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## Head and spinal injuries first aid

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### Summary

- Always call triple zero (000) for an ambulance in an emergency.
  - The presence or absence of blood isn't a reliable indicator of the seriousness of the head injury.
  - Symptoms of serious head injury can include clear fluid leaking from the nose or ears, altered consciousness or a period of unconsciousness, skull deformities, vision changes, bruised eyes and ears, nausea and vomiting.
  - A person who has sustained a head injury may also have injured their spine.
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The brain is a soft and delicate organ. A hard blow to the head can injure the brain or spinal cord even when there are no visible signs of trauma to the scalp or face. That's why all head injuries are considered serious and should be assessed by your doctor or the nearest hospital emergency department.

Always call triple zero (000) for an ambulance in an emergency. This article offers first aid suggestions, but is not a substitute for professional medical care.

### Two types of head injury

Head injuries can be classified as:

- **Open** – with bleeding wounds to the face or head
- **Closed** – no visible signs of injury to the face or head.

### Closed head injuries

The soft, jelly-like brain is protected by the skull. The brain doesn't fill the skull entirely – it floats in a clear, nourishing liquid called cerebrospinal fluid. This fluid acts as a shock absorber, but its protective value is limited.

The kinetic energy of a small knock to the head or face can be absorbed by the cerebrospinal fluid, but a hard impact can smash the brain against the inside of the skull. This can bruise the brain or tear blood vessels. If blood and blood serum start to escape, the swelling is contained within the skull. Intracranial pressure (pressure inside the skull) can cause permanent damage by literally crushing the brain.

### Symptoms of a head injury

Blood is not a reliable indicator of the seriousness of a head injury. Apart from wounds, other symptoms of serious head injury can include:

- Altered consciousness – for example, the person may lose consciousness for short or longer periods or may be conscious again, but confused or drowsy. They may even have a brief seizure. They may also change by improving for a while and deteriorating again later.
  - Skull deformities – compressions or deformities are signs of fractures.
  - Clear fluid from the ears or nose – a skull fracture, especially a fracture to the base of the skull, can allow cerebrospinal fluid to leak from the ears or nose.
  - Black eyes and bruised skin behind the ears – this indicates that the force of the blow was sufficient to rupture blood vessels around the eyes and ears.
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- Vision changes – the pupils of the eyes may be dilated (enlarged) and be different sizes in a person with a serious head injury. The person may complain of double or blurred vision.
- Nausea and vomiting – these are common side effects of serious head injury and should always be considered important if they persist.

### **First aid for head injury**

In cases where there is a serious head injury, always call an ambulance.

#### **First aid when the injured person is conscious**

Encourage the injured person to minimise any movement of their head or neck. Scalp injuries can bleed profusely, so control any significant blood loss from head wounds with direct pressure and a dressing. While examining the wound, avoid disturbing blood clots forming in the hair. Reassure the person and try to keep them calm.

#### **First aid when the injured person is unconscious**

The person should not be moved unless they are in immediate danger. Any unnecessary movement may cause greater complications to the head injury itself, the spine or other associated injuries. A good rule is that if the head is injured, the neck may be injured too.

Your role is to protect the injured person from any potential dangers at the scene. You should also monitor their airway and breathing until the arrival of an ambulance. If the person's breathing becomes impaired due to a problem with their airway, you may need to very carefully tilt their head back (and support it) until normal breathing returns. If the person stops breathing or has no pulse, cardiopulmonary resuscitation (CPR) may be required.

### **Treatment of concussion**

Concussion is a mild traumatic brain injury that follows some trauma to the head. It is a diagnosis made by a doctor when it is certain a more serious head injury has not occurred.

Symptoms of concussion can persist for up to three weeks after trauma. Your doctor or hospital will provide advice for yourself and your family regarding your ongoing care when being discharged for home.

Most importantly, be alert for any danger signs over the next one or two days, such as persistent vomiting, loss of coordination, or bad or worsening headaches despite analgesia (pain-relieving medication). Seek medical attention immediately.

### **Spinal injuries**

A person who has sustained a head injury may have also injured their spine. In elderly people, the force required to cause neck injuries is much less than in younger people. It can even occur from a standing height fall in the elderly.

It is important to keep the injured person's head in line with their neck. Avoid twisting their head or allowing their head to roll to the side. If you can, roll a t-shirt, towel or similar soft item and place it around their neck to keep their head straight. Don't try to move them unless there is an urgent need to.

Signs and symptoms of spinal injuries may include:

- Body lying in an awkward, unnatural position
- Skin feeling clammy and cool
- Reporting unusual tingling sensations in the limbs or an absence of any sensation, including pain
- Inability to move limbs.

## Toddlers and head injuries

Toddlers fall over all the time. Parents should note that:

- A fall from the child's own height usually isn't enough to cause a serious head injury
- The size of a bump on the head has no connection with the severity of injury
- Minor head injuries, like a bump on the head, can be treated with cuddles and an age-appropriate dose of children's pain-relieving syrup.

Medical attention should be sought immediately if the child shows any signs of serious head injury, particularly if they are unusually drowsy or vomiting, if you think the fall was heavy enough to have caused harm or if the child appeared to be unconscious or did not immediately cry after the fall.

Examples of a heavy fall are falling down some stairs, rolling from a normal height change table to a hard floor, falling from a bed to a hard surface or a head strike on bedside furniture. If in doubt, see your doctor.

## Where to get help

- In an emergency, always call triple zero (000)
- Your doctor
- The emergency department of your nearest hospital
- Maternal and Child Health Line, Victoria (24 hours) Tel. 13 22 29

## Things to remember

- Always call triple zero (000) for an ambulance in an emergency.
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