## **Signs/Symptoms of BCVI**

Potential arterial hemorrhage
from neck/nose/mouth
Cervical bruit in pt < 50 yrs old
Expanding cervical hematoma
Focal neurologic defect: TIA,
hemiparesis, vertebrobasilar
symptoms, Horner's Syndrome
Neurologic deficit inconsistent
with head CT
Stroke on CT or MRI

## **Risk Factors for BCVI**

High energy transfer mechanism associated with:

No

Displaced mid-face fracture (e.g., LeFort II or III)

Complex skull fracture/basilar skull fracture/occipital condyle fracture

Traumatic Brain Injury (TBI) with GCS < 6 in field

Cervical vertebral body or transverse foramen fracture, subluxation or ligamentous injury at any level\*

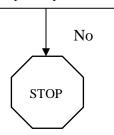
Near hanging with anoxic brain injury

Clothesline type injury or seat belt abrasion with significant swelling, pain, or altered MS

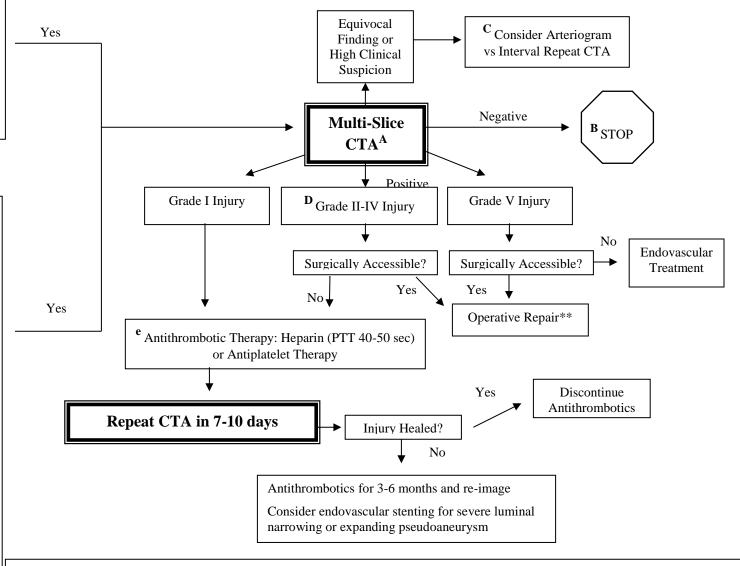
TBI with thoracic injuries Scalp degloving

Thoracic vascular injuries

\*Excluding isolated transverse process or spinous process fxs



## Diagnosis and Management of Blunt Cerebrovascular Injuries



- <sup>A</sup>CT angiography with multidetector-row CT, 16-channel or higher. If fewer than 16 channels, interpret CTA with caution.
- <sup>B</sup> If signs/symptoms or high clinical suspicion and (-) CTA consider digital subtraction arteriography as gold standard.
- <sup>C</sup> Empiric heparin or antiplatelet Tx, planned interval CTA vs arteriography as the gold standard or if relative contra-indication to treatment.
- **D** Grade II-IV, pursue operative repair if surgically accessible with clear distal endpoint.
- E Heparin preferred in the acute setting. Antiplatelet therapy = ASA 325 mg daily. Use heparin if ASA contraindicated, or if potential need to reverse.
- ${f F}$  Endovascular stenting in acute setting is limited by need for concurrent anticoagulation / antithrombotic therapy. Consider stenting for

Biffl et al J Trauma 2009 WTA Geddes, Burlew CC et al, Am J Surg. 2016 Updated July 2017, E. Peltz, F. Wright