

# Chest X-Ray Interpretation in the Era of C T Correlation

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# Disclosures

- None

# The Chest X-Ray

- Most common radiographic study
  - 100's million exams annually
  - Many interpreted by non-radiologists
  - Broad indications for pulmonary symptoms, chest pain, trauma, assessing support devices
  - Not indicated as a screening study for lung cancer<sup>1</sup>
  - High inter-observer and intra-observer variation<sup>2</sup>
  - Clinical correlation: the patient in front of you
  - CT correlation: the anatomic truth
- <sup>1</sup>Oken et al, JAMA 306:17, 2011  
<sup>2</sup>Potchen, JACR 3:6, 2006

# Classical Approach to the CXR

*Be Systematic!*



FILM QUALITY/  
EXPOSURE



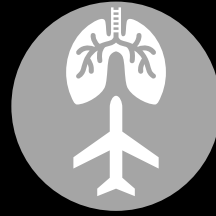
POSITION:  
AP VS PA  
ROTATION



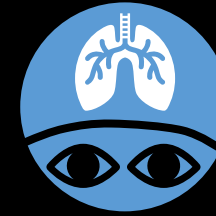
HEART &  
VESSELS



'FOUR CORNERS'



LUNGS &  
AIRWAYS



LOOK BELOW  
THE  
DIAPHRAGM !



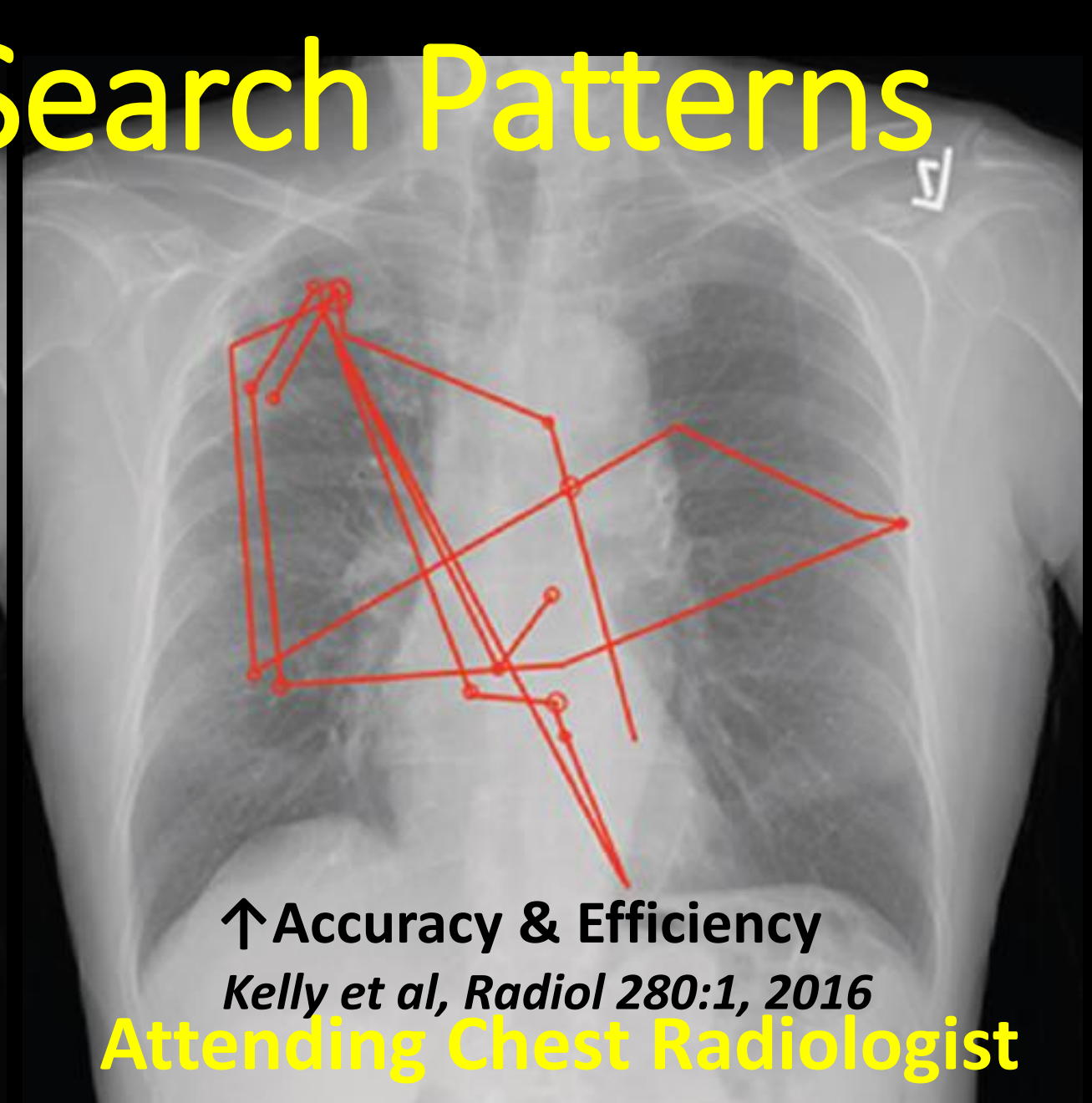
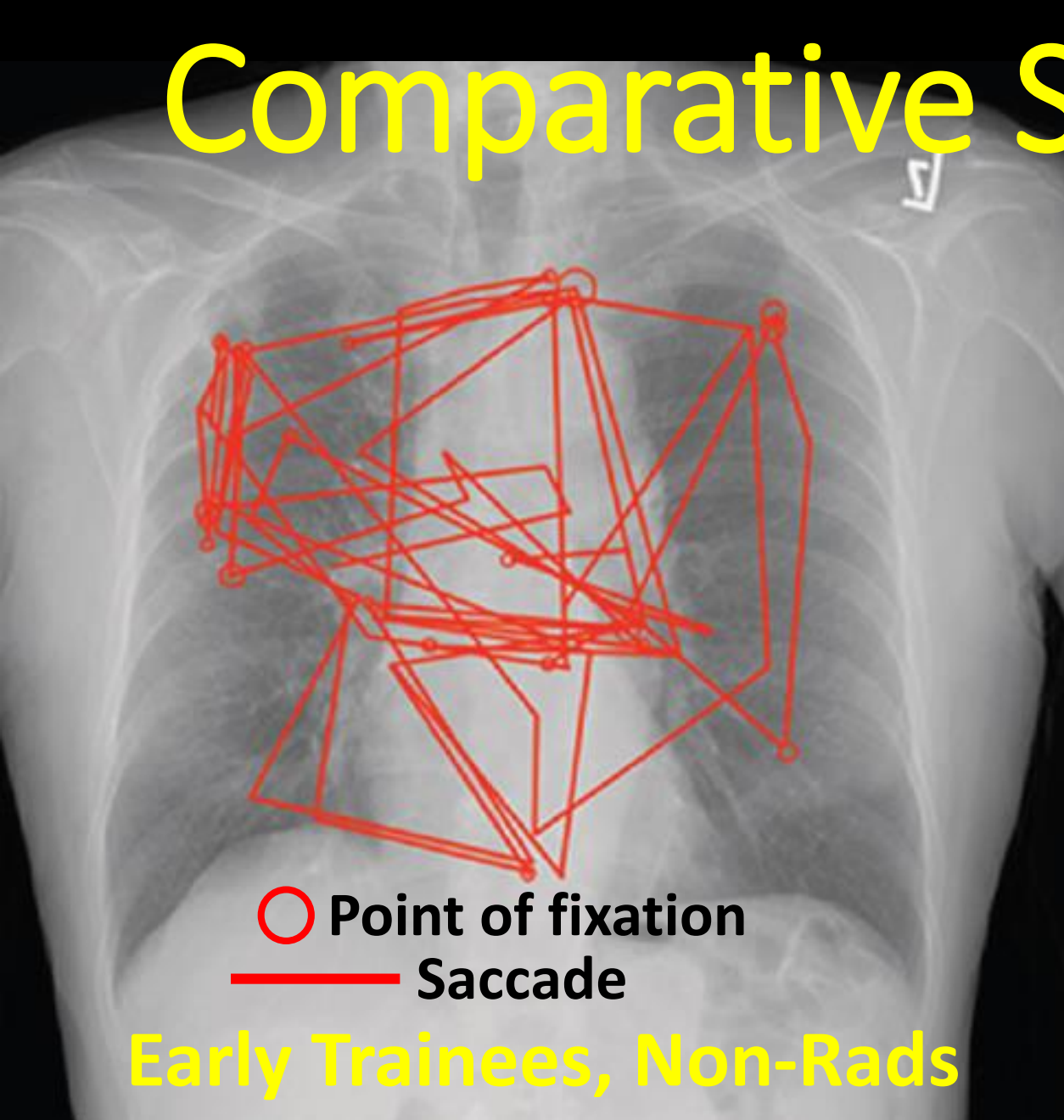
PLEURA &  
SULCI



BONES

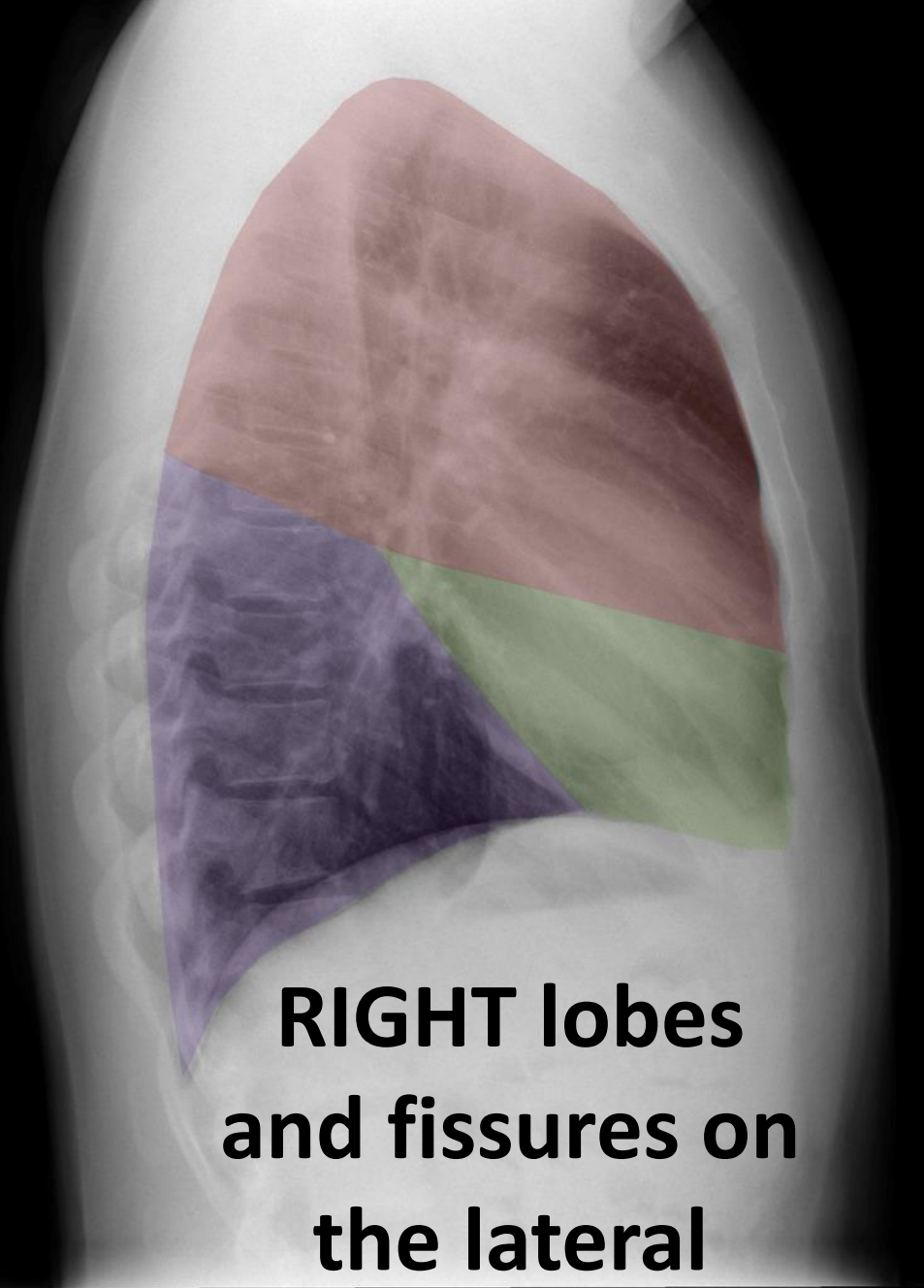
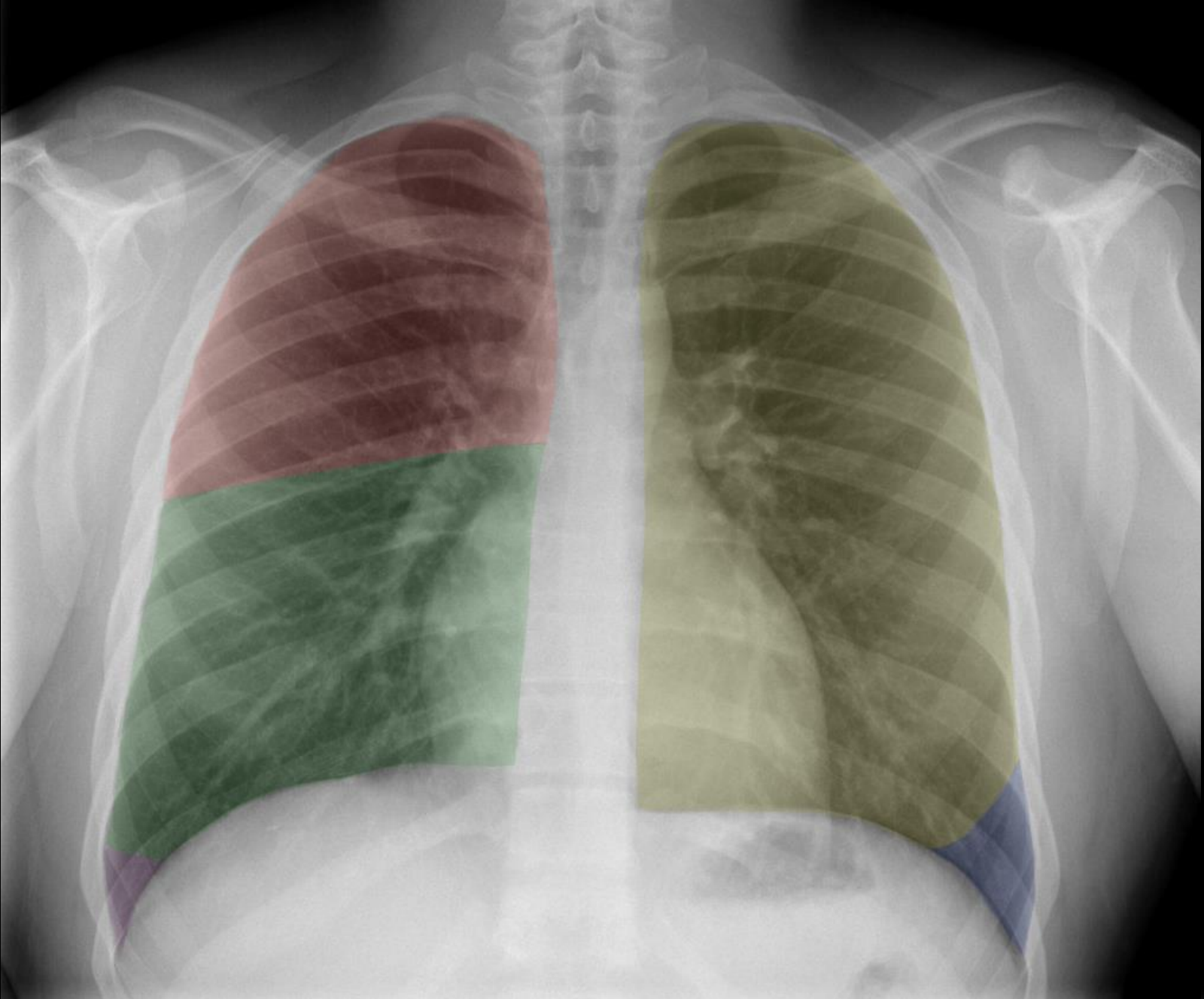


# Comparative Search Patterns

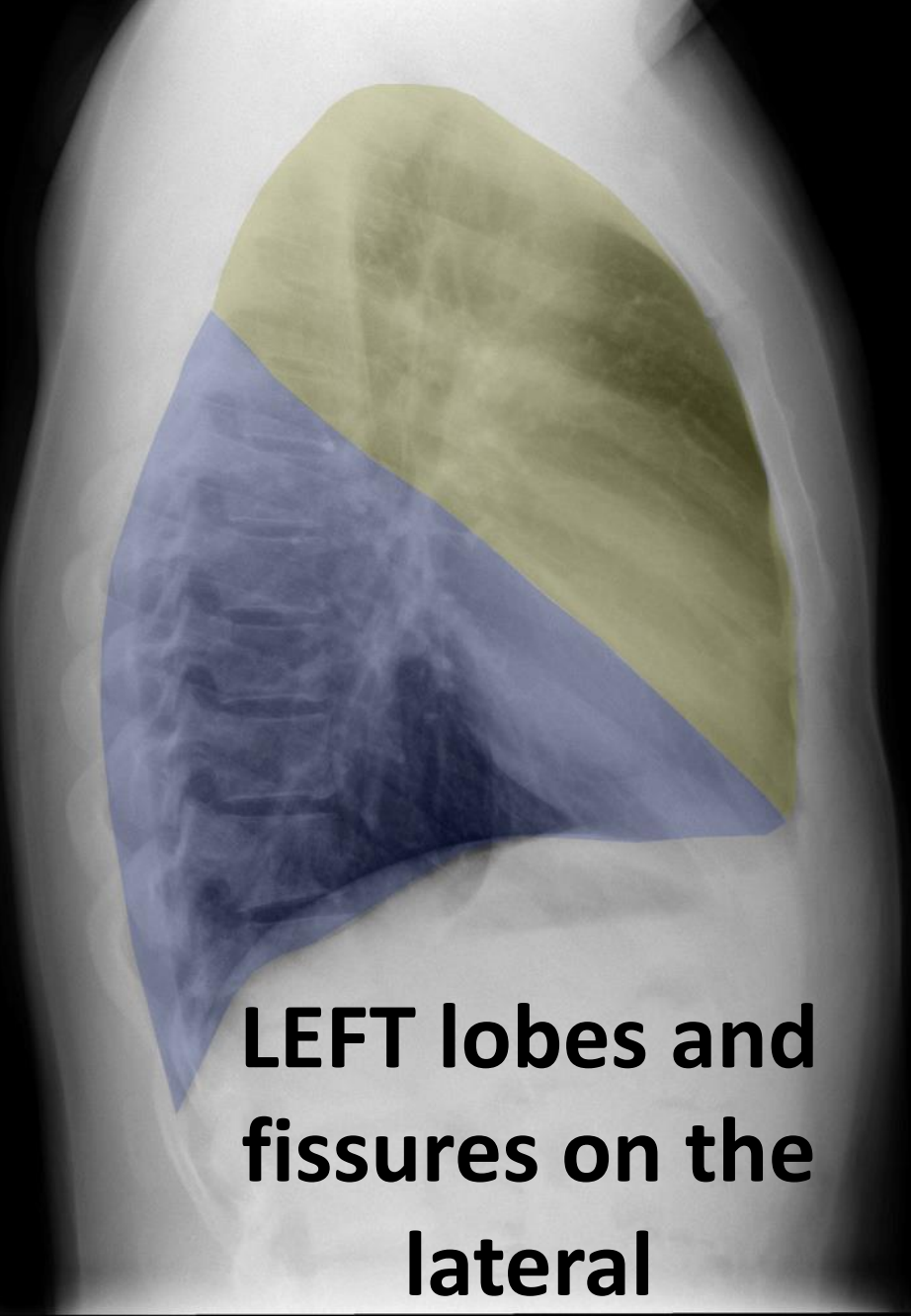
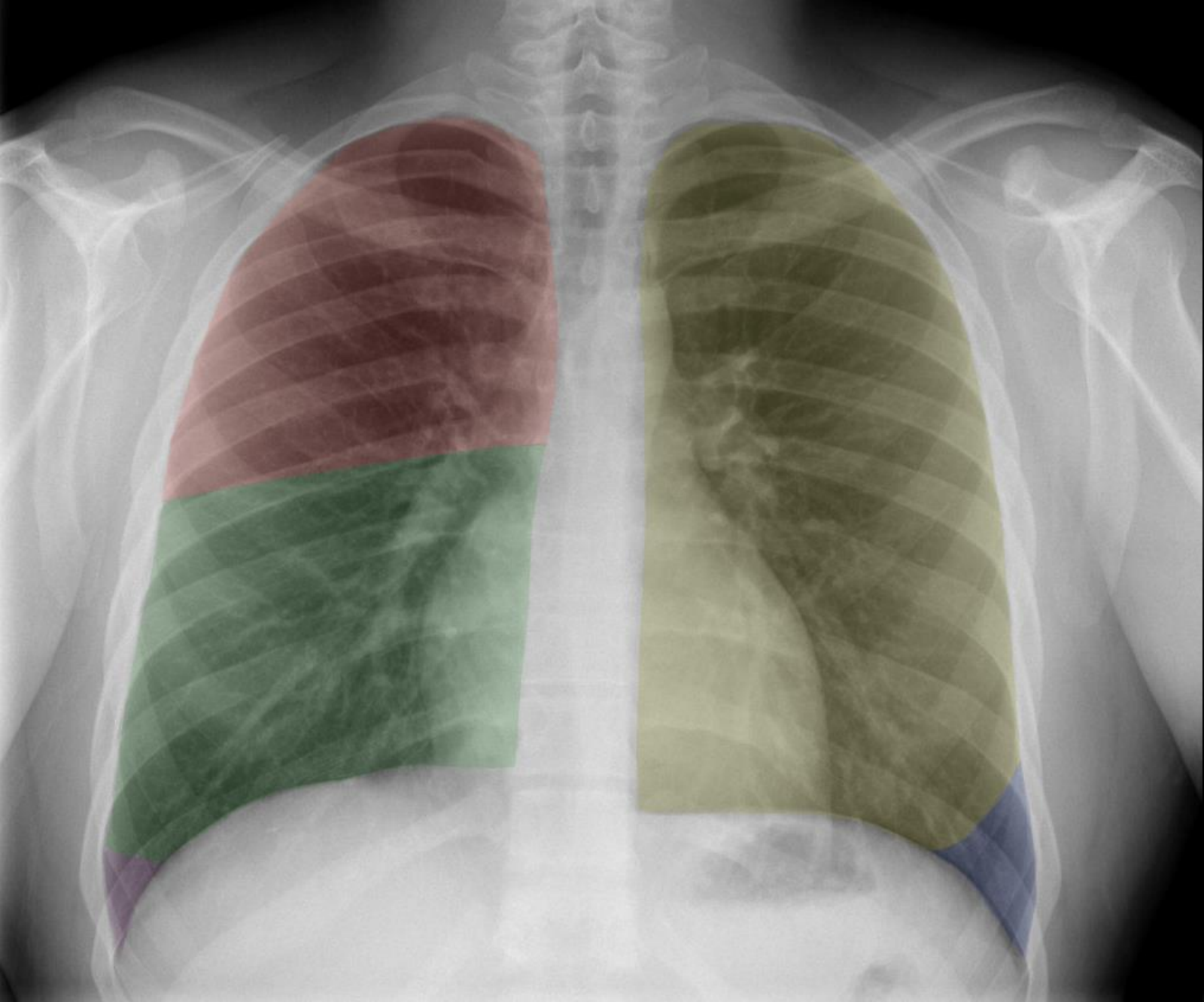


# Thoracic Radiologist Approach

- Classical approach, PLUS
- Image review before history: ↑ specificity
- Lung volumes: essential for calibration
- Prior CXRs
- Prior CT & MR of Chest also *Abdomen, Neck, T spine*
- Perception
- Interpretation: *Aunt Minnie v Differential Dx*
- Action: Rx/Intervention, follow-up, advanced imaging

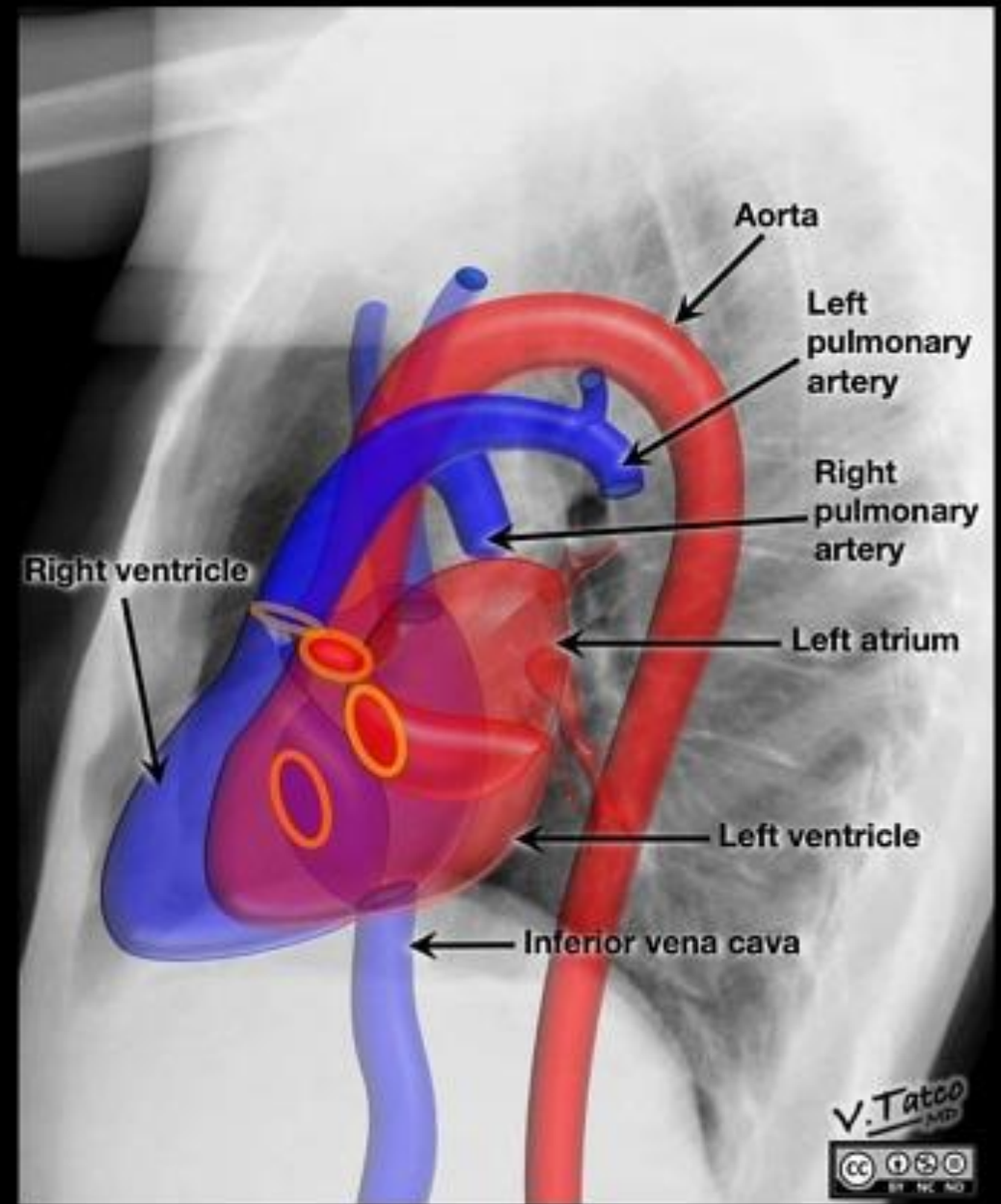
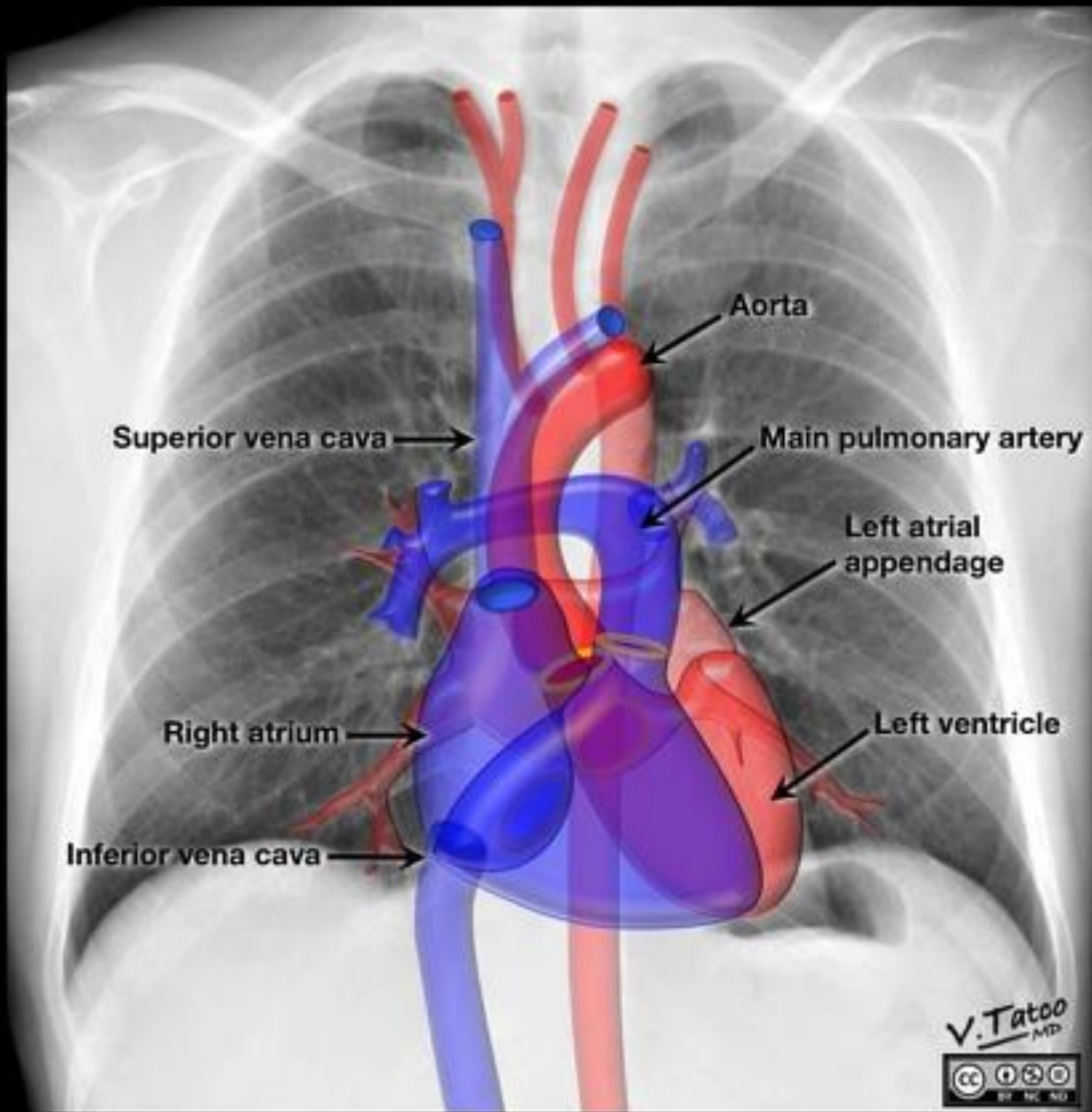


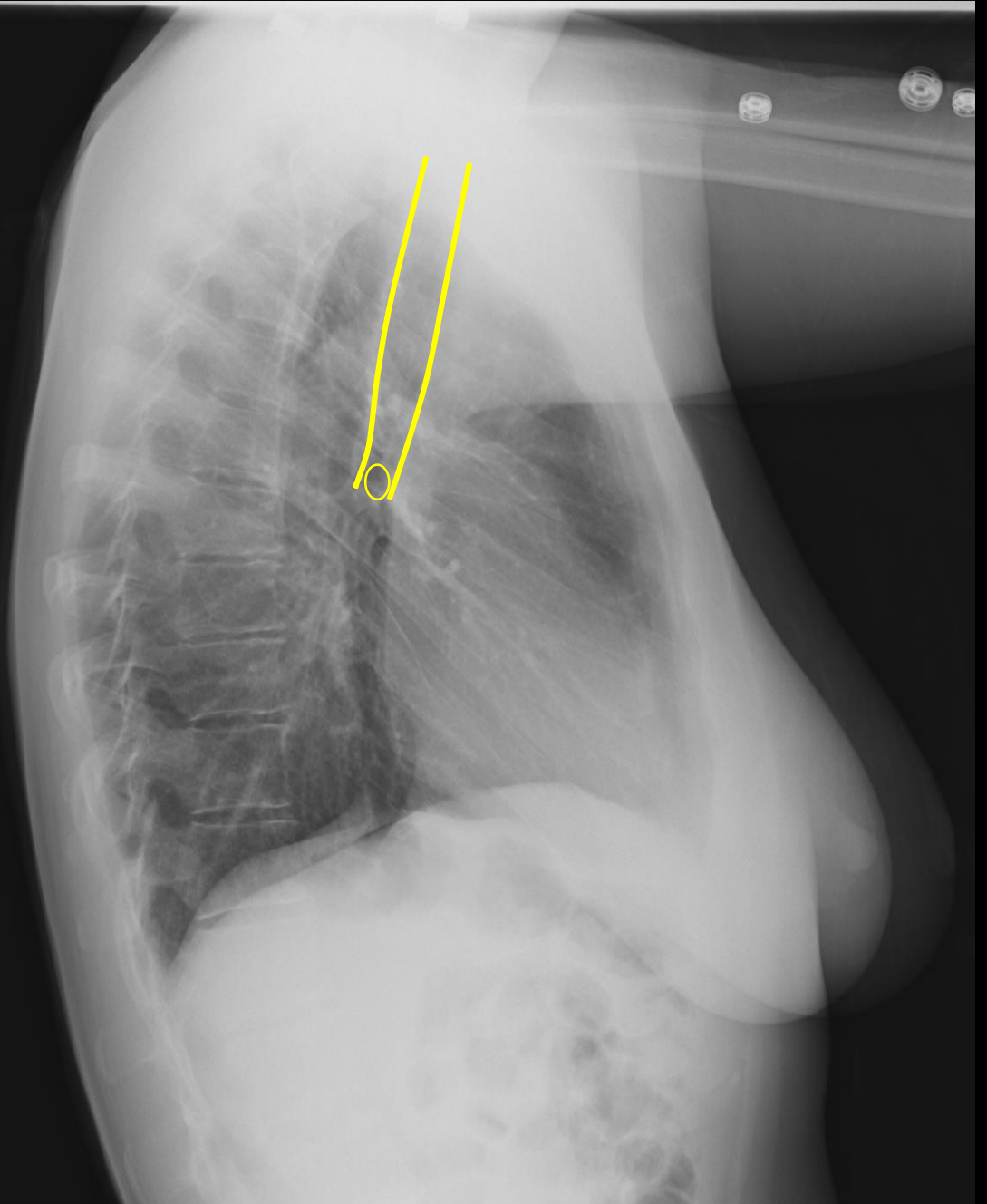
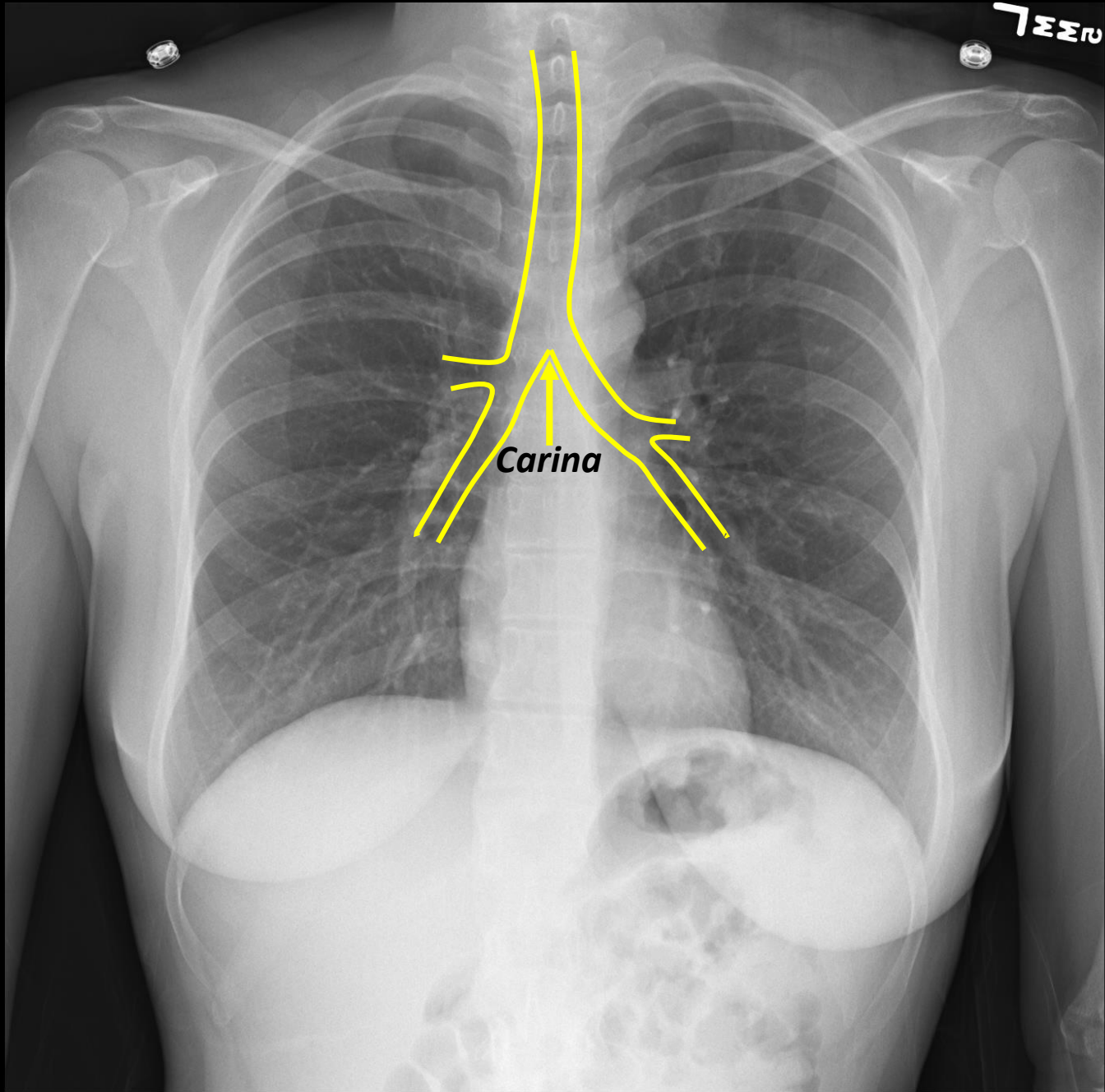
**RIGHT lobes  
and fissures on  
the lateral**



**LEFT lobes and fissures on the lateral**







# Case Presentations

- Lobar atelectasis
- Pneumonias
- Interstitial lung disease
- Pleural disease
- Thoracic malignancies
- Cardiac abnormalities
- Trauma
- Support catheters: normal and mal-positioned
- Artifacts
- Disease below the diaphragm