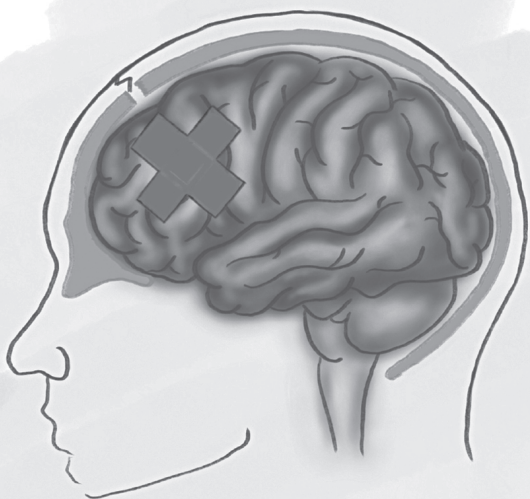


Neurosurgery Department



Head Injury



National
Neuroscience Institute

SingHealth

Understanding Head Injury

Traumatic brain injury, or more commonly called head injury, describes a variety of injuries to the scalp, skull, brain and underlying tissue and blood vessels in the head.

In Singapore, head injury occurs commonly after motor vehicle accidents, falls at home or at work, acts of violence, sports and recreational injuries. It is also the leading cause of disabilities and deaths in adults under 40 years of age. As a result, it has a significant impact on the patient, family and society.

The young, elderly, people who take blood thinners and those with problems such as alcohol abuse are prone to serious consequences after a head injury.

Symptoms of Head Injury

- Temporary or permanent loss of consciousness
- Nausea
- Vomiting
- Headache
- Giddiness
- Loss of memory

These symptoms may occur immediately or develop slowly over several hours to days. Even if no serious injury is found, careful observation by a responsible adult must occur in the first 24 – 48 hours after the injury.

For the first 24 hours after a head injury, the person SHOULD NOT:

- Be left alone
- Drive a vehicle or operate machinery
- Take alcohol or medications that can cause drowsiness

HEAD INJURY

Call for help and go to the Emergency Department if:

- Signs get worse e.g. sleepiness, headache, vomiting, dizziness
- Changes in behaviour e.g. irritability, confusion
- Weakness/numbness in the arms/legs
- Difficulty walking/talking
- Fit/seizure occurs
- Blood or clear fluid comes out from the nose/ears

Diagnosing Head Injury

Based on a physical examination. A Computed Tomography (CT) scan of the brain is ordered if there are risks of bleeding.

Treating Head Injury

Head injury can be mild to severe, and damage to the brain may occur immediately at the time of injury, or develop after the injury due to swelling or further bleeding.

Treatment is individualised, depending on the type, degree and extent of injury.

The common types of head injury and treatment are:

- **Scalp injury** where bumps and cuts are sustained on the scalp. Treatments include cold compression and suturing.

- **Skull fracture**

There are two types of skull fracture:

- **Undisplaced skull fracture** is caused by a direct impact to the skull which causes it to break with no shattered fragments. No surgical treatment is required as the bone will heal by itself.

- **Depressed skull fracture** is caused by a direct impact to the skull which causes the shattered bones to be pushed into the brain (Figure 1). Antibiotics and surgery may be needed to prevent further brain injury, bleeding and infection.

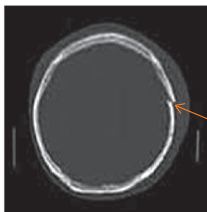


Figure 1
Depressed skull fracture

- **Concussion** to the head is caused by a blow or violent shaking of the head. Most people recover without any permanent damage. Symptoms such as headache, giddiness, nausea and vomiting may persist but will generally get better over time. Treatment includes medication for symptom relief and adequate rest.
- **Contusion** is a “bruise” that may cause tissue damage and bleeding (Figure 2).

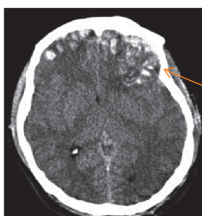


Figure 2
Contusion or bruising in the brain

- **Haematomas** (Blood clots) refer to the collection of blood in one or several locations of the brain. Treatments for contusion and haematomas include observation for worsening of symptoms and removal of blood clots. Prognosis depends on the type, size, and effect of the injuries on the brain (Figure 3 and 4).

Figure 3
Bleeding from artery
(Epidural haematoma)

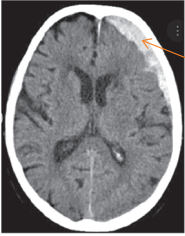
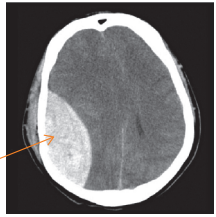


Figure 4
Bleeding from vein
(Subdural haematoma)

Managing Wounds

Adopt the following wound care methods:

- Check with your doctor if the wound can be left exposed.
- If your wound can be exposed, you are allowed to wash your hair gently with mild shampoo after 48 hours.
- **DO NOT** scratch, massage or stretch the wound area.
- Keep the dressing dry and clean at all times until it has been removed.
- If your dressing is loose, wet or dirty, visit a Polyclinic or General Practitioner (GP) to change it.

- For wounds closed with suture glue, **DO NOT** scratch it off even though it may appear like a normal scab. Let it fall off naturally.
- Steri-strips will usually come off around 2 weeks. **DO NOT** peel them off forcefully.
- Apply antibiotic ointment as prescribed.
- Keep to your appointment and see the doctor/nurse for wound review.
- Visit a doctor immediately if the following occurs:
 - Persistent and increasing pain at the wound site.
 - Fever of 38°C or higher.
 - Skin around the wound becomes red and swollen.
 - Bleeding or foul-smelling discharge from the wound.
 - Stitches give way or the dressing becomes dirty and wet.
 - Any abnormal and prolonged symptoms which may be a cause of concern.

Support for Head Injury

The NNI Head Injury Support Group helps patients and their families understand the condition and how it impacts them.

To join the support group, contact
TBI_enquiries@nni.com.sg



Contact Information

NNI@TTSH

Tan Tock Seng Hospital, NNI Block, Neuroscience Clinic

11 Jalan Tan Tock Seng, Singapore 308433

Main Tel: (65) 6357 7153

Appt. Tel: (65) 6330 6363

Email: appointments@nni.com.sg

Website: www.nni.com.sg



NNI@SGH

Singapore General Hospital, Block 3, Clinic L

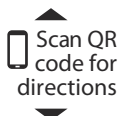
Outram Road, Singapore 169608

Main Tel: (65) 6222 3322

Appt. Tel: (65) 6321 4377

Email: appointments@sgh.com.sg

Website: www.nni.com.sg



NNI@CGH

Changi General Hospital

2 Simei Street 3

Singapore 529889

Appt. Tel: (65) 6850 3333

NNI@KKH

KK Women's and

Children's Hospital

100 Bukit Timah Road

Singapore 229899

Appt. Tel: (65) 6294 4050

NNI@KTPH

Khoo Teck Puat Hospital

90 Yishun Central

Singapore 768828

Appt. Tel: (65) 6555 8828

NNI@SKH

Sengkang General Hospital

110 Sengkang East Way

Singapore 544886

Appt. Tel: (65) 6930 6000



Scan the QR code to learn more about other Neuroscience conditions

The National Neuroscience Institute operates out of two main campuses (TTSH, SGH) and four partner hospitals (CGH, KKH, KTPH, SKH).



National
Neuroscience Institute
SingHealth

SingHealth **DukeNUS**
ACADEMIC MEDICAL CENTRE

Brochure content serves as a guide only
Seek the advice of your doctor for more details

Information correct as of April 2020