

# Initial Management of Adult Mild Head Injury

**Initial GCS 14-15 on arrival following blunt trauma. Stabilise ABCDE's then assess risk factors.**

## Low risk Mild Head Injury

All of ...

- GCS 15 at 2 hours post injury.
- No focal neurological deficit.
- No clinical suspicion of skull fracture. **::1**
- Brief loss of consciousness (<5 mins).
- Brief anterograde / retrograde amnesia (<30 mins).
- No post traumatic seizure.
- Mild nausea or single episode of vomiting.
- Mild headache.
- No known coagulopathy.
- Age <65 years.
- Isolated head injury without dangerous mechanism.
- No drug or alcohol ingestion.
- No known neurosurgery / neurological impairment.

**Clinical observation until at least four hours post time of injury.**

**Abnormal alertness / behaviour / cognition. Clinically deteriorates or not improving.**

**Normal during observation period.**

**Normal CT scan. Clinical symptoms improving at 4 hours post time of injury.**

**Normal CT scan. Clinical symptoms NOT improving at 4 hours post time of injury.**

**Clinically safe for discharge for home observation if:**

- Normal alertness / behaviour / cognition.
- Clinically improving after observation.
- Normal CT scan or no indication for CT scan.
- Clinical judgment required if elderly and / or known coagulopathy due to increased risk of delayed subdural haematoma.

**Socially safe for discharge for home observation if:**

- Responsible person available to take home and observe.
- Able to return if deteriorates.
- Discharge advice is understood.

**Discharge for home observation and provide written discharge advice.**

## High risk Mild Head Injury

Any of ...

- Persistent GCS <15 at 2 hours post injury.
- Deterioration in GCS.
- Focal neurological deficit.
- Clinical suspicion of skull fracture. **::1**
- Prolonged loss of consciousness (>5 mins).
- Prolonged anterograde / retrograde amnesia (>30 mins).
- Post traumatic seizure. **::2**
- Persistent abnormal alertness / behaviour / cognition.
- Persistent vomiting (2 or more occasions).
- Persistent severe headache.
- Known coagulopathy (eg warfarin / alcoholic).
- Age >65 years. **::3**
- Multi-system trauma. **::4**
- Dangerous mechanism. **::5**
- Clinically obvious drug or alcohol intoxication. **::6**
- Known neurosurgery / neurological impairment. **::7**
- Delayed presentation or representation. **::8**

**Indication for early CT scan and prolonged clinical observation.**

**Abnormal CT scan.**

**CT scan unavailable.**

**Consider urgent transfer for CT scanning if:**

- Persistent GCS <15 at 2 hours post injury.
- Deterioration in GCS.
- Focal neurological deficit.
- Clinical suspicion of skull fracture.
- Persistent abnormal mental status, vomiting or severe headache at 4 hours post time of injury.

**Admit for prolonged hospital observation and consult regional neurosurgical service regarding further management and disposition.**

### Note – Clinical judgement required

- ::1** Clinical suspicion of skull fracture includes – history of focal blunt assault or injury; large scalp lacerations or haematomas; signs of base of skull fracture – haemotympanum / CSF leak / raccoon eyes / Battles sign.
- ::2** Post traumatic seizures – prolonged, focal or delayed seizures are significant risk factors for intracranial injury but brief generalised seizures immediately following head injury are less concerning.
- ::3** Age >65yrs – elderly patients have increased risk of significant intracranial injury; routine CT scanning unless totally asymptomatic patient with no other risk factors.
- ::4** Multi-system trauma – beware patients with unstable vital signs or distracting injuries, as significant head injuries are easily missed.
- ::5** Dangerous mechanisms include MVA ejection / rollover; pedestrians / cyclists hit by vehicle; falls >own height or five stairs; falls from horses / cycles etc; focal blunt trauma, eg bat / ball / club.
- ::6** Clinically obvious drug or alcohol intoxication with altered mental status is an indication for CT scanning but drug or alcohol ingestion with normal mental status is not.
- ::7** Known neurosurgery/neurological impairment – conditions such as hydrocephalus with shunt or AVM or tumour or cognitive impairment from any cause make clinical assessment less reliable and may increase risk of intracranial injury.
- ::8** Delayed presentation or representation – consider both intracranial injury and post concussion symptoms and have a low threshold for CT scanning.