

Case Scenario for Simulation

Sepsis Escape Room

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| **Preparation for Simulation** |

* Orientation to manikin
	+ Room set up-phone is “live” if in sim lab
	+ Use of patient monitor
	+ What manikin can do-head to toe
	+ How to locate pulses, lung, and heart sounds
	+ How to obtain a BP
	+ Drug delivery, IV simulation, disposal of vials
	+ Crash Cart
		- Backboard
		- How to use AED
		- Review of drawer contents
		- Documentation forms
	+ Team Roles and placement
* A safe and supportive learning environment where mistakes are acceptable and no one fails
* Maintain professional behavior and respect for your co-workers
* Encourage students to get into it and think out loud
* Cannot just say what you are doing-you actually have to do it
* Work as a team and talk with each other
* Maintain confidentiality. What happens in Sim, stays in Sim.
* Most valuable lessons will be learned if you can suspend disbelief and become fully immersed
* Participate in debriefing

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| **Scenario Overview** |

* Target Group: Nursing
* Focus: Sepsis alert/Rapid Response with sepsis checklist utilization
* Setting: Patient Room
* Simulation Activity: 20 minutes
* Debriefing time: 10 minutes

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| **Brief Case Summary** |

**Inpatient:** Report from night nurse: Martin/Martha is an 82 y/o M/F admitted for a bowl resection. Hx: MI with stent placement in 2000 and severe diverticulitis. He/She has an order for Dilaudid 0.2-0.5 mg every hour as needed for pain. Two doses were given on nights providing adequate pain relief for a total of 0.4 mg. It has been 4 hours since the last dose. He/She slept well last night in between cares. You have just received report please proceed with your patient assessment. (your clock starts now)

**ED:** Martin/Martha is an 82 y/o M/F brought the emergency department by his/her daughter due to drowsiness and confusion for the past 12 hours. This has been progressive in onset. He/She normally is mildly forgetful, but today his/her daughter noticed a definite change. He/She has been asking about his deceased wife/husband as if she/he is still alive. He.She has not been eating or drinking today. He/She has been sleeping much of the day, which is unusual for him. He/She was incontinent of strong-smelling urine before coming in, which has not happened before. He/She has been complaining of fever today. This morning, he/she complained of mild lower belly pain and lower back pain. No cough or shortness of breath. No new medications. No known trauma. No sick contacts.

Peds: in process

OB: In process

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| **Learning Objectives: Upon completion of this simulation, the nurse will be able to:** |

* Recognize patient exhibiting SIRS criteria.
* Demonstrate activation of emergency response systems/protocols.
* Model professional behaviors
	+ Demonstrate use of SBAR communication.
	+ Demonstrate effective communication with patient, family, and other team members.
	+ Demonstrate effective team work while managing the patient.
* Analyze patient situation including possible causes and expected interventions.
* Utilize Sepsis checklist throughout

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| **Environment Preparation for Simulation** |

* Patient room with
	+ Appropriate manikin for scenario in patient gown with wig
	+ Basic monitor
	+ Redness around abdominal incision for inpatient scenario
* Accessory/ Equipment Check List
	+ Stethoscope
	+ Arm band
	+ IV in place
	+ IV fluids – LR and NS
	+ IV pump
	+ Oxygen
	+ Nasal Cannula
	+ NRB
	+ Patient monitor (make sure to turn QRS beep off)
	+ Nor-epi gtt
	+ Sepsis Checklist- [Sepsis Check List.docx](file:///%5C%5Cfileserver01%5CDepartmental%20Files%5CInnovis%5CDSI%5CSIM%20-%20EH%20Fargo%5CAll%20Units%5CSepsis%5CSepsis%20Check%20List.docx) – laying out
	+ Sepsis Order set in lock box with multiple abx (# lock 124)
		- Vancomycin, Zosyn, Rocephin and other abx you choose
	+ Lock box for IV start supplies and lab tubes 4digit lock (#1022)
		- Lab results in box with Lactate time
	+ Picture frame win teamwork is the key to success (key taped to back for abx box)
	+ Lactate redraw time of #1345 is the number to lock on door to escape

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| **Suggested priority Interventions** |
| Patient Assessment Data | Expected Interventions | Script  |
| Initial Settings: unstable ptPt disoriented/drowsyEyes ½ open. HR 115 ST (slow trend up to 150)BP 85/45 (slow trend down to 60/35)T 39 C (**102.2 F**)RR 28, sats 90% on RAUrine in foley amber 20cc (available is requested)*Keep trending vital signs until RRT or scenario no longer progressing.**Trend vitals back up as appropriate treatment received*  | * Head to toe assessment
* Check VS
* Check labs
* Recognize SIRS
* Call for help
* Implement orders
* **Clue#1:** What in your vital signs triggers your SIRS BPA?
* Temp 102.2 will unlock IV supply box with lab tubes. Lab results will be in this box as well with first lactate lab time
* **Clue #2:** What is one **KEY** component to treating sepsis?
* **Clue #2.2** Teamwork is **KEY**?
* Key taped to back of Keys to Success picture framed on counter for abx box with multiple abx. Use order set and source to decide what to give.
 | Pt: Disoriented to time and place, pain 4/10, “I feel terrible”**If called MD called:**If told about hypotension🡪 Give 1 L of fluid over 2 hours. If told about fever🡪 order Tylenol 650mg PO for fever. If told SIRS BPA fired🡪 BC, UA/UC, zosyn and vancomycin, lactic acid – sepsis order set laminated and laying in roomIf asked to come... “I will be there when I can my list is crazy long today.” |
| Case progression details: StabilizationPt: eyes open, coughingST 120sBP 80/40sSats 90% | * Announce when patient is stable to transfer patient to CCU or stabilize if already in CCU
* **Clue#3:** What information must you provide in your hand off?
* Lactic redraw time of **1345** for number to lock on door to escape
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| **Debriefing Guide** |

* What are you feeling after this simulation?
* How did you feel when…?
* What were your strengths?
* What were your primary concerns in this scenario? What do you think was going on with the patient?
* What are the signs and symptoms the patient was exhibiting?
* What can you tell me about the signs and symptoms of SIRS, sepsis, and septic shock?
	+ - T >38 C or < 36 C
		- HR > 90 bpm
		- RR > 20 bpm
		- WBC > 12,000 < 4000 per mm3
		- or immature forms (bands) greater than 10% (Bones et al., 1992)
* What is the best way to care for someone exhibiting signs of sepsis?
	+ Sepsis order set
		- Lactate
		- BC
		- Broad spectrum antibiotics
		- Crystalloids (30ml/kg) for hypotension or lactate >4
	+ Transfer to ICU/transfer triggers
		- Lactate >4
		- Unresponsive to fluid
		- 2 or more organ dysfunctions
		- Progression of symptoms despite treatment (Dellinger et al., 2013)
* What can you tell me about the criteria to call a RRT?
	+ - Patient RR less than 8 or greater than 24 with new symptoms
		- Acute change in oxygen requirements and/or difficult keeping oxygen saturations greater than 90% with new symptoms
		- HR <40 or >140 with new symptoms or any HR >160
		- BP <80 or >200 systolic or greater than 110 diastolic with symptoms
		- Neurological change
		- Chest pain
		- Difficulty breathing
		- Sudden loss of movement or weakness of face, arm, or leg
		- Color change of patient extremity: ie pale, dusky, gray, or blue
		- Unexplained agitation
		- **The assessing RN is alarmed or does not feel right**
* What are the initial steps you would perform as the activating or participating nurse in a rapid response?
	+ Begin documentation on RRT documentation form
	+ Call 55/ \*222 or pull staff assist
	+ Responds with emergency equipment: i.e. crash cart in room, backboard under patient, applies AED if needed
	+ Patient history/frames situation in SBAR
	+ Remains in room and helps to stabilize patient: i.e. gives medications and completes orders
* What information is important to have available for the Provider? How would you communicate that information using SBAR?
	+ Situation
	+ Background
	+ Assessment
	+ Recommendations
* What are the initial steps you would perform?
* Is there anything you would do differently next time?
* Let’s identify a few take home points that you will take away from this scenario and apply to your future practice.
* Reinforce making sure labs are drawn and timed before scanning abx.

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| **References** |

American Heart Association. (2010). Guidelines for cardiopulmonary resuscitation and emergency cardiovascular care.

American Heart Association. (2015). Highlights of the American Heart Association guidelines update for CPR and ECC.

Bone, R. C., Balk, R. A., Cerra, F. B., Dellinger, R. P., Fein, A. M., Knaus, W. A… Sibbald, W. J., (1992). Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest, 101(6).* 1644- 1655. doi:10.1378/chest.101.6.1644

Dellinger, R., Levy, M., Rhodes, A., Annane, D., Gerlach, H., Opal, S. M.,… Moreno, R., (2013). Surviving sepsis campaign: international guidelines for management of severe sepsis and septic shock: 2012. *Critical Care Medicine,* 41(2), 580-637. doi: 10.1097/CCM.0b013e318727e83af

Labs: Still want to add a few more general labs….+ lactic acid, ?UA, BMP…working on it. ☺



**MR: 33-16-78**

**Name:** **Martin/Martha Stein**

**Physician: Dr. Quick**

**Birthdate: May 1**

**Complete Blood Count with Platelets and Differential**

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| ***Components*** | ***Result*** | ***Flag*** | ***Low*** | ***High*** | ***Value*** |
| WBC | ***17.1*** | ***H*** | ***3.6*** | ***11.0*** | K/uL |
| RBC | *5.4* |  | ***4.40*** | ***5.90*** | M/uL |
| Hemoglobin | ***12.2*** | ***L*** | ***13.0*** | ***18.0*** | g/dL |
| Hematocrit | *39* |  | ***40*** | ***52*** | % |
| MCV | *85* |  | ***80*** | ***100*** | fL |
| MCH | *30* |  | ***26*** | ***34*** | pg |
| MCHC | *33* |  | ***32*** | ***36*** | g/dL |
| RDW | *12* |  | ***37*** | ***50*** | fl |
| Platelets | *210* |  | ***150*** | ***440*** | K/uL |
| MPV | *8.8* |  | ***8.0*** | ***13.0*** | fL |

***Differential***

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| --- | --- | --- | --- | --- | --- |
| ***Components*** | ***Result*** | ***Flag*** | ***Low*** | ***High*** | ***Value*** |
| Neutrophils Relative | ***90*** | ***H*** | ***54*** | ***74*** | % |
| Immature Granulocyte Relative | *0* |  | ***0*** | ***0.42*** | % |
| Lymphocytes Relative | ***25*** | ***H*** | ***22*** | ***42*** | % |
| Monocytes Relative | *4* |  | ***2*** | ***8*** | % |
| Eosinophils Relative | *0* |  | ***0*** | ***6*** | % |
| Basophils Relative | *0* |  | ***0*** | ***2*** | % |
| Neutrophils Absolute | ***15.1*** | ***H*** | ***1.9*** | ***8.1*** | K/UL |
| Immature Granulocyte Absolute | *0* |  | ***0*** | ***0.03*** | K/UL |
| Lymphocytes Absolute | *2.66* |  | ***0.8*** | ***4.6*** | K/UL |
| Monocytes Absolute | *0.45* |  | ***0.1*** | ***0.9*** | K/UL |
| Eosinophils Absolute | *0* |  | ***0.0*** | ***0.7*** | K/UL |
| Basophils | *0* |  | ***0.0*** | ***0.2*** | K/UL |

**Comprehensive Metabolic Panel**

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| ***Components*** | ***Result*** | ***Flag*** | ***Low*** | ***High*** | ***Value*** |
| BUN | ***39*** | ***H*** | *5* | *26* | mg/dL |
| Sodium | *137* |  | *135* | *145* | mmol/L |
| Potassium | *5.0* |  | *3.5* | *5.2* | mmol/L |
| Chloride | ***113*** | ***H*** | *97* | *108* | mmol/L |
| Glucose | ***225*** | ***H*** | *70* | *100* | mg/dL |
| Creatinine | ***1.6*** | ***H*** | *0.7* | *1.3* | mg/dL |
| Calcium | *8.8* |  | *8.5* | *10.6* |  mg/dL |
| Albumin | *4.1* |  | *3.6* | *4.8* |  g/dL |
| Alkaline Phosphatase | *48* |  | *25* | *125* |  U/L |
| Bilirubin, total | *0.9* |  | *0.1* | *1.2* | mg/dl |
| AST | *33* |  | *0* | *40* |  U/L |
| Total Protein | *7.2* |  | *6.0* | *8.5* | g/dL |
| HCO3 | *20* |  | *23* | *29* | mmol/L |
| ALT | *29* |  | *0*  | *40* |  U/L |
| Anion Gap | *4* |  | *5* | *13* | mmol/L |
| EGFR | *40* |  | > 60 |  |  |

**Time Drawn: 0945**

**Lactate #1**

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| ***Components*** | ***Result*** | ***Flag*** | ***Low*** | ***High*** | ***Value*** |
| Lactic Acid | ***4.9*** | ***H*** | *0.6* | *1.7* | mmol/L |

***Urinalysis (with reflex microscopic)***

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| **Components** | **Value** | **Flag** | **Low** | **High** |
| Collection Method | Straight cath or Foley |  |  |  |
| Color, UA | Dark Yellow |  |  |  |
| Clarity, UA | Concentrated |  |  |  |
| Glucose, UA | **+2** | **H** | None |  |
| Bilirubin, UA | Negative |  | None |  |
| Ketones, UA | **+2** | **H** | None |  |
| Specific Gravity, UA | **1.04** | **H** | 1.003 | 1.03 |
| Blood, UA | **+3** | **H** | Negative |  |
| pH, UA | 5.1 |  | 5.0 | 8.0 |
| Protein, UA | **+3** | **H** | 0 | 1 |
| Urobilinogen, UA | 0.4 |  | 0.2 | 1.0 |
| Nitrite, UA | **Positive** | **H** | Negative |  |
| Leukocytes, UA | **Positive** | **H** | Negative |  |
| Epithelial  | **+1** | **H** | Negative |  |
| RBC’s | **Too Many to Count** | **H** |  |  |
| WBC’s | **Too Many to Count** | **H** |  |  |

Comments: Microscopic analysis performed on urines with positive biochemical tests.