

HEAD AND NEURO TRAUMA

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| EMR | <ul style="list-style-type: none"> ❑ General Trauma Assessment & Interventions ❑ Oxygen moderate to high flow as needed to ensure SpO₂ >94%. Evaluate for need of ventilation support ❑ Determine Glasgow Coma Score (GCS) & evaluate neurological status repeatedly during care. ❑ Initiate spinal precautions as indicated by Spinal Immobilization Procedure ❑ Treat and transport with head elevated 30 degrees if possible. ❑ Manage ETCO₂ between 32-40mmHg ❑ Contact OLMC to determine closest receiving facility with Neuro-surgical coverage. ❑ Evaluate for Trauma System Entry Criteria and enter as appropriate ❑ Excessive bleeding should be controlled with direct pressure when possible ❑ Consider the need for additional resources, including alternate transportation (air-medical) | EMR |
| EMT | <ul style="list-style-type: none"> ❑ Evaluate blood glucose level ❑ Aggressive airway management per guidelines – consider placement of King Airway if patient has a GCS < 8 & no gag reflex. | EMT |
| AEMT | <ul style="list-style-type: none"> ❑ Initiate vascular access via peripheral IV line (two if possible) with isotonic solution (Lactated Ringers or NS) - Do Not Delay Transport To Establish Vascular Access ❑ If unable to place peripheral IV may initiate pediatric IO placement ❑ Fluids administration to maintain normal blood pressure and/or systolic BP of 100mmHg (do not exceed 2 liters of fluid). | AEMT |
| EMT-I | <ul style="list-style-type: none"> ❑ If unable to place peripheral IV may initiate adult IO placement ❑ Consider Pain management per pain management guideline. ❑ May consider Ondansetron (Zofran) 8mg for patients experiencing severe nausea and/or vomiting may repeat x 1 in 15 minutes. | EMT-I |
| PARAMEDIC | <ul style="list-style-type: none"> ❑ Consider Intubation/Rapid Sequence as indicated for patients with GCS <8 <ul style="list-style-type: none"> ○ If able to maintain adequate airway/ventilation and transport time is less than 10 minutes, continue with BLS measures and rapid transport. ❑ Consider Midazolam (Versed) 2.5 to 5mg <ul style="list-style-type: none"> ○ For patients experiencing seizure activity – see seizure guideline. ○ For combative patients – Use <u>higher dose</u> IM/IN to achieve sedation. Also see patient restraint guideline. ❑ Notify receiving facility of signs of Increased ICP <ul style="list-style-type: none"> ○ May consider increasing ventilations to reduce ETCO₂ to 28 to 30mmHg if signs/symptoms (e.g., posturing, seizure, etc) are presenting. | PARAMEDIC |

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| Glasgow Coma Scale, | |
| Eye opening | |
| Spontaneous | 4 |
| To loud voice | 3 |
| To pain | 2 |
| None | 1 |
| Verbal response | |
| Oriented | 5 |
| Confused, disoriented | 4 |
| Inappropriate words | 3 |
| Incomprehensible sounds | 2 |
| None | 1 |
| Best motor response | |
| Obeys | 6 |
| Localizes | 5 |
| Withdraws (flexion) | 4 |
| Abnormal flexion posturing | 3 |
| Extension posturing | 2 |
| None | 1 |

HEAD AND NEURO TRAUMA CONT.

Clinical Care Pearls

- Patients exhibiting signs of concussion such as repetitive statements or questions, loss of consciousness, shock, etc, should be transported especially if they have a history of previous concussion or other head injury
- Maxilo-Facial trauma
 - Apply direct pressure if bleeding
 - Remove dislodged teeth from mouth
- Mid-face fractures:
 - **Le Fort I fracture**- horizontal detachment of the maxilla from the nasal floor.
 - Air passage through the nares may not be affected
 - The oropharynx may be compromised by a blood clot or edema in the soft palate.
 - **Le Fort II fracture**- *pyramidal fracture* includes the right and left maxillae, the medial portion of the orbital floor, and the nasal bones.
 - This fracture may be associated with airway compromise from significant hemorrhage.
 - **Le fort III fracture**- involves facial bones being fractured off the skull.
 - Because of the forces involved, this injury may be associated with:
 - Airway compromise
 - Presence of traumatic brain injury (TBI)
 - Injuries to the tear ducts
 - Malocclusion of teeth
 - CSF leakage from the nares

