

Learning Radiology: Recognizing the Basics. Text with Student Consult Online Access Code

Herring, William MD

ISBN-13: 9780323043175

Table of Contents

1. Recognizing Anything

The "colorful" world of radiology
A systematic approach to the "truth" about systems
Terminology
Conventions used in this book

2. Recognizing a Technically Adequate Chest Radiograph

Penetration
Inspiration
Rotation
Magnification
Angulation
The lateral chest

3. Recognizing Cardiomegaly

The cardiothoracic ratio
Extracardiac causes of apparent cardiac enlargement
Effect of projection and inspiration on perception of heart size
Recognizing cardiomegaly in infants

4. Recognizing Airspace versus Interstitial Lung Disease

Normal lung markings
Characteristics of airspace disease
Some causes of airspace disease
Characteristics of interstitial lung disease
Some causes of interstitial lung disease

5. Recognizing the Causes of an Opacified Hemithorax

Atelectasis of the entire lung
Massive pleural effusion
Pneumonia of an entire lung
Post-pneumonectomy

6. Recognizing Atelectasis

What is atelectasis?
Signs of atelectasis
Types of atelectasis
Patterns of collapse in lobar atelectasis
How atelectasis resolves

7. Recognizing a Pleural Effusion

Normal anatomy and physiology of the pleural space
Causes of pleural effusions
Types of pleural effusions
Recognizing the different appearances of pleural effusions

Side-specificity of pleural effusions

8. Recognizing Pneumonia

General considerations

Recognizing pneumonia – general characteristics

Patterns of pneumonia

Aspiration pneumonia

Localizing pneumonia

How pneumonia resolves

9. Recognizing Pneumothorax, Pneumomediastinum, Pneumopericardium, and Subcutaneous Emphysema

Normal anatomy

Recognizing a pneumothorax

Recognizing the pitfalls in overdiagnosing a pneumothorax

Types of pneumothoraces

Causes of a pneumothorax

Other ways to diagnose a pneumothorax

Pulmonary interstitial edema (PIE)

Recognizing pneumomediastinum

Recognizing pneumopericardium

Recognizing subcutaneous emphysema

10. The ABCs of Heart Disease: Recognizing Adult Heart Disease from the Frontal Chest Radiograph

Heart size

Cardiac contours – ascending aorta

Cardiac contours – "double density" of left atrial enlargement

Cardiac contours – right atrium

Cardiac contours – aortic knob

Cardiac contours – main pulmonary artery

Cardiac contours – concavity for left atrium

Cardiac contours – left ventricle

Cardiac contours – descending aorta

The pulmonary vasculature – normal

The pulmonary vasculature – pulmonary venous hypertension

The pulmonary vasculature – pulmonary arterial hypertension

The pulmonary vasculature – increased flow to the lungs

The pulmonary vasculature – decreased flow to the lungs

The ABCs of heart disease system

A – is the left atrium enlarged?

B – is the main pulmonary artery big or bulbous?

C – is the main pulmonary artery segment concave?

D – is the heart a dilated or delta-shaped heart

Other facts

11. Recognizing Congestive Heart Failure and Pulmonary Edema

Congestive heart failure – general considerations

Pulmonary interstitial edema

Pulmonary alveolar edema

Non-cardiogenic alveolar edema – general considerations

Differentiating cardiac from non-cardiogenic pulmonary edema

12. Recognizing the Correct Placement of Lines and Tubes and Their Potential Complications: Critical Care Radiology

Endotracheal tubes and tracheostomies

Intravascular catheters

Pleural drainage tubes (chest tubes, thoracotomy tubes)

Cardiac devices – pacemakers, AICD, IABP

GI tubes and lines – nasogastric tubes, feeding tubes

13. Recognizing Mediastinal and Lung Masses and Metastases

Mediastinal masses
Anterior mediastinum
Middle mediastinal masses
Aortic aneurysms
Posterior mediastinal masses
Solitary nodule/mass in the lung
Bronchogenic carcinoma
Metastatic neoplasms in the lung

14. Recognizing the Basics on CT of the Chest

Introduction
Normal chest CT anatomy
Five-vessel level
Aortic arch level
Aorto-pulmonary window level
Main pulmonary artery level
High cardiac level
Low cardiac level
The fissures
Selected abnormalities visible on chest CT scans
Pulmonary thromboembolic disease
Chronic obstructive pulmonary disease
Blebs and bullae, cysts and cavities
Bronchiectasis
Chest trauma
Pericardial effusion
Cardiac CT

15. Recognizing the Normal Abdomen: Conventional Radiographs

Recognizing the normal abdomen – what to look for
Recognizing the normal abdomen – normal bowel gas pattern
Recognizing the normal abdomen – normal fluid levels
Differentiating large from small bowel
Acute abdominal series – the views and what they show
Recognizing the normal abdomen – extraluminal air
Recognizing the normal abdomen – calcifications
Recognizing the normal abdomen – organomegaly

16. Recognizing Bowel Obstruction and Ileus Abnormal gas patterns

Laws of the gut
Functional ileus – localized – sentinel loops
Functional ileus – generalized adynamic ileus
Mechanical obstruction – small bowel obstruction (SBO)
Mechanical obstruction – large bowel obstruction (LBO)
Intestinal pseudo-obstruction (Ogilvie's syndrome)

17. Recognizing Extraluminal Gas in the Abdomen

Signs of free intraperitoneal air
Air beneath the diaphragm
Visualization of both sides of the bowel wall
Visualization of the falciform ligament
Causes of free air
Signs of extraperitoneal air (retroperitoneal air)
Causes of extraperitoneal air
Signs of air in the bowel wall
Causes and significance of air in the bowel wall
Signs of air in the biliary system
Causes of air in the biliary system

18. Recognizing Abnormal Calcifications and Their Causes

Patterns of calcification
Rimlike calcification
Linear or track-like calcification
Lamellar or laminar calcification
Cloudlike, amorphous, or "popcorn" calcification
Location of calcification

19. Recognizing Tumors, Tics, and Ulcers: Radiology of the Gastrointestinal Tract

Recognizing abnormalities of the GI tract from top to bottom
Esophagus
Hiatal hernia and gastroesophageal reflux (GERD)
Stomach and duodenum
Small bowel
Large bowel
Terminology
Common principles for all gastrointestinal barium studies

20. Recognizing the Basics on CT of the Abdomen

General considerations
Liver
Biliary system
Spleen
Kidneys
Pancreas
Small and large bowel
Female pelvis
Urinary bladder
Abdominal aortic aneurysms
Adenopathy

21. Recognizing Abnormalities of Bone Density

Normal bone anatomy
The effect of bone physiology on bone anatomy
Recognizing a generalized increase in bone density
Recognizing a focal increase in bone density
Recognizing a generalized decrease in bone density
Recognizing a focal decrease in bone density
Pathologic fractures

22. Recognizing Fractures and Dislocations

Recognizing an acute fracture
Recognizing dislocations and subluxations
Describing fractures
Avulsion fractures
Salter-Harris fractures "epiphyseal plate fractures in children"
Stress fractures
Common fracture eponyms
Some easily missed fractures or dislocations
Fracture healing

23. Recognizing Joint Disease: An Approach to Arthritis

Classification of arthritis
Anatomy of a joint
Hypertrophic arthritis
Infectious arthritis
Erosive arthritis

24. Recognizing Some Common Causes of Neck and Back Pain

Conventional radiography, CT, and MRI

The normal spine

Back pain

Herniated discs

Degenerative disc disease (DDD)

Osteoarthritis of the facet joints

Diffuse idiopathic skeletal hyperostosis (DISH)

Compression fractures of the spine

Spondylolesthesis and spondylolysis

Spinal stenosis

Spinal trauma

Malignancy involving the spine

25. Recognizing Abnormal Head CT Findings

Normal anatomy and general considerations

Head trauma

Increased intracranial pressure

Stroke

Ruptured aneurysms

Hydrocephalus

Brain tumors

Other diseases

Terminology