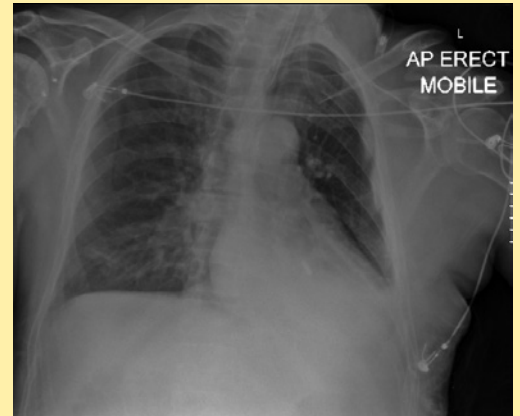


# Radiology corner

## Case 1

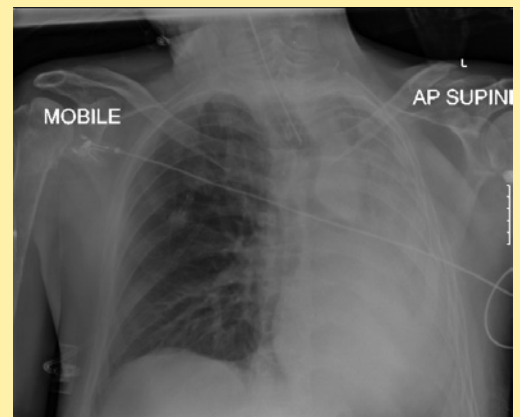
A 58 year-old male is admitted following a fall with a significant head injury. A chest radiograph is taken (upper panel).

1. Are the tubes and lines appropriately positioned?
  - a) Yes
  - b) No



The nasogastric tube was withdrawn but the patient remained hypoxic (lower panel).

2. Is the endotracheal tube appropriately positioned?
  - a) Yes
  - b) No
3. What complication has developed?
  - a) Pneumothorax
  - b) Haemothorax
  - c) Left lung collapse
  - d) Consolidation
  - e) Tracheal perforation



## Answers

### Case 1

1. b) No. The nasogastric tube has been passed down the airway and the tip is lying within the left lower lobe bronchus. It needs to be completely withdrawn and repositioned. The medial aspect of the left hemidiaphragm cannot be visualised. It is difficult to interpret the film as the patient is markedly rotated but there may be an element of left lower lobe collapse with or without consolidation.

Note the incidental old left clavicle fracture.

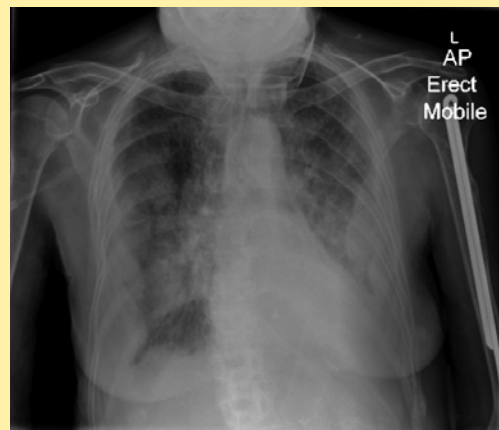
2. a) Yes. The endotracheal tube is appropriately positioned with its tip projected within the trachea at the level of the clavicles.

3. c) Left lung collapse. There is a near 'white-out' of the left hemithorax following removal of the malpositioned nasogastric tube. Note the volume loss and deviation of the trachea and mediastinal contents towards the affected side indicating volume loss in the left lung in keeping with partial collapse of the left lung. There is still some aerated lung evident at the left lung apex indicating that collapse is not complete, and this is probably due to a small amount of persisting aeration of at least the apical segment of the left lower lobe, which has migrated cranially as the left upper lobe has collapsed anteriorly. Some of the left-sided opacification is also due to pleural fluid on this supine film, seen as a rim of more dense opacification around the still aerated lung. However, the mediastinal shift and volume loss indicate that lung collapse is the principle cause of these findings.

## Case 2

A 84 year-old female is admitted with swinging high fevers and productive cough with yellow sputum. She was discharged 3 weeks ago following treatment for community-acquired pneumonia.

1. What is the main abnormality given the clinical history?
  - a) Bony abnormality
  - b) Mediastinal abnormality
  - c) Soft tissue abnormality
  - d) Pleural abnormality
  - e) Paravertebral abnormality



## Case 3

A 76 year-old female is admitted feeling unwell.

1. What is the main abnormality?
  - a) Lung parenchymal abnormality
  - b) Pleural abnormality
  - c) Mediastinal abnormality
  - d) Bony abnormality
  - e) Normal appearance



## Case 4

A 47 year-old male is admitted with severe chest pain and marked shortness of breath at rest.

1. What is the main abnormality?
  - a) Lung interstitial and bony abnormality
  - b) Lung interstitial and mediastinal abnormality
  - c) Lung interstitial and hilar abnormality
  - d) Lung interstitial and cardiac outline abnormality
  - e) Lung interstitial abnormality only



## Answers

### Case 2

1. d) Pleural abnormality. The appearances are in keeping of bilateral loculated pleural effusions. The main concern is regarding the development of an empyema. The humeral intramedullary nail was a longstanding abnormality and is not the main abnormality of clinical concern given the history.

### Case 3

1. a) Lung parenchymal abnormality. There are multiple round soft tissue densities within the lungs bilaterally. The patient had a background history of colonic carcinoma for which she declined surgery. The findings are in keeping with multiple pulmonary metastases.

### Case 4

1. e) Lung interstitial abnormality only. There is diffuse reticular shadowing throughout both lungs and thickening of the right horizontal fissure. Allowing for the anteroposterior projection, the heart is not enlarged. The patient had developed an ST-elevation myocardial infarction and had developed acute pulmonary oedema. The radiographic appearances improved with the administration of diuretics.