

# Subdural Hematoma

## What is it?

A **subdural hematoma** happens when blood builds up underneath the covering of the brain (called the **dura mater**). The blood comes from small veins that have been torn. Blood leaks from the veins, forming a pocket that bulges and puts pressure on the brain. If the pocket is big enough, it can push on and damage the brain near it.

## What are the symptoms?

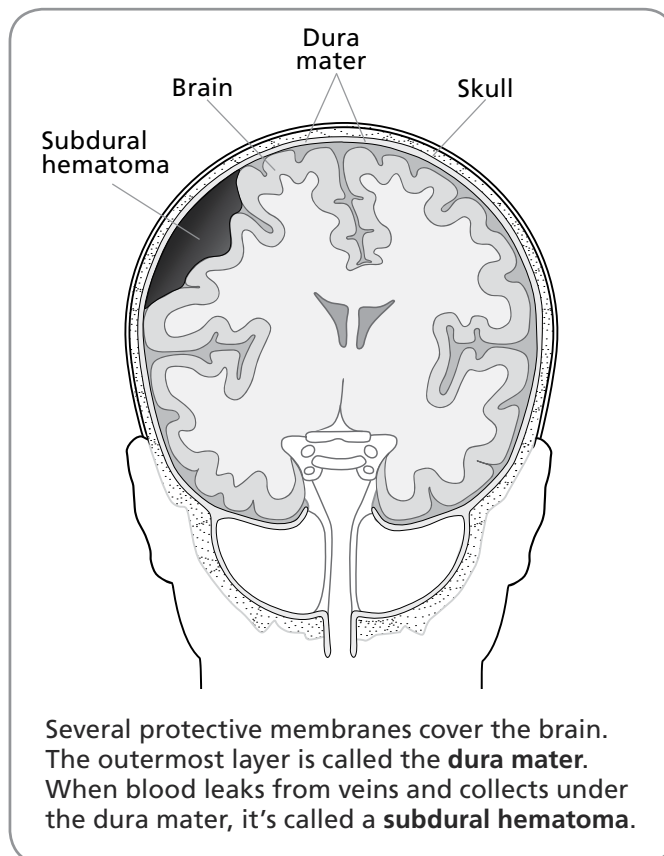
Symptoms vary depending on where the blood collects. Some symptoms may mimic a stroke. Symptoms include:

- Headache
- Weakness or numbness in arms, legs, or face
- Poor balance or coordination
- Change in behavior, emotions, or memory
- Drowsiness, lethargy, or coma
- Changes in vision
- Trouble speaking, swallowing, or communicating
- Nausea/vomiting
- Seizures

A subdural hematoma can become very serious and can result in death or disability if not recognized and treated quickly. Possible complications include:

- Severe pressure on the brain that causes coma or death
- Permanent brain damage
- Persistent symptoms or seizures

**If the symptoms above appear after a known head injury, contact a doctor right away.** Early treatment of subdural hematoma can prevent problems and improve recovery.



## What causes it?

A subdural hematoma is usually caused by a head injury from a fall or other accident. Rarely, it can occur without a known cause. People with the following risk factors may be at higher risk for developing a subdural hematoma:

- **Advancing age:** Aging stretches and weakens the veins in the brain, and they are more likely to tear — even with a minor fall.
- **Long-term or heavy alcohol use**
- **Long-term use of medicines** that prevent blood clots — for example: ibuprofen (Advil), aspirin, clopidogrel (Plavix), warfarin (Coumadin), or apixaban (Eloquis).
- **Repeated falls or head injuries**

## How is it diagnosed?

If your symptoms suggest that you may have a subdural hematoma, your doctor will do a physical exam and medical history. Then, you will likely have a CT scan (also called a CAT scan) to identify the size and location of the hematoma.

## How is it treated?

Your doctor will recommend treatment based on what caused the hematoma, when it happened, how severe it is, and how urgent your symptoms are. Treatment can be very different for each patient and is best decided by doctors who specialize in treating problems related to the brain (neurologists and neurosurgeons). Possible treatments include:

- **Medicines:** Your doctor may give you **anti-convulsants** to prevent seizures or **other substances**, such as plasma, platelets, and vitamin K, to reverse bleeding problems.
- **Hospital stay:** You will need to be admitted to the hospital so care providers can closely monitor your symptoms. Severe symptoms may require that you be admitted to the intensive care unit (ICU).

While you're in the hospital, your blood pressure, heart rate, temperature, respiratory rate, and neurological status (how alert you are) will be carefully monitored. This may require you to be woken up every 2 hours to ensure your condition does not get worse.

How long you stay in the hospital varies greatly based on your symptoms.

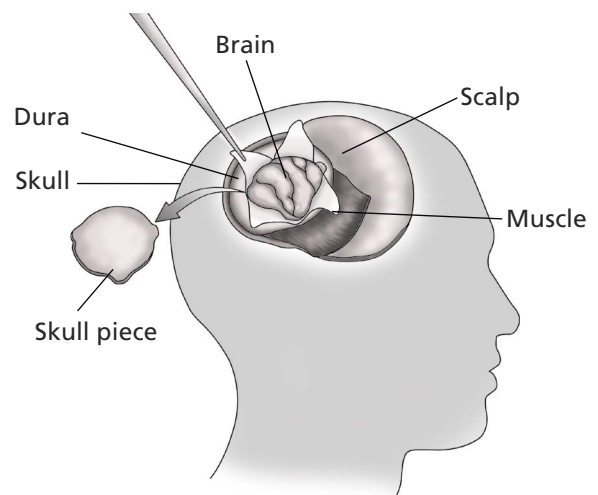
- **Surgery:** Although many patients with subdural hematomas will not need surgery, sometimes surgery is needed to reduce the amount of blood and relieve pressure on the brain. For example:
  - For **smaller hematomas**, a neurosurgeon may drill small holes, called **burr holes**, to help drain or remove the blood. This procedure may be done at the bedside or in the operating room.
  - For **larger hematomas**, a neurosurgeon may perform a **craniotomy** in the operating room. See the box at top right for more information on what to expect during a craniotomy.

## What is a craniotomy?

A **craniotomy** is a surgery to cut an opening in the skull and expose the brain. Here's what to expect:

- 1 A neurosurgeon makes an incision through the skin and cuts out a small section of your skull, called a **bone flap**. The bone flap is removed to expose the brain underneath.
- 2 The hematoma is drained or removed.
- 3 The bone flap is secured back in place, and the incision is closed back up with either **sutures** (stitches) or staples.
- 4 You are closely monitored in the ICU.

**NOTE:** The incision site on the head must be kept dry until the staples or sutures are removed. This is usually 7–10 days after surgery.



## What happens next?

After a subdural hematoma, you may have no further symptoms or effects, or you may need to have ongoing therapy or recover in a rehabilitation center.

Some effects of a subdural hematoma may not completely resolve, especially in the elderly. Talk with your doctor about what you may be able to do to reduce your risk for further problems.

When you go home from the hospital, watch for:

- **Signs of an infection** — Call your doctor if you have swelling, pain, or pus at a surgery site.
- **Symptoms that come back** — Call 911 or go to the emergency room if you have any symptoms listed on the front of this fact sheet.