

Blunt Cerebrovascular Injury (BCVI) Guideline

Presenting mechanisms of injury at risk for BCVI:

- High-energy transfer mechanism (high speed MVC, pedestrian struck by car, all-terrain vehicle collision, diving, fall from height [>10 ft or 2-3X height of patient])
- Hanging mechanism

Physical exam findings at risk for BCVI (Primary/Secondary Survey)

- Any focal neurologic deficit (Facial droop, unilateral motor or sensory loss, abnormal speech, asymmetric pupils, cranial nerve defect)
- Arterial hemorrhage in oropharynx, nasopharynx, or neck
- Cervical bruit
- Clothesline-type injury or significant seat belt neck abrasion WITH other signs or symptoms**
- Expanding cervical hematoma
- Near-hanging with anoxia
- Scalp degloving
- Severe TBI and GCS <6

**Clothesline-type injury or significant seatbelt neck abrasion WITHOUT other signs or symptoms do not require routine CTA imaging.

NO

Imaging signs with risk for BCVI

- 1st rib fracture
- Cervical spine fracture (vertebral body or transverse foramen), subluxation, or ligamentous injury
- Great vessel injury in thorax (aorta, brachiocephalic, carotid, and subclavian arteries)
- Le Fort II or III fractures**
- Skull base fracture
- Fracture involving the carotid canal
- Stroke on initial imaging
- Blunt cardiac rupture

**Consider imaging for mandible fracture due to high-energy transfer mechanism.

NO

Low Risk for BCVI

No screening imaging is recommended.

Increased Risk for BCVI

- Obtain CTA Head and Neck
- If imaging reveals BCVI, consult Neurosurgery and Neurology

YES

YES