N311 Care Plan #4

Lakeview College of Nursing

Scott Bradley

Demographics (5 points)

Date of Admission 3/3/2022	Client Initials HS	Age 71	Gender Male
Race/Ethnicity Caucasian	Occupation Truck Driver	Marital Status Divorced	Allergies Penicillin Cholecalciferol
Code Status DNR	Height 67”	Weight 145.4# 1 Kg / 2.2 # = 65.9 kg	

Religion: Catholic

Medical History (5 Points)

Past Medical History: Currently a resident in a long-term acute care hospital

- **Heart failure unspecified**
- **COPD**
- **Type 2 Diabetes Mellitus**
- **Parkinson's**
- **Primary hypertension ethereal scoliosis**
- **Atherosclerotic heart disease with unspecified angina**
- **PICC in right upper extremity**
- **Major depressive disorder - single episode**
- **Hyperlipidemia**
- **Emphysema unspecified**
- **Restless leg syndrome**
- **Repeated falls**

Past Surgical History: **No medical history**

Family History:

- **Paternal grandfather:** **No medical history.**
- **Paternal grandmother:** **No medical history.**
- **Maternal grandfather:** **No medical history.**
- **Maternal grandmother:** **No medical history.**
- **Father:** **No medical history.**
- **Mother:** **No medical history.**
- **Brothers:** **No medical history.**
- **Sisters:** **No medical history.**
- **Son:** **No medical history**
- **Daughter:** **No medical history.**

Social History (tobacco/alcohol/drugs including frequency, quantity, and duration of use):

- **Tobacco:** **No medical history.**
- **Alcohol:** **No medical history.**
- **Recreational Drugs:** **No medical history.**

Admission Assessment

Chief Complaint (2 points): Reduced respiratory function.

History of Present Illness – OLD CARTS (10 points):

On March 3rd, 2022, at 0720 hours, a 67-year-old Caucasian male currently residing in a long-term health care facility presented with a lowered level of consciousness, rapid irregular pulse, and signs of respiratory distress. These signs included Ronchi audible without a stethoscope and a spO_2 of 82% while on room air. He recently returned from a hospital where he was treated for a urinary tract infection. Before leaving the long-term health care facility for this treatment, he was A&O X 4 and feeding himself. He has not spoken since his return. He is currently A&O X 0 with minimal response to verbal stimuli.

His UTI has remained an ongoing concern. Other characteristics of his current presentation include a fever of 101.8°F at 0530 hours, a history of dark urine without odor, and crackles auscultated in the upper right lobe. He currently has a PIC in his right upper arm. At 0530 hours, he received a Tylenol suppository for fever with effect. There appear to be no aggravating factors. He was placed on 2 L/min O_2 at 0800 hours as a nursing intervention by standing PRN orders. His spO_2 increased to 91% at 0804 hours. His fever lowered to 97.4°F by 0835 hours when he was transferred to Sarah Bush Lincoln hospital via ambulance.

Primary Diagnosis

Primary Diagnosis on Admission (3 points): Sepsis

Secondary Diagnosis (if applicable): Urinary Tract Infection

Pathophysiology of the Disease, APA format (20 points): two primary factors

Sepsis remains a principal concern for healthcare providers worldwide due to its continued impact on morbidity, mortality, and healthcare costs (Gyawali et al., 2019). According to the center for disease control, one in three people who die in a hospital had sepsis. It remains a growing concern due to an increasingly older population, indwelling devices, and the rise of drug-resistant microorganisms. Infection can turn lethal when it triggers an exaggerated immune response leading to sepsis. Sepsis interferes with the body's ability to perfuse tissues and can be defined as a "life-threatening organ dysfunction caused by a dysregulated host response to infection" (Singer et al., 2016, p. 801)

The invading microorganism initially elicits an appropriate innate immune response. The immune system continues reacting to the invading organism, its metabolites, and damage to the adjacent cells. The immune response increases as it responds to the host's dead cells and the intracellular contents released into the extracellular space. In sepsis, the immune cascade becomes amplified, resulting in hypoperfusion of local tissues (Gyawali et al., 2019). The subsequent hypoxic damage further disrupts homeostasis. The tissue damage continues. Organ failure ensues. Eventually, multiple organs begin to fail, followed by death.

Diagnosis of sepsis can be confirmed by positive microbial growth from a sample submitted to the lab. The microbial growth can then be verified and identified. A urine sample was sent to the lab tested positive for growth. In our case, the microorganism

identified was *Proteus Mirabilis*. This gram-negative, rod-shaped bacillus is the primary causative agent for urinary tract infections (Yuan et al., 2021). Once Identified, the organism can be further tested for susceptibility to specific antibiotics so an appropriate antibiotic can be selected. Our resident was prescribed intravenous Ceftriaxone.

Pathophysiology References (2) (APA):

Gyawali, B., Ramakrishna, K., Dhamoon, A. S., (2019). Sepsis: The evolution in definition, pathophysiology, and management. SAGE Open Medicine. Volume 7: 1 –13

Niederman, M. S., Baron, R. M., Bouadma, L., Calandra, T., Daneman, N., DeWaele, J., Kollef, M. H., Lipman, J., Nair, G. B., (2021). Initial antimicrobial management of sepsis. *Critical Care*. 25:307: 1-14. https://doi.org/10.1186/s13054-021-03736-w

Singer, M., Deutschman, C. S., Seymour, C. W., Shankar-Hari, M., Annane, D., Bauer, M., & Angus, D. C. (2016). The third international consensus definitions for sepsis and septic shock (Sepsis-3). Jama, 315(8), 801-810. https://doi:10.1001/jama.2016.0287

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Laboratory Data (20 points)
If laboratory data is unavailable, values will be assigned by the clinical instructor

CBC Highlight All Abnormal Labs—Explanations must be complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason for Abnormal Value
RBC **(X 10^6 / µL)**	♂ **4.7 – 6.1** (Pagana et al., 2020, p. 770)		**>100 ↑**	**Increased red blood cell count resulting from dehydration.** (Pagana et al., 2020, p. 771)
Hgb **(g / dL)**	**14 – 18** (Pagana et al., 2020, p. 488)		**94.9 ↑**	**Increased hemoglobin levels result from a decrease in plasma volume due to dehydration.** (Pagana et al., 2020, p. 488)
Hct.%	**40 – 52** (Pagana et al., 2020, p. 485)		**37.8 ↓**	**Decreased hematocrit levels suggest anemia due to long-term inflammation.** (Pagana et al., 2020, p. 485)
Platelets **(X 10^9 / L)**	**150 – 400** (Pagana et al., 2020, p. 706)		**292**	
WBC **(X 10^9 / L)**	**5 - 10** (Pagana et al., 2020, p. 974)		**12.6 ↑**	**This is an increased white blood cell count resulting from infection.** (Pagana et al., 2020, p. 974)
Neutrophils %	**55 - 70** (Pagana et al., 2020, p. 974)		**77.3 ↑**	**Increase neutrophil count resulting from a bacterial infection.** (Pagana et al., 2020, p. 975)
Lymphocytes %	**20 - 40** (Pagana et al., 2020, p. 974)		**16.2 ↓**	**A decrease in lymphocyte count may result from the use of antibiotics.** (Pagana et al., 2020, p. 976)
Monocytes %	**2 - 8** (Pagana et al., 2020, p. 974)		**7**	
Eosinophils %	**1 - 4** (Pagana et al., 2020, p. 974)		**0.2 ↓**	**Eosinophils do not respond to bacterial infections, but a decrease is associated with adrenal steroid production due to the UTI.**

				(Pagana et al., 2020, p. 978)
Bands			**Not Available**	

Chemistry Highlight All Abnormal Labs—Explanations must be complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na- **(mEq / L)**	**136 - 145** (Pagana et al., 2020, p. 835)		**150 ↑**	**An increased sodium level is associated with antibiotic use.** (Pagana et al., 2020, p. 835)
K+ **(mEq / L)**	**3.5 -5** (Pagana et al., 2020, p. 724)		**4.4**	
Cl- **(mEq / L)**	**98 – 106** (Pagana et al., 2020, p. 233)		**118 ↑**	**An increased chloride level is associated with both dehydration and anemia. Values not greater than 115 may not be critical.** (Pagana et al., 2020, p. 233)
CO_2 (Bicarbonate) **(mEq / L)**	**20 - 30** (Pagana et al., 2020, p. 233)		**31.6 ↑**	**An increased bicarbonate level is associated with alkalosis.** (Pagana et al., 2020, p. 106, 197)
Glucose **(mg/ dL)**	**74 - 106** (Pagana et al., 2020, p. 462)		**300 ↑**	**high blood glucose levels are associated with Type 2 Diabetes Mellitus** (Pagana et al., 2020, p. 464)
BUN **Blood Urea Nitrogen** **(mg / dL)**	**10 - 20** (Pagana et al., 2020, p. 155)		**78 ↑**	**Dehydration and sepsis.** (Pagana et al., 2020, p. 156)
Creatinine **(mg / dL)**	♂ **0.6 – 1.2** (Pagana et al., 2020, p. 301)		**1.81↑**	**dehydration and possibly a urinary tract obstruction.** (Pagana et al., 2020, p. 302))
Albumin **(g / dL)**	**3.5 – 5** (Pagana et al., 2020, p. 746)		**3.9**	
Calcium **(mg / dL)**	**9 – 10.5** (Pagana et al., 2020, p. 189)		**10.2**	
Mag **(mEq / L)**	**1.3 – 2.1** (Pagana et al., 2020, p. 597)		**Not Available**	
Phosphate **(mg / dL)**	**3.0 – 4.5** (Pagana et al., 2020, p. 694)		**Not Available**	
Bilirubin **(mg / dL)**	**0.3 – 1.0** (Pagana et al., 2020, p. 137)		**0.3**	
Alk Phos	**30 – 120**		**Not**	

(units / L)	(Pagana et al., 2020, p. 29)		**Available**	

Urinalysis Highlight All Abnormal Labs—Explanations must be complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
Color & Clarity	**amber yellow** (Pagana et al., 2020, p. 930)		**yellow and cloudy**	**Dehydration leads to yellow-colored urine. A urinary tract infection results in both yellow and cloudy urine characteristics.** (Pagana et al., 2020, p. 931)
pH Urine	**4.6 – 8** (Pagana et al., 2020, p. 930)		**7.42**	
Specific Gravity	**1.005 – 1.030** (Pagana et al., 2020, p. 930)		**1.026**	
Glucose (in a fresh sample)	**negative** (Pagana et al., 2020, p. 930)		**30 ↑**	
Protein (mg / dL)	**0 – 8** (Pagana et al., 2020, p. 930)		**2+ ↑**	
Ketones	**negative** (Pagana et al., 2020, p. 930)		**negative**	
WBC	**negative** (Pagana et al., 2020, p. 930)		**>100 ↑**	
RBC	**≤ 2** (Pagana et al., 2020, p. 930)		**>100 ↑**	
Leukoesterase	**negative** (Pagana et al., 2020, p. 930)		**4+ ↑**	

Cultures Highlight All Abnormal Labs—Explanations must be complete sentences and contain in-text citations in APA format.

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
Urine Culture	**negative**	**Not Available**	**positive**	**Lab cultures grew a gram-negative, rod-shaped bacteria called Proteus mirabilis. (Armbruster et al., 2018)**
Blood Culture	**negative**	**Not Available**	**positive**	**Lab cultures grew a gram-negative, rod-shaped bacteria called Proteus mirabilis. (Armbruster et al., 2018)**
Sputum Culture	**negative**	**Not Available**		**N/A**
Stool Culture	**negative**	**Not Available**		**N/A**

Lab Correlations Reference (1) (APA):

All reported normal lab value ranges provided by Sarah Bush Lincoln Hospital unless otherwise annotated.

Armbruster, C. E., Mobley, H. L. T., Pearson, M. M. (2018). Pathogenesis of Proteus mirabilis Infection. *American Society for Microbiology* EcoSal Plus, 8(1). https://doi.org/10.1128/ecosalplus.ESP-0009-2017

Pagana, K. D., Pagana, T. J., Pagana, T. N. (2019). *Mosby's Diagnostic and Laboratory Test Reference*. Elsevier. ISBN 978-0-323-60969-2.

Diagnostic Imaging

All Other Diagnostic Tests (10 points):

CT scan of the brain showed no evidence of acute inter-cranial hemorrhage, midline shift, or Mass Effect.

Chest X-ray showed no acute cardiopulmonary process.

Current Medications (10 points, 2 points per completed med)
5 different medications must be completed

Medications (5 required)

Brand /Generic	**Tylenol** **Acetaminophen** **(Jones & Bartlett Learning, 2022, p. 8)**	**Lipitor** **Atorvastatin calcium** **(Jones & Bartlett Learning, 2022, p. 113)**	**Rocephin** **Ceftriaxone sodium** **(Jones & Bartlett Learning, 2022, p. 239)**	**Metformin HCL** **Glucophage** **(Jones & Bartlett Learning, 2022, p. 840)**	**Mysoline** **Primidone** **(Lenkapothula & Cascella, 2022)**
Dose	**325mg**	**40 mcg**	**2 g**	**1,000 mg**	**50 mg**
Frequency	**2 Tablets q 4 hours PRN pain**	**1 Tablet before bedtime**	**Daily X 10 days**	**Twice Daily**	**Twice Daily**
Route	**By mouth**	**By mouth**	**Intravenous**	**By mouth**	**By mouth**
Classification	**Non-salicylate para-aminophenol derivative**	**HMG-Co A reductase inhibitor**	**Cephalosporin**	**Biguanide**	**barbiturate anticonvulsants.**
Mechanism of Action	**Inhibits cyclooxygenase by blocking prostaglandin.** **Interferes with pain generated in the peripheral nervous system.** **It also affects the temperature-regulating center in the hypothalamus (Jones & Bartlett Learning, 2022, p. 10)**	**Inhibits HMG-Co A reductase and cholesterol synthesis in the liver.** **(Jones & Bartlett Learning, 2022, p. 114)**	**Disrupts peptidoglycan cross-linkage weakening cell wall leading to cell wall rupture** **(Jones & Bartlett Learning, 2022, p. 241)**	**“May promote storage of excess glucose as glycogen in the liver, which reduces glucose production. Metformin also may improve glucose use by adipose tissue and skeletal muscle to increase glucose transport across cell membranes. This drug also may increase the number of insulin receptors**	**Inhibits voltage-gated sodium channels.**

				on cell membranes and make them more sensitive to insulin. In addition, metformin modestly decreases blood total cholesterol and triglyceride levels." **(Jones & Bartlett Learning, 2022, p. 841)**	
Reason Client Taking	**Pain**	**Elevated Cholesterol**	**Sepsis**	**Type 2 Diabetes Mellitus**	**Parkinson's**
Contraindications (2)	**hypersensitivity to acetaminophen or its components and** **Hepatic impairment or disease.**	**Hepatic disease** **Hypersensitivity to it or its components.**	**Hyperbilirubinemia** **Hypersensitivity to ceftriaxone or other beta-lactam antibiotics.**	**Metabolic acidosis** **Ketoacidosis** **Hypersensitivity to metformin or its components.**	**Hypersensitivity to barbiturates** **History of porphyria**
Side Effects/Adverse Reactions (2)	**Hypertension,** **hypoglycemia,** **hepatotoxicity,** **hemolytic anemia.**	**Arrhythmias** **Hypoglycemia** **Hepatic failure** **Hepatitis,** **Pancreatitis** **Rectal hemorrhaging.** **Rhabdomyol**	**Clostridium** **hepatic failure** **pancreatitis** **pseudomembranous colitis** **acute renal failure**	**Hypoglycemia**	**Drowsiness.** **Respiratory Depression**

		ysis **Erythema** **Multiforme,** **Steven Johnson syndrome,** **Anaphylaxis,** **Angioedema**			
Client Teachings	**Do not crush or chew extended-release tablets. Other forms may be crushed or swallowed whole.** **Be aware of hepatotoxicity - bleeding, bruising, and malaise.**	**Not a Substitute for a low cholesterol diet.** **Take medicine at the same time each day.** **Take a missed dose as soon as possible.** **Do not skip doses.** **Do not double dose** **Notify the provider if you have experienced muscle pain, tenderness, or weakness.**	**Calcium-containing products must not be given intravenously within 48 hours of ceftriaxone.** **Ceftriaxone calcium salt may precipitate in the lungs and kidneys and be fatal.**	**Take medicine as prescribed. Do not change dosage or frequency without consulting your provider.** **Check blood glucose regularly.** **Avoid alcohol**	**Do not take with alcohol.** **Do not operate heavy equipment.**

Medications Reference (1) (APA):

Jones & Bartlett Learning. (2022). *Nurse's drug handbook*

Lenkapothula, N., Cascella, M., (2022). *StatPearls Publishing.* Primidone.

https://www.ncbi.nlm.nih.gov/books/NBK562297/

Assessment

Physical Exam (18 points) – HIGHLIGHT ALL PERTINENT ABNORMAL FINDINGS

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	**Minimal response to external stimuli.** **A&O X 0** **The resident has not been verbally responsive sent returning from the hospital.**
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** **Braden Score:** **Drains present: Y☐ N ☐** **Type:**	
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	.
CARDIOVASCULAR: **Heart sounds:** **S1, S2, S3, S4, murmur, etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☐** **Edema Y ☐ N ☐** **Location of Edema:**	**Irregular cardiac rhythm (4+) on the right radial pulse.**
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	**Ronchi audible without a stethoscope**
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:** **Weight:**	.

Auscultation bowel sounds: **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☐** **Nasogastric: Y ☐ N ☐** **Size:** **Feeding tubes/PEG tube Y ☐ N ☐** **Type:**	
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☐** **Dialysis: Y ☐ N ☐** **Inspection of genitals:** **Catheter: Y ☐ N ☐** **Type:** **Size:**	
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☐ N ☐** **Fall Risk: Y ☐ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib) ☐** **Needs assistance with equipment ☐** **Needs support to stand and walk☐**	.
NEUROLOGICAL: **MAEW: Y ☐ N☐** **PERLA: Y ☐ N☐** **Strength Equal: Y ☐ N ☐ if no -** **Legs ☐ Arms ☐ Both ☐** **Orientation:** **Mental Status:** **Speech:**	.

Sensory: **LOC:**	
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	.

Vital Signs, 1 set (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0727 hrs. 3-10-22	**99** **Irregular**	**118 / 74**	**21**	**98.5**	**82%** **Room Air**
0802 hrs. 3-10-22					**89%** **2 L/min O_2**
0804 hrs. 3-10-22					**91%** **2 L/min O_2**

Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0727 hrs. 3-10-22 **A&O X 0** **Not awake &** **not verbalizing**	**0**	----------	----------	----------	----------

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
0	**Slightly soiled Depends undergarment.** **urine output targets** **Minimal ≥ 31 mL/hr.** **(0.47 mL/kg/hr. X 65.9 kg).** **Mean = 69 mL/hr.** **(1.05 mL/kg/hr. X 65.9 kg)**

1.05 mL/kg/hr mean urine output (Heffernan et al., 2021)

≤ 0.47 mL/kg/hr is associated with increased death (Heffernan et al., 2021)

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis

Nursing Diagnosis • Include complete nursing diagnosis with "related to" and "as evidenced by" components • Listed in order by priority – highest priority to lowest priority pertinent to this client	**Rationale** • Explain why the nursing diagnosis was chosen	**Interventions (2 per dx)**	**Outcome Goal (1 per dx)**	**Evaluation** • How did the client/family respond to the nurse's actions? • Client response, the status of goals and outcomes, modifications to plan.
1. Risk for shock **(Phelps, 2020, p. 561)**	**The resident is at an increased risk for shock related to ongoing UTI infection and sepsis, as evidenced by a spO_2 reading of 82%.**	**1. Monitor hemodynamic status frequently, including blood pressure, heart rate, oxygen saturation.** **2. "Collaborate with other health care team members to effectively manage the underlying medical condition and prevent complications."** **(Phelps, 2020, p.**	**1. Frequently and aggressively assess vital signs.**	**Maintain a chart of the resident's vital signs and watch for changes and trends that could help anticipate a decline.**

		562)		
2. Risk for Infection **(Phelps, 2020, p. 332)**	**The resident is at an increased risk for infection related to existing sepsis, evidenced by a current UTI and positive lab cultures for *Proteus Mirabilis*.**	**1. Monitor white blood cell count and watch for evidence change, either elevation or depression.** **2. "follow the facilities infection control policy to minimize the risk of nosocomial infection."** **(Phelps, 2020, p. 334)**	**1. Assess and chart vital signs every five minutes.**	**Maintain a chart of the resident's WBC counts. Watch for changes that could indicate a worsening of the infection.**

Other References (APA):

Heffernan, A. J., Judge, S., Petrie, S. M., Godahewa, R., Bergmeir, C., Pilcher, D., Nanayakkara, S. (2021). Association Between Urine Output and Mortality in Critically Ill Patients: A Machine Learning Approach. *Critical Care Medicine*, Volume 50, Number 3, 24 June 2021, p. e263-e271(9). https://doi.org/10.1097/CCM.0000000000005310

Concept Map (20 Point

Subjective Data

On March 3rd, 2022, at 0720 hours, a 67-year-old Caucasian male currently residing in a long-term health care facility presented with a lowered leve consciousness, rapid irregular pulse, and signs of respiratory distress. These signs included Ronchi audible without a stethoscope and a spO2 of 82% while on room air. He recently returned from a hospital where he was treated for a urinary tract infection. Before leaving the long-term health care facility for this treatment, he was A&O X 4 and feeding himself. He has not spoken since his return. He is currently A&O X 0 with minimal response to erbal li. .

Nursing Diagnosis/Outcomes

The resident is at an increased risk for shock related to an ongoing UTI infection and sepsis as evidenced by a spO2 reading of 82%.

The resident is at an increased risk for infection related to existing sepsis evidenced by a current UTI and positive lab cultures for *Proteus Mirabilis*.

Client Information

The patient is a 67-year-old Caucasian male currently in residence at the Mattoon Health Care Hospital. He is suffering from sepsis following a UTI. Lab cultures of a urine sample showed positive growth for *Proteus Mirabilis*.

Objective Data

Time0727 hours, 3/10/22
Pulse99
B/P118/74
Resp Rate 21
Temp98.5
Oxygen82%

Nursing Interventions

Maintain a chart of the resident's vital signs and watch for changes and trends that could help anticipate a decline.

Maintain a chart of the resident's WBC counts. Watch for changes that could indicate a worsening of the infection.