

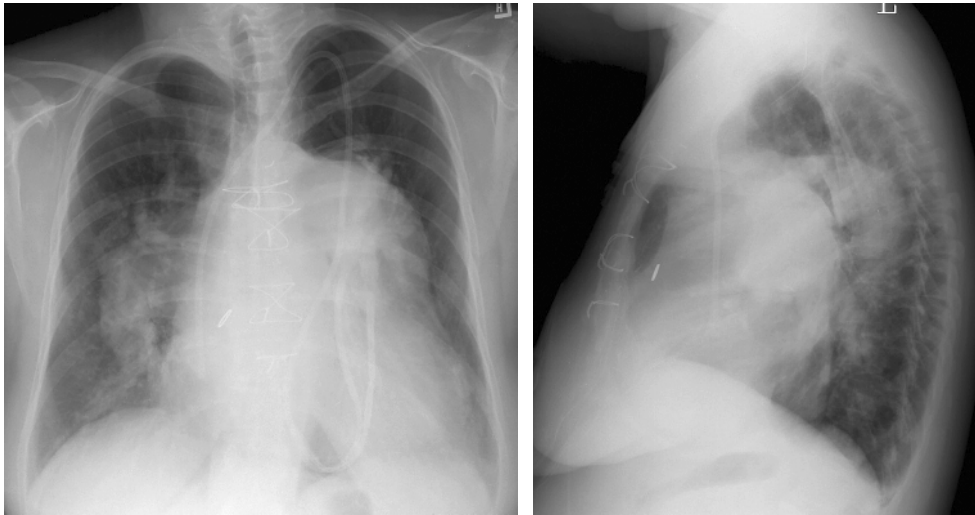
Study Guide for the MOC cognitive examination: Thoracic

1. Indications and limitations of imaging (CXR, CT, MRI, US, interventional)
2. Normal anatomy: identify normal structures and variants on CXR, CT, MRI and US
3. Definition and identification of signs in thoracic radiology
 - CXR: including air crescent sign, deep sulcus sign, ring around the artery sign, fallen lung sign, flat waist sign, gloved finger sign, Golden S sign, luftsichel sign, Hampton's hump, silhouette sign, cervicothoracic sign, thoracoabdominal sign, tapered margins sign, figure 3 sign, fat pad/sandwich sign, scimitar sign, double density sign, hilum overlay and convergence signs
 - CT: including CT angiogram sign, halo sign, split pleura sign
4. Interstitial lung disease (ILD) and Alveolar lung disease (ALD)
 - Recognize and know differential diagnosis by pattern and distribution
 - Sarcoidosis, including radiographic classification
 - Occupational lung disease
 - Langerhan's cell histiocytosis (aka EG)
 - Lymphangioliomatosis (LAM)
 - Interstitial pneumonitis (UIP, NSIP, AIP, DIP)
 - Smoking related lung diseases
 - Differential diagnosis of acute and chronic ALD, and peripheral ALD
 - Pulmonary-renal syndromes
 - Chronic organizing pneumonia
 - Wegener granulomatosis
 - Radiation fibrosis
5. Atelectasis, airways and obstructive lung disease
 - Lobar and lung atelectasis
 - Asthma, COPD, emphysema and bulla
 - Tracheomegaly, tracheal stenosis and tracheal tumors
 - Bronchiectasis, including cystic fibrosis, Kartagener syndrome, etc
 - Mosaic attenuation
 - Foreign bodies in airway
6. Mediastinal masses and mediastinal/hilar lymph node enlargement
 - Anatomic boundaries of anterior, middle, posterior and superior mediastinum
 - Differential diagnosis of mediastinal mass based on location (including chest radiograph, CT and MRI) and tissue characteristics (cystic, enhancing, calcified, fat containing)
 - Differential diagnosis of bilateral hilar lymph node enlargement and of mediastinal lymph nodes (including egg-shell calcifications)
 - Lymphoma (classification, role of imaging in staging, typical and atypical imaging findings)

7. Solitary and multiple pulmonary nodules
8. Benign and malignant neoplasms of the lung and esophagus
 - Imaging characteristics of each histologic type and role of imaging
 - Staging systems: non-small and small cell lung cancer, esophageal carcinoma
 - Extrathoracic metastases
9. Thoracic trauma, including injury to aorta, skeleton, hemidiaphragm, airway, lungs and esophagus
10. Chest wall, pleura and diaphragm
 - Pleural masses, calcification, effusion and empyema
 - Malignant mesothelioma and benign fibrous tumors
 - Diaphragmatic abnormalities, including hernias
 - Chest wall tumors
11. Infection and immunity
 - Tuberculosis (primary and post-primary) and atypical mycobacteria
 - Fungal infection, including aspergillosis
 - *Cytomegalovirus*
 - HIV/AIDS related disease, including Kaposi sarcoma, *Pneumocystis carinii*
 - Endemic mycoses
 - *Mycoplasma pneumoniae*
 - Infection after transplantation; post-transplant lymphoproliferative disorder
12. Congenital lung disease
 - Pulmonary venolobar syndrome
 - Pulmonary sequestration
 - Bronchial atresia
 - Unilateral hyperlucent hemithorax
13. Pulmonary vasculature
 - Pulmonary hypertension
 - Pulmonary embolism
 - Pulmonary vein anatomy (including common variants)
 - Radiofrequency ablation evaluation for atrial fibrillation and post ablation complications
14. Monitoring and support devices: normal appearance and complications
15. Post-operative thorax (including normal postoperative findings and complications)
 - Wedge resection, lobectomy, pneumonectomy
 - Lung volume reduction surgery and bullectomy
 - Transhiatal esophagectomy
 - Lung transplantation

Sample Questions:

Examine these images before answering the questions below.



1. Which one of the following is the radiographic sign illustrated by the hilar abnormalities?
 - (a) the double density sign
 - (b) the reverse S sign of Golden
 - (c) the hilum overlay sign
 - (d) the hilar convergence sign

Key: D. The hilar convergence sign

2. Which one of the following is the most likely diagnosis for the abnormality depicted?
 - (a) Sarcoidosis
 - (b) Left atrial enlargement
 - (c) Pulmonary hypertension
 - (d) Lymphoma

Key C. Pulmonary Hypertension