to get more-detailed images. They may also recommend the test if a subarachnoid hemorrhage is suspected, but the cause isn't clear or doesn't appear on other imaging. You might need a second cerebral angiogram if the first one did not show an aneurysm, but your provider thinks an aneurysm is likely.

In some cases of aneurysmal subarachnoid hemorrhages, the bleeding may not appear on initial imaging. If your first CT scan doesn't show bleeding, your doctor might recommend lumbar puncture. A needle is inserted into the lower back to withdraw a small amount of the fluid that surrounds the brain and spinal cord (cerebrospinal fluid). The fluid is studied to look for blood, which may mean that you have a subarachnoid hemorrhage.

Care at Mayo Clinic

Our caring team of Mayo Clinic experts can help you with your subarachnoid hemorrhage-related health concerns

[Start Here](#)

Treatment

Treatment focuses on stabilizing your condition, treating an aneurysm if you have one, and preventing complications.

Your provider checks your breathing, blood pressure, and blood flow.

If your bleeding is caused by a ruptured brain aneurysm, your provider might recommend:

- **Surgery.** The surgeon makes an incision in the scalp and locates the brain aneurysm. A metal clip is placed on the aneurysm to stop the blood flow to it.
- **Endovascular embolization.** The surgeon inserts a catheter into an artery and threads it to your brain. Detachable platinum coils are guided through

the catheter and placed in the aneurysm. The coils fill the aneurysm, reducing blood flow into the aneurysm sac and causing the blood to clot. Different types of coils have been developed to treat various aneurysms.

- **Other endovascular treatments.** Certain aneurysms can be treated with endovascular embolization that uses newer technology such as stent-assisted or balloon-assisted coiling or devices that divert blood flow.

Preventing complications is important because you can bleed again, have poor blood flow to the brain, have low salts such as sodium in your blood, develop too much fluid on the brain, or have high or low blood sugar. One medication, nimodipine (Nymalize) has been shown to decrease circulation problems to the brain after a subarachnoid hemorrhage.

A common complication after an aneurysmal subarachnoid hemorrhage is delayed spasm of the blood vessels in the brain. This can cause stroke if it reduces the blood flow below a certain level. When this complication occurs, strokes may be avoided by raising the blood pressure with intravenous medications or increasing the width of the blood vessels in the brain with medications.

Another common complication is hydrocephalus which is an accumulation of fluid in brain spaces. This problem can be treated with drains inserted in the head (ventriculostomy catheter) or in the lower back (lumbar drains).

Sometimes, procedures need to be repeated. You'll have regular follow-up appointments with your provider to watch for any changes. You may also need physical, occupational and speech therapy.

Clinical trials

[Explore Mayo Clinic studies](#) testing new treatments, interventions and tests as a means to prevent, detect, treat or manage this condition.

By Mayo Clinic Staff

Subarachnoid hemorrhage care at Mayo Clinic

[Request an appointment](#)

Symptoms & causes

Doctors & departments

Aug. 31, 2022

[Print](#)

[Show references](#)

Related

Products & Services

[A Book: Mayo Clinic Family Health Book](#)

Feedback

CON-20313611

[Patient Care & Health Information](#)

[Diseases & Conditions](#)

[Subarachnoid hemorrhage](#)

[Find a doctor](#)

[Explore careers](#)

[Sign up for free e-newsletters](#)

[About Mayo Clinic](#)

[About this Site](#)

[Contact Us](#)

[Locations](#)

[Health Information Policy](#)

[Medicare Accountable Care Organization \(ACO\)](#)

[Media Requests](#)

[Students](#)

[Degree Programs](#)

[Admissions Requirements](#)

[Student & Faculty Portal](#)

[Researchers](#)

[Research Faculty](#)

[Laboratories](#)

[International Patients](#)

[Appointments](#)

[Financial Services](#)

[International Locations & Offices](#)

[Charitable Care & Financial Assistance](#)

[Community Health Needs Assessment](#)

[Feedback](#)

[News Network](#)

[Price Transparency](#)

Medical Professionals

[AskMayoExpert](#)

[Clinical Trials](#)

[Mayo Clinic Alumni Association](#)

[Refer a Patient](#)

Businesses

[Executive Health Program](#)

[International Business Collaborations](#)

[Facilities & Real Estate](#)

[Supplier Information](#)

[Financial Assistance Documents – Arizona](#)

[Financial Assistance Documents – Florida](#)

[Financial Assistance Documents – Minnesota](#)

Follow Mayo Clinic

Get the Mayo Clinic app



[Terms & Conditions](#) [Privacy Policy](#) [Notice of Privacy Practices](#) [Accessibility Statement](#)
[Advertising & Sponsorship Policy](#) [Site Map](#)

© 1998-2024 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved.

Language: [English](#) ▼

Feedback