

Cavernoma of the Brain

What is a cavernoma?

A **cavernoma** is an abnormal cluster of enlarged blood vessels most often found in the brain or spinal cord. These enlarged “caverns” fill with blood which leads to slow blood flow. These clusters may look red or purple in color and are shaped like a raspberry. Cavernomas can vary in size but are usually less than 3 cm in size.

Cavernomas are also referred to as:

- Cavernous angiomas
- Cavernous hemangiomas
- Cerebral cavernous malformation (CCM)

A person can have one or more cavernomas in their brain. Cavernomas can grow; however, they **cannot** spread to other parts of the body.

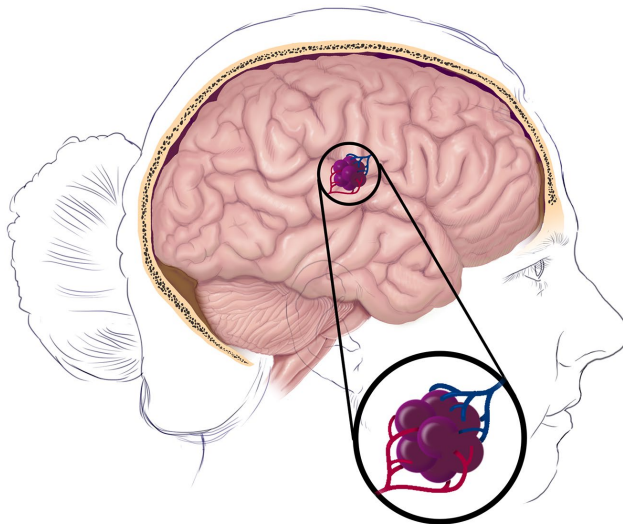


Illustration by Megan Foldenauer, MA, PhD

What are the symptoms of a cavernoma?

A cavernoma can be present and **not** produce any symptoms. Symptoms occur when the cavernoma either presses on an area of the brain or begins to bleed.

When this happens, symptoms may include one or more of the following:

- Seizures – 36% of patients with a cavernoma will experience seizures
- Double vision
- Changes in speech
- Unsteadiness
- Sensory issues such as numbness
- Weakness or paralysis on one side of the body
- New or worsening headaches – 6-10% of patients with a cavernoma report headaches

What causes a cavernoma?

In most cases, there is no clear reason why a person develops a cavernoma. Some individuals have a **genetic** (inherited) form of the condition.

Who is at risk for developing a cavernoma?

Cavernomas occur in people of all races and sexes. They occur as often in men as they do in women. Family history may be a factor for people of Hispanic descent. Recent research has linked the tendency for developing a cavernoma to the 7th chromosome.

What are the chances of a cavernoma bleeding?

Up to 25% of people with a cavernoma will experience bleeding. This is the most serious complication of a cavernoma.

If a cavernoma starts bleeding, symptoms may start with a headache. The headache may start suddenly and may be followed by nausea, neurological changes (such as numbness, tingling, weakness, or speech or vision changes),

or a decreasing level of consciousness. Sometimes a bleed may be very small and produce very mild symptoms or no symptoms at all.

What causes a cavernoma to bleed?

We do not know of any specific activity that causes a cavernoma to bleed. We recommend avoiding strenuous activities and medications that may increase the risk of bleeding.

What is the risk that a cavernoma will bleed?

The risk of having a **hemorrhage** (bleed) varies from person to person, depending on whether a bleed has occurred before.

If there has been no prior bleeding, it's estimated that the risk of hemorrhage is less than 1% each year.

If there is a history of bleeding, it is estimated that the risk of hemorrhage is between 4% and 25% each year.

How is a cavernoma diagnosed?

There are two main tests that are used to diagnose cavernomas:

- **Computerized Tomography (CT scan)** - A series of images taken from different angles to create detailed pictures of bones and tissue
- **Magnetic Resonance Imaging (MRI)** - A test that uses a magnetic field and pulses of radio wave energy to create pictures of organs and structures inside the body. The area of the body being studied is placed inside a special machine that contains a strong magnet.

MRI provides the ability to image and localize otherwise hidden lesions of the brain and provide a more accurate diagnosis as compared to a CT scan. These tests help providers see exactly where the cavernoma is located.

Cavernomas cannot be seen on a cerebral angiogram.

How is a cavernoma treated?

Your provider will make recommendations on the best treatment for you based on many factors. The following are indications to consider when making decisions regarding treatment of a cavernoma:

- Neurological dysfunction
- Episodes of bleeding
- Intolerable symptoms
- Uncontrolled seizures

Treatment options include:

- Surgery
- Observation which may include medical management of symptoms

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