

Case 1: Mid-Year Intern on inpatient medicine service

You are on a busy inpatient medicine wards service half-way through the academic year. The intern presents a new patient that he just admitted from the Emergency Department (ED). You've looked through the patient's chart and are concerned about a possible pulmonary embolus (PE) given the combination of sinus tachycardia, dyspnea, pleuritic chest pain, and low-grade temperature without a change in the patient's cough/sputum production, or clear triggers for a COPD exacerbation. Since PE is a 'can't miss' diagnosis (with high short-term morbidity/mortality), and since the patient fits the illness script for PE fairly well, you want to be sure it has been considered.

After presenting the beginning of their H&P, the intern's assessment and plan (A&P) is as follows:

"Ms. Goldman is a 64yo woman with DM and COPD on 2L home O2 with acute on chronic shortness of breath, tachycardia, low grade fevers, pleuritic chest pain, and a leukocytosis. I'm most concerned for community acquired pneumonia and think we should continue the antibiotics they started in the ED. A COPD flare is also possible given her history, so we should consider starting some prednisone as well, especially if she's not improving by tomorrow on her antibiotics. I always like to keep new onset heart failure in the back of my mind in folks with risk factors for CAD and silent ischemia, but I think that's probably less likely at this point given her fevers and leukocytosis."

1. What's working well with the reasoning here? What reasoning skills is this intern demonstrating, what can you reinforce? In other words, what should he 'keep doing?'

2. Consider the differential for this intern's reasoning challenges. What's on the differential for this intern's problem(s) thinking through this case?

3. Explore your differential for this learner's challenges. What questions could you ask this intern to reveal the underlying cause(s) for his faulty reasoning in this case?

4. Coach. Considering one or two possible reasoning issues that could be revealed when you pin down the problem (step above), brainstorm 2-3 different strategies for coaching this intern for improvement.

5. Role-Play. Return to the larger group to share your ideas—we may put some of your ideas into practice and see how a feedback/teaching scenario might go with this intern.

Case 2: Third year medical student on GI consult service

You have been working with an MS3 for the past week on an inpatient GI consult service. You ask him to see a new consult patient whom you believe may have gallstone pancreatitis given the information you have heard so far, which includes a prior history of symptomatic gallstones, LFT (liver function test) abnormalities, and acute symptoms including severe abdominal pain radiating to the back, nausea and vomiting, and hypotension. As this diagnosis can be life threatening and requires rapid, aggressive care, and would necessitate an urgent intervention if he were found to have on-going retained stones, you want to be sure to consider this diagnosis early. After presenting the first part of his History and Physical (H&P), the student closes his oral presentation with the following assessment and plan (A/P):

“In summary, Mr. Smith is a 62yo man with multiple medical problems including COPD, hypertension, hypercholesterolemia, prostate cancer, diabetes, coronary artery disease, plus some depression, and a history of gallstones. He has had some abdominal pain, fatigue, malaise, and generalized weakness, nausea and vomiting, low grade fevers, tachycardia, and hypotension.

Really, he could have a lot of different things. I’m worried that given his lack of follow-up, his prostate cancer may have advanced and could now be causing systemic problems due to metastatic disease. But, with abdominal pain in someone with diabetes, we should also be thinking about an MI. We should get a CT of his chest and abdomen to look for metastatic disease, check an EKG and send some cardiac enzymes. Plus, I think he’s a bit dry, so I wrote him for a liter of normal saline.”

- 1. What’s working well with the reasoning here?** What reasoning skills is this student demonstrating, what can you reinforce? In other words, what should he ‘keep doing?’

- 2. Consider the differential for this student’s reasoning challenges.** What’s on the differential for this student’s problem(s) thinking through this case?

3. Explore your differential for this learner's challenges. What questions could you ask this student to reveal the underlying cause(s) for his faulty reasoning in this case?

4. Coach. Considering one or two possible reasoning issues that could be revealed when you pin down the problem (step above), brainstorm 2-3 different strategies for coaching this student for improvement.

Case 3: End-of-the-year intern on inpatient medicine service

You have been working with an end-of-the-year intern for the past two weeks on inpatient medicine. You have noted that she has a good fund of knowledge. Today, she is presenting a new patient, and after giving you the first part of her H&P, her Assessment and Plan (A&P) is as follows:

“In summary, Mr. Gabriel is a 72yo man with stage IV lung adenocarcinoma, chronic obstructive urinary retention with an indwelling foley catheter complicated by multiple ICU admissions for urosepsis presenting again with subacute fevers, abdominal pain, hypotension and acute kidney injury. With his chronic foley and prior history, his presentation fits with another episode of urosepsis. I’ve started empiric antibiotics based on prior urine culture sensitivities as well as early goal directed therapy with aggressive IVF. We’ll await culture results and tailor his antibiotics as needed. He is still hypotensive despite two liters of IV fluids, so we’re admitting him to the ICU and starting a central line for monitoring.”

On your own review of the patient’s labs before rounds, you noticed that Mr. Gabriel has significant hyponatremia, hyperkalemia and hypoglycemia—in fact, these abnormalities have also been present on his labs in the past. His temperature has actually been in the 99 range, rather than a true fever as reported. Given these findings, you are concerned about adrenal insufficiency as a potential cause for his presentation, or at least a complicating factor (and potentially an underlying factor in his multiple prior ICU admissions).

1. **What’s working well with the reasoning here?** What reasoning skills is this intern demonstrating, what can you reinforce? In other words, what should she ‘keep doing?’

2. **Consider the differential for this intern’s reasoning challenges.** What’s on the differential for this intern’s problem(s) thinking through this case?

3. **Explore your differential for this learner's challenges.** What questions could you ask this intern to reveal the underlying cause(s) for her faulty reasoning in this case?
4. **Coach.** Considering one or two possible reasoning issues that could be revealed when you pin down the problem (step above), brainstorm 2-3 different strategies for coaching this intern for improvement, and to help prepare her for her role as an R2.

Case 4: Reinforcing Reasoning in the Classroom

You are working with faculty in your pre-clerkship curriculum to reinforce reasoning concepts longitudinally for first and second year medical students. The lecturers are already feeling squeezed with time during their large group sessions, and are resistant to adding any additional objectives to their sessions. The course director shares a slide-set for a talk on Acute Coronary Syndrome with you, and asks for your suggestions for low impact ways to highlight reasoning concepts during this talk.

- 1. Review the slides for Case 4 and brainstorm some 'low-hanging-fruit' opportunities to weave reasoning concepts into this medical knowledge-heavy large group session.**

- 2. What are ways we might motivate/excite colleagues to incorporate reasoning into their classroom teaching?**

Take-Homes & Commitments:

Something useful I learned during today's workshop:

*Something I will do differently in my teaching or curriculum as a result of this workshop
(consider creating a SMART goal – specific, measurable, attainable, realistic, time-bound –
and plan how you will hold yourself **accountable** for this goal):*

