N431 Concept Map Student Name:

## Medications

Acetaminophen (Tylenol)-> 500 mg oral every 4 hrs. PRN
Pharmacological class: Nonsalicylate, para-aminophenol derivative
Therapeutic class: Antipyretic, nonopioid analgesic
Use: Relieves mild to moderate pain
Nursing assessment: Use acetaminophen cautiously in patients with hepatic impairment or active hepatic disease, alcoholism, chronic malnutrition, severe hypovolemia, or severe renal impairment
Atorvastatin (Lipitor)-> 40 mg oral once daily
Use: Helps to lower bad cholesterol
Pharmacological class: HMG-CoA reductase inhibitor
Therapeutic class: Antihyperlipidemic
Nursing assessment: Be aware that atorvastatin may be used with colestipol or cholestyramine for additive antihyperlipidemic effects
Fentanyl (Actiq)-> 25 mcg every 3 hrs. PRN
Use: Treats severe pain
Pharmacological class: Opioid
Therapeutic class: Opioid analgesic
Nursing assessment: Use with extreme caution in patients with significant chronic obstructive pulmonary disease, and in patients having a substantially decreased respiratory reserve, hypoxia, hypercapnia, or preexisting respiratory depression
Gabapentin (Neurontin)-> 300 mg oral TID
Use: Treats partial seizures
Pharmacological class: l-amino-methyl cyclohexaneacetic acid
Therapeutic class: Anticonvulsant
Nursing assessment: Monitor renal function test results, as ordered, and expect to adjust dosage, if needed
Oxycodone (Roxicodone)-> 4 mg oral every 3 hrs. PRN
Use: Treats severe pain
Pharmacological class: Opioid
Therapeutic class: Opioid analgesic
Nursing assessment: Be aware that excessive use of opioids like oxycodone may lead to abuse, addiction, misuse, overdose, and possibly death

## Lab Values/Diagnostics

**PT- 14.2 (11.7-13.8)-> Takes longer for the blood to clot. There is an increased risk of bleeding (Pagana et al., 2019)**

**Glucose- 146 (74-100)- The patient has high blood glucose. The glucose levels tend to be high since the patient has type 2 diabetes (Pagana et al., 2019)**

**Creatinine- 1.08 (0.55-1.02)- The kidneys are not working as well as they should. Renal impairment can affect wound healing (Pagana et al., 2019)**

**WBC- 14.08 (4.00-11.00)- High levels indicate an infection or inflammation in the body. Septic arthritis causes high WBC levels (Pagana et al., 2019)**

## Demographic Data

**Date of Admission:** 7/20/22
**Admission Diagnosis/Chief Complaint: Septic arthritis/Right knee pain**
**Age: 60**
**Gender: Female**
**Race/Ethnicity: White**
**Allergies: Iodine and iodide containing products, monosodium glutamate**
**Code Status: Full code**
**Height in cm: 162.6 cm**
**Weight in kg: 120.6 kg**
**Psychosocial Developmental Stage: Generativity vs. Stagnation**
**Cognitive Developmental Stage: Formal operation stage**
**Braden Score: 12**
**Morse Fall Score: 26**
**Infection Control Precautions: MRSA**

## Admission History

The patient came into the ED last night with severe knee pain. The patient has been experiencing constant ongoing pain. The patient has also been noticing purulent drainage coming from the pressure ulcer on the right knee. She describes the pain as "sharp and stabbing". The pain radiates to the patient's lower back. Moving around makes the pain worse. The patient was previously admitted to the ED with the same condition. The patient also experiences chills alongside the pain. Bedrest and avoiding movement help to slightly reduce the pain. Before coming to the ED, the patient did not use any form of treatment. The patient tried to limit movement as much as possible.

## Medical History

**Previous Medical History: Asthma, colon polyps, depression, type 2 diabetes, GERD, HTN, hyperlipidemia, COPD, ulcer on right lower leg**

**Prior Hospitalizations: Admitted to the ED on 7/13- worsening wound drainage**

**Previous Surgical History: Appendectomy, carpal tunnel release, colonoscopy, cyst removal, gastrostomy, knee arthroscopy, lumbar discectomy, total knee arthroplasty, total knee replacement**

**Social History: No use of drugs. Former smoker (start date was 10/15/20, quit date not specified, smoked cigarettes, and 6 cigarettes a day). Alcohol use- social drinker**

## Pathophysiology

**Disease process:**
**Septic arthritis is an inflammation of the joints secondary to an infection. Septic arthritis usually involves one large joint such as the hip or knee. It occurs when there is a bacterial invasion of the synovium and joint space followed by inflammation. Other factors that play a role in joint damage are bacterial toxins and microbial surface components. Septic arthritis is an emergency that can cause mortality or even amputation of the leg.**
**S/S of disease:**
**Septic arthritis presents with joint pain, fever, swelling, redness, and warmth.**

**Method of Diagnosis:**
**Joint fluid analysis, blood tests, and imaging tests are all methods of diagnosis. X-rays and other imaging tests can assess damage to the joints.**

**Treatment of disease:**
**The medical professional can withdraw the infected fluid with a needle. An arthroscopy can be performed by placing a tube in the joint through a small incision to suction out the fluid. An open surgery may be performed if it is difficult to remove the fluid out with an arthroscopy. The patient will also be given antibiotics. They may need an amputation if the infection continues to spread throughout the joint.**

**-Perform Q4 VS**
**-Assesses any changes to the patient's clinical status. Helps to detect how the infection is affecting the patient's body**
**-Assess pain**
**-Assess the pain level to determine if the patient needs any pain medications. Also helps to assess the severity of septic arthritis**
**-Do a skin check daily**
**-Check for any bruising, swelling, or warmth around the infected area**
**-Q2 turns**
**-Prevent more pressure ulcers and keep the blood flowing**
**-Urinary catheter**
**-Needs a urinary catheter in place since the patient is on bedrest**
**-Glucose check**
**-It is important to check frequently since the patient has type 2 diabetes and sugars tend to be high**
**-Pneumatic compression stocking**
**-It helps to improve blood flow in the veins of the legs**

## Physical Exam/Assessment

**General: The patient is alert and oriented x4. The patient does not seem visibly distressed. Pt well dressed in a clean gown. Pt's skin, hair, and nails clean and well maintained.**

**Integument: Skin color: White. Character: Skin is cold and dry upon palpation. Temperature: Taken orally and was 98.1F. Turgor: Skin has normal turgor. Pt has visible bruising around the pressure ulcer on the knee. There is purulent drainage from the wound. Normal quantity, distribution, and texture of hair. Braden score: 12. The patient does not have a JP drain**

**HEENT:**

**Head/Neck: Head and neck are symmetrical. Normocephalic and atraumatic**
**Ears: Left/right external ear normal**
**Eyes: No visible drainage from eyes, the bilateral sclera is white, the bilateral cornea is clear, bilateral conjunctiva is pink. Bilateral lids are moist and pink without any discharge**
**Extraocular movements: extraocular movements intact**
**Conjunctiva/sclera: conjunctivae normal**
**Pupils: pupils are equal, round, reactive to light**
**Nose: Septum is midline and no visible bleeding from nose**
**Teeth: Plaque and tartar on teeth. Tooth decay. The teeth are yellow and not aligned with gums. The mucous membrane is moist**

**Cardiovascular: Normal heart rate and rhythm. Clear S1 and S2 without any murmurs. Peripheral pulse: 3+. Capillary refill: 2 seconds. No edema or neck vein distention**

**Respiratory: No accessory muscle use. Regular depth and pattern; unlabored; expansion symmetrical. Breath sounds are clear and equal bilaterally, no cough**

**Genitourinary: Clear yellow. No pain with urination. No dialysis. Genitals appear to be normal. The patient has a foley catheter (Size: 12 Fr**

**Gastrointestinal: All 4 quadrants normoactive. Soft, nontender, nondistended, without masses or organomegaly. No guarding, rigidity, or rebound tenderness. No flank pain or tenderness**

**Musculoskeletal: Neurovascular status: normal. Swelling on joints. Limited range of motion. Cervical back- normal range of motion. Strength: Patient noticeably weak. Supportive devices: wheelchair. ADL assistance: yes (showering and ambulating). Fall risk: yes. Fall risk score: 26**

**Neurological: Patient is alert and oriented x4. Orientation, mental status, speech, and sensory are all within normal limits. Strength is not equal in all extremities. Does not move**

| Nursing Diagnosis 1<br>Impaired skin integrity related to immobility as evidenced by stage 3 pressure ulcer | Nursing Diagnosis 2<br>Risk for infection related to open pressure ulcer as evidenced by a high WBC | Nursing Diagnosis 3<br>Risk for falls related to stage 3 pressure ulcer on right knee as evidenced by a pain level of 6 |
|---|---|---|
| **Rationale**<br>The patient has a stage 3 pressure ulcer on their right knee and are unable to move around. They have been using a wheelchair and have been on bedrest since admission. | **Rationale**<br>The patient has a stage 3 pressure ulcer and once an ulcer develops, it can become infected by bacteria. The patients WBC is 14.08 which indicates that it is high. | **Rationale**<br>The patient has pain on her right knee which prevents her from moving around. The patient is on bedrest due to the pressure ulcer and has a pain level of 6. |
| **Interventions**<br>Intervention 1: Turn patient every 2 hours and encourage weight shift frequently.<br>Intervention 2: Keep the skin clean and dry. Clean the skin with soap and warm water. Rinse the skin thoroughly and at dry. | **Interventions**<br>Intervention 1: Assess the patient's nutritional status, and increase their intake if patient is malnourished, to maximize infection resistance.<br>Intervention 2: Continue to monitor the patients WBC knowing elevated WBC can indicate an infection | **Interventions**<br>Intervention 1: Do regular rounding on the patient to assess for any needs, do a frequent pain assessment on the patient.<br>Intervention 2: Educate the client on how to use a call light when they need something. Have fall precautions in place. |
| **Evaluation of Interventions**<br>The patient understood that they needed to be turned every 2 hours to prevent pressure ulcers. They agreed that they will wash their skin with soap and water daily and keep their skin dry as much as possible. | **Evaluation of Interventions**<br>The patient agreed that they will consume a high calorie and high protein diet to help resist the infection. They were explained that their WBC will continue to be monitored once daily. | **Evaluation of Interventions**<br>The patient was aware they needed to press the call light if they needed something. They did well with using the call light. They were able to verbalize their pain level when asked. |

**References (3) (APA):**

**Jones & Bartlett Learning. (2020).** ***2020 Nurse's drug handbook*** **(19th ed.). Jones & Bartlett Learning.**

**Long, B., Koyfman, A., & Gottlieb, M. (2019). Evaluation and management of septic arthritis and its mimics in the emergency department.** ***Western Journal of Emergency Medicine, 20*****(2), 331.**

**Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2018).** ***Mosby's diagnostic and laboratory test reference*** **(14th ed.). Mosby.**