



EMC 340 Introduction to Clinical Medicine

23 Techniques of the Chest Exam

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Bates p. 220-243; PC II p60-82



Outcomes


At the end of this lecture, you will be able to:

- Describe the techniques of inspection, palpation, percussion and auscultation of the chest
- Relate various findings on the physical exam to underlying pathophysiology
- Relate various physical findings to conditions or disease states
- Review abnormalities in rate and rhythm of breathing



Breath Sounds

- Vesicular
- Bronchial
- Tracheal



Abnormal Breath Sounds

- Crackles (rales)
- Rhonchi
- Wheezes
- Inspiratory stridor noises
- [Link:](#)



Inspection

“TREES”

- Trauma signs
- Retractions (and other signs of increased work of breathing)
- Effort
- Expansion (tidal volume)
- Symmetry




Palpation

- Tenderness
- Deformity
- Crepitus



Percussion

- Hyperresonance
- Dullness




Auscultation

Auscultating for abnormal breath sounds

For most patients:


- Wheezes
- Rales
- Rhonchi



Techniques


differs slightly from Bates p 265-6

- 5-6 areas anteriorly
- 6 areas posteriorly
- Apex
- Mid lung
- Base



Special Techniques


- Forced Expiratory Flow Time
 - Useful in gauging asthmatic response to treatment
 - PEFr meter
 - Breathe out as quickly as possible (< 6 sec.)



Respiratory Patterns

Bates p. 93


- Rapid shallow (pleuritic)
- Rapid deep (Kussmaul)
- Slow (drug OD)
- Cheyne- Stokes (brain damage / nl.)
- Ataxic (Biot's) (brain damage)
- Sighing (hyperventilatr. syn.)
- Obstructive (COPD)



Traumatic Flail Chest

2 or more fractures of 2 or more ribs resulting in floating segment

- Paradoxical movements




Lobar Pneumonia

Bates p. 240

EMS:


- Across the room
 - Initial assessment and stabilization
- Brief history
- Brief physical
 - Hot
 - Decreased breath sounds
 - Rales (crackles)
 - Bronchophony
 - Egophony
 - Whispered pectoriloquy
 - Tactile fremitus



Disease States

Bates p 241 - 243

- Bibasilar rales
 - Left CHF
- Wheezes
 - Asthma
 - COPD
 - Left CHF
 - "Improved" or silent chest : beware
- Stridor
 - Partial airway obstruction
- Mediastinal crunch
 - Pneumomediastinum



Disease States

Bates p 241 - 243

- Chronic bronchitis
 - Scattered rhonchi
- Left CHF
 - Bibasilar rales
- Pneumonia
 - Dull; unilateral rales
- Plural effusion
 - Dull; absent BS
- Pneumothorax
 - Hyperresonance; absent BS



Summary

We have discussed:

- The techniques of inspection, palpation, percussion and auscultation of the chest
- Various findings on the physical exam and the underlying pathophysiology
- Various physical findings relating to conditions or disease states
- Abnormalities in rate and rhythm of breathing
