

PRACTICE GUIDELINE

Effective Date: 5-21-04

Manual Reference: **Deaconess Trauma Services**

TITLE: EVALUATION OF THE WIDENED MEDIASTINUM

PURPOSE: To define the indications of pursuing an evaluation to rule out a thoracic aortic injury and to suggest possible diagnostic paradigms for the evaluation of thoracic aortic injury.

DEFINITIONS: Thoracic aortic injury is a disruption of the thoracic aorta usually as a result of a blunt deceleration trauma. This injury is usually at the ductus arteriosum just distal to the take-off of the left subclavian artery. Occasionally, the aorta may rupture in the ascending portion and at the take-off of the major vessels. A mediastinum measurement of ≥ 8 cm at the level of the aortic knob on the best film that can be obtained.

GUIDELINES:

1. Initially assume that there is an aortic injury on every patient with a rapid deceleration mechanism of injury.
2. Evaluate and treat the ABC's. Obtain blood pressure in both arms.
3. Obtain a chest x-ray. Examine for a widened mediastinum (≥ 8 cm at level of aortic knob). The following signs are confirmatory of a possible aortic injury, but in themselves, do not suggest the need for further evaluation.
 - a. Pleural cap.
 - b. Depressed left mainstem bronchus.
 - c. Trachea or esophagus deviated to right.
 - d. First and second rib fracture.
 - e. Obliterated aorto-pulmonary window.
4. Assess for symptomatic upper extremity BP differences (> 10 mmHg), pseudocoarctation syndrome or infrascapular murmur. These are also suggestive of aortic injury.
5. If the possibility of aortic injury is considered at any point in the resuscitation, avoid hypertension. Extremely high blood pressures should be treated with a short acting intravenous beta-blocker (e.g. labetalol).
6. Obtain a chest CT scan with IV contrast (if not contraindicated) with cuts through the aortic arch. An alternative is to obtain a transesophageal echocardiogram.
 - a. If the CT scan shows no periaortic mediastinal blood, than an aortic injury has been ruled out.
 - b. If the TEE shows no evidence of aortic disruption, then an aortic injury has been ruled out.

7. A thoracic angiogram is the gold standard for treatment. This should be obtained at the discretion of the physician/surgeon.

REFERENCES:

- ❖ TRAUMA, McGraw-Hill Medical Publishing Division, Moore, Feliciano, Mattox, Fifth edition, 2004.

REVIEWED DATE	REVISED DATE
JAN 05	JAN 08
JAN 06	
JAN 07	