

CLINICAL PATHOLOGY/
LABORATORY MEDICINE

Introduction (aka Why are we here?)

- The dean made me do it!
- The other sections were filled up
- I'm going into pathology & I wanted a head start
- I figured this would be easy
- I wanted to learn something about how labs work

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Areas of Impact

- Laboratories used across the board in medicine
- As such, must delve in to several unpopular areas, including
 - Biochemistry
 - Epidemiology/Biostatistics
 - Medical Economics
 - Computers
 - MedicoLegal Areas

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Goals of Course

1. What do the laboratories do?
2. How can laboratories be used to interpret complex medical problems?
3. What is the appropriate use of laboratory studies?
4. How can new tests be integrated into our diagnostic armamentarium?

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Goals of Course

5. How can laboratories be used to screen for disease entities?
6. What role do laboratories play in this era of cost containment?
7. How can laboratories best be utilized to further clinical care?

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- Relatively new specialty
- Evolved from the need to monitor homeostasis
- As such, came primarily from Medicine and Pediatrics, though all specialties have contributed
- As needs became more specialized & because no direct patient care involved, moved naturally into Pathology
- Often has been stepchild to other activities

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- In era of relative inattention to finances, grew rapidly as technology advanced
- Clinical Pathology was a gold mine to many Pathology departments
- Many abuses, but made MANY pathologists wealthy

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Why are laboratories important?

- Laboratory medicine has had rapid growth over the past 20 years, due to
 - More tests now available
 - Old tests now automated to be widely & easily available
 - Rampant overuse of laboratory studies
- As such, have become a prime target for cost containment

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- Now, financial abuses have been taken out of the system
- As laboratory medicine has become more specialized, people skilled in running laboratories have become critical
- Laboratory medicine playing critical role in outcomes research
- Will play pivotal role in deciding what tests are important for what diseases

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What is its role in overall scheme?

- Clearly is adjunctive to patient care
 - 80% of diagnoses come from history
 - 15% from physical examination
 - 5% from other areas (Radiology, Laboratory, etc)
- Often plays a critical role in monitoring of therapy

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Current Usages - ? Appropriateness

- Has been extensively used for medicolegal reasons
- Limited utility in screening for disease entities

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Components

- NOT A MONOLITH WHERE ALL SCREWUPS GO!
- Many components to obtaining laboratory results, including:

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- Ordering of test
- Collection of appropriate specimen from the appropriate patient
- Transport of specimen to laboratory
- Logging in of specimen to laboratory

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- Processing of specimen
 - Hematology
 - Chemistry
 - Microbiology
 - Blood Bank/Transfusion Medicine
- Running of specimen
- Interpretation of results by laboratory
- Delivery of results to physician

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Summary

- Sits at interface between clinical care and pathology
- As such, clinical pathologists need extensive familiarity with clinical testing as well as laboratory procedures
- Also need input from clinicians RE: important/emerging trends in medicine
- Will play critical role in deciding what tests are used for what purposes