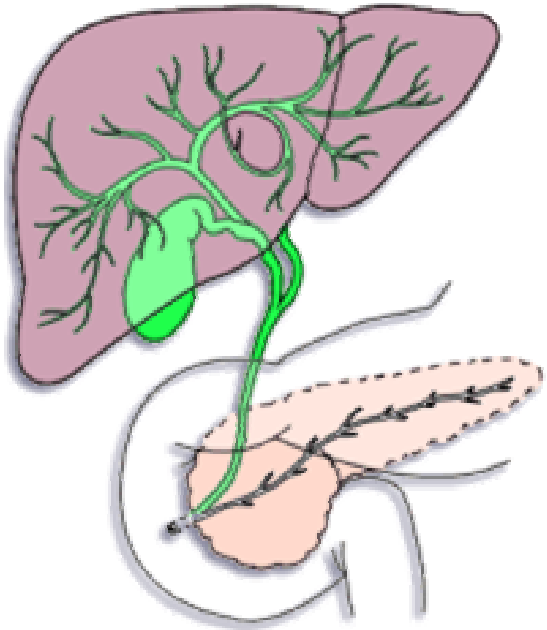
The Role of the Basic Sciences in Resident Training



Handout download:
http://www.oucom.ohiou.edu/dbms-witmer/gs-rpac.htm

26 July 2005

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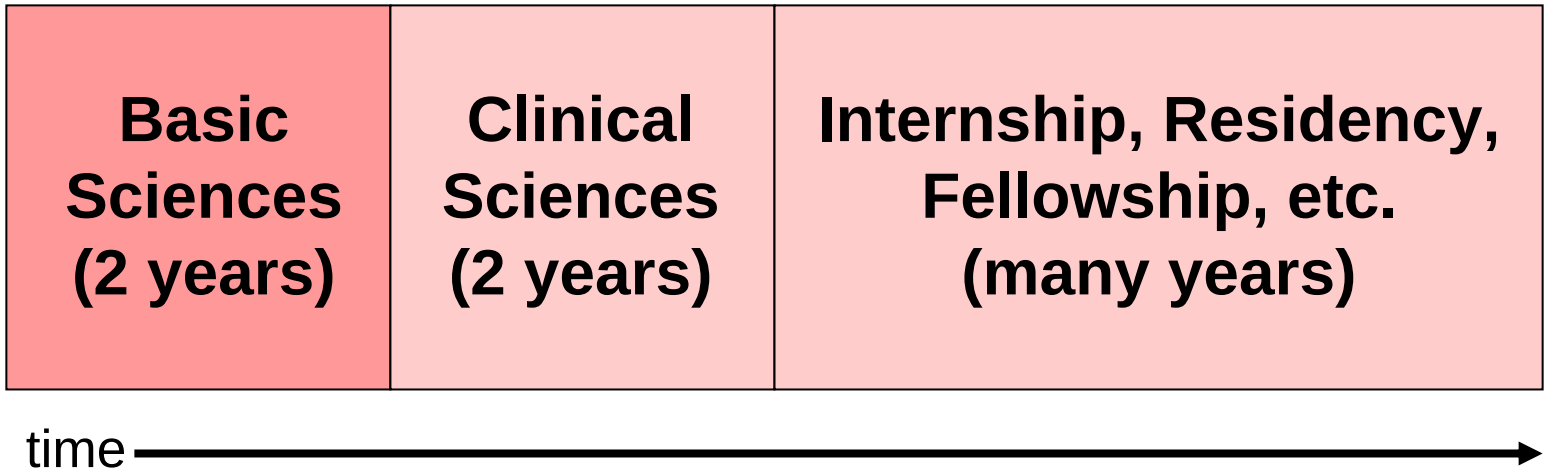
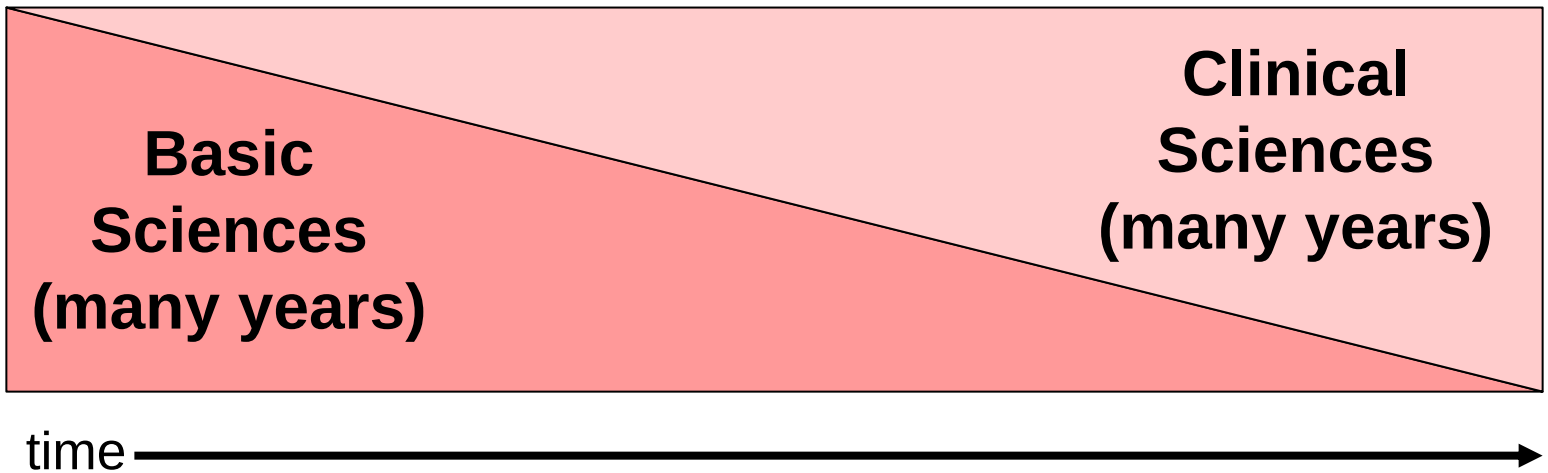
CORE
CENTERS FOR OSTEOPATHIC RESEARCH & EDUCATION

Basic Sciences in Medical Training

Traditional Approach



OUCOM Approach — Continuum of Medical Education



Basic Sciences in Resident Training

Justification

- Provide the scientific foundations for clinical practice
- Review and refresh relevant basic science material
- Provide clinically relevant basic science that may be more detailed and more focused than that provided in med school
- Stimulate and affirm the requirement of understanding the evidentiary basis of clinical practice (Evidence-Based Medicine)
- Provide a teaching link between more basic-science-oriented medical students and more clinically-oriented attendings
- Mandated by CORE Bylaws

Basic Sciences in GS-RPAC

- Basic Science Liaison: Lawrence M. Witmer, PhD
  - Works with Residency Directors to develop curriculum
  - Recruits basic science presenters (mostly OUCOM Athens)
  - Assists presenters with development and revision of presentations
- Typical Format: One-hour basic science presentation during the course of the Educational Day, usually the first presentation
- 66 Surgery basic science sessions since 1997

Basic Sciences in GS-RPAC

Example

Date	Educational Day Topic	Moderator	Basic Science Presenter	Title	Date
Jul-05	Orientation	Meshekow	L. M. Witmer	The role of basic sciences in resident training.	07/26/05
Mar-05	Upper GI	Clarey	F. Nowak	Endocrine tumors of the gastrointestinal system.	03/22/05
Feb-05	Gynecology	Galante	P. M. O'Connor	Female pelvic anatomy: basic organization and clinical considerations.	02/22/05
Jan-05	Liver/Spleen	Galante	J. Blazyk	Clinical manifestations of heme degradation.	01/25/05
Nov-04	Thoracic	Galante	L. M. Witmer	Clinical anatomy of the pleural cavity & mediastinum.	11/23/04
Oct-04	Trauma	Clarey	R. Klabunde	The pathophysiology of hemorrhagic shock.	10/26/04
Jun-04	Breast Disease	Galante	F. V. Nowak	Breast cancer: an endocrinologist's perspective.	06/22/04
Apr-04	Rectal/Anus	Clarey	L. M. Witmer	Navigating anorectal anatomy: terms, planes, spaces, structures.	04/27/04
Mar-04	Vascular	Wehmann	L. M. Witmer	Clinical anatomy of the aorta	03/23/04
Feb-04	Infectious Disease	Meshekow	B. Biegalke	Blood-borne viruses: transmission in surgery.	02/24/04
Jan-04	Pancreas	Classen	F. Nowak	Eat to live: The role of the pancreas.	01/27/04

Basic Sciences in GS-RPAC

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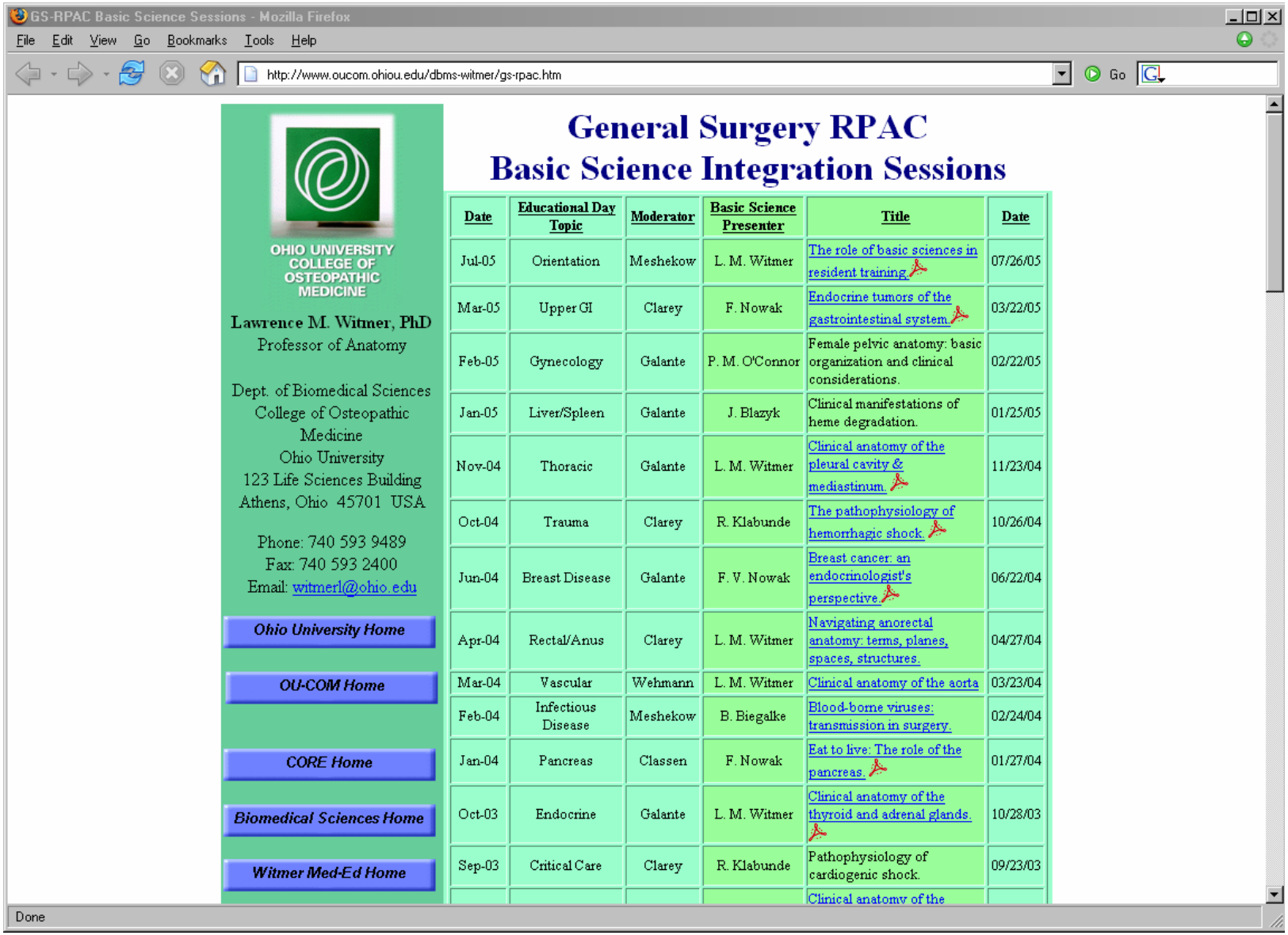

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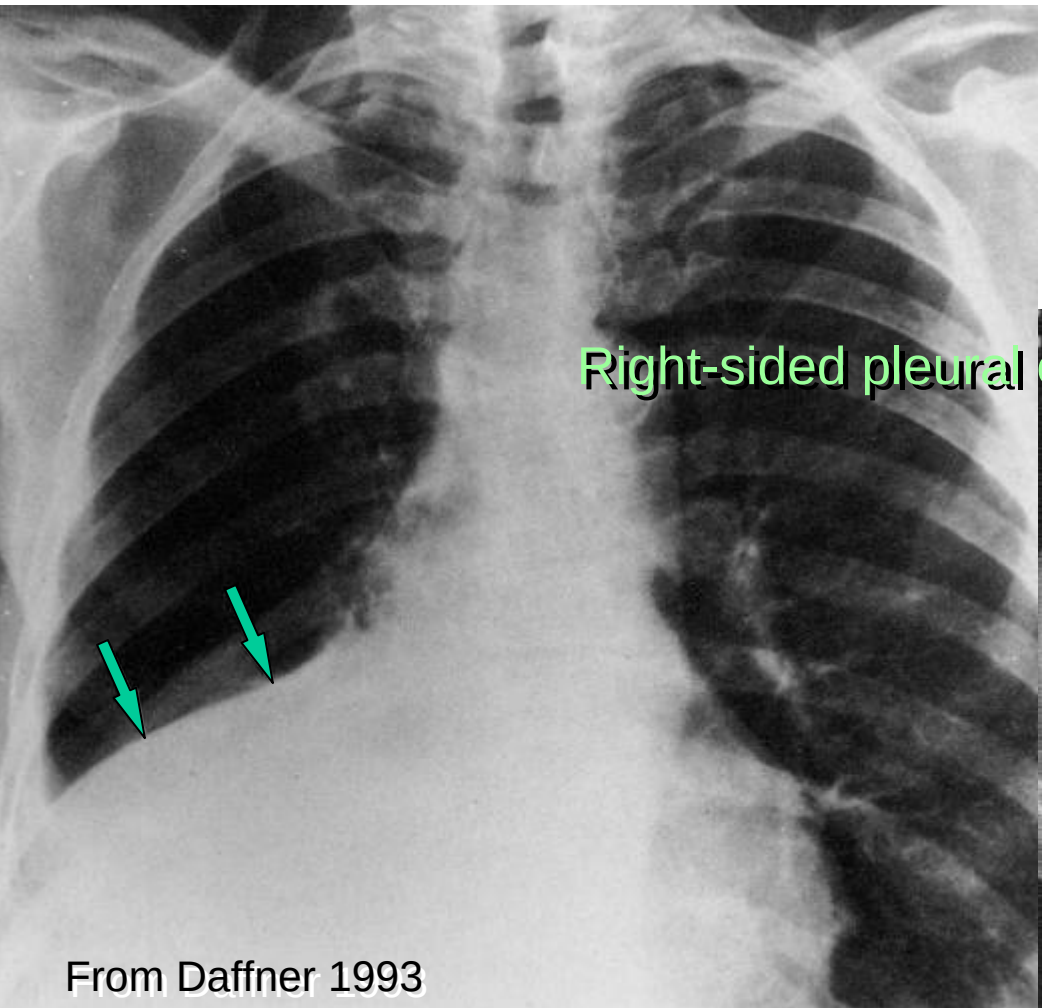
Jan-04	Pancreas	Classen	F. Nowak	Eat to live: The role of the pancreas.	01/27/04
Oct-03	Endocrine	Galante	L. M. Witmer	Clinical anatomy of the thyroid and adrenal glands.	10/28/03
Sep-03	Critical Care	Clarey	R. Klabunde	Pathophysiology of cardiogenic shock.	09/23/03
				Clinical anatomy of the	

Pleural Diseases & Signs 1: Pleural Effusion

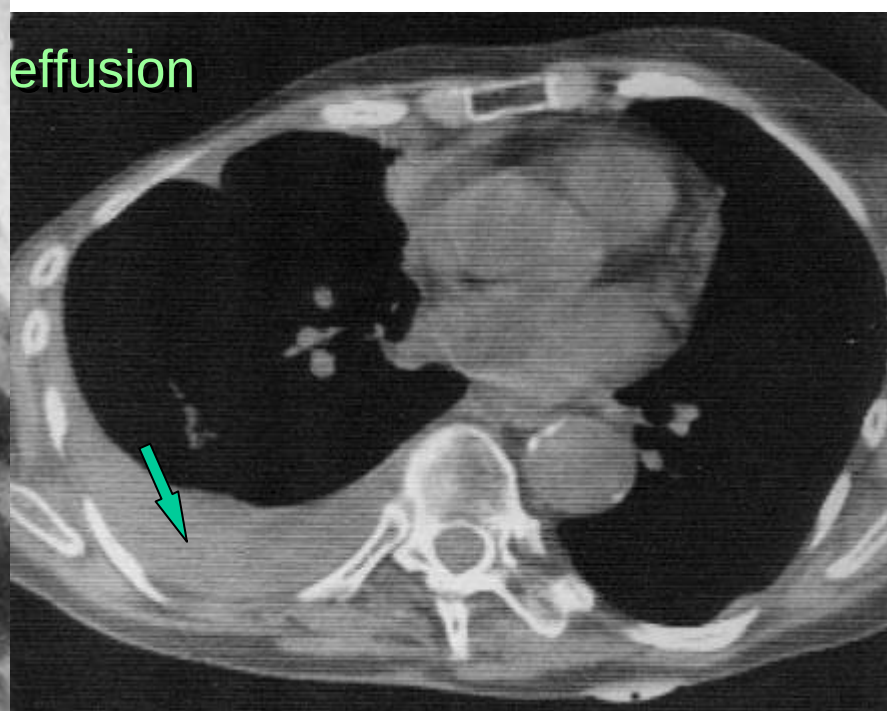
Example

- Accumulation of fluid in the pleural space
- Transudative vs. exudative effusion
- Empyema as potential sequelae to exudative effusion



Right-sided pleural effusion

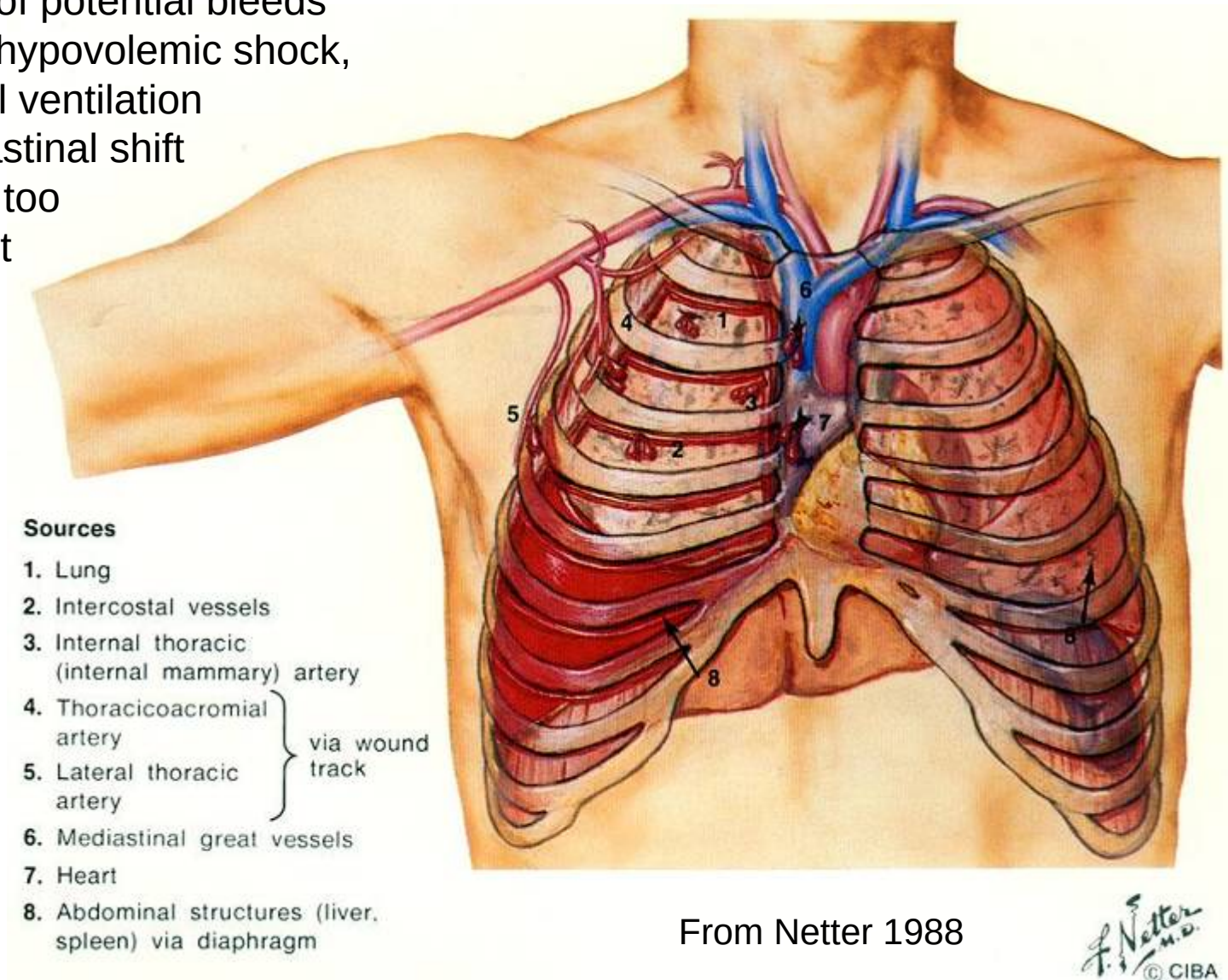
From Daffner 1993



Pleural Diseases & Signs 2: Hemothorax

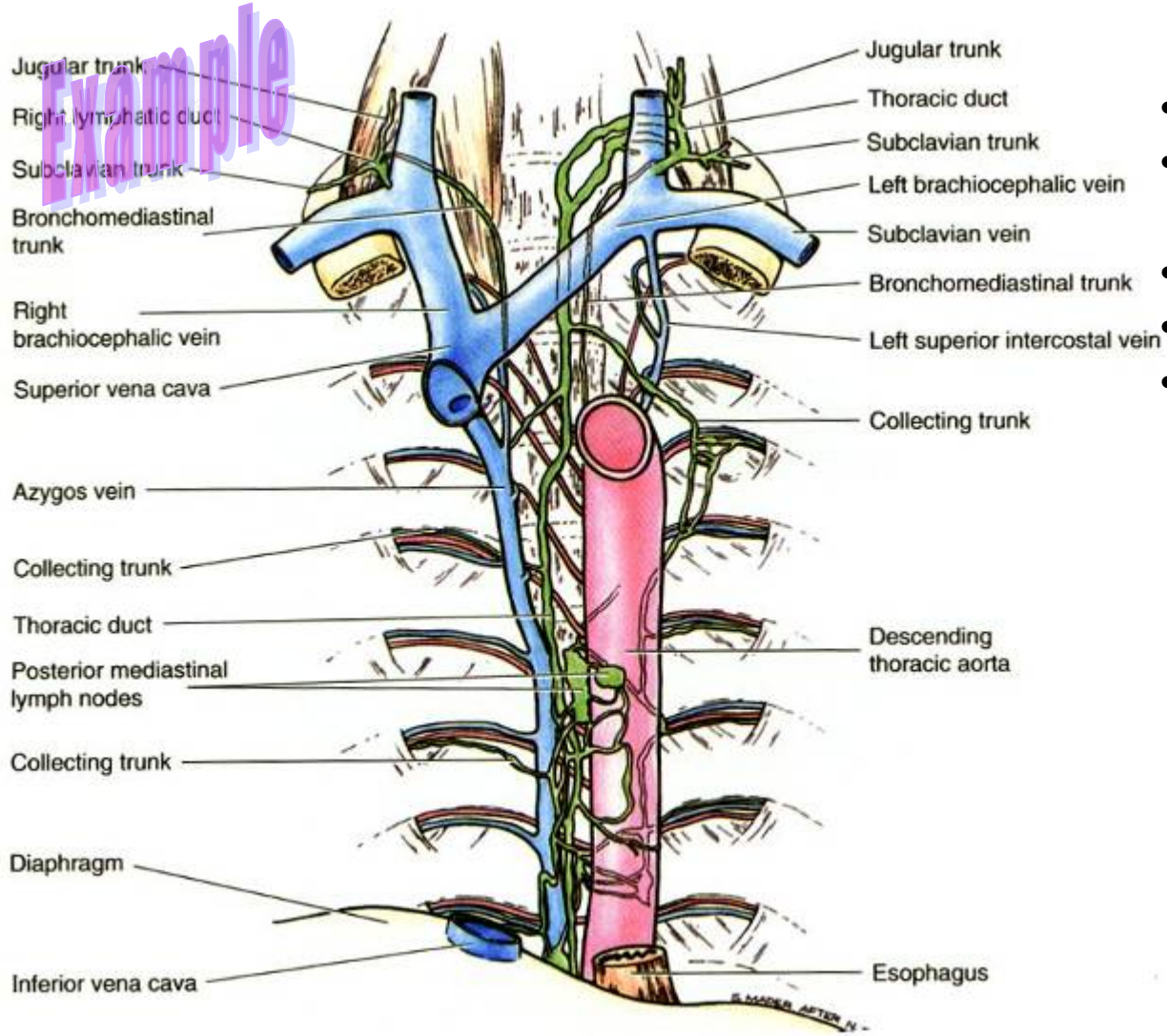
Example

- Intrathoracic bleeding (e.g., trauma)
- Numerous sources of potential bleeds
- Large hemothorax: hypovolemic shock,
  restricted ipsilateral ventilation
  contralateral mediastinal shift
- Clotting may not be too
  problematic (except
  for catheters)



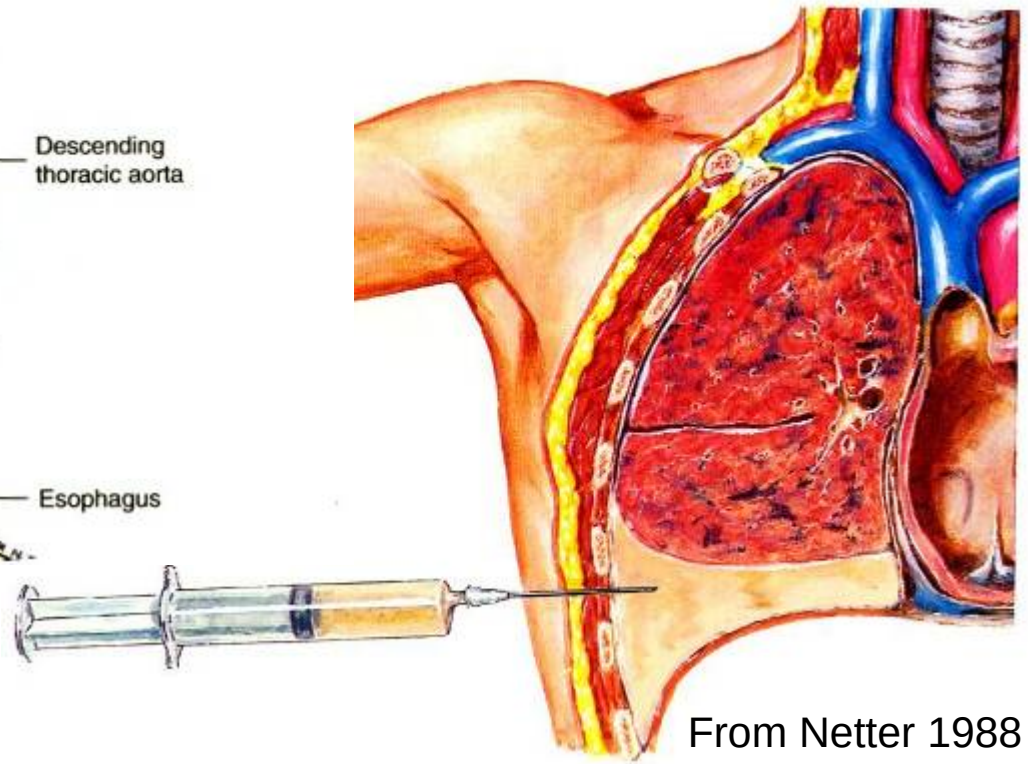
From Netter 1988

Pleural Diseases & Signs 3: Chylothorax



From Moore & Dalley 1999

- Leakage of lymph
- Usually a result of surgical trauma during mediast. proc.
- Traumatic vs nontraumatic
- Traumatic: 2/3, unilateral
- Nontraumatic: 1/3, bilateral, assoc. with SVC thrombosis

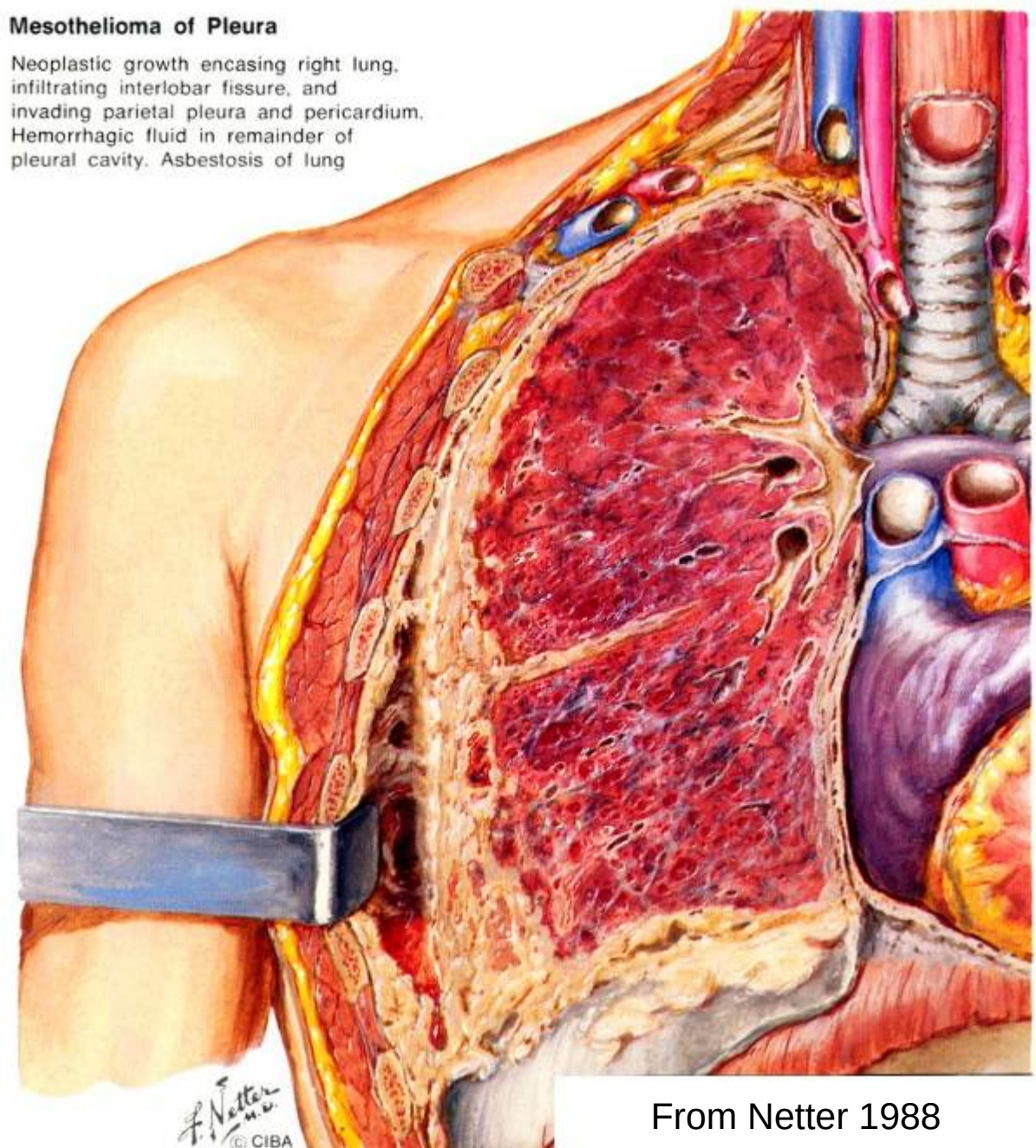


From Netter 1988

Pleural Diseases & Signs 4: Malignant Mesothelioma

Example

- Neoplasm of pleural serosa
- Linked to asbestos exposure
- Coalescence of pleural plaques
- May be restricted to parietal pleura but can involve visceral pleura
- Can lead to contracture of all structures in affected hemithorax

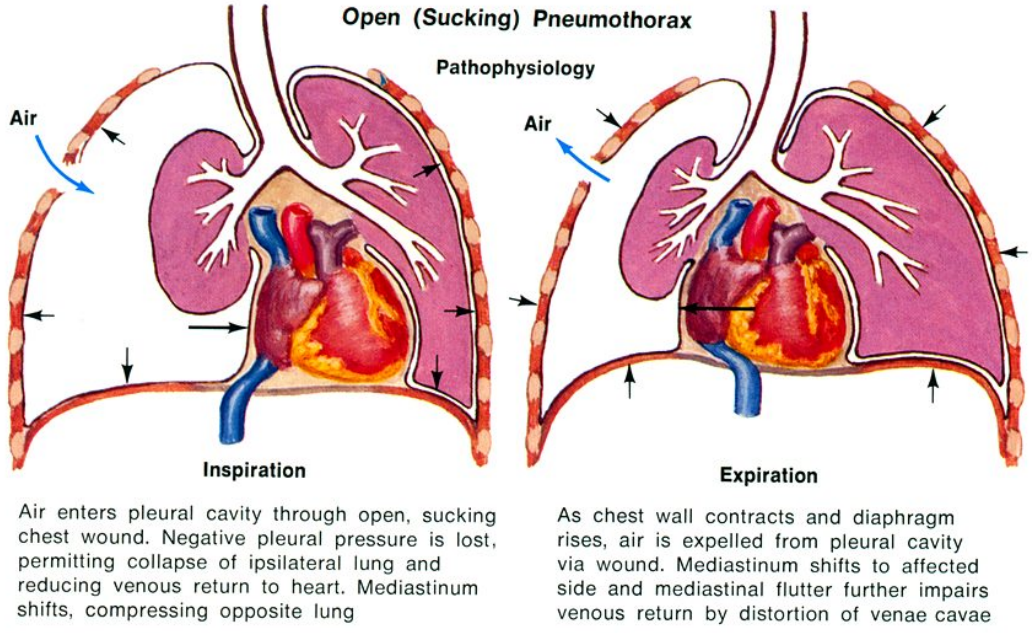


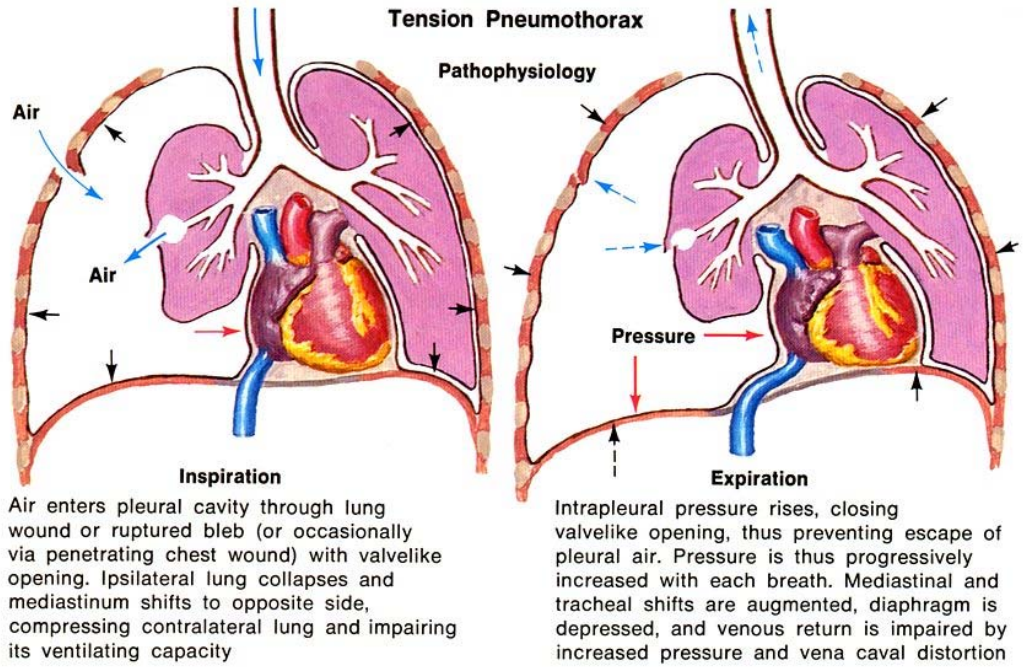
From Netter 1988

Pleural Diseases & Signs 5: Pneumothorax

Example

- Presence of free air or gas in the pleural cavity
- Types of pneumothorax
  - Open pneumothorax
  - Spontaneous pneumothorax
  - Tension pneumothorax
- Collapse of ipsilateral lung due to pressure change & disruption of surface tension
- Potential for mediastinal shifts





From Netter 1988

Basic Sciences in Resident Training

Summary

- Basic sciences should remain a part of the continuum of medical education
- Pedagogical reasons for basic science training
- Format: relevant basic science presentation as part of the Educational Day program
- Example from recent program on clinical anatomy of the thorax

References

Daffner, R. H. 1993. *Clinical Radiology, The Essentials.* Williams & Wilkins, Baltimore.

Moore, K. L. and A. F. Dalley. 1999. *Clinically Oriented Anatomy, 6th Ed.* Lippincott, Williams & Wilkins, Baltimore.

Netter, F. H. 1988. The CIBA Collection of Medical Illustrations, Volume 7: Respiratory System. CIBA-Geigy, Summit.