**Clinical Reasoning Course - Mr. Rand Case - Part 2: Hospital Days 3-4 (10-18-12)**

*Note:* Instructions to media team are in yellow highlighting. All other text should appear on slides exactly as shown here, but with larger font for titles. Some attachments may require size adjustments.

**Case Study Proper (before Scenario Review)**

**Slide 1**

**Title of scenario: Mr. Rand Case - Part 2: Hospital Days 3-4**

This interactive case has been developed to help you understand and strengthen your clinical reasoning skills. In this interactive case you are the nurse who is working to deliver quality care to Mr. Rand.

The case is set up in three chronologically ordered parts, “Admission” (Part 1), “Hospital Days 3-4” (Part 2), and “Team Consult” (Part 3). In each part, clinical information is given and you (as the nurse) will need to analyze the situation and answer questions. You will receive feedback as you proceed through the case.

Take notes as you work through Part 2 of the case, just as you would in a clinical setting. The notes window on the resources tray may be used anytime, even when other resources are in use. All Part 1 resources tray items are included in Part 2.

**Please note:** Proceed carefully! Because this case is designed to simulate real practice in a clinical setting, you will not be able to move backward to change your decisions: when you click the **Continue** button, you will move forward with no option of returning, just as you would in an actual clinical setting. Remember, though, you may always refer to your notes and any items in your resources tray when making your decisions. If you accidentally advance, don’t worry: the case is ungraded, and you can always refresh or reload your browser and start over, or simply finish the case and then restart it.

This case study closes with a Scenario Review component, which allows you to revisit individual moments of the case and the decisions you made.

place Start button here

place footer here (for all pages): Printing this page varies across web browsers. For best printing, please print (if possible) using the print dialog of the operating system you are using (e.g. Windows, Linux, Macintosh, etc.). Use landscape orientation for page setup, and uncheck "Print Header and Footer" checkbox. If desirable and possible for exact fit, please adjust the scale.

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no consult screen for this

**Slide 2, Screens A-C**

**Screen 2A, title: Background and Clinical Scenario**

insert Pt2attachMan\_and\_visitor (left half of top half of page, under title line and rule, as in Pt 1)

On Day 3, before looking in on Mr. Rand, you review his chart. You should refer to the chart as you work through the case, and add your own notes to the notes window.

When you check on Mr. Rand, you don’t have a lot of time. You find he is oriented X3, but you also notice that he seems tired, and has a fever of 101.3. You have blood cultures drawn and sent; you find in the chart that his urinalysis is negative, CXR is unchanged (no pneumonia). You decide you should do an incentive spirometry. The physician starts empiric IV piperacillin for broad spectrum antibiotic coverage. Mr. Rand falls right back to sleep.

*The notes window on the resources tray may be used anytime, even when other resources are in use. Open and close the tray by clicking the triangle in the shaded tab.*

insert here the resources tray, and on it place these resources:

* Pt2attachChartB (use the same icon as in Pt1, but this time link to Pt2attach\_ChartB)
* Pt2attachCTscan (use the same icon as in Pt1)
* the “I” website on lung disease (use the same icon as in Pt1)
* new: a notes-taking window, as we discussed on Tuesday (Mike can do an icon for it, or just do a simple one labeled “Take Notes Here”)

place Continue button here

**Screen 2B, title: After the Procedure**

When you return on Day 4, you find that the blood cultures result positive for Gram negative rods in all 4 bottles. The team is aware of this and is continuing the IV piperacillin. The patient’s blood pressure is lower than usual (102/56) prior to departure for percutaneous drain placement.

place Continue button here

**Screen 2C, title: After the Procedure**

On return from the drain placement procedure at 3:30 PM, Mr. Rand is more fatigued and more tachypneic (RR 24-28), and has increased heart rate (HR 94), and distended abdomen - 4 clinical changes. There is a small amount (30cc) of purulent drainage in the biliary drainage bag.

In your review, what might be the correct diagnosis?

set this up as a multiple-choice question. The correct answer is indicated here by yellow highlighting; the consult view immediately following when student submits answer

1. Systemic inflammatory response syndrome (SIRS)
2. Urinary tract infection
3. Deep vein thrombosis (DVT)
4. Sepsis

Slide 2C “Consult” screen - should immediately follow Slide 2C question screen – it (and all other Consult screens) should be set up as new screen (and reappear in the same way in the Review section):

2C“Consult” screen **Consulting with a knowledgeable colleague**

Sepsis is the correct diagnosis. When you ask a nurse colleague in the hall about the pathophysiology of sepsis, she answers that sepsis is the body's response to an infection, and that it begins with a widespread inflammatory response (systematic inflammatory response syndrome) to invasion of microorganisms (such as bacteria) or cell injury. Signs and symptoms at this phase include fever or hypothermia, tachycardia, tachypnea, and leukocytosis or leukopenia. When SIRS is caused by an infection, the term "sepsis" is used.

Feedback, for review section of SBL: use Your Answers/Correct Answers frames for this, with correct answer indicated by green circle and clickable feedback for each answer option as follows:

Feedback for review section of SBL: Feedback for incorrect response #a:Careful – systemic inflammatory response syndrome (SIRS) is a widespread inflammatory response which the patient has, but when SIRS is caused by an infection, the term “sepsis” is used.

Feedback for review section of SBL: Feedback for incorrect response #b:Careful – a urinary tract infection is not likely since the urinalysis was negative.

Feedback for review section of SBL: Feedback for incorrect response #c:Careful – it is unlikely that a patient would have a fever from a deep vein thrombosis (DVT).

Feedback for user who has selected the correct response #d: Yes, sepsis is the correct diagnosis.

**Slide 3, Screens A-C**

**Screen 3A, title: Why is “sepsis” the correct diagnosis? – Step 1**

You need to review the reasons you think sepsis may be the correct diagnosis, so you refer to (Step 1) the sepsis screening chart and (Step 2, on the following screen) the list of signs and symptoms you know may indicate sepsis. Be sure to take notes as you work through these materials and the situations presented by the case.

Step 1: Refer to the SIRS screen and identify criteria that are positive for sepsis. insert here an icon for the SIRS chart (perhaps an icon on which are inscribed the letters “SIRS” [without the quote marks) and link the icon to Pt1attach\_SIRS ; when opened and closed by user, it should return to the “REFERENCE ITEMS” part of Inventory tray

Determine whether the patient has at least two of SIRS criteria. To be indicative of sepsis, the patient must have **at least** 2 of the symptoms of infection listed in the SIRS screen, and these symptoms must be **new** to the patient.

Make notes on these for use in the next screen.

place Continue button here

no consult screen for this

**Screen 3B, title: Why is “sepsis” the correct diagnosis? – Step 2**

Step 2: Determine whether the patient has a confirmed or suspected infection. Examples would include the following:

* Pneumonia/empyema
* UTI
* Acute abdominal infection
* Meningitis
* Skin/soft tissue infection
* Wound infection
* Bone/joint infection
* Blood stream catheter infection
* Endocarditis
* Implantable device infection

place Continue button here

no consult screen for this

**Screen 3C, title: Why is “sepsis” the correct diagnosis? – Compiling Your Findings**

Compiling your findings from Steps 1 and 2, identify which SIRS screen criteria and signs/symptoms of infection Mr. Rand has that are indications of sepsis? set this up as a multiple-select question (set this up same as the one we developed for Part 1)

a. Fever

b. Elevated WBC

c. Heart rate > 90

d. Increased respiratory rate

e. Pneumonia/empyema

f. UTI

g. Acute abdominal infection

h. Meningitis

i. Skin/soft tissue infection

j. Wound infection

k. Bone/joint infection

l. Blood stream catheter infection

m. Endocarditis

n. Implantable device infection

Feedback, for review section of SBL:

Correct answers are (note formatting for question and correct/incorrect answers should be same as the formatting we used for the MS we set up in Part 1):

a. Fever

b. Elevated WBC

c. Heart rate > 90

d. Increased respiratory rate

g. Possible acute abdominal infection

Screen 3C “Consult” screen - should immediately follow Slide 3B question screen – it should be set up as new screen (and reappear in the same way in the Review section):

3C “Consult” screen **Consulting with a knowledgeable colleague**

You and the other nurses at Pierce Medical Center have been in-serviced on the sepsis screening tool and encouraged to use it on the units. With the use of the sepsis screening tool, nurses cluster related data to get a “picture” of the clinical problem.

Patients with severe sepsis are at higher risk of mortality and require timely clinical interventions to prevent organ failure. Nurses need to screen for the presence of at least one sign of acute (not chronic) organ dysfunction:

* Pulse-ox < 90% or increasing O2 needs
* SBP < 90 mmHg or MAP (Mean Arterial Pressure) < 65 mmHg
* Urine output < 0.5 mL/kg/hr or increase in creatinine 0.5 mg/dL (non-CKD)
* Altered mental status
* GI: Ileus (absent bowel sounds)
* Hepatic: Total bilirubin > 4 mg/dL
* Platelet count < 100,000 per uL or INR >1.5 (non-liver-failure patients), not on Coumadin or Heparin
* Lactic acid level > 2.0 mmol/L

Feedback, for review section of SBL:

Set up the whole page of MS the way we did for the MS in Part 1 (in the Scenario Review, Question 2, “What is abnormal”) – Set it up to show all options, with filled-in squares indicating correct options and red x’s indicating user’s wrong answers.

In addition, use the clickable technology we used in Part 1, Scenario Review, Question 2, that allows users to get feedback on all individual answer options:

For fever: Yes, Mr. Rand has a fever, which is one indication of sepsis, and this is a new symptom.

For elevated WBC: Yes, Mr. Rand shows elevated WBC, which is one indication of sepsis, and this is a new symptom.

For tachycardia: Yes, Mr. Rand has tachycardia, which is one indication of sepsis, and this is a new symptom.

For increased respiratory rate: Yes, Mr. Rand has an increased respiratory rate, which is one indication of sepsis, and this is a new symptom.

For pneumonia: Mr. Rand does not exhibit signs of pneumonia.

For UTI: Mr. Rand does not exhibit signs of UTI.

For possible acute abdominal infection: Yes, Mr. Rand seems to have an acute abdominal infection, which is one indication of sepsis.

For meningitis: Mr. Rand does not exhibit signs of meningitis.

For skin/soft tissue infection: Mr. Rand does not exhibit signs of skin/soft tissue infection.

For wound infection: Mr. Rand does not exhibit signs of wound infection.

For bone/joint infection: Mr. Rand does not exhibit signs of bone/joint infection.

For blood stream catheter infection: Mr. Rand does not exhibit signs of blood stream catheter infection.

For endocarditis: Mr. Rand does not exhibit signs of endocarditis.

For implantable device infection: Mr. Rand does not exhibit signs of implantable device infection.

**Slide 4, Screens A-B**

**Screen 4A, title: Keep in Mind**

Keep in mind that the sepsis screen indicates Mr. Rand has tachycardia, but he may not become markedly tachycardic while on a beta blocker (Tenormin).

Placement of percutaneous drain puts patient at risk for bleeding, peritonitis, sepsis. Patient already has biliary stent (increased sepsis risk) with a confirmed fluid collection.

place Continue button here

no Consult screen

**Screen 4B, title: In-service and Readings**

Insert Pt2attachSepsis graphic as illustration

You have a little downtime, so you decide to find out more about sepsis (things like pathophysiology, early symptoms of sepsis, and screening for sepsis). You review materials from the recent in-service and check the literature on this:

* In-service on Sepsis (presented here as a PowerPoint). link Pt2attachSepsisInServicePDF from underlined words; when opened and closed by user, it should return to the “REFERENCE ITEMS” part of Inventory tray, where it represented by an icon on which are inscribed the letters “In-Service” (without the quote marks)
* Article Recognizing Sepsis in the Adult Patient. link Pt2attachPDF\_Recognizing from underlined words; when opened and closed by user, it should return to the “REFERENCE ITEMS” part of Inventory tray, where it is represented by an icon on which are inscribed the letters “Article” (without the quote marks)

*For new inventory items: Click item to open and add to the tray, and consult as needed.*

place Continue button here

no Consult screen

**Slide 5, Screens A-C**

**Screen 5A, title: Facts**

At the nurses’ station, a younger nurse, Carrie, mentioned that she read an article on sepsis that indicated that sepsis is the number 1 cause of death in the ICU nationally.

Do you agree with this nurse's statement? set this up as a multiple-choice question. The correct answer is indicated here by yellow highlighting

You (select one):

a. Yes, I believe that’s right.

b. That’s not quite right. Pulmonary failure is the number 1 cause of death in the ICU.

Feedback, for both this page – where it appears when user selects an answer – and the review section of SBL:

feedback for #aYes, sepsis is the number 1 cause of death in the ICU nationally.

feedback for #bActually, sepsis *is* the number 1 cause of death in the ICU nationally.

place Continue button here

no Consult screen

**Screen 5B, title: Facts (continued)**

Carrie said that she knows it is important to understand sepsis but has questions about interpreting clinical data related to sepsis. After an older nurse asks her what she wants to know more about, she says she doesn't understand how a patient's pulse-ox can be normal in severe sepsis when sepsis is referred to as a perfusion disorder.

You answer her (select one): set this up as a multiple-choice question. The correct answer is indicated here by yellow highlighting

a. Pulse oximetry is highly unreliable with advanced sepsis.

b. Pulse oximetry doesn’t reflect what is happening at the cellular level.

c. Sepsis does not affect oxygen being delivered to the cells.

Feedback, for both this page – where it appears when user selects an answer – and the review section of SBL:

feedback for all option #a:A patient's pulse-ox can be normal even in severe sepsis because pulse oximentry does not reflect what is happening at the cellular level.

feedback for all option #b:Correct, pulse oximentry does not reflect what is happening at the cellular level.

feedback for all option #c:A patient's pulse-ox can be normal even in severe sepsis because pulse oximentry does not reflect what is happening at the cellular level.

place Continue button here

no Consult screen

**Screen 5C, title: Facts (continued)**

Another question that Carrie has concerns blood cultures with sepsis. She asks whether blood cultures can be negative with sepsis. set this up as a multiple-choice question. The correct answer is indicated here by yellow highlighting

You reply to her (select one):

a. Over half of all patients with severe sepsis have **negative** blood cultures.

b. Over half of all patients with severe sepsis have **positive** blood cultures.

Feedback, for both this page – where it appears when user selects an answer – and the review section of SBL:

feedback for #aYes, that’s right. Over half of all patients with severe sepsis have negative blood culture results.

feedback for #bActually, over half of all patients with severe sepsis have *negative* blood culture results.

place Continue button here

no Consult screen

**Slide 6**

**Screen title: Change-of-Shift Communication**

Your shift is over and you need to write a shift report. **Concisely** (just a few sentences per category) communicate your report here, in writing, to the second-shift nurse. Cover the following areas: patient info, clinical background, assessment, and recommendations. set this up as a pass/fail short-answer question, with 4 windows for entering answers – one window per answer – and any answer counting as a pass

Patient info:

Clinical background:

Assessment:

Recommendations:

Before writing your report: If you want to review Mr. Rand’s chart for history, medications, lab work, admission assessment, or diagnostic results presented in Part 1 of the case, you can check back to the patient chart.

*Click item to open and add to the tray, and consult as needed. The patient chart will also be available in Part 3 of the case.*

“Consult” screen**Consulting with a knowledgeable colleague**

Consult view should appear as a new screen when student submits one answer in each window and then submits the entire screen (all four) (Consult screen should look the same in the Review section).

Your report might look a lot like the following:

Patient info: Mr. Rand, a 74 y.o. in Room 10, has newly diagnosed pancreatic cancer and a PE. He was admitted 3 days ago for an evaluation for cancer treatment, but he has confirmed metastatic cancer and the oncologist can only offer palliative chemotherapy, not surgery. He is a full code.

Clinical background: On hospital day #2 Mr. Rand had an IVC filter placed. Yesterday he had CT scans, and this afternoon he had a percutaneous biliary drain placed and was off the unit for 4 hours. This morning he was up and about in his room.

Assessment: I **didn’t get to spend much time** with him today but I noticed he has been **very tired**. He is oriented X3 when questioned but then **falls right back to sleep**. His vital signs are stable, but I noticed that he is more **tachycardic** since returning from radiology, with a heart rate sometimes greater than 90. His baseline HR is 70s. Although he has been mildly tachypneic since admission (RR 20-24), his **respiratory rate is now 24-28**. His abdomen is also slightly tender and seems more distended since returning. I have a sense that **something isn’t right**.

Recommendations: Since our patient has had significant changes in his physical assessment we need to be on high alert. We should reassess his abdomen and count his respiratory rate accurately. His pulse-ox has been greater than 93% on room air, but he might require oxygen if that changes. It would be a good idea to get more frequent vital signs tonight, maybe every 2 hours to start. I know he needs sleep, but we need to keep a close eye on him, and we need to keep the doctor updated on his condition.

no feedback for this, just Consult screen

**Slide 7**

**Screen title: What questions does the new shift nurse need to ask?**

If you were the new nurse coming on shift, what would be the questions you should ask? Please enter 2 or 3 questions here:set this up as a pass/fail short-answer question, with window for entering answer, and any answer counting as a pass, and with the following Consulting view appearing as a new screen when student submits answer (and reappearing in the same way in the Review section).

“Consult” screen**Consulting with a knowledgeable colleague**

Reasonable questions to ask would include:

* “Does he have active bowel sounds?” “Is his abdominal pain worsening?”
* Trending information such as: “How high has his temperature been over the past 24 hours?” “What has his lowest pulse-ox reading been over the past 24 hours?”
* Intra-professional team info such as: “Is the physician aware of the changes in his assessment?” “What did his blood cultures show?” “What is appropriate treatment for sepsis?” “Was sepsis screening done?”
* How are client and family coping with client’s changing health status?
* What nursing interventions are in place to address client’s fatigue?

Feedback, for review section of SBL: feedback screen shows the “Your Answers” window and, in place of a “Correct Answers” window, refers the user to the Consult screen for the correct answers, with this text: “Compare your answer to your colleague’s suggestions.”

**Scenario Review**

First page: Scenario Review transition page. Copy “Click Start Review to begin …” text and START REVIEW button from Part 1.

Second page: Scenario Review intro page, titled: **Scenario Review**

Copy from second page of Part 1 Scenario Review: The Scenario Review component allows you time to reflect further on the case. Use the timeline to open various moments in the case, to review your decisions and the feedback you received. On the timeline, decision points are represented by diamonds.

-then add the text of Part 2, Slide 2 (scenario intro, titled “Background & Clinical Scenario”)

-and then add the timeline and timeline instruction line (copy from Part 1, including timeline adjusted as needed: timeline will have slightly different pattern of decision and consult screens, like this:

Circle – for 2A intro

Diamond – for 2B question

Circle – for 2B consult

Circle – for 3A intro

Circle – for 3B intro

Diamond – for 3C question

Circle – for 3C consult

Circle – for 4A intro

Circle – for 4B intro

Diamond – for 5A question

Diamond – for 5B question

Diamond – for 5C question

Diamond – for 6 question

Circle – for 6 consult

Diamond – for 7 question

Circle – for 7 consult

Other Scenario Review pages: Set up remaining Scenario Review pages using same system as for Pt 1, feedback instructions included in first part of this Pt 2, and the timeline list just above

**-end of Scenario Review:**

**Slide 8 (exit screen):**

set this up as a simple text page

Please continue your consideration of the case by discussing its implications in a forum outside this interactive piece. You may want to begin by asking questions such as: “What role did the sepsis screen play in the nurse’s review of the clinical data and identification patterns?” Discuss nursing diagnoses and priorities at this point in the case.

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