RESPIRATORY

IMAGING- CXR SYSTEM FOR INTERPRETATION

When looking at a CXR it is often easy to get distracted by the first abnormality seen and miss a second or third finding.
The following is one system for ensuring all areas of a CXR are inspected, it uses the pneumonic **DRS ABCDE**:

D= Details- check theses are correct

- Patient name, age & CHI
- Type of film: PA or AP, erect or supine, inspiratory or expiratory
- Time & date of study

R= **RIPE**- is the picture ripe for interpretation?

- **R**otation- check the clavicles are aligned i.e. equidistant rom spinous processes
- **I**nspiration- should see ≥8 posterior ribs above diaphragm, or 5-6 anterior ribs at mid- clavicular line
- **P**icture- entire lung fields? Scapulae outside lung fields? Straight vs oblique
- **E**xposure- i.e. penetration. Left hemidiaphragm visible through cardiac shadow? Spinous processes visible to ~T4

S= Soft tissue & Bones- not uncommon to leave this to the end, but because it takes concentration and effort to look at all, it may be better to do at the start.

- Soft tissues- look for swelling, subcutaneous air, masses
- Breast shadows & associated masses
- Calcification of great vessels
- Bones: ribs, sternum, clavicles, spine, scapulae & humeral heads, looking for: symmetry, fractures, dislocations, lytic lesions, density

Airway & Mediastinum

- Trachea- is it central- it is allowed to be slightly to the right
- Carina and right and left main bronchi
- Mediastinum should be <8cm on PA film
- Aortic knuckle- calcified, visible
- Hila- T6/7 level, left often higher than right

Breathing- Lung fields & Pleura

- Vascular lines to 2cm of pleura and 3cm of apices
- Pneumothorax- try rotating to horizontal- the human eye sees horizontal lines better than vertical
- Lung field abnormalities- consolidation/ collapse/ opacities or lesions/ atelectasis/ bullae
- Infiltrates- interstitial vs alveolar pattern
- Pleural thickening

Circulation & **C**ardiac shadow

- Size- should be <0.5 of thorax on PA film
- Position- 2/3 on left side of midline
- Borders
- Shape

Diaphragm

- Hemidiaphragm levels- right usually higher than left
- Costophrenic and cardiophrenic angles
- Diaphragm shape
- Air under diaphragm- gastric bubble vs pneumoperitoneum (usually on right > left)

Extras

- Lines, ETT, NG, Chest drain
- ICD/ PPM/ Metalwork

Initially this will be time consuming, but over time it will become second nature and you are much less likely to miss something!