

PERFORM ABCs OF RESUSCITATION

WHAT IS PATIENT'S GLASGOW COMA SCALE (GCS) ? *

GCS 13-15

MINOR HEAD INJURY

CT urgently needed if all 3 of the following:

- History of blunt head trauma within the last 24 hours
- History of loss of consciousness, amnesia or disorientation
- One or more of the following:
 - GCS < 15 at 2 h after injury
 - Suspected open or depressed skull fracture
 - Sign of basal skull fracture (hemotympanum, "raccoon eyes", cerebrospinal fluid otorrhea, Battle's sign)
 - Vomiting x 2 or more times
 - Age > 65

Minor Head Injury Management

Abnormal CT

- Call Air Medical Critical Care Transport and Trauma Hotline at **1-800-743-1334**

Normal CT or no CT indicated

- Observe until well and discharge home
- Follow up with primary care physician

If GCS deteriorating, or evidence of penetrating head injury, treat as per "Major Head Injury"

GCS 3-12

MAJOR HEAD INJURY

Intubate (c-spine in neutral position) for GCS ≤ 8 or deteriorating GCS; oxygen by mask for all others

Spine immobilization (c-spine collar and back board)

2 minute neurological assessment:

- GCS
- pupil size and reaction to light
- biceps and knee jerk reflexes
- Babinski responses
- Gross motor function (equal movement in all 4 limbs?)

Call Air Medical Critical Care Transport and Trauma Hotline at **1-800-743-1334**

PREPARATION FOR TRANSPORT AS PER PROVINCIAL TRAUMA GUIDELINES

PEDIATRIC HEAD INJURY (AGE < 16 YEARS)

GCS 3-12 (Major Head Injury)
Treat as per adult guideline

GCS 13-15 (Minor Head Injury)

AGE 2-15 years:

GCS 13 or 14: CT Head

GCS 15:

History of LOC or PTA: CT Head or observe overnight

No LOC or PTA: CT Head if one or more of the following:

- Change in GCS
- Focal neurologic deficit
- Intoxication
- Clinical evidence of skull fracture
- History of coagulopathy

AGE <2 years: (Consider child abuse as cause)

Symptomatic and/or neurologically abnormal: CT Head

Asymptomatic and normal neuro exam: No further imaging studies except if <1 year and scalp hematoma, then do skull x-rays

- If x-rays normal: No further investigations
- If fracture: CT Head & contact neurosurgery

[†] Symptomatic: LOC, vomiting, drowsy, irritable
LOC: Loss of consciousness
PTA: Post traumatic amnesia
CT: Computerized tomography

* CALCULATE GLASGOW COMA SCALE (E + V + M; RANGE 3-15)

GCS for age ≥ 5 years

GCS for age < 5 years

EYE OPENING

VERBAL RESPONSE

BEST MOTOR RESPONSE

BEST MOTOR RESPONSE


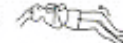
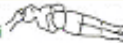

VERBALIZATION

EYE OPENING

BEST
GCS
WORST

- Spontaneously
- To voice
- To pain
- Not at all

- Converses, oriented
- Converses, disoriented/confused
- Inappropriate words
- Incomprehensible sounds
- No verbalization

- ObeysFollows motor commands
- LocalizesClearly pushes painful stimuli away 
- Normal flexionOnly withdraws arm or leg to painful stimuli 
- Abnormal flexionFlexion of arms with extension (decorticate posturing) 
- Abnormal extensionExtension of all extremities to painful stimuli (decerebrate posturing) 
- Flaccid.....No response to painful stimuli

- Spontaneous
- Localizes
- Normal flexion
- Abnormal flexion
- Abnormal extension
- Flaccid

- Appropriate for age fixes and follows, social smile
- Cries, but consolable
- Persistently irritable
- Restless, lethargic
- None

E = 1-4

V = 1-5

M = 1-6

M = 1-6

V = 1-5

E = 1-4