Traumatic Brain Injury Pathway, GCS 15

Closed head injury

Plus Any One of the Following

1. Any period of observed or self-reported transient confusion, disorientation, or impaired consciousness
2. Any period of observed or self-reported dysfunction of memory (amnesia) around the time of injury
3. Observed signs of other neurological or neuropsychological dysfunction
4. Any period of observed or self-reported loss of consciousness lasting 30 minutes or less.

New Orleans Criteria (NOC) for Head CT with GCS 15

1. Headache
2. Vomiting
3. Age older than 60 years
4. Drug or Alcohol Intoxication
5. Persistent Anterograde Amnesia
6. Visible trauma above the clavicle
7. Seizures

Mild TBI

2010 Consensus Definition of TBI from CDC, NINDS, NIDDR, VA, DVBIC, DCoE

Plus Any One of the Following

• D/C with “Head Injury” Instruction packet
• Follow-up: If post-concussive symptoms, then Trauma NP Clinic

CT Head

No Acute Finding

Acute Finding

ADMISSION

See TBI Pathway, GCS 9-15
Traumatic Brain Injury Pathway, GCS 9-15

GCS<15 or Post-Concussive Symptoms

CT Head

- **Acute Finding**
- **No Acute Finding**

**ADMISSION**
Consult Neurosurgery
Consult Speech-Pathology
7d phenytoin seizure prophylaxis
CBC, PT/INR, PTT

**Consider Repeat Imaging within 6-24h if any of following:**
- High Risk CT Features:
  1. Subdural
  2. Epidural
  3. Intraparenchymal contusion/hemorrhage
- Clinical Deterioration
- Consultant request

**Re-evaluate Neuro Exam**

- **Focal Signs**

**Persistent Concussive symptoms**

- **GCS<15**
- **GCS 15, No focal signs**

- **YES**

- **NO**

- **D/C with “Head Injury” Instruction packet**
- **Follow-up:** If post-concussive symptoms, then Trauma NP Clinic
**Traumatic Brain Injury Pathway, GCS < 9**

**ADMISSION**
- Consult Neurosurgery
- Consult Speech-Pathology
- 7d phenytoin seizure prophylaxis
- CBC, PT/INR, PTT

Intubation
- Keep PaCO₂ 35-40, PaO₂ >60
- HOB > 30 degrees or reverse Trendelenberg
- SBP > 90 mm Hg
- If ICH, SDH, EDH → FFP/Platelets for INR<1.5, Platelet > 100K
- Establish central access, arterial line; Maintain euvoolema
- Optimize Sedation and Analgesia

**ICP Monitor**

- **Note:** TICU attending may request with direct discussion with NSU attending

  - CPP<60

  - **ICP > 20**

  - If EVD, then drain CSF

  - **ICP > 20**

**1st line:** Phenylephrine
**2nd line:** Norepinephrine

**Hyperosmolar Therapy**
- 3% NaCl @ 30-50 mL/hr
  - 1st line: 3% NaCl bolus q6h
  - 2nd line: Mannitol bolus q6h
  - Q6h BMP, Osm
  - Max: Na 160, Osm 320

**Persistent ICP > 20 and/or CPP < 60**

- Contact TICU attending or fellow
- Contact Neurosurgery (decompressive craniectomy)
- Monitor Intra-abdominal pressures
- Consider pentobarbital coma with Neurology consult (Continuous EEG)
- Consider Palliative care consult
References

**Mild TBI**


**Severe TBI**


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