CONDITION

Subdural hematoma

A subdural hematoma is a collection of blood between the brain and its tough outer covering.

WHAT IT IS
Blood collecting between layers covering the brain

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Headache, confusion, weakness, increasing drowsiness

WHAT CAUSES IT
Bleeding veins, usually after a head injury

HOW IT IS DIAGNOSED
CT scan, sometimes MRI

MAIN TREATMENT
Monitoring or surgical drainage

CAN IT BE CURED?
Sometimes - bleeding resolves or is drained

IS IT AN EMERGENCY?
Yes, with new neurological symptoms or reduced alertness

LONG-TERM OUTLOOK
Many recover, but severe brain injury can cause lasting disability

Overview

A subdural hematoma is a collection of blood inside the skull. The blood gathers between the dura, the tough outer covering of the brain, and the next thin covering beneath it.

The bleeding usually comes from small veins stretched across this space. A blow or sudden movement of the head can tear these veins. The collected blood may press on the brain because the skull cannot expand to make room for it.

Subdural hematomas are described by how quickly they develop:

An acute subdural hematoma may occur with a serious brain injury and can be life-threatening. A chronic subdural hematoma often follows a minor injury, which may have been forgotten. Its gradual symptoms can sometimes resemble dementia, stroke, medication side effects, or

another illness.

Prompt assessment matters because treatment can relieve pressure on the brain and reduce the risk of further injury.

- Acute: symptoms appear soon after an injury, often within hours
- Subacute: symptoms develop over several days or weeks
- Chronic: blood collects slowly, with symptoms appearing weeks or months later

Symptoms

Symptoms are affected by how quickly the blood collects, how much pressure it causes, and whether the brain was injured at the same time.

Possible symptoms include:

Acute symptoms may begin directly after a major head injury. The person may lose consciousness, become less responsive, or develop weakness quickly.

Chronic symptoms are often less obvious. You may notice slowly worsening headaches, forgetfulness, personality changes, unsteadiness, falls, or difficulty managing normal activities. In an older person, these changes may be mistaken for ageing or dementia.

Babies cannot describe a headache or confusion. Signs may include unusual irritability, poor feeding, vomiting, excessive sleepiness, seizures, or a swollen soft spot on the head.

- A new, persistent, or worsening headache
- Confusion, unusual behaviour, or difficulty concentrating
- Increasing sleepiness or difficulty staying awake
- Weakness or numbness, especially on one side
- Trouble speaking, understanding speech, walking, or keeping balance
- Nausea or vomiting
- Blurred or double vision
- A seizure
- Loss of consciousness

Causes and risk factors

A head injury is the most common cause. This may happen during a fall, road collision, sports injury, assault, or other accident. A chronic subdural hematoma can follow a relatively minor bump, and some people do not remember an injury.

Age can affect risk. As the brain naturally becomes smaller with age, the veins crossing the space around it are stretched more tightly. This makes them easier to tear after a minor impact.

Other factors that can increase the risk or severity of bleeding include:

Babies may develop a subdural hematoma following a difficult birth, an accident, or abusive head trauma. Any suspected injury in a baby needs immediate medical assessment.

A subdural hematoma is not contagious. It is not a type of cancer or stroke, although its symptoms can look similar to those of a stroke.

- Medicines that reduce blood clotting, such as anticoagulants or antiplatelet medicines
- A bleeding or clotting disorder
- Heavy, long-term alcohol use, which may increase falls and affect clotting
- Previous brain surgery
- Repeated head injuries
- Conditions that cause low pressure around the brain, including a leak of spinal fluid

Diagnosis

Diagnosis begins with questions about symptoms, recent falls or head injuries, medicines, and medical conditions. A neurological examination checks alertness, speech, memory, eye movements, strength, sensation, balance, and reflexes.

A CT scan is usually the main test. It uses X-rays to create detailed images of the head and can show the location, size, and effect of the blood collection. It can also identify a skull fracture or other bleeding.

An MRI scan uses magnets and radio waves to produce detailed images. It may help when a chronic or small subdural hematoma is difficult to see clearly on CT, but it usually takes longer and may not be the first emergency test.

Blood tests can check blood counts and how well the blood is clotting. They can also help the medical team prepare for treatment. These tests support the assessment but do not confirm a subdural hematoma on their own.

People with significant bleeding may need repeated examinations or scans to check whether

the collection is growing.

Treatment and management

Treatment is based on the size and age of the hematoma, its pressure on the brain, your symptoms, and your overall health. A specialist in brain and spine surgery, called a neurosurgeon, may review the scans.

A small hematoma causing few or no symptoms may be monitored. This can involve observation in hospital, neurological checks, and sometimes repeat imaging. Monitoring does not mean the condition is being ignored; some small collections are safely reabsorbed by the body.

Medicines that affect clotting may need to be paused or reversed during active bleeding. This must be managed by the clinical team because stopping these medicines can also carry risks. Do not stop a prescribed blood thinner like warfarin or apixaban on your own.

Surgery may be needed when the blood collection is large, symptoms are worsening, or pressure on the brain is significant. Common procedures include:

Some specialist centres use middle meningeal artery embolization in selected cases, usually for chronic subdural hematoma. This procedure blocks a blood vessel involved in maintaining the collection. Its role is still developing and it is not suitable for every situation.

Treatment may also include seizure management, pain relief, and rehabilitation for problems with movement, speech, memory, or daily activities.

- Burr-hole drainage: small openings are made in the skull so the blood can drain
- Craniotomy: a larger section of skull is temporarily opened to remove thick blood or control bleeding
- Drain placement: a temporary tube may remain after surgery to remove fluid and reduce recurrence

Complications

The main concern is pressure on the brain. If pressure becomes severe, it can damage brain tissue and interfere with breathing, alertness, and other essential functions.

Possible complications include:

Chronic subdural hematomas can return because fragile tissue and blood vessels may remain around the collection. New or returning symptoms need prompt assessment even after

successful drainage.

- Persistent weakness, speech difficulty, or balance problems
- Problems with memory, concentration, or behaviour
- Seizures
- Loss of independence after a severe brain injury
- Coma or death in the most serious cases
- Infection, bleeding, or other complications related to surgery
- Another subdural hematoma after treatment

Prevention

Not every subdural hematoma can be prevented. A minor injury may be enough to cause bleeding in someone with fragile veins or reduced blood clotting.

Reducing head injuries can lower the risk. Practical measures include wearing a seat belt, using suitable protective equipment for sports or work, and wearing a helmet for activities where it is recommended.

Reducing fall hazards is especially important for older adults. Good lighting, secure rugs, handrails, appropriate footwear, and review of vision or balance problems may help. Medicines that cause dizziness or sleepiness can sometimes contribute to falls and may be reviewed during routine care.

If you take an anticoagulant or antiplatelet medicine, use it exactly as prescribed. These medicines prevent serious problems such as stroke or blood clots, so they should not be stopped solely to reduce subdural hematoma risk.

Avoiding heavy alcohol use can reduce falls and problems with blood clotting. No supplement or diet has been shown to prevent a subdural hematoma after an injury.

Living with it and what to expect

Recovery is different for an acute and a chronic subdural hematoma. An acute hematoma is often part of a more serious head injury, so the outlook is strongly affected by damage to the brain at the time of the accident.

People treated for a chronic subdural hematoma often improve after pressure is relieved. Headache, alertness, walking, and thinking may improve over days or weeks. Recovery can

take longer when symptoms were severe, another illness is present, or the brain was also injured.

Tiredness, headaches, reduced concentration, and poor balance can continue during recovery. Rehabilitation may include physical therapy, occupational therapy, speech and language therapy, or support with memory and daily tasks.

Follow-up may involve a review of symptoms, medicines, wound healing, and the need for further imaging. A stable recovery can usually be discussed during planned appointments. New weakness, confusion, severe headache, seizures, or increasing sleepiness should not wait for routine follow-up.

Some people recover fully. Others have lasting difficulties or need help with daily activities. A chronic hematoma can recur over the following weeks or months, so it is important to know which symptoms should trigger reassessment.

Driving, work, sports, and alcohol may need temporary restrictions after a subdural hematoma or seizure. The timing of return depends on recovery, local driving rules, and the type of activity.

When to get medical help

Call emergency services after a head injury if you or someone else develops:

Emergency assessment is also appropriate for new neurological symptoms even when there is no remembered injury. Do not drive yourself if you are confused, weak, very sleepy, or having vision problems.

Seek prompt medical advice after a head injury if you take a medicine that reduces blood clotting, have a bleeding disorder, or develop a persistent headache or gradual change in balance, memory, or behaviour.

After treatment, attend planned follow-up for stable recovery questions, wound checks, medicine review, and rehabilitation. Returning or worsening neurological symptoms require urgent assessment rather than waiting for the next appointment.

- Loss of consciousness or difficulty waking
- Increasing confusion, agitation, or unusual behaviour
- New weakness, numbness, facial drooping, or speech difficulty
- A seizure
- Repeated vomiting

- A severe or rapidly worsening headache
- Unequal pupils, worsening vision, or loss of coordination
- Clear fluid or blood coming from the nose or ears

Common questions

Can a small subdural hematoma heal without surgery?

Sometimes. The body may gradually absorb a small collection that is not causing significant symptoms or pressure. This requires clinical assessment and may involve observation or repeat imaging. A small hematoma can still enlarge, so new symptoms need urgent attention.

How long after hitting my head can symptoms appear?

Symptoms may start immediately, but a chronic subdural hematoma can become noticeable weeks or occasionally months later. The original injury may have seemed minor or may not be remembered.

Is a subdural hematoma the same as a brain bleed?

It is one type of bleeding inside the skull. The blood sits outside the brain tissue, between its covering layers. Other brain bleeds occur within the brain or in different spaces around it.

Can a subdural hematoma come back after surgery?

Yes. Recurrence is more common with chronic collections because the surrounding tissue may continue to leak fluid or blood. A returning headache, confusion, weakness, or loss of balance needs prompt reassessment.

Can I take pain medicine for the headache?

Pain relief should be discussed with a clinician or pharmacist, especially if bleeding is suspected or you take blood-thinning medicine. Some pain medicines can affect clotting. Severe or worsening headache after a head injury needs assessment rather than self-treatment alone.

Does a subdural hematoma cause permanent brain damage?

It can, but not everyone has lasting damage. The outcome is affected by the pressure on the brain, how quickly treatment occurs, the severity of any original brain injury, age, and overall health. Some people recover fully, while others need long-term rehabilitation or support.

Sources



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