Head Injury Pathway Clinical Assessment/ Management tool for Children

Management - Primary Care and Community Settings



	 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) or AVPU 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 		(see table 1) Are there <u>safeguarding concerns</u> (e.g. delay in presentation; injury not consistent with history or age/ developmental stage of child)?	Со
Table 1	Green - Iow risk	Amber - intermediate risk	_	Red - high risk	
Nature of	Green - low risk Low risk mechanism of injury 	Amber - intermediate risk • Mechanism of injury: fall from a height > 1m o	r greater than	 Red - high risk Mechanism of injury: considered dangerous (traffic accident: >3m fall) 	(

	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 sp. traffic accident; >3m fall) GCS < 15 / altered level of consciousness Witnessed loss of consciousness lasting > 5mins Persisting abnormal drowsiness Post traumatic seizure
Symptoms & Signs	 No more than 2 episodes of vomiting (>10 minutes apart) Minor bruising or minor cuts to the head 	 3 or more episodes of vomiting (>10 minutes apart) Persistent or worsening headache Amnesia or repetitive speech A bruise, swelling or laceration of any size should be considered as dangerous 	 Skull fracture – open, closed or depressed Tense fontanelle (infants) Signs of basal skull fracture (haemotypanum, 'panda leakage from ears/ nose; Battle's sign (mastoid ecch Focal neurological deficit
Other		 Clotting disorder Additional parent/carer support required 	



This document was arrived at after careful consideration of the evidence available including but not exclusively NICE, SIGN, EBM data and NHS evidence, as applicable. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient in consultation with the patient and / or carer.





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Table 2: Modified Glasgow Coma Scale for Infants and Children

Figure 2: suggested graded recovery regin	ne f
355 doi: https://doi.org/10.1136/bmj.i5629 (l	Pub

	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.

Glossary of Terms		
ABC	Airways, Breathing, Circulation	
APLS	Advanced Paediatric Life Support	
AVPU	Alert Voice Pain Unresponsive	
B/P	Blood Pressure	
CPD	Continuous Professional Development	
CRT	Capillary Refill Time	
ED	Hospital Emergency Department	
GCS	Glasgow Coma Scale	
HR	Heart Rate	
ΜΟΙ	Mechanism of Injury	
PEWS	Paediatric Early Warning Score	
RR	Respiratory Rate	
WBC	White Blood Cell Count	







following concussion (taken from BMJ 2016; blished 16 November 2016)