Head Injury Pathway

Clinical Assessment/ Management tool for Children

Management - Acute Setting





Patient presents

Suspected/ Observed Head Injury? Perform full PEWS obs including BP

History:

- · When? Mechanism of injury?
- Loss of consciousness? Vomiting? Fitting? Persisting dizziness?
- Amnesia (anterograde /retrograde)?
- · Worsening headache?
- · Clotting disorder?

Examination:

- Assess conscious level GCS (see table 2) and pupils
- Confused or repetitive speech?
- Skull integrity (bruises; wounds; boggy swelling) + fontanelle assessment
- · Signs of base of skull fracture
- · Signs of focal neurology
- Cervical spine
- If under 3 years, undress and examine fully

Do the symptoms and/or signs suggest an immediately life threatening injury? (see table 1)

Yes

• Contact Lead ED / Paediatric Doctor

- Move to Resuscitation
 Area
- •If time critical transfer, call SORT (023 8077 5502)

Are there <u>safeguarding concerns</u> (e.g. delay in presentation; injury not consistent with history or age/ developmental stage of child)?

Concern

Contact
safeguarding /
children's services
team

Table 1

	Green - low risk	Amber - intermediate risk	Red - high risk
Nature of injury and conscious level	Low risk mechanism of injury No loss of consciousness Child cried immediately after injury Alert, interacting with parent, easily rousable Behaviour considered normal by parent	Mechanism of injury: fall from a height > 1m or greater than child's own height Alert but irritable and/or altered behaviour	Mechanism of injury: considered dangerous (high speed road traffic accident; >3m fall) Suspicion of NAI GCS < 15 / altered level of consciousness Witnessed loss of consciousness lasting > 5mins Persisting abnormal drowsiness Post traumatic seizure
Symptoms & Signs	2 or less episodes of vomiting Minor bruising or minor cuts to the head	3 or more discrete episodes of vomiting (>10 minutes apart) Persistent or worsening headache Amnesia or repetitive speech	 Skull fracture – open, closed or depressed Tense fontanelle (infants) Signs of basal skull fracture (haemotympanum, 'panda' eyes, CSF leakage from ears/ nose; Battle's sign (mastoid ecchymosis) Focal neurological deficit A bruise, swelling or laceration > 5cm if age < 1 year
Other		Clotting disorder Additional parent/carer support required	

Green Action

- Provide written and verbal advice (see advice sheet)
- If concussion, provide advice about graded return to normal activities

If no

deterioration

- Consider <u>safeguarding risk</u>
- Observe in department for at least 4 hours post-injury

Amber Action

- Provide analgesia
- Discuss with <u>ED or paeds senior</u> if under 1 year

If deterioration (suggestive of raised ICP)

Urgent Action

- Assess need for CT (see figure 1)
- Admit for neurology obs (every 15 minutes until GCS 15, then hourly).
- If time critical transfer, call SORT (023 8077 5502)

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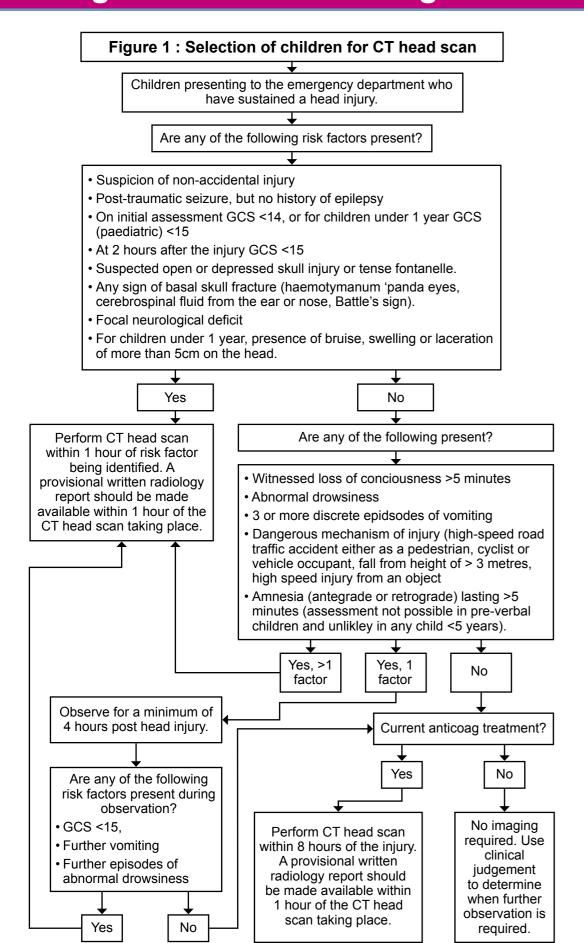


Table 2: Modified Glasgow Coma Scale for infants and Children

	Child	Infant	Score
Eye opening	Spontaneous	Spontaneous	4
	To speech	To speech	3
	To pain only	To pain only	2
	No response	No response	1
Best verbal response	Oriented, appropriate	Coos and babbles	5
	Confused	irritable cries	4
	Inappropriate words	Cries to pain	3
	Incomprehensible sounds	Moans to pain	2
	No response	No response	1
Best motor	Obey commands	Moves spontaneously and purposefully	6
response*	Localises painful stimulus	Withdraws to touch	5
	Withdraws in response to pain	Withdraws to response in pain	4
	Flexion in response to pain	Abnormal flexion posture to pain	3
	Extension in response to pain	Abnormal extension posture to pain	2
	No response	No response	1

^{*} If patient is intubated, unconcious, or preverbal, the most important part of this scale is motor response. Motor response should be carefully evaluated.