Early management of adult patients with a head injury

### Indications for Admission to a Hospital Ward

- An adult patient should be admitted to hospital if:
  - the level of consciousness is impaired (GCS < 15/15)
  - the patient is fully conscious (GCS 15/15) but has any indication for a CT scan (if the scan is normal and there are no other reasons for admission, then the patient may be considered for discharge)
  - the patient has significant medical problems, eg anticoagulant use
  - the patient has social problems or cannot be supervised by a responsible adult.

### Indications for Discharge

- A patient can be discharged from the ED for observation at home if fully conscious (GCS 15/15) with no additional risk factors or other relevant adverse medical and social factors.

### Discharge Planning and Advice

- Patients and carers should be given advice and information in a variety of formats tailored to their needs.

### Referral to Neurosurgical Unit

- Features suggesting that specialist neuroscience assessment, monitoring, or management are appropriate include:
  - persisting coma (GCS score 8/15 or less) after initial resuscitation
  - confusion which persists for more than four hours
  - deterioration in level of consciousness after admission (a sustained drop of one point on the motor or verbal subscales, or two points on the eye opening subscale of the GCS)
  - focal neurological signs
  - a seizure without full recovery
  - compound depressed skull fracture
  - definite or suspected penetrating injury
  - a CSF leak or other sign of a basal fracture.

### Follow Up

- Patients admitted with mild head injury (GCS 13-15) benefit from brief, routine follow up consisting of advice, education and reassurance that they are likely to recover.
- Follow up can be delivered by telephone.
- Telephone contact may be used to identify those who need to be seen in person to provide follow up in greater depth.

- Patients with severe head injury admitted for up to 72 hours should be assessed for intensive rehabilitation.

- A discharge letter should be sent to the general practitioner of every patient, whether or not admitted to hospital indicating whether or not follow up has been arranged.
- If no follow up has been offered, the letter should indicate that good recovery is likely within a few weeks.
- The letter should indicate how follow up can be arranged if unforeseen or persisting difficulties arise.

This Quick Reference Guide provides a summary of the main recommendations relating to adults in SIGN guideline 110: Early management of patients with a head injury.

Recommendations are graded to indicate the strength of the supporting evidence. Good practice points are provided where the guideline development group wishes to highlight specific aspects of accepted clinical practice.

Details of the evidence supporting these recommendations can be found in the full guideline, available on the SIGN website: www.sign.ac.uk
The management of patients with a head injury should be guided by clinical assessments and protocols based on the Glasgow Coma Scale and Score.

### Indications for Head CT

- **GCS 13/15 - 15/15**
  - Base of skull or depressed skull fracture and/or suspected penetrating injuries
  - Deteriorating level of consciousness or new focal neurological signs
  - A history of coagulopathy and loss of consciousness, amnesia or any neurological feature
  - Severe and persistent headache
  - Two distinct episodes of vomiting.

- **GCS 13/15 - 14/15**
  - Improvement to GCS 15/15 within one hour of clinical observation or two hours of injury.

- **GCS 15/15**
  - Age > 65 (with loss of consciousness or amnesia)
  - Clinical evidence of a skull fracture but no clinical features indicative of an immediate CT scan
  - Retrograde amnesia > 30 minutes
  - Any seizure activity
  - Dangerous mechanism of injury or significant assault.

### Indications for Referral to the ED

- **GCS ≤ 12/15**
  - (Eye opening only to pain or not conversing)
  - Improvement to GCS 15/15 within one hour of clinical observation or two hours of injury.
  - Immediate CT including base of skull to T4 images.

- **GCS 13/15 - 14/15**
  - Normal CT
  - Consider ED discharge if patient is now GCS 15, has no comorbidities and has social support at home, otherwise admit to hospital.

- **GCS 15/15**
  - CT scanning within eight hours.

### Management of Patients

- Significant medical comorbidity (e.g., learning difficulties, autism, metabolic disorders).
- Social problems or cannot be supervised by a responsible adult.
- A mild head injury and taking antiplatelet medication (e.g., aspirin, clopidogrel).
- Re-presenting with ongoing or new symptoms (headache not relieved by simple analgesia, vomiting, seizure, drowsiness, limb weakness).