Trauma Clinical Guideline:

Initial Evaluation & Management of Blunt Thoracic Aortic Injury

The Trauma Medical Directors’ Technical Advisory Committee is an open forum for the medical directors of designated trauma services in Washington State to share ideas and concerns regarding the provision of trauma care. The workgroup meets regularly to encourage communication between services so that they may share information and improve the quality of care that they provide to patients. On occasion, at the request of the Governor’s Steering Committee on EMS and Trauma Care, the group discusses the value of specific guidelines for trauma care.

This Initial Evaluation & Management of Blunt Thoracic Aortic Injury Trauma Care Guideline is distributed by the Washington State Department of Health on behalf of the Governor-Appointed Steering Committee on Emergency Medical Services and Trauma Care to assist trauma services with the development of their trauma patient care guidelines. Toward this goal, the Trauma Medical Directors have categorized the type of guideline, the sponsoring organization, how it was developed, and whether it has been tested or validated. It is hoped that this information will assist the physician in evaluating the content of this guideline and its potential benefits for their practice or any particular patient.

The Department of Health does not mandate the use of this guideline. The Department recognizes the varying resources of different services and that approaches that work for one trauma service may not be suitable for others. The decision to use this guideline depends on the independent medical judgment of the physician. It is recommended that trauma services and physicians who choose to use this guideline consult with the Department on a regular basis for any updates to its content. The Department appreciates receiving any information regarding practitioners’ experiences with this guideline. Please direct comments to Mary Rotert RN, 360 236-2874 or mary.rotert@doh.wa.gov

This is a trauma evaluation and management guideline. It was adapted from the professional literature. The Trauma Medical Directors group reviewed the guideline, sought input from trauma care physicians throughout Washington State, and used that input to make changes. The guideline was then endorsed by the Steering Committee and by the DOH Office of CHS. This guideline has not been tested or validated.
Guideline for Initial Evaluation & Management of Blunt Thoracic Aortic Injury (TAI)

Assess & Manage Airway, Breathing, Circulation
TAI occurs in the setting of high velocity injury and thus other life-threatening injuries must be assessed first

Unstable patients with bleeding from left chest require emergent thoracotomy

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When ABC’s stable…
Evaluate for signs of TAI

If combative, sedate and intubate prior to CT

Physical findings:
- Discrepancy > 20mmHg of SBP - upper extremities
- Diminished groin pulses

CXR findings:
- Widened mediastinum
- Deviation of trachea or NG tube
- Loss of AP window or aortic knob
- Apical capping
- Depression of left mainstem bronchus
- Widening of superior vena caval shadow

Suspected TAI stable patient:
Chest CT Angiogram* to confirm diagnosis

TAI confirmed:
- Contact receiving surgeon
- Begin beta blocker if SBP > 120mmHg
  Labetolol or Esmolol: Titrate to SBP 100-120 mmHg
- Arrange rapid transport & send all images with patient
- Consider arterial line for blood pressure monitoring

Thoracotomy indicated if initial chest tube output > 1000cc or ongoing bleeding > 250cc/hr
* See HMC imaging guideline for protocol at http://140.142.85.8/protocols/CT_protocols/BodyUltra/Chest7.htm
** Ensure adequate volume resuscitation prior to initiation of beta blockers
** Use with caution in patients with severe brain injury (avoid hypotension)