

## Interpreting CXR signs of thoracic aortic injury.

We have reviewed several articles (see Fishman J Thoracic Imaging 2000; 15:97 and Patel Radiology 1998; 209:335) and discussed current recommendations with Drs Yandow and Collins.

The consensus regarding supine CXR screening for aortic injury appears to be:

1. 8cm mediastinal width has poor specificity and is an inaccurate stand alone sign of aortic injury, with a specificity of ~10%.
2. In patients with sufficient mechanism of injury, multiple signs should be used including
  1. abnormal/indistinct aortic knob
  2. obscured AP window
  3. widened left paraspinal stripe
  4. deviation of trachea or NGT to right
  5. Other signs are: mediastinum/chest ratio >25% or width >8cm, left 1st rib fx, and apical cap.
3. Thoracic aortic injury can occur with a 'normal' supine chest x-ray.

When you are on call:

1. If a trauma supine CXR has abnormal mediastinum findings and the mechanism of injury/clinical suspicion is uncertain, suggest either a semi upright radiograph or CT.
2. If there is sufficient mechanism, clinical suspicion and abnormal CXR findings, go straight to chest CT.

If we have concern at staff readout, we'll review any subsequent CXRs taken in the ICU that may rule-out any life-threatening aortic injury.