

# Head Injury Assessment

## Patient Information

<b>Patient Name:</b>
<b>Age:</b>
<b>DOB:</b>
<b>Date:</b>
<b>Contact Information:</b>
<b>Address:</b>
<b>Chief complaint:</b>
<b>Mechanism of Injury:</b>
<b>Additional information:</b> (e.g., causal)
<b>Medical History:</b> Previous head injuries: <input type="checkbox"/> Yes <input type="checkbox"/> No  Other related injuries: <input type="checkbox"/> Yes, provide details: _____ <input type="checkbox"/> No
<b>Medical Conditions:</b>
<b>Current Medications:</b>

**Take immediate action if the patient presents any of the following symptoms**

- Any signs of skull fracture
- Fixed and/or dilated pupils that do not respond to light
- Impaired cognition
- Impaired consciousness levels
- Memory loss
- Seizures
- Significant head pains, migraines, vomiting, or nausea
- Visual disturbances or any focal neurological deficit (such as paralysis or weakness)

Check the patient's **Glasgow Coma Scale (GCS) score** upon admission using the following table:

<b>Behavior</b>	<b>Response</b>	<b>Score</b>
<b>Eyes open</b>	4. Spontaneously	<input type="checkbox"/> 4
	3. Response to voice	<input type="checkbox"/> 3
	2. Response to pain	<input type="checkbox"/> 2
	1. Do not open	<input type="checkbox"/> 1
<b>Verbal response</b>	5. Converses well	<input type="checkbox"/> 5
	4. Confused speech	<input type="checkbox"/> 4
	4. Uses words only	<input type="checkbox"/> 3
	2. Makes sounds only, no words	<input type="checkbox"/> 2
	1. No sounds at all	<input type="checkbox"/> 1
<b>Motor response</b>	6. Follows commands	<input type="checkbox"/> 6
	5. Moves to localized pain	<input type="checkbox"/> 5
	4. Moves away or flexes to pain	<input type="checkbox"/> 4
	3. Decorticate (abnormal flexion to pain)	<input type="checkbox"/> 3
	2. Decerebrate (abnormal extension to pain)	<input type="checkbox"/> 2
	1. No response	<input type="checkbox"/> 1

<b>GCS score</b>	<ul style="list-style-type: none"><li>• Best response</li><li>• Comatose</li><li>• Completely unresponsive</li></ul>	<input type="checkbox"/> 15 <input type="checkbox"/> 8 or less <input type="checkbox"/> 3
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## Initial Assessment

### Protocols:

- Patients admitted to emergency services (or healthcare centers) that present any symptoms or evidence of a head injury must be assessed within 15 minutes following their arrival.
- Assessments should assess the level of head trauma, and determine whether the patient has suffered any injury to the brain or spinal cord.
- Complete an initial head injury assessment

### Assessment Procedures:

#### Cervical spine

- Assess whether the cervical spine has been injured, and whether it requires immobilization.

#### Airway

- If the patient with a Glasgow Coma Scale (GCS) of 8 or less may not be able to maintain their own airway
- If this is the case, or the patient's ability begins deteriorating, call the anesthetic team for airway management.
- A jaw thrust is usually most appropriate for patients with suspected injuries to the cervical spine.
- If there is facial trauma or suspected basal skull fractures, use airway adjuncts with caution.

#### Breathing

- Ensure the patient has adequate ventilation and oxygenation to avoid secondary damage with tissue hypoxia.

#### Circulation

- To prevent further secondary brain damage, ensure there is adequate tissue perfusion.
- Use resuscitation and appropriate fluids to create a good circulating volume.

#### Disability and neurological examination

- Record the patient's GCS on arrival, as well as every 30 to 60 minutes of admission.
- Assess the patient's pupils, paying attention to their size, symmetry, and responses to light stimuli.

- If conscious, complete a full neurological examination (peripheral and cranial nerve) to assess the patient's focal neurological deficit.
- Assess the blood glucose level, taking care to avoid hypoglycemia.

## **Exposure**

Examine whether the patient has any of the following:

- Lacerations
- Facial fractures
- Depressed skull fractures
- Basal skull fractures (battle's signs, raccoon eyes, hemotympanum, CSH rhinorrhoea, or CSF otorrhoea)
- Any visible penetrating injuries

## **Imaging**

- Use the NICE guidelines to determine if a patient requires a CT scan. This includes the following criteria:
  - A GCS less than 13 on arrival assessment, or a GCS score of less than 15 following 2 hours of the injury occurrence.
  - Any signs of a basal skull fracture, open skull fracture, or depressed skull fracture.
  - The patient has a seizure, or has more than one vomiting episode.
  - The patient demonstrates a focal neurological deficit.
- Perform CT scans within 8 hours if patients have any loss of consciousness, memory loss, or are on any anticoagulants with the following:
  - The patient is over 65 years of age.
  - The patient has any bleeding-related disorders.
  - The patient's mechanism of injury was dangerous, or had a fall from over 1m height.
  - The patient demonstrates retrograde amnesia for 30 minutes for events that occurred prior to the injury.

## **History**

When it is appropriate to do so (patient is conscious, resuscitated, and does not require imaging or further treatments), document the following information to update the patient's medical information:

- The mechanism of injury, including the type and nature of the injury.
- Any amnesia or loss of consciousness following the injury.
- Any vomiting episodes or headaches.
- Whether the patient had any drug or alcohol use.
- Previous medical histories, including surgeries to do with the central nervous system, previous head trauma, seizures, or any other relevant information
- Current medications

## **Referral to neurosurgery**

Use the following guidelines as a basis for referral:

- A significant abnormality is presented in the imaging.
- The patient has a GCS 8 or less following resuscitation, or following admission to care the patient has a drop in GCS.
- The patient has over 4 hours of unexplained confusion.
- The patient has seizures that they do not fully recover from, or shows focal neurological signs.
- There is evidence of a leak in cerebrospinal fluid, or there is suspicion of a penetrating injury.

**Additional Notes:**

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**Practitioner Name**

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**Practitioner Signature**

\_\_\_\_\_  
**Date**