



1. Overview

- a. Chest x-ray interpretation is an important skill frequently needed in primary and acute care settings to treat pulmonary problems.
- b. Equally important to attaining competency in pattern recognition is understanding radiographic densities and developing a systematic approach to x-ray evaluation.

2. Goal of the learning module

- a. Identify bone, fluid and air density levels
- b. State the differences between AP, PA and lateral views.
- c. Demonstrate a systematic approach to chest x-ray evaluation
- d. Evaluate normal chest x-ray and identify corresponding anatomy
- e. Recognize common chest x-ray anomalies: CHF, pneumonia, pneumothorax

3. References:

Salajegheh, A., Jahangiri, A., Dolan-Evans, E., & Pakneshan, S. (2016). A combination of traditional learning and e-learning can be more effective on radiological interpretation skills in medical students: a pre-and post-intervention study. *BMC medical education, 16*(1), 46.

Thompson, M., Johansen, D., Stoner, R., Jarstad, A., Sorrells, R., McCarroll, M. L., & Justice, W. (2017). Comparative effectiveness of a mnemonic-use approach vs. self-study to interpret a lateral chest X-ray. *Advances in physiology education, 41*(4), 518-521.

4. Required Reading / Review

- [Panopto on Chest X-ray by Dr. Patti Daly](#)
- [How To Interpret Clinical Chest X-Ray In Under 5 Minutes](#)
- [How to Read a Chest X-ray – A Step By Step Approach](#)

5. Required Procedure Competencies

- Identify patient and technique:
 - R or L, PA, lateral, AP
 - penetration
 - prior images available.
- Anatomy
 - Airway Is trachea shifted? Follow to carina ET tube 2-5 cm from carina
 - Bone Count 10 ribs? Clavicles aligned? Fractures? (lateral spinal fractures)
 - Cardiac Larger than ½ diameter and vessels
 - Diaphragm look under above (R higher due to liver) Stomach bubble on L
 - E Lungs are there lines, tubes? Where are markings

Skill/Learning Demonstrated	
1	Identify x-ray densities
2	Identify normal chest x-ray corresponding anatomy
3	Differentiate abnormal x-rays : CHF, pneumonia, pneumothorax