Master Diagnosticians: 
A Mini-Electic in Clinical Reasoning 
Mini-Electic 
Spring 2018

Course Dates: January 8, 22, 29, February 5, 12, 19 
Mondays, 5:00-7:00 PM

Maximum Students: 25

Class Year: MS2

Course Director: Thuy Bui, MD 
Melissa McNeil, MD

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Description:
The ability to diagnose effectively and accurately requires integrating knowledge base with clinical reasoning skills to solve medical problems. This six-session mini-elective will introduce students to principles that underlie the clinical thinking of physicians and allow each student to develop the skills to becoming expert diagnosticians through problem- and case-based techniques using clinical vignettes. Students will learn to describe case concisely and to use medical terms to show that they understand how the patient’s words translate into accepted medical equivalents thereby linking the case to their formal knowledge. Each session will be composed of a brief formal lecture followed by individual and collaborative clinical reasoning exercises and presentation of unknown cases to seasoned clinicians. The theater-style think-aloud and reflective role play by faculty will model the complexity of the clinical reasoning process which requires both formal and experiential knowledge.

Objectives:
- Examine modalities of logic and inference used by physicians
- Describes the types of errors in clinical reasoning that contribute to poor diagnostic performance
- Define the stage of the clinical reasoning process from data acquisition, problem recognition to interpretation or hypothesis generation
- Integrate information from a clinical encounter to achieve a working diagnosis and differential diagnoses
- Employ a highly efficient search for additional data to rule in or out alternative diagnoses
- Recognize that there is a variety of reasoning strategies and pathways to tailor to the complexity of each clinical problem
- Interpret physical exam findings using likelihood ratios
- Apply a Bayesian approach to diagnosis and probabilistic reasoning in clinical decision making
- Utilize information from self-directed learning to select cost-effective diagnostic tests to identify common diagnoses

Requirements:
- Active participation in all sessions.
- Reading assignments
Course Outline

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Faculty:
Melissa McNeil, MD, MPH
Thuy Bui, MD

Location:
All sessions
Scaife Hall, Rooms 422 A&B

Session one: January 8, 2018
Introduction to Diagnostic Clinical Reasoning
READING: Bowen J. Educational Strategies to Promote Clinical Diagnostic Reasoning. NEJM 2006;355:2217-25

Session two: January 22, 2018
Identify Key Clinical Features and Summary Statements

Session three: January 29, 2018
Problem List and Prioritizing It

Session four: February 5, 2018
Differential Diagnosis Formulation

Session five: February 12, 2018
Integrate Communication and Clinical Reasoning

Session six: February 19, 2018
Cognitive Errors—Heuristics

RESOURCES: