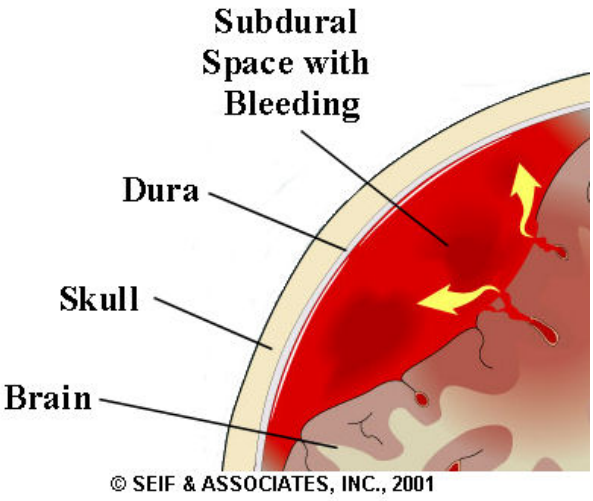
Subdural Hematoma

A subdural hematoma is a collection of blood between the brain and its tough outer covering membrane (the *dura*). This is caused by bleeding (*hemorrhage*) from a ruptured blood vessel. There are two types of subdural hematomas.

- **Acute subdural hemorrhage**. This is subdural bleeding that develops shortly after a serious blow to the head. Blood collects very fast in this injury and may cause the pressure to rise within the brain. If not diagnosed and treated promptly, severe brain injury or death can occur.
- **Chronic subdural hemorrhage**. This is when bleeding develops slowly, over weeks to months.

The brain takes up all the space in the skull, so there is no room for blood clots. The clots will push down on the brain and the bigger the clot, the more it pushes on the brain. The brain gets very irritated when touched by blood and can stop working. Moreover, depending on the part of the brain that stops working, that is the function the patient will lose. It can compress the brain and eventually cause death.



CAUSES

Some kind of a trauma causing an injury to the head:

- Motor vehicle-related accidents.
- Falls in the elderly (more than 65 years old).

SYMPTOMS

The length of time it takes symptoms to develop and improve varies:

- An **acute subdural hemorrhage** develops over minutes to hours. Symptoms can include:
  - Temporary loss of consciousness (*concussion*).
  - Weakness of arms or legs on one side of the body.
  - Changes in vision or speech.
  - Severe headache.
  - Seizures.
  - Nausea and vomiting.
  - Increased sleepiness.
- A **chronic subdural hemorrhage** develops over weeks to months. Symptoms may develop slowly and produce less noticeable problems or changes. These patients will have many small bleeds that over a period of weeks to months, add up to become a big enough clot to start having symptoms, which may include:
  - Mild headache.
  - Change in personality.
  - Loss of balance or difficulty walking.
  - Weakness, numbness or tingling in arms or legs.
  - Nausea or vomiting.
  - Memory loss.
  - Double vision.
  - Increased sleepiness.

DIAGNOSIS

All head injuries should be checked out quickly by a caregiver. This is especially true if there has been any loss of consciousness. If you are able, the caregiver will usually ask a list of questions. Your caregiver will perform a thorough physical and neurological exam. If the caregiver suspects there is bleeding within the head, he/she will order a CT scan. Although it is very easy to see blood on a CT scan, this is not a good way to see damage to the brain itself. If there is blood on the scan, its color will help the caregiver figure out how old it is. Utilizing the information from the scan, the history and the physical exam, the caregiver can figure out why this person is not feeling well.

TREATMENT

- **Acute subdural hemorrhage:**
  - Requires medical attention right away! In many cases, emergency surgery must be performed. The blood clot must be removed. The purpose of having an operation and having the clot removed is to make room and let the brain rest comfortably.
  - You may be placed in an intensive care unit (ICU) where a nurse can watch you very closely and look for any changes in your function or behavior. Careful attention will be paid to your breathing, blood pressure and neurological function.
  - Sometimes, medications or controlled breathing through a ventilator is needed may be needed to decrease the pressure in the brain. This is especially true if there is any swelling of the brain itself.
  - If the patient is not awake, they will need a monitor placed in their head that will tell the doctors and nurses how much pressure there is in the brain. A sudden increase in the pressure may mean that the bleeding has started again.
- **Chronic subdural hemorrhages**:
  - May require emergency treatment. Most physicians will recommend surgery for larger hemorrhages and those that cause neurological symptoms.
  - Others do not require treatment at all. Simple treatment with bed rest, medications and observation may be reasonable for smaller hematomas that cause minimal or no symptoms.
- People who develop a subdural hemorrhage are at risk of developing seizures, even after the hematoma has been treated. To prevent seizures, some caregivers will prescribe anti-seizure (*anticonvulsant*) medications for a year or longer.

PREVENTION

Accidents, including head injuries, are the leading cause of death in young people. Many others could be prevented with simple precautions or safety equipment.

To help prevent head injuries:

- Avoid drinking and driving or doing drugs and driving.
- Practice job safety, especially if your job involves working high above ground.
- Have your vision checked regularly. Poor vision can increase your risk of falls and other accidents.
- Clear your home or apartment of hazards. For example, throw rugs and extension cords can cause you to trip and fall. If you feel unsteady on your feet, consider using a cane or walker.
- If you play a contact sport such as football, hockey or soccer and you experience a significant head injury, allow enough time for healing before you start playing again (up to 15 days). A repeated injury that occurs during this fragile repair period is likely to result in hemorrhage. This is called the *second impact syndrome*.
- If you take blood thinners (warfarin [Coumadin], aspirin and other anti-inflammatories), make sure that you have close medical supervision with regular monitoring. If you are on any blood thinners then even a very small fall or trauma can cause a subdural bleed. You should not hesitate to seek medical attention regardless of how minor you think your symptoms are.
- Wear a helmet when bicycling or snow-boarding.

SEEK IMMEDIATE MEDICAL CARE IF:

You experience a head injury with any of the following symptoms:

- Drowsiness or a decrease in alertness.
- Confusion or forgetfulness.
- Slurred speech.
- Irrational or aggressive behavior.
- Numbness or paralysis in any part of the body.
- Has a bleeding disorder.
- Feel sick to your stomach (*nauseous*) or throw up (*vomit*).
- Difficulty walking or poor coordination.
- Double vision.

- Seizures.
- Has a history of heavy alcohol use.
- Takes medications to thin the blood.

Some information is complements of the following organizations. For more information contact the:

National Institute of Neurological Disorders and Stroke
P.O. Box 5801
Bethesda, MD 20824
Toll-Free: (800) 352-9424
http://www.ninds.nih.gov/

American Association of Neurological Surgeons
5550 Meadowbrook Dr.
Rolling Meadows, IL 60088
Toll-Free: (888) 566-2267
Fax: (847) 378-0600
E-Mail: info@aans.org
http://www.neurosurgerytoday.org/

American Academy of Neurology (AAN)
1080 Montreal Ave.
St. Paul, MN 55116
Toll-Free: (800) 879-1960
Fax: (651) 695-2791
http://www.aan.com/

Brain Injury Association of America
105 N. Alfred St.
Alexandria, VA 22314
Toll-Free: (800) 444-6443
Fax: 703-236-6001
E-Mail: familyhelpline@biausa.org
http://www.biausa.org/

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