

Blunt Cerebrovascular Injury (BCVI)

Blunt Head/Face/Neck Injury (AIS>0)

Memphis Screening or Denver Screening

Does Not Meet Criteria

No Further Action

Meets Criteria

Confirmed BCVI

Neck CT Angiogram or MRA

No BCVI

Consult neurosurgery, vascular surgery and/or hematology as appropriate.

Polytrauma

Yes

No

Heparin^μ
No Bolus, ptt 40-50 seconds

7-10 Days Post Injury

ASA^β

Neck CT Angiogram or MRA

Resolved

Grade II, III, V

Grade I, IV^ρ

Stop Treatment

Load with ASA + Consider Plavix^β

ASA^μ x 3-6mo

Four Vessel DSA

Resolved

Grade II, III^ρ

Grade V^ρ

Grade I, IV^ρ

Endovascular^γ (stent) + ASA + Consider Plavix^β x 3-6mo

Endovascular^γ (embolize) + ASA^β x 3-6mo

^μ: If NOT contraindicated by OR requirement and/or ongoing bleeding Re- evaluate for resolution of contraindications, and starting anticoagulation or antiplatelet therapy.
^β: Pediatric dosing: ASA 5 mg/kg/day Plavix 1 mg/kg/day (patient < 2yo is 0.2 mg/kg/day)
^ρ: Grades I-V: reimaging at 6 months
^γ: If endovascular repair is not practical, consider antiplatelet therapy

Memphis Screening Criteria

1. Any Basilar Skull Fracture
2. Any Cervical Spine Fracture and/or Ligamentous Injury (Any bony or ligamentous injury of the cervical spine).
3. Neurological exam not explained by brain imaging.
Examples: lateralizing deficits, Anisocoria, Amaurosis Fugax, NSG concerns with level of consciousness.
4. Horner's syndrome
5. LeFort II or III fracture
6. Neck soft tissue bruising with need for CT Head/Neck/Face or isolated "clothesline", deep soft tissue injury, or hematoma.

Denver Screening Criteria

- Arterial Hemorrhage
- Cervical Bruit
- Expanding Cervical Hematoma
- Focal neurologic deficit
- Neurologic exam incongruous with CT findings
- Stroke on Secondary CT scan
- Mandibular Fracture
- Complex skull fracture, basilar fracture, or occipital condyle fracture
- TBI with GCS <6
- Fracture of ribs 1-3
- Blunt Cardiac Rupture
- Scalp degloving
- TBI with thoracic injury
- TBI with vascular injury