

Subdural haematomas

A subdural haematoma is a blood clot that forms between layers in the protective coverings of the brain (meninges), when veins tear as a result of sudden movement of the brain against the skull. It is usually caused by some kind of direct blow to the head as a result of a fall, an assault or a road accident. In the elderly, a relatively slight head injury may be sufficient to produce bleeding.

The brain

The brain controls and coordinates body functions consciously and unconsciously. It is protected primarily by the skull, which acts as the first barrier. The skull works very well as a barrier, but the brain also needs cushioning from inside the skull. Otherwise, even the slightest impact to the head could cause the brain to hit the inside of the skull, resulting in serious damage.

The meninges

A system of protective coverings of the brain, called the meninges, provides the cushioning required. The meninges are divided into three separate layers:

- **Pia mater** – closest to the brain
- **Arachnoid mater** – on top of the pia mater
- **Dura mater** – on top of the arachnoid mater and next to the skull.

Although the primary role of the meninges is to protect the brain, they also contain blood vessels. These blood vessels may rupture as a result of injury.

Types of subdural haematoma

There are three main types of subdural haematoma:

- **Acute** – develops within 24 hours of initial trauma.
- **Acute on chronic (subacute)** – develops within two to 10 days of the initial trauma.
- **Chronic** – develops 10 days after the initial trauma.

Symptoms of subdural haematoma

The symptoms depend on the severity of the bleed, but can range from a headache to death. They may include:

- Severe headache
- Lethargy
- Confusion
- Slurred speech
- Visual disturbances
- Limb weakness
- Nausea and vomiting
- Neck stiffness.

If any unusual symptoms occur after a blow to the head, see your doctor immediately.

Diagnosis of subdural haematoma

If left untreated, a subdural haematoma can grow and press on the brain. Pressure on the brain can be harmful. This pressure forces the brain against the skull, causing damage to the brain, as well as hindering the brain's ability to function properly. This inability to function properly can lead to long-lasting brain damage or, if left untreated, death.

Tests generally used to diagnose a subdural haematoma are:

- **CT scan** – computed tomography
- **MRI scan** – magnetic resonance imaging.

Treatment for subdural haematoma

Possible treatment options include:

- **Conservative** – if the subdural bleed is too small to operate on and is not causing damage to the brain, the neurosurgeon may advise against surgical drainage of the bleed. Careful observation is carried out for a specified period of time to ensure that there is no further bleeding.
- **Surgical** – if the bleed is causing damage to the brain, surgical intervention is required. A neurosurgeon performs this procedure by cutting a hole into the skull in order to provide access to the brain. This is needed to repair any ruptured blood vessels and to remove the blood clot. After the operation is finished, the bone is replaced, the muscle and skin are stitched up, and a drain is placed inside the brain to remove any excess blood left from the surgery.

Where to get help

- In an emergency, always call triple zero (000)
- Your doctor

Things to remember

- There are layers underneath the skull that protect the brain from serious harm.
- The blood vessels in these covering layers may become damaged after a blow to the head.
- If any unusual symptoms occur after a blow to the head, see your doctor immediately.

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