

# Image Interpretation – Chest X-Ray

*Adapted from MedEd Third Year slides*

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## What is this question?

In clinical practice, it is a vital skills to be able to systematically go through imaging. It may form part of a diagnosis or be used to rule out serious conditions. However, although you may know what is going on in a piece of imaging, it is important that you're able to document this properly so that other people can read your findings and make sense of it.

Chest X-Rays are done as a routine investigation, to rule out life-threatening complications. They are helpful because they are able to visualise key organs, as well as check for many pathologies.

## Step 1: Fill out patient details

It's important that you double check this after you've written all this information, and then check once again when you've finished the question.

All the information needed should be given in the question stem, or at the front of question booklet.

Particularly important pieces of information for this question include:

- Indication for image
- Any previous imaging available

## Step Two: Assess Image Quality

This is done by looking at 4 main things:

- Rotation (Spinous processes should be equidistant to clavicle)
- Inspiration (5-6 anterior ribs seen)
- Projection (Most CXR's are PA, as the heart can be more accurately assessed)
- Exposure (spinous processes seen through the cardiac shadow)

## Step 3: Chest X-Ray

In this step, we will comment on all the major parts of the chest x-ray. In this question, the stem may specify what things it wants you to comment on. If this is the case, the suggestion is to underline those points so that the examiner is clear that you understand the most important parts.

There are 2 systems which follow a similar pattern, but by following both you are unlikely to miss anything in a chest x-ray.

- Airway (Trachea, carina, bronchi, hilar regions)
- Breathing (Lung fields and markings, lung borders, pleural abnormalities)
- Cardiac (Size and borders)

- Diaphragm (height, abnormalities, gastric bubble, costophrenic angle)
- Everything else (mediastinal contours, lung apex, aortic knuckle, aortopulmonary window, bones, soft tissues, artificial structures)

The other system (A-I):

- Airway
- Bones
- Cardiac Silhouette
- Diaphragm
- Edges of Heart
- Fields of lung
- Gastric Bubble
- Hilar regions
- Instruments

### **Step 4: Interpretation and Plan**

At the end of the question, you may see that you are asked to give your interpretation (this essentially means you need to say what you think is going on) and a brief management plan.

It's very easy to get hung up on this, because you may feel that it is something you either know or you don't. However, it is always important for you to write something down.

Furthermore, management does not necessarily mean treatment. It may not be essential for you to write the treatment for the condition, but instead give your "next steps" ie do you think further tests may be needed? How about a senior referral? Or perhaps a certain blood test?

This is not an "answer" for this question, but just meant as a hint that if you don't know the definitive treatment there is perhaps more than one thing you can write and still feel confident.

### **Step 5: Sign Off**

Remember to finish the question by putting the following at the bottom of the page:

- Your name
- Your grade
- Your GMC or Bleep number
- Your signature

**At this point it's important for you to go back and check your work.**

### **Additional Information for this question**

Chest X-Ray documentation and interpretation is a question type that does require prior knowledge and understanding of different pathologies and how they show on Chest X-Rays, therefore it is important that you feel comfortable identifying the key patterns of the core conditions on an Chest X-Ray before you have a go doing practise written skills questions.