

SIMULATION

Sepsis Secondary to an Abdominal Wound Infection

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Submitted: October 21, 2017; Accepted: March 21, 2018; Electronically Published: April 15, 2018; <https://doi.org/10.21980/J8PS60>

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ABSTRACT:

Audience: This simulation was created for medical students and interns to teach the surviving sepsis guidelines.

Introduction: Infections and sepsis are common diagnoses seen in the emergency department (ED). It is important for physicians to recognize, differentiate and treat systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis and septic shock. This case allows learners a safe environment in which to examine, diagnose and treat a patient with septic shock.

Objectives: At completion of this case learners should be able to:

1. Recognize and differentiate between systemic inflammatory response syndrome, sepsis, severe sepsis, and septic shock.
2. Prepare an appropriate differential diagnosis for a patient with sepsis.
3. Demonstrate appropriate fluid resuscitation and antibiotic therapy for a septic patient.
4. Demonstrate appropriate vasopressor therapy for a septic patient.
5. Understand and apply the Surviving Sepsis Guidelines.

Method: This case can use a high, medium or low fidelity simulation mannequin or a standardized patient. Alternatively, this case can also be used as an oral boards case.

Topics: Sepsis, wound infection, infectious disease, dermatology, shock.



USER GUIDE

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Learner Audience:

Medical students and interns

Time Required for Implementation:

Instructor Preparation: 20-30 minutes

Time for case: 10-15 minutes

Time for debriefing: 10-30 minutes

Recommended Number of Learners per Instructor:

2-5

Topics:

Sepsis, wound infection, infectious disease, dermatology, shock.

Objectives:

By the end of this simulation session, the learner will be able to:

1. Recognition and differentiation of systemic inflammatory response syndrome, sepsis, severe sepsis, and septic shock
2. Prepare an appropriate differential diagnosis of a patient with sepsis
3. Demonstrate appropriate fluid resuscitation and antibiotic therapy for a septic patient
4. Demonstrate appropriate vasopressor therapy for a septic patient
5. Understand and apply the Surviving Sepsis Guidelines

Linked objectives and methods:

Early recognition and treatment of sepsis, severe sepsis and septic shock is imperative for patient survival.¹ This simulation allows learners to diagnose and treat a patient with septic shock in a safe environment. During this case the learners will learn how quickly a patient with sepsis can decompensate into shock. If the patient is managed appropriately she will improve with vasopressors; however, if not managed appropriately she will decompensate and lose pulses. This simulation case is based on the 2016 Surviving Sepsis Campaign recommendations for treatment of sepsis.

Recommended pre-reading for instructor:

- It is recommended that the instructor read the most recent “Surviving Sepsis Guidelines.” At the time this simulation was created:
Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, et al. Surviving Sepsis Campaign: international guidelines for management of sepsis and septic shock: 2016. *Intensive Care Med.* 2017;43(3):304-377. doi: 10.1007/s00134-017-4683-6.

Learner responsible content:

- After the case we strongly recommend you discuss the “Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016” and have your student review appendix 1.

Results and tips for successful implementation:

This case can use a high, medium or low fidelity simulation mannequin or a standardized patient. Alternatively, this case can also be used as an oral boards case. The main objective of the case is to expose the learner to a septic patient in a safe environment. This case allows the learner to recognize SIRS, find the source of infection and recognize sepsis, severe sepsis and septic shock, as well as apply the Surviving Sepsis Guidelines. If the learners are having difficulty managing the patient’s hypotension the nurse can help prompt the learner for fluid boluses and vasopressors when the patient is unresponsive to the fluid challenge. This case was initially piloted with 100+ fourth year medical students; some adjustments were made in the case to allow for easier diagnosis to allow the learners to focus on the treatment of septic shock. The students had very positive responses to the case and felt that the case was an important learning opportunity prior to the start of their intern year.

References/suggestions for further reading:

1. Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, et al. Surviving Sepsis Campaign: international guidelines for management of sepsis and septic shock: 2016. *Intensive Care Med.* 2017;43(3):304-377. doi: 10.1007/s00134-017-4683-6.



INSTRUCTOR MATERIALS

Case Title: Sepsis Secondary to an Abdominal Wound Infection

Case Description & Diagnosis (short synopsis): The patient is a 75-year-old female who presents to the emergency department with complaints of fevers. She is post-op day 8 status post a total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAHBSO) for endometrial hyperplasia and abnormal uterine bleeding. On arrival to the emergency department the patient is awake and able to provide her history. She is found to be febrile and hypotensive. Physical exam reveals that her abdominal incision is erythematous, indurated and has purulent discharge draining from the central portion of the incision. Given the abnormal vital signs and the physical exam consistent with an infected surgical site, the learners should recognize that the patient meets criteria for sepsis. Surviving Sepsis Guidelines should be initiated, with the learner requesting blood work, blood cultures, urine, chest x-ray, a 30cc/kg bolus of fluids and administration of antibiotics. When the patient's blood pressure does not improve with fluid bolus and she does not produce urine, the learner should recognize that the patient meets criteria for septic shock; they should place a central line and initiate vasopressor therapy, preferably with norepinephrine (levophed). The patient will require admission to the intensive care unit (ICU).

Equipment or Props Needed:

- High, moderate or low fidelity mannequin
- Infusion pumps
- Normal saline
- Prop antibiotics
- Cardiac monitor
- Intravenous (IV) catheter and lines
- Pulse oximeter
- Blood pressure cuff
- Crash Cart with defibrillator

Optional:

- Central line kit
- Central line task trainer
- Arterial line kit
- Arterial line task trainer



INSTRUCTOR MATERIALS

Confederates needed:

If no simulation mannequin is available a standardized patient or faculty member could be used as the patient

Nurse to assist with the management of the patient

Intensivist (via phone)

Stimulus Inventory:

- #1 Chest X-ray (CXR)
- #2 Electrocardiogram (ECG)
- #3 Complete blood count (CBC)
- #4 Comprehensive metabolic panel (CMP)
- #5 Lactate
- #6 Urinalysis
- #7 Wound photograph

Background and brief information: The scenario takes place in an ED at a tertiary care teaching hospital. The patient is a 75-year-old female who presents with complaints of fever and “just not feeling well.” The patient is febrile and hypotensive on arrival.

Initial presentation: The patient presents from home, by herself with no family present.

How the scenario unfolds: On arrival the patient will be awake but lethargic; she is initially able to provide her history and answers questions with only mild difficulty. Learners should recognize the patient as unstable or sick, and request the patient be placed on the monitor, given oxygen and have an IV placed with blood work drawn. Initial vitals will reveal that the patient is febrile, tachycardic and mildly hypotensive. Participants should recognize that the patient meets SIRS criteria and consider that the patient could be septic, prompting them to perform a thorough history and physical exam and consider possible sources of infection— they may request blood cultures and initiate fluids at this time. The patient will note that she has few medical problems aside from her TAHBSO 8 days prior. On physical exam the patient will be found to have an erythematous and indurated incision that is leaking purulent material. After discovery of the infectious source the learners should request antibiotics be given. Complete blood count will reveal an elevated white blood cell count; complete metabolic profile will be concerning for end organ damage with an elevated creatinine, as well as an elevated lactic acid.



INSTRUCTOR MATERIALS

Despite appropriate fluids and antibiotics, the patient will remain hypotensive, anuric and continue to decompensate. Learners may request additional fluids; however, the patient's blood pressure will not improve. Ultimately the patient will require placement of a central line and initiation of vasopressors, preferably norepinephrine (if the learner requests alternative vasopressors the examiner may decide that they are not available to encourage the learner to choose norepinephrine, which is the appropriate first line pressor). If the examiner wishes to make the case more complicated, a task trainer could be provided to the learner to place a central line on, or the learner could be asked to verbally walk through the steps of central line placement. If the patient is managed properly her blood pressure will improve with appropriate vasopressor initiation, and she will require admission to the ICU.

Should the learner fail to initiate the appropriate therapy at any step, the patient will decompensate acutely with worsening tachycardia and hypotension. If the step is corrected she will improve mildly; however, the course will remain the same. If the learners do not correct their mistake the patient will degrade, becoming unresponsive and requiring intubation, and then further into pulseless electrical activity, requiring CPR and ACLS. Despite appropriate care at this time she will expire.

Critical Actions:

1. Assess airway, breathing, circulation.
2. Establish intravenous access.
3. Place the patient on a cardiac monitor and pulse oximeter.
4. Recognize that the patient meets SIRS criteria.
5. Initiate empiric antibiotic therapy.
6. Ensure aggressive fluid resuscitation at 30cc/kg.
7. Recognize that the patient's blood pressure does not improve after fluid boluses, and initiate vasopressors.
8. Place a central line.
9. Admit the patient to the MICU.



INSTRUCTOR MATERIALS

Case Title: Sepsis Secondary to an Abdominal Wound Infection

Chief Complaint: Fevers and “just not feeling well”

Vitals: Heart Rate (HR) 132 Blood Pressure (BP) 98/45 Respiratory Rate (RR) 20
Temperature (T) 39.5°C Oxygen Saturation (O₂Sat) 98% on room air

General Appearance: lethargic appearing, diaphoretic

Primary Survey:

- **Airway:** patent
- **Breathing:** clear bilaterally with shallow respirations
- **Circulation:** delayed capillary refill

History:

- **History of present illness:** Ms. Mendes is a 75-year-old Hispanic female is POD #8 from a total abdominal hysterectomy. She presents to the ED with complaints of fevers. The patient states that she “just doesn’t feel good.” She reports that she has been having subjective fevers for the last 2 days. Today she checked her temperature and it was 102.0°F orally. She reports mild nausea, but no vomiting and keeps repeating that she “just does not feel well.” The patient endorses mild dysuria, she denies any cough, shortness of breath, chest pain, sore throat, leg pain, leg swelling or history of deep venous thrombosis or pulmonary embolism.
- **Past medical history:** hypertension (HTN), vaginal bleeding, fibroids
- **Past surgical history:** total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAHBSO) 8 days ago
- **Patients medications:** atenolol 25mg daily, Norco 5/325 q4h PRN pain
- **Allergies:** No known drug allergies
- **Social history:** denies smoking, alcohol or drugs. Lives alone at home with no family near by
- **Immunizations:** up to date
- **Family history:** denies any pertinent family history

Secondary Survey/Physical Examination:

- **General appearance:** lethargic, mild distress, diaphoretic
- **Head, ears, eyes, nose and throat (HEENT):** within normal limits



INSTRUCTOR MATERIALS

- **Neck:** within normal limits
- **Heart:** tachycardic, regular rhythm, no murmurs
- **Lungs:** clear to auscultation, shallow respirations, mildly tachypneic, no rhonchi, no wheezes, no crackles
- **Abdominal/GI:** the patient's abdominal incision is erythematous, indurated and mildly dehisced in the middle. When pressed 2-3 cc of purulent drainage is expressed. The patient reports pain with palpation of the area; however, there is not rebound or guarding on general abdominal examination
- **Genitourinary:** within normal limits
- **Rectal:** within normal limits
- **Extremities:** delayed capillary refill, no edema, otherwise within normal limits
- **Back:** within normal limits
- **Neuro:** awake, lethargic, GCS 15, moving all extremities, sensation intact
- **Skin:** dry, abdominal incision per above
- **Lymph:** within normal limits
- **Psych:** within normal limits



INSTRUCTOR MATERIALS

Results:

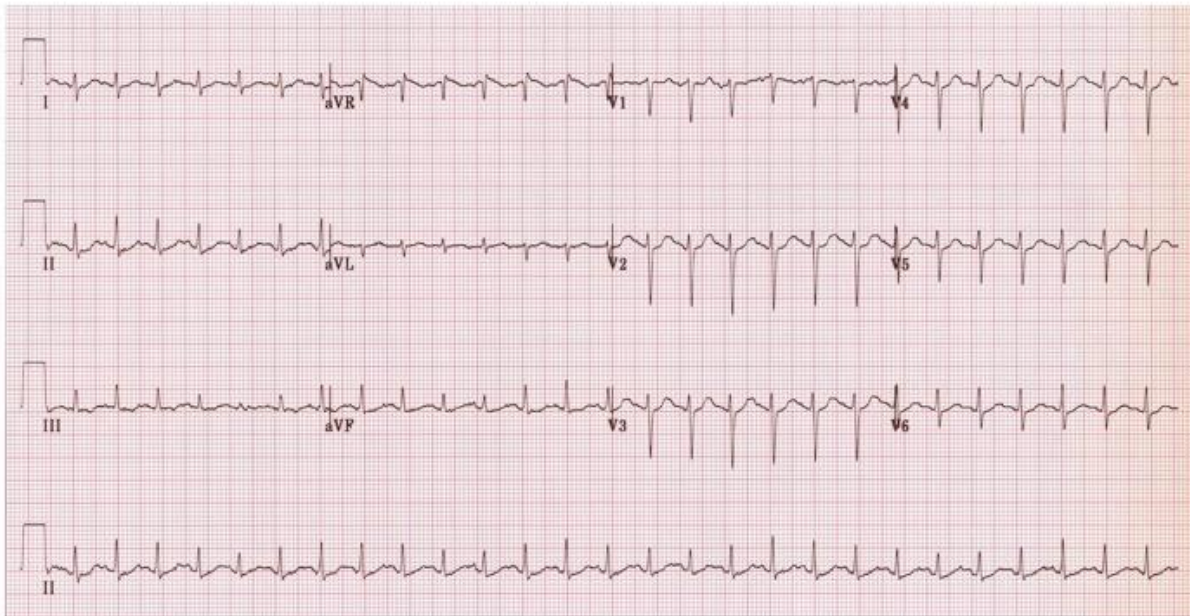
Chest X-ray: Normal (author's own image)





INSTRUCTOR MATERIALS

Electrocardiogram (EKG): sinus tachycardia (author's own image)



Complete blood count (CBC)

White blood count (WBC)	16 x1000/mm ³ (H)
Hemoglobin (Hgb)	13.9 g/dL
Hematocrit (HCT)	40.2%
Platelet (Plt)	467 x1000/mm ³
Differential	
PMN	85%
Bands	10%
Lymphocytes	5%
Basophils	0%
Eosinophils	0%

Complete metabolic panel (CMP)

Sodium	135 mEq/L
Chloride	105 mEq/L
Potassium	4.0 mEq/L
Bicarbonate (HCO ₃)	12 mEq/L (L)
Blood Urea Nitrogen (BUN)	22 mg/dL (H)
Creatine (Cr)	2.1 mg/dL (H)
Glucose	115 mg/dL



INSTRUCTOR MATERIALS

Lactic Acid

Lactate 4 mmol/L

Urinalysis

Color	dark
Protein	trace
Leukocyte esterase	moderate
Nitrite	moderate
Red blood cells (RBC)	26 /HPF
White blood cells (WBC)	>182 /HPF
Squamous epithelial	< 1 /HPF

Wound Photograph (author's own image)





OPERATOR MATERIALS

SIMULATION EVENTS TABLE:

Minute (state)	Participant action/ trigger	Patient status (simulator response) & operator prompts	Monitor display (vital signs)
0:00 (Baseline)	Obtain history, examine patient, evaluate symptoms, notice fever	The patient reports not feeling well. Abdominal exams pain near the wound. The patient denies cough, SOB, headache, or chest pain	T 39.5 HR 132 BP 98/45 RR 20 O2 98% RA
2:00-3:00	Send off labs: CBC, CMP, CXR, UA, ECG, lactate Place 2 large bore IVs Give fluid bolus	If fluids are initiated, patient maintains level of consciousness, but becomes more hypotensive If fluids are not initiated, patient becomes less responsive (moaning, etc)	T 39.5 HR 132 BP 78/40 RR 20 O2 98% RA
3:00-5:00	Initiate antibiotics (broad spectrum) Repeat blood pressure, consider IVC ultrasound or additional fluids	Patient remains responsive if team is managing patient appropriately Becomes unresponsive requiring intubation if not managing patient correctly	T 39.5 HR 132 BP 78/40 RR 20 O2 98% RA T 39.5 HR 142 BP 70/40 RR 20 O2 95% RA
5:00-7:00	Initiate antibiotics (broad spectrum) Initiate norepinephrine for shock	Remains responsive if team is managing patient appropriately Becomes unresponsive requiring intubation if not managing patient correctly	T 38 HR 121 BP 95/65 RR 20 O2 98% RA HR (if proper management) T 39.5 HR 141 BP 62/39 RR 20 O2 98% RA



OPERATOR MATERIALS

Minute (state)	Participant action/ trigger	Patient status (simulator response) & operator prompts	Monitor display (vital signs)
			(if not managing correctly)
7:00-9:00	<p>Start central line, continue vasopressors</p> <p>(May need intubation if case not going well)</p>	<p>Patient condition improves, mental status improves if all critical actions done</p> <p>If the patient is not managed appropriately, the patient will degrade into PEA (pulseless electrical activity)</p>	<p>T 38 HR 103 BP 105/63 RR 18 O2 98% RA HR (if proper management)</p> <p>T 39.5 HR PEA BP -- RR -- O2 -- (if not managing correctly)</p>
(Case Completion)	Admit patient to the ICU.	<p>Patient condition improves, mental status improves if all critical actions done</p> <p>If the patient is not managed appropriately, the patient will degrade into PEA.</p>	<p>T 38 HR 103 BP 105/63 RR 18 O2 98% RA HR (if proper management)</p> <p>T 39.5 HR PEA BP -- RR -- O2 -- (if not managing correctly)</p>

Diagnosis:

Septic shock from an abdominal wound infection

Disposition:

Admit the patient to the ICU



DEBRIEFING AND EVALUATION PEARLS

Sepsis

SIRS: Temperature $>38^{\circ}\text{C}$ (100.4°F) or $< 36^{\circ}\text{C}$ (96.8°F)

Heart rate > 90

Respiratory rate > 20 or $\text{PaCO}_2 < 32$ mm Hg

WBC $> 12,000/\text{mm}^3$, $< 4,000/\text{mm}^3$, or $> 10\%$ bands

Sepsis: SIRS + source of infection

Severe sepsis: sepsis + organ dysfunction

Septic shock: sepsis with hypotension despite adequate fluid resuscitation

qSOFA: a bedside assessment that can identify patients who are at greater risk for poor outcomes from sepsis. One point for low blood pressure ($\text{SBP} \leq 100$ mmHg), high respiratory rate (≥ 22 breaths per min) or altered mentation (Glasgow coma scale < 15).

According to the “Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016,” crystalloid fluids should be given in boluses of 30 mL/kg within first 3 hours until perfusion improves or signs of fluid overload develop. Fluid may be given through two large-bore IVs.

Signs of improvement in perfusion include improved blood pressure, capillary refill, mental status, and urine output. Signs of fluid overload include crackles on lung examination, respiratory distress, and hepatomegaly.

The Surviving Sepsis Guidelines recommend an initial target mean arterial pressure of 65 mmHg in patients with septic shock requiring vasopressors, as well as guiding resuscitation to normalize lactate in patients with elevated lactate levels.

In patients with septic shock, the Surviving Sepsis Guidelines recommend the first line vasopressor be norepinephrine or levophed, and second line be dopamine.

Surviving Sepsis Guidelines recommend that broad spectrum IV antibiotics be given as soon as possible and preferably within one hour of recognition of severe sepsis and septic shock. Further, they recommend starting with broad spectrum antibiotics and then narrowing coverage when cultures are available.



DEBRIEFING AND EVALUATION PEARLS

1. What are possible sources of infection in this patient and what are appropriate labs/imaging/other tests?
 - Urinary tract infection - UA, Urine culture with sensitivities
 - Pyelonephritis- UA, Urine culture, renal ultrasound looking for possible abscess, hydronephrosis, renal abnormalities
 - Pneumonia- chest x-ray, CBC with differential, sputum culture
 - Bacteremia - CBC with differential, Blood cultures from 2 sites
 - Meningitis- LP (lumbar puncture), CSF (cerebrospinal fluid) culture, physical exam findings: neurologic exam, Kernig, Brudzinski, nuchal rigidity
 - Wound Infection – Wound examination
2. What are possible causes of shock and what leads them to cause hemodynamic instability?
 - Septic shock - diffuse vasodilation due to cytokine release
 - Neurogenic shock- loss of muscular tone around arteries and veins
 - Anaphylactic shock- histamine release leading to vasodilation
 - Cardiogenic- decreased cardiac output leading to hypotension
 - Hypovolemic shock- loss of blood volume
3. What are steps that need to be taken when a patient becomes hypotensive?
 - Place 2 large bore IVs, start fluid boluses
 - IV antibiotics within 1 hour
 - If the patient's BP doesn't improve after fluids, start pressors as necessary to maintain MAP (mean arterial pressure) >65mmHg (norepinephrine preferred)
 - Place central line for pressors
 - Place A-line to monitor BP closely

Other debriefing points:

1. How do you think it went?
2. What do you think was going on with the patient?
3. What possible differentials were you considering and how could you assess for each?
4. What made you think it was sepsis? How do you qualify a patient (their vitals and labs) as sepsis?
5. What are steps necessary to take in a patient with supposed sepsis?



DEBRIEFING AND EVALUATION PEARLS

Wrap Up: *We recommend reading Appendix 1 of the “Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016.” Available at: <https://www.ncbi.nlm.nih.gov/pubmed/28101605>. doi: 10.1007/s00134-017-4683-6.*



SIMULATION ASSESSMENT

Sepsis Secondary to an Abdominal Wound Infection

Learner: _____

Assessment Timeline

This timeline is to help observers assess their learners. It allows observer to make notes on when learners performed various tasks, which can help guide debriefing discussion.

Critical Actions

1. Assess airway, breathing, circulation.
2. Establish intravenous access.
3. Place the patient on a cardiac monitor and pulse oximeter.
4. Recognize that the patient meets SIRS criteria.
5. Initiate empiric antibiotic therapy.
6. Ensure aggressive fluid resuscitation at 30cc/kg
7. Recognize that the patient's blood pressure does not improve after fluid boluses, and initiate vasopressors.
8. Place a central line.
9. Admit the patient to the MICU.

0:00



SIMULATION ASSESSMENT

Sepsis Secondary to an Abdominal Wound Infection

Learner: _____

Critical Actions:

- Assess airway, breathing, circulation.
- Establish intravenous access.
- Place the patient on a cardiac monitor and pulse oximeter.
- Recognize that the patient meets SIRS criteria.
- Initiate empiric antibiotic therapy.
- Ensure aggressive fluid resuscitation at 30cc/kg.
- Recognize that the patient blood pressure does not improve after fluid boluses, and initiate vasopressors.
- Place a central line.
- Admit the patient to the MICU.

Summative and formative comments:



SIMULATION ASSESSMENT

Sepsis Secondary to an Abdominal Wound Infection

Learner: _____

Milestones assessment:

	Milestone	Did not achieve level 1	Level 1	Level 2	Level 3
1	Emergency Stabilization (PC1)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Recognizes abnormal vital signs	<input type="checkbox"/> Recognizes an unstable patient, requiring intervention Performs primary assessment Discerns data to formulate a diagnostic impression/plan	<input type="checkbox"/> Manages and prioritizes critical actions in a critically ill patient Reassesses after implementing a stabilizing intervention
2	Performance of focused history and physical (PC2)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Performs a reliable, comprehensive history and physical exam	<input type="checkbox"/> Performs and communicates a focused history and physical exam based on chief complaint and urgent issues	<input type="checkbox"/> Prioritizes essential components of history and physical exam given dynamic circumstances
3	Diagnostic studies (PC3)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Determines the necessity of diagnostic studies	<input type="checkbox"/> Orders appropriate diagnostic studies. Performs appropriate bedside diagnostic studies/procedures	<input type="checkbox"/> Prioritizes essential testing Interprets results of diagnostic studies Reviews risks, benefits, contraindications, and alternatives to a diagnostic study or procedure
4	Diagnosis (PC4)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Considers a list of potential diagnoses	<input type="checkbox"/> Considers an appropriate list of potential diagnosis May or may not make correct diagnosis	<input type="checkbox"/> Makes the appropriate diagnosis Considers other potential diagnoses, avoiding premature closure



SIMULATION ASSESSMENT

Sepsis Secondary to an Abdominal Wound Infection

Learner: _____

	Milestone	Did not achieve level 1	Level 1	Level 2	Level 3
5	Pharmacotherapy (PC5)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Asks patient for drug allergies	<input type="checkbox"/> Selects an medication for therapeutic intervention, consider potential adverse effects	<input type="checkbox"/> Selects the most appropriate medication and understands mechanism of action, effect, and potential side effects Considers and recognizes drug-drug interactions
6	Observation and reassessment (PC6)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Reevaluates patient at least one time during case	<input type="checkbox"/> Reevaluates patient after most therapeutic interventions	<input type="checkbox"/> Consistently evaluates the effectiveness of therapies at appropriate intervals
7	Disposition (PC7)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Appropriately selects whether to admit or discharge the patient	<input type="checkbox"/> Appropriately selects whether to admit or discharge Involves the expertise of some of the appropriate specialists	<input type="checkbox"/> Educates the patient appropriately about their disposition Assigns patient to an appropriate level of care (ICU/Tele/Floor) Involves expertise of all appropriate specialists
9	General Approach to Procedures (PC9)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Identifies pertinent anatomy and physiology for a procedure Uses appropriate Universal Precautions	<input type="checkbox"/> Obtains informed consent Knows indications, contraindications, anatomic landmarks, equipment, anesthetic and procedural technique, and potential complications for common ED procedures	<input type="checkbox"/> Determines a back-up strategy if initial attempts are unsuccessful Correctly interprets results of diagnostic procedure



SIMULATION ASSESSMENT

Sepsis Secondary to an Abdominal Wound Infection

Learner: _____

	Milestone	Did not achieve level 1	Level 1	Level 2	Level 3
20	Professional Values (PROF1)	<input type="checkbox"/> Did not achieve Level 1	<input type="checkbox"/> Demonstrates caring, honest behavior	<input type="checkbox"/> Exhibits compassion, respect, sensitivity and responsiveness	<input type="checkbox"/> Develops alternative care plans when patients' personal beliefs and decisions preclude standard care
22	Patient centered communication (ICS1)	<input type="checkbox"/> Did not achieve level 1	<input type="checkbox"/> Establishes rapport and demonstrates empathy to patient (and family) Listens effectively	<input type="checkbox"/> Elicits patient's reason for seeking health care	<input type="checkbox"/> Manages patient expectations in a manner that minimizes potential for stress, conflict, and misunderstanding. Effectively communicates with vulnerable populations, (at risk patients and families)
23	Team management (ICS2)	<input type="checkbox"/> Did not achieve level 1	<input type="checkbox"/> Recognizes other members of the patient care team during case (nurse, techs)	<input type="checkbox"/> Communicates pertinent information to other healthcare colleagues	<input type="checkbox"/> Communicates a clear, succinct, and appropriate handoff with specialists and other colleagues Communicates effectively with ancillary staff