Clinical Reasoning

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Intended Learning Outcomes

- Describe skills involved in ‘clinical reasoning’
- Understand the RIME descriptors as a framework for development
- Become familiar with techniques to support improved clinical reasoning
✓ History
✓ Physical Examination
✓ Laboratory studies
✓ Imaging studies
- Foundational knowledge
  - Epidemiology of disease
  - Expected time course
  - Key features of condition
  - Mechanisms of disease

- “Illness script”
  - Definitions based on the accumulation of experience with knowledge
Illness Script Formation

• Generate and accrue illness scripts with exposure and experience to become ‘expert’
• Magic happens for a learner when they can place their knowledge silos into one box for their cognitive use!!
Heart
Lung
Kidney
Patient Care
Box of Diagnostic Reasoning
Making a Diagnosis

- Gather the data
- “Dial up” the illness scripts in play
- Generate hypotheses
- Test the hypotheses based on inclusion and exclusion criteria in your script
Abdominal Pain

• IN VIDEO QUIZ
  – Step through the process points of clinical reasoning
Review in-video quiz points

- Knowing the age of the patient, critical components of the history and physical
- Multiple ‘working diagnoses’
- Obtaining clarifying labs and diagnostic studies
- Concluding diagnosis
RIME Framework

Framework for describing learner’s skills

- REPORTER
- INTERPRETER
- MANAGER
- EDUCATOR

## Clinical Reasoning

<table>
<thead>
<tr>
<th>REPORTER</th>
<th>INTERPRETER</th>
<th>MANAGER</th>
<th>EDUCATOR</th>
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</thead>
<tbody>
<tr>
<td>• Gathers facts</td>
<td>• Able to prioritize information</td>
<td>• Judgment</td>
<td>• Self-directed learner</td>
</tr>
<tr>
<td>• Reliable data</td>
<td>• Incorporate data</td>
<td>• Acumen</td>
<td>• Define questions</td>
</tr>
<tr>
<td>• No discernment</td>
<td>• Discernment</td>
<td>• Incorporates unique and specific facts</td>
<td>• Share new knowledge with others</td>
</tr>
<tr>
<td>• Reports back</td>
<td>• Develop diagnoses</td>
<td>• Circumstances</td>
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Early clinical | Late clinical | Midlevel | Supervisory

From “R” to “I”

• One minute preceptor: what you can do
  – Get a commitment
  – Supporting evidence
  – Teach a ‘big ticket’ or general rule
  – Reinforce
  – Provide constructive feedback

Learner can use “SNAPPS”

- Summarize
- Narrow the differential
- Analyze the differential
- Probe for uncertainty
- Plan next steps in management
- Select case related issues for self-study

Wolpaw T, Papp KK, Bordage G. Acad Med. 2009;84:517-524
How ‘SNAPPS’ helps you

• Did learner collect enough or appropriate information?

• Have they constructed an appropriate differential?

• Their questions identify their zone of proximal development!
Skill Development

- Simulation
- Teaching with data
- Clinical reasoning

- Still to come: Attitudes and attributes