



Trauma
HEAD INJURIES / TBI
Practice Guideline

Patient Care Goals:

1. Manage immediate life-threatening injuries
2. Minimize secondary brain injury

Patient Presentation:

Inclusion Criteria

Mechanism of injury with potential for head injury

Exclusion Criteria

Isolated penetrating trauma

Patient Management:

Ventilation and oxygenation, EtCO₂ 35-45 mm Hg

Avoid hyperventilation and hypoxemia

AMS underlying causes

Normal Saline Bolus IV/IO given over 10 mins, repeat to SBP goal 120 (or age appropriate)

Elevate HOB 30° while maintaining alignment of neck/torso

REASSESS clinical status AND full vitals every 5 mins

Patient Safety Considerations:

Assure all appropriate LSIs are completed

Avoid the 'H-bombs' of TBI: Hypoxia, Hypotension, Hypoglycemia, Hypoventilation, Hyperventilation

Altered level of consciousness includes GCS < 15, intoxication, not following commands, etc

Advanced airway consideration:

- GCS ≤ 8: consider AA based on pt indicators (able to open pts mouth, absent gag reflex—tolerates NPA OPA or suction, provider judgment)
- SGA or ET w/VL advanced airway consideration
- Assign sole provider for airway monitoring

Implement spinal motion restrictions

Focal neurological signs or symptoms

Numbness, motor weakness, etc

Evidence of impending herniation:

Dilated and unresponsive pupils

Asymmetric pupils

GCS < 9 AND rapid deterioration GCS by 3+ pts

Extensor posturing

Quality Improvement:

Key Documentation Elements

1. Mechanism of injury
2. Level of consciousness, ongoing GCS
3. Frequent reassessment of vital signs
4. SMR + Neurological exam before/after mvmt

Paramedic Working Assessment: Head Injury / TBI

Universal Care

Appropriate LSIs completed

Moderate/Severe TBI criteria:
(any)

- GCS ≤ 12
- GCS ≤ 15 with acute worsening
- Polytrauma requiring advanced airway
- Post-traumatic seizures

Yes

Optimize ventilation and oxygenation

High flow oxygen
Consider advanced airway
Avoid hyperventilation
SPO2 goal ≥ 94%
EtCO2 goal 35-45

Maintain blood pressure

Normal Saline Bolus
(20 mL/kg) IV/IO over 10 mins
Repeat to
SBP goal 120
(or age appropriate BP)

Avoid hypoglycemia

Dextrose IV
(or Glucagon)
BG goal >60

Reassess Frequently

Elevate HOB 30°

Transport to trauma center

