# N431 Care Plan #1

Lakeview College of Nursing

Cidney Hinchman

## Demographics (3 points)

| **Date of Admission**<br>02/09/2021 | **Patient Initials**<br>S.E. | **Age**<br>75 years old | **Gender**<br>Female |
|---|---|---|---|
| **Race/Ethnicity**<br>Caucasian | **Occupation**<br>Retired | **Marital Status**<br>Married | **Allergies**<br>Sulfa, captopril, pseudoephedrine – dm – guaifenesin, ru-tuss, tussin |
| **Code Status**<br>Full | **Height**<br>4’10” | **Weight**<br>149.6 lbs. | |

## Medical History (5 Points)

**Past Medical History:** The patient has a past medical history of age-related nuclear cataract of the left and right eye, osteoarthritis, depression, dizziness, embolism from a blood clot, fibromyalgia, heart attack, high cholesterol, hypertension, methadone withdrawal, migraine, pneumonia, rheumatoid fever, sleep apnea, spondylosis of lumbar spine, trochanteric bursitis, and vitamin D deficiency.

**Past Surgical History:** The patient has a past surgical history of a right biopsy, right and left cataract removal with implant, colonoscopy, hysterectomy, heart catheterization, and a right total knee arthroplasty.

**Family History:** The patient’s mom has a history of breast cancer and migraines and the dad has a history of alcohol abuse, prostate cancer, heart disease, hypertension, and a stroke. The patient’s sister is deceased and had a history of alcohol abuse and migraines and the brother also has a history of alcohol abuse along with throat cancer, hypertension, and a mental illness.

**Social History (tobacco/alcohol/drugs):** The patient is a former smoker who smoked half a pack of cigarettes a day for four years but quit in 1965. The patient also reports no alcohol or illicit drug use.

**Assistive Devices:** The patient reports using a walker.

**Living Situation:** The patient lives in a single-story home with her husband and their dog.

**Education Level:** The patient graduated high school and continued her education at a community college and received an associate degree in applied arts.

## Admission Assessment

**Chief Complaint (2 points):** The patient had a scheduled surgery for a right total knee arthroplasty.

**History of present Illness (10 points): Onset:** On February 9th, a 75-year-old Caucasian, married, female, came into OSF Sacred Heart Medical Center for a scheduled surgery. The patient was having a right total knee arthroplasty. **Location**: The client is experiencing pain in her right knee. **Duration:** The client stated, “I have been having trouble with my right knee for a couple of years.” **Characteristics:** The client stated, “the pain feels sort of achy and just uncomfortable.” **Associated Manifestations:** The client stated, “moving around and walking on it for long distances would make it worse.” **Relieving factors:** The patient would take acetaminophen to help relieve the pain. The client also tried to limit her mobility and use a heating pad at night. **Treatment:** The client has not reported any previous treatments for her right knee pain.

## Primary Diagnosis

**Primary Diagnosis on Admission (2 points):** Right total knee arthroplasty

**Secondary Diagnosis (if applicable):** Hypertension

**Pathophysiology of the Disease, APA format (20 points):**

My patient had a right total knee arthroplasty on 02/09/2021. A knee arthroplasty also known as a knee replacement can be done to help relieve pain and restore function in the joints in

the knee (Mayo Clinic, 2020). The most common reason for a knee replacement is to relieve severe, chronic, pain caused by osteoarthritis (Mayo Clinic, 2020). Patients' who usually have a knee replacement will have a hard time walking, climbing stairs, and getting in and out of chairs (Mayo Clinic, 2020). As for my patient, these were the exact reasons she had her knee replaced. My patient had osteoarthritis that caused extreme pain in her knee and it affected her everyday life.

Knee replacements are common but carry some risks like any other surgery (Mayo Clinic, 2020). Some of these risks include infection, blood clots in the leg, vein, or lung, heart attack, stroke, or nerve damage (Mayo Clinic, 2020). There is also a risk of the artificial knee wearing out over the years (Mayo Clinic, 2020). Extensive activity or excessive weight on the joint over time can cause failure of the artificial joint (Mayo Clinic, 2020).

Before and after the procedure there are a few things you may need to do to prepare. Your doctor may advise you to stop taking certain medications or dietary supplements before the procedure (Mayo Clinic, 2020). After the procedure you should expect to use a walker or crutches for several weeks (Mayo Clinic, 2020). Therefore, you may want to reorganize your home to make it safer and easier to navigate through during your recovery time (Mayo Clinic, 2020). Knee replacement surgery does require anesthesia and you should expect to be hospitalized for at least two or three days after the procedure (Mayo Clinic, 2020).

During the procedure, your knee will be in a bent position where the surface of the joints is exposed (Mayo Clinic, 2020). The surgeon will then make a long incision of about six to ten inches across the midline of the knee (Mayo Clinic, 2020). After the incision is made the surgeon will begin to move the kneecap aside and cut away the damaged joint surfaces (Mayo Clinic, 2020). Then, the surgeon will attach the pieces of the artificial joint (Mayo Clinic, 2020). Next,

the surgeon will rotate the knee and test it to ensure proper function (Mayo Clinic, 2020). Lastly, the surgeon will close the incision (Mayo Clinic, 2020).

After the procedure, you will be taken to a recovery room for a couple of hours and then be moved to a hospital room where you will stay for the next couple of days (Mayo Clinic, 2020). During the hospital stay, you will be encouraged to exercise and move your foot and ankle, as tolerated to increase blood flow to help prevent swelling and blood clots (Mayo Clinic, 2020). You will also be educated and asked to use an incentive spirometer to help prevent further complications, such as pneumonia (Mayo Clinic, 2020). Then, the day after surgery you will meet with physical therapy where they will show you how to correctly exercise your new knee (Mayo Clinic, 2020). You will also continue physical therapy at home once you are discharged (Mayo Clinic, 2020). After the procedure, my patient was in extreme pain and was receiving hydrocodone-acetaminophen every four hours and dilaudid every two hours as needed. My patient was also on lactated ringers continuously for fluid and electrolyte imbalance due to the decreased blood volume she experienced. My patient was waiting on physical therapy when I left and planned to see physical therapy at home once she was discharged.

Most people have a much better quality of life, less pain, and improved mobility after a knee arthroplasty (Mayo Clinic, 2020). Most knee replacements are also expected to last at least fifteen years (Mayo Clinic, 2020). After three to six weeks, the patients can most likely resume daily activities, such as shopping and housekeeping (Mayo Clinic, 2020). Patients can also usually start driving again after three weeks (Mayo Clinic, 2020). Once you are fully recovered, you can resume various low impact activities such as walking, swimming, golfing, or biking, but are advised to avoid higher impact activities such as jumping, jogging, or skiing (Mayo Clinic, 2020).

My patient also had hypertension also known as high blood pressure. Hypertension is very common and occurs when the blood force against your artery walls is high enough for a long period of time (Mayo Clinic, 2021). Blood pressure is determined by the amount of blood your heart pumps and the amount of resistance to blood flow in your arteries (Mayo Clinic, 2021). The more blood the heart pumps and the narrower your arteries are near the heart, the higher your blood pressure is (Mayo Clinic, 2021). My patient takes metoprolol for her hypertension. My patient did not have high blood pressure while she was in the hospital. My patient's blood pressure was within normal limits. Although, my patient was on numerous pain medications which can cause a decrease in your blood pressure. Therefore, that could be the reason my patient did not have a high blood pressure reading while I was there.

**Pathophysiology References (2) (APA):**

Mayo Clinic. (2020, November 14). *Knee replacement - Mayo Clinic*. https://www.mayoclinic.org/tests-procedures/knee-replacement/about/pac-20385276

Mayo Clinic. (2021, January 16). *High blood pressure (hypertension) - Symptoms and causes*. https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/symptoms-causes/syc-20373410

**Laboratory Data (15 points)**

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

| Lab | Normal Range | Admission Value | Today's Value | Reason for Abnormal Value |
|---|---|---|---|---|
| **RBC** | 3.80 – 5.20 | 4.63 | 3.20 | The patient has a decrease in the number of red blood cells in the body due to postoperative anemia (Capriotti |

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| | | | | & Frizzell, 2016). |
| **Hgb** | 12.0 – 15.8 | 13.4 | 9.3 | These numbers are consistent with the decrease in the number of red blood cells due to postoperative anemia (Capriotti & Frizzell, 2016). |
| **Hct** | 36.0 – 47.0 | 40.8 | 27.3 | These numbers are consistent with the decrease in the number of red blood cells due to postoperative anemia (Capriotti & Frizzell, 2016). |
| **Platelets** | 140 – 440 | 282 | 223 | N/A |
| **WBC** | 4.0 – 12.0 | 11.94 | 14.70 | The patient has an elevated white blood cell count due to the amount of stress and trauma put on the body following the right total knee arthroplasty (Capriotti & Frizzell, 2016). |
| **Neutrophils** | 47.0 – 73.0 | 76.2 | 82.7 | These values are consistent with the elevated white blood cell count due to the amount of stress and trauma put on the body following the right total knee arthroplasty (Capriotti & Frizzell, 2016). |
| **Lymphocytes** | 18.0 – 42.0 | 13.9 | 6.1 | These values are consistent with the elevated white blood cell count due to the amount of stress and trauma put on the body following the right total knee arthroplasty (Capriotti & Frizzell, 2016). |
| **Monocytes** | 4.0 – 12.0 | 7.5 | 9.4 | N/A |
| **Eosinophils** | 0.0 – 5.0 | 0.3 | 1.4 | N/A |
| **Bands** | 0.0 – 1.0 | 0.3 | 0.4 | N/A |

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

| Lab | Normal Range | Admission Value | Today's Value | Reason For Abnormal |
|---|---|---|---|---|
| **Na-** | 133 – 144 | 135 | 136 | N/A |
| **K+** | 3.5 – 5.1 | 4.0 | 3.5 | N/A |

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|---|---|---|---|---|
| **Cl-** | 98 – 107 | 99 | 100 | N/A |
| **CO2** | 21 – 31 | 30 | 31 | N/A |
| **Glucose** | 70 – 99 | 150 | 152 | The patient is not diabetic, so the patient likely has an elevated glucose level due to the stress on the body causing a hypermetabolic stress response which then increases the patient's glucose level (Capriotti & Frizzell, 2016). |
| **BUN** | 7- 25 | 17 | 16 | N/A |
| **Creatinine** | 0.50 – 1.00 | 0.67 | 0.75 | N/A |
| **Albumin** | 3.5 – 5.0 | 4.8 | N/A | N/A |
| **Calcium** | 8.8 – 10.2 | 9.6 | 8.5 | N/A |
| **Mag** | 1.7 – 2.2 | N/A | N/A | N/A |
| **Phosphate** | 3.4 – 4.5 | N/A | N/A | N/A |
| **Bilirubin** | 0.2 – 1.3 | 0.7 | N/A | N/A |
| **Alk Phos** | 38 – 126 | 98 | N/A | N/A |
| **AST** | 14 – 36 | 36 | N/A | N/A |
| **ALT** | 0 – 34 | 21 | N/A | N/A |
| **Amylase** | 30 - 110 | N/A | N/A | N/A |
| **Lipase** | 0 - 160 | N/A | N/A | N/A |
| **Lactic Acid** | 4.5 – 19.8 | N/A | N/A | N/A |
| **Troponin** | 0 – 0.4 | N/A | N/A | N/A |
| **CK-MB** | 5 - 25 | N/A | N/A | N/A |

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|---|---|---|---|---|
| **Total CK** | 22- 128 | N/A | N/A | N/A |

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

| Lab Test | Normal Range | Value on Admission | Today's Value | Reason for Abnormal |
|---|---|---|---|---|
| **INR** | 1 second | N/A | N/A | N/A |
| **PT** | 9.5 – 11.3 seconds | N/A | N/A | N/A |
| **PTT** | 30 – 40 seconds | N/A | N/A | N/A |
| **D-Dimer** | Less than or equal to 250 | N/A | N/A | N/A |
| **BNP** | 15.00 – 99.90 | N/A | N/A | N/A |
| **HDL** | More than 60 | N/A | N/A | N/A |
| **LDL** | Less than 130 | N/A | N/A | N/A |
| **Cholesterol** | Less than 200 | N/A | N/A | N/A |
| **Triglycerides** | Less than 150 | N/A | N/A | N/A |
| **Hgb A1c** | Less than 7% | N/A | N/A | N/A |
| **TSH** | 0.4 – 4.0 | N/A | N/A | N/A |

**Urinalysis Highlight All Abnormal Labs—Explanations must be in 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** | Colorless, clear, and no odor present. | N/A | N/A | N/A |
| **pH** | 4.5 - 8 | N/A | N/A | N/A |
| **Specific Gravity** | 1.005 – 1.035 | N/A | N/A | N/A |
| **Glucose** | Negative | N/A | N/A | N/A |

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|---|---|---|---|---|
| **Protein** | Negative | N/A | N/A | N/A |
| **Ketones** | Negative | N/A | N/A | N/A |
| **WBC** | Negative | N/A | N/A | N/A |
| **RBC** | Negative | N/A | N/A | N/A |
| **Leukoesterase** | Negative | N/A | N/A | N/A |

**Arterial Blood Gas Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.**

| Test | Normal Range | Value on Admission | Today's Value | Explanation of Findings |
|---|---|---|---|---|
| **pH** | 7.35 – 7.45 | N/A | N/A | N/A |
| **PaO2** | 75 - 100 | N/A | N/A | N/A |
| **PaCO2** | 38 - 42 | N/A | N/A | N/A |
| **HCO3** | 22 - 28 | N/A | N/A | N/A |
| **SaO2** | 95% - 100% | 98% | 99% | N/A |

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

| Test | Normal Range | Value on Admission | Today's Value | Explanation of Findings |
|---|---|---|---|---|
| **Urine Culture** | Clean catch, no growth | N/A | N/A | N/A |
| **Blood Culture** | No growth after 3 days | N/A | N/A | N/A |
| **Sputum Culture** | Negative | N/A | N/A | N/A |
| **Stool Culture** | The stool should appear brown, soft, and well-formed in consistency | N/A | N/A | N/A |

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| | with no blood, mucus, bacteria, or fungi. | | | |

**Lab Correlations Reference (1) (APA):**

Capriotti, T., & Frizzell, J. P. (2016). *Human Pathophysiology*. F.A. Davis Company.

Normal ranges per OSF epic system

**Diagnostic Imaging**

**All Other Diagnostic Tests (5 points):**

- COVID-19
    - The results read not detected.
- Chest x—ray single portable view
    - The lungs showed no infiltration. The heart showed some enlargement and a tortuous aorta with some calcifications in the aortic knob. This means that calcium deposits have formed on the aortic valve in the heart likely causing narrowing at the opening of the aortic valve (Mayo Clinic, 2019). This narrowing can then eventually reduce blood flow through the aortic valve known as aortic valve stenosis (Mayo Clinic, 2019).

**Diagnostic Test Correlation (5 points):**

The patient came into OSF Sacred Heart Medical Center for a scheduled right total knee arthroplasty. Before the surgery, the patient had to have a COVID-19 exam with negative results for the surgery to continue as planned. The patient's surgery went well with no complications.

After surgery, the physician ordered a single portable chest x-ray to be completed on the patient for a yearly examination to make sure nothing was abnormal or had changed since her last one a year ago. The chest-ray showed some cardiomegaly and a tortuous aorta with some calcifications in the aortic knob as stated above. The physician then reviewed the chest x-ray and noted that there were no new findings since the patient's last chest x-ray on 02/19/2020.

**Diagnostic Test Reference (1) (APA):**

Mayo Clinic. (2019, January 26). *Aortic calcification: An early sign of heart valve problems?* https://www.mayoclinic.org/diseases-conditions/aortic-stenosis/expert-answers/aortic-valve-calcification/faq-20058525

**Current Medications (10 points, 1 point per completed med)**
***10 <u>different</u> medications must be completed***

**Home Medications (5 required)**

| **Brand/Generic** | acetaminophen (Tylenol) | Gabapentin (Neurotin) | Ibuprofen (Advil) | trazodone hydrochloride (Oleptro) | Duloxetine hydrochloride (Cymbalta) |
|---|---|---|---|---|---|
| **Dose** | 325mg | 300mg | 325mg | 300mg | 60mg |
| **Frequency** | q.6.h. PRN | Nightly | Daily | Nightly | Daily |
| **Route** | Oral | Oral | Oral | Oral | Oral |
| **Classification** | Non salicylate, para-aminophenol derivative, antipyretic, nonopioid analgesic | Anticonvulsant | Analgesic, anti-inflammatory, antipyretic | Antidepressant | Antidepressant, neuropathic and musculoskeletal pain reliver |
| **Mechanism of Action** | Inhibits the enzyme cyclooxygenase, blocking prostaglandin | Gabapentin is structurally, like GABA, the main inhibitory neurotransmitter | Blocks activity of cyclooxygenase, the enzyme needed to | Blocks serotonin reuptake along the presynaptic | Inhibits dopamine, neuronal serotonin, and norepinephrine reuptake to potentiate |

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| | production and interfering with pain impulse generation in the peripheral nervous system. Acetaminophen also acts directly on temperature-regulating center in the hypothalamus by inhibiting synthesis of prostaglandin E2. | in the brain. Although gabapentin's exact mechanism of action is unknown, GABA inhibits the rapid firing of neurons associated with seizures. It also may prevent exaggerated responses to painful stimuli and pain related responses to a normally innocuous stimulus to account for its effectiveness in relieving postherpetic neuralgia and restless legs syndrome symptoms. | synthesize prostaglandins, which mediate inflammatory response and cause local pain, swelling, and vasodilation. By inhibiting prostaglandins, this NSAID reduces inflammatory symptoms and relives pain. Ibuprofen's antipyretic action probably stems from its effects on the hypothalamus, which increases peripheral blood flow, causing vasodilation and encouraging heat dissipation. | neuronal membrane, causing an antidepressant effect. Trazodone exerts an alpha-adrenergic blocking action and produces modest histamine blockage, causing a sedative effect. It also inhibits the vasopressor response to norepinephrine, which reduces blood pressure. | noradrenergic and serotonergic activity in the CNS. These activities may elevate mood and inhibit pain signals stemming from peripheral nerves adversely affected by chronically elevated serum glucose level. |
| **Reason Client Taking** | This medication is being given for any mild fever or pain. | This medication is being given for pain. | This medication is being given for mild to moderate pain. | This medication is being given to treat depression. | This medication is being taken to treat depression and anxiety. |
| **Contraindications (2)** | Severe hepatic impairment, severe active liver disease | Hypersensitivity to gabapentin or its components. | Hypersensitivity to ibuprofen, its components, or other fever reducers or pain relievers; asthma | Hypersensitivity to trazodone or its components, use within 14 days of an MAO inhibitor including intravenous ethylene and blue linezolid | Chronic liver disease including cirrhosis, hypersensitivity to duloxetine or its components severe renal impairment |
| **Side Effects/Adverse Reactions (2)** | Agitation, fatigue | Agitation, anxiety | GI bleeding, hypokalemia | Suicidal ideation, hypotension | Suicidal ideation, hypertensive crisis |

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| **Nursing Considerations (2)** | 1. Use acetaminophen cautiously in clients with hepatic impairment or active hepatic disease, alcoholism, chronic malnutrition, severe hypovolemia, or severe renal impairment<br>2. acetaminophen can cause hepatotoxicity, so liver function tests need to be ordered and monitored | 1. Give drug at least two hours after an antacid.<br>2. Administer doses at bedtime to minimize adverse effects. | 1. Use ibuprofen with extreme caution because it increases the risk of having GI bleeding and ulcerations.<br>2. Assess the patient's skin regularly for signs of rash or other hypersensitivity reaction. | 1. Give trazodone shortly after client has had a meal or light snack to reduce nausea.<br>2. Closely monitor depressed clients for suicidal thoughts and tendencies. Notify the provider if they occur and take suicide precautions according to the facility policy. | 1. Use cautiously in patients with delayed gastric emptying because drug's enteric coating resists dissolution until it reaches an area where pH exceeds 5.5.<br>2. Give cautiously in patients with a history of mania, which it may activate. |
| **Key Nursing Assessment(s)/Lab(s) Prior to Administration** | Assess the patient's vital signs prior to administering. Assess the patient's pain level prior to administering. | Monitor patient's blood pressure prior to administering. Monitor pain level prior to administering. Monitor what medications the patient has taken in the past two hours prior to administering. | Monitor the patient's vital signs prior to administering. Monitor pain level before administering. Monitor blood volume, INR, d-dimer prior to administration per doctors' orders. | Monitor the patient's vital signs prior to administering. Monitor pain level before administering. Monitor patient for any suicidal thoughts or tendencies prior to administration. | Obtain patient's baseline blood pressure before administering. Monitor patient's serum sodium level as ordered prior to administering. Monitor patient's hepatic function as ordered before administering. |
| **Client Teaching needs (2)** | 1. Use acetaminophen cautiously in clients with hepatic impairment or active hepatic disease, alcoholism, | 1. Educate the patient that the gabapentin capsules may be opened and mixed with applesauce or pudding.<br>2. Caution | 1. Encourage the patient to eat before or while taking the medication to reduce GI distress.<br>2. Explain to the parent that | 1. Urge patient t avoid taking trazadone on an empty stomach because it may cause dizziness or lightheadedness.<br>2. Instruct | 1. Tell the patient to take capsule whole and not to chew it, crush it, or sprinkle contents on foods or liquids, because doing so alters the enteric coating and may affect drug |

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| | chronic malnutrition, severe hypovolemia, or severe renal impairment<br>2. Acetaminophen can cause hepatotoxicity, so liver function tests need to be ordered and monitored | patient to not stop drug abruptly. | ibuprofen can increase the risk of serious adverse GI reactions. Stress the importance of seeking immediate medical attention for signs and symptoms like abdominal or epigastric pain, black or tarry stools, indigestion, or vomiting blood or material that looks like coffee grounds. | patient not to stop trazadone therapy abruptly. | absorption. |

**Hospital Medications (5 required)**

| **Brand/Generic** | Ondansetron hydrochloride (Zofran) | Docusate sodium (Colace) | Hydrocodone-acetaminophen (Norco) | Hydromorphone (Dilaudid) | Metoprolol succinate (Toprol-XL) |
|---|---|---|---|---|---|
| **Dose** | 4mg | 100mg | 7.5mg/325mg | 0.5mg | 50mg |
| **Frequency** | q.4.h. PRN | q.12.h. PRN | q.4.h. PRN | q.2.h. PRN | b.i.d. |
| **Route** | Oral | Oral | Oral | Intravenous | Oral |
| **Classification** | Selective serotonin receptor antagonist, Antiemetic | Surfactant, laxative, stool softener | Opioid analgesic | Opioid analgesic | Antianginal, antihypertensive |
| **Mechanism of Action** | Blocks serotonin receptors centrally in the chemoreceptor trigger zone and peripherally at vagal nerve terminals in the | Acts as a surfactant that softens stools by decreasing surface tension between oil and water in feces. This action lets more fluid | Hydrocodone is a narcotic pain-reliever and a cough suppressant, like codeine. Hydrocodone blocks the receptors on | May bind with opioid receptors in the spinal cord and higher levels in the CNS. In this way, hydromorphone is believed to | Inhibits stimulation of beta one receptor sites, located mainly in the heart, resulting in decreased cardiac |

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| | intestine. This action reduces nausea and vomiting by preventing serotonin release in the small intestine and by blocking signals to the CNS. Ondansetron may also bind to other serotonin receptors and to mu-opioid receptors. | penetrate stool, forming a softer fecal mass. | nerve cells in the brain that give rise to the sensation of pain. Acetaminophen is a non-narcotic analgesic (pain reliever) and antipyretic (fever reducer). | stimulate kappa and mu receptors, thus altering the perception of and emotional response to pain. | excitability, cardiac output, and myocardial oxygen demand. These effects help relive angina, minimize cardiac tissue damage from a myocardial infarction, and help relive symptoms of heart failure. Metoprolol also helps reduce blood pressure by decreasing renal release of renin |
| **Reason Client Taking** | This medication is being taken to prevent post-op nausea and vomiting. | This medication is being taken to prevent constipation and help soften stools. | This medication is being taken to treat mild to moderate pain. | This medication is being given to treat extreme levels of pain. | This medication is treating the patient's hypertension. |
| **Contraindications (2)** | Concomitant use of apomorphine, hypersensitivity to ondansetron or its components | Fecal impaction; hypersensitivity to docusate salts or their components | Acetaminophen overdose; acute liver failure | Acute asthma, upper respiratory tract obstruction | Acute heart failure; cardiogenic shock |
| **Side Effects/Adverse Reactions (2)** | Hypotension, serotonin syndrome | Dizziness, palpitations | Anxiety, dizziness | CNS depression, hepatotoxicity | Arrythmias, cardiac arrest |
| **Nursing Considerations (2)** | 1. Monitor client closely for serotonin syndrome. 2. Monitor client closely for hypersensitivity to ondansetron | 1. Expect excessive or long-term use of docusate to cause dependence on laxatives for bowel movements, | 1. Be aware that hydrocodone-acetaminophen therapy increases the risk of abuse, addiction, and misuse. REMS is required | 1. Be aware that hydromorphone therapy increases the risk of abuse, addiction, and misuse. REMS is required before | 1. Know that is dosage exceeds 400mg daily; patient should be monitored for bronchospasms and dyspnea because metoprolol |

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| | because hypersensitivity reactions, including anaphylaxis and bronchospasms may occur. | electrolyte imbalances, osteomalacia, steatorrhea, and vitamin and mineral deficiencies. 2. Assess for laxative abuse syndrome, especially in women with anorexia nervosa, depression, or personality disorders. | before administration. 2. Hydrocodone may produce dose related respiratory depression by acting directly on the brain stem respiratory center. | administration. 2. Use cautiously in patients whose ability to maintain a normal blood pressure is already compromised by a reduced blood volume or concurrent administration of certain CNS depressant drugs. | blocks beta two adrenergic receptors in bronchial and vascular smooth muscles. 2. Assess ECG for an AV block |
| **Key Nursing Assessment(s)/Lab(s) Prior to Administration** | Obtain the patient's baseline vital signs prior to administration. Obtain the patient's pain level prior to administering. Assess patient for constipation prior to administering. Monitor and make sure it is time for the patient to have the next dose before administration. | Obtain the patient's baseline vital signs prior to administration. Obtain the patient's pain level prior to administering. Assess patient for constipation prior to administering. Monitor patient's constipation and bowel movements before administering. | Obtain the patient's baseline vital signs prior to administration. Obtain the patient's pain level prior to administering. Assess patient for constipation prior to administering. | Obtain the patient's baseline vital signs prior to administration. Obtain the patient's pain level prior to administering. Assess patient for constipation prior to administering. Monitor patient for signs of physical abuse or dependence prior to administering. | Obtain the patient's baseline vital signs prior to administration. Obtain the patient's pain level prior to administering. Assess patient for constipation prior to administering. Monitor ECG prior to administration. |
| **Client Teaching needs (2)** | 1. Advise patient to immediately report signs of hypersensitivity, such as a rash. 2. Advise patient to place the tablet under | 1. Advise patient to swallow capsule with water and to avoid grapefruit juice while taking this drug. 2. Teach patient to measure | 1. Instruct the patient to not drink alcohol while taking this medication. 2. Instruct the patient to not take more than the prescribed | 1. Instruct the patient to take drug exactly as prescribed and before the pain is too severe. 2. Advise patient to take the drug with | 1. Advise patient to notify provider if pulse rate falls below 60 beats/minute. 2. instruct patient to take drug at the same time every day |

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| | the tongue and let it dissolve before swallowing. | blood pressure and pulse while taking this drug. | dose. | food to avoid GI upset. | and with food to minimize adverse effects. |

**Medications Reference (1) (APA):**

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook.* Burlington, MA.

## Assessment

**Physical Exam (18 points)**

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| **GENERAL (1 point):**<br>**Alertness:**<br>**Orientation:**<br>**Distress:**<br>**Overall appearance:** | Patient appears pleasant.<br>A&O x3<br>Oriented to person, time, place, and current events. Very talkative and cooperative.<br>Patient appears to have minimal distress.<br>Patient appears to be groomed, hydrated, and overall looks good. |
| **INTEGUMENTARY (2 points):**<br>**Skin color:**<br>**Character:**<br>**Temperature:**<br>**Turgor:**<br>**Rashes:**<br>**Bruises:**<br>**Wounds:** .<br>**Braden Score:**<br>**Drains present: Y☒ N ☐**<br>**Type:** | Tan/pink normal for race<br>Appears hydrated and well groomed.<br>Warm<br>Normal turgor 2+<br>No rashes noted.<br>No bruises noted.<br>The patient has an incision in the right knee area due to a knee replacement.<br>4<br>The patient had a hemovac drain in the right knee. |
| **HEENT (1 point):**<br>**Head/Neck:**<br><br>**Ears:**<br><br><br>**Eyes:**<br><br><br>**Nose:**<br><br><br>**Teeth:** | Head and neck symmetrical, no bumps or lesions noted. Trachea is midline. Lymph nodes are nonpalpable.<br>Ears are free of discharge, no bumps or lesions noted, healthy cerumen, and tympanic membrane is a pearly grey.<br>Eyes normal. Upon inspection sclera was white, cornea was clear, conjunctiva was white with no lesions or discharge noted. Normal EOM.<br>Septum midline. No drainage or bleeding noted. No deviation or abnormalities and sinuses are not tender.<br>Patient has natural teeth on top and bottom. Good dentition overall. No lesions or bumps noted. |

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| | Mouth is pink and moist. |
| **CARDIOVASCULAR (2 points):**<br>**Heart sounds:**<br>**S1, S2, S3, S4, murmur etc.**<br>**Cardiac rhythm (if applicable):**<br>**Peripheral Pulses:**<br>**Capillary refill:**<br>**Neck Vein Distention: Y ☐ N ☒**<br>**Edema Y ☐ N ☒**<br>**Location of Edema:** | S1 and S2 heart sounds are normal, no murmurs or rubs present.<br>Pulse was 68 bpm radial.<br>Capillary refill is less than 2 seconds.<br>No neck vein distention noted.<br>No edema noted. |
| **RESPIRATORY (2 points):**<br>**Accessory muscle use: Y☐ N ☒**<br>**Breath Sounds: Location, character** | Client has normal lung sounds with no rales/crackles, rhonchi, or wheezes present<br>Respirations are nonlabored. |
| **GASTROINTESTINAL (2 points):**<br>**Diet at home:**<br>**Current Diet**<br>**Height:**<br>**Weight:**<br>**Auscultation Bowel sounds:**<br>**Last BM:**<br>**Palpation: Pain, Mass etc.:**<br>**Inspection:**<br>**Distention:**<br>**Incisions:**<br>**Scars:**<br>**Drains:**<br>**Wounds:**<br>**Ostomy: Y ☐ N ☒**<br>**Nasogastric: Y ☐ N ☒**<br>**Size:**<br>**Feeding tubes/PEG tube Y ☐ N ☒**<br>**Type:** | Normal eating at home<br>Regular diet<br>4’10”<br>149.6 lbs.<br>Normoactive bowel sounds that are audible and active in all four quadrants.<br>1 day ago<br>No pain or masses noted on palpation.<br>No abnormalities found upon inspection of the abdomen. No distention, incision, scars, drains, or wounds are noted around the gastrointestinal system. |
| **GENITOURINARY (2 Points):**<br>**Color:**<br>**Character:**<br>**Quantity of urine:**<br>**Pain with urination: Y ☐ N ☒**<br>**Dialysis: Y ☐ N ☒**<br>**Inspection of genitals:**<br>**Catheter: Y ☐ N ☒**<br>**Type:**<br>**Size:** | Colorless, yellow, and no odor present.<br>Urine output was 1,050mL.<br>Genitals and bottom showed no signs of lesions or skin breakdown |

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| **MUSCULOSKELETAL (2 points):**<br>**Neurovascular status:**<br>**ROM:**<br>**Supportive devices:**<br>**Strength:**<br>**ADL Assistance: Y☐ N ☐**<br>**Fall Risk: Y ☒ N☐**<br>**Fall Score:**<br>**Activity/Mobility Status:**<br>**Independent (up ad lib) ☐**<br>**Needs assistance with equipment ☒**<br>**Needs support to stand and walk☒** | Patient has no neurovascular deficits noted.<br>ROM is good.<br>The patient uses a walker.<br>The patient's strength is equal bilaterally in the arms. The patient's strength in the left leg is good but diminished in the right leg due to a knee replacement.<br>12<br><br>The patient uses a walker.<br>The patient is one day post-operative after a right knee replacement and needs support to stand up and walk. |
| **NEUROLOGICAL (2 points):**<br>**MAEW: Y ☒ N☐**<br>**PERLA: Y ☒ N☐**<br>**Strength Equal: Y ☐ N ☒ if no -**<br>**Legs ☒ Arms ☐ Both ☐**<br>**Orientation:**<br><br>**Mental Status:**<br>**Speech:**<br><br>**Sensory:**<br><br>**LOC:** | The patient moves both arms equally bilaterally.<br>The patient has good strength in the left leg but does not have full strength in the right leg due to a knee replacement.<br>Oriented to person, time, place, and current events.<br>Mental status is good.<br>Speech is good and understandable. No speech impairment is noted.<br>No glasses or contacts present. Vision seems normal.<br>Alert and oriented x3 |
| **PSYCHOSOCIAL/CULTURAL (2 points):**<br>**Coping method(s):**<br>**Developmental level:**<br>**Religion & what it means to pt.:**<br>**Personal/Family Data (Think about home environment, family structure, and available family support):** | The patient stated, "I am a Baptists and the relationship I have with Jesus Christ is the most important thing to me in my life even more important than my husband." The patient also stated, "my son committed suicide three years ago and Jesus Christ has helped me cope and learn to deal with it as it has been very difficult for my husband and I."<br>The patient was very talkative and cooperative.<br>The patient mentioned how her husband has the same beliefs about Jesus Christ and how they go to church together and use Jesus Christ as their coping method. Their son was their only child so now it is just the two of them, but the husband |

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| | seems very supportive. Overall, the patient seems to have a good support system and good coping methods. |

**Vital Signs, 2 sets (5 points)**

| Time | Pulse | B/P | Resp Rate | Temp | Oxygen |
|---|---|---|---|---|---|
| 0730 | 68 bpm radial | 118/74 left arm | 16 bpm | 98.3 F orally | 99% nasal cannula at 2L. |
| 1030 | 72 bpm radial | 121/72 left arm | 18 bpm | 98.5 F orally | 98% nasal cannula at 2L. |

**Vital Sign Trends:** The patient's vital signs seem to be stable and within normal limits.

**Pain Assessment, 2 sets (2 points)**

| Time | Scale | Location | Severity | Characteristics | Interventions |
|---|---|---|---|---|---|
| 0800 | Numeric pain scale | Right knee | The patient stated, "it is about a 5 on a scale of one to ten." | The patient stated, "it feels stiff and achy." | The patient was administered hydrocodone-acetaminophen orally for the pain. |
| 1000 | Numeric pain scale | Right knee | The patient stated, "it is about a 7 on a scale of one to ten." | The patient stated, "it just constantly feels achy and it is uncomfortable." | The patient was administered dilaudid intravenously. |

**IV Assessment (2 Points)**

| IV Assessment | Fluid Type/Rate or Saline Lock |
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| **Size of IV:**<br>**Location of IV:**<br>**Date on IV:**<br>**Patency of IV:** | 20 gauge<br>Cephalic vein of the lateral side of the left arm<br>2/9/21 |

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| **Signs of erythema, drainage, etc.:**<br>**IV dressing assessment:** | Patent, flushing easily, and is running lactated ringers continuously.<br>No signs of erythema or drainage noted.<br>The IV site looks clean and dry with no signs of swelling, redness, or irritation. |

**Intake and Output (2 points)**

| **Intake (in mL)** | **Output (in mL)** |
|---|---|
| 2/10/21<br><br>0400 90mL oral<br><br>0600 1000mL IV<br><br>0930 240mL oral<br><br>1100 120mL oral<br><br>Total intake = 1,450mL | 2/10/21<br><br>0240 250mL urine<br><br>0500 300mL urine<br><br>1030 500mL urine<br><br><br><br>Total output = 1,050mL |

**Nursing Care**

**Summary of Care (2 points)**

**Overview of care:** The patient was post-op from a right total knee arthroplasty. The patient was given hydrocodone-acetaminophen 7.5/325mg every four hours as needed for pain. The patient was also given dilaudid 0.5mg intravenously every two hours for extreme pain. The patient was also on continuous lactated ringers for fluid and electrolyte replacement due to the patient's decreased blood volume. The patient rated her pain a five on a scale of one to ten at 0730 and was given a dose of hydrocodone-acetaminophen. Two hours later the patient rated her pain a seven on a scale of one to ten and was given dilaudid since her pain had increased instead of staying the same or even decreasing. The patient was on a regular diet as tolerated. The patient

had her right total knee arthroplasty on 2/9/2021 with no plans of discharge until she sees physical therapy.

**Procedures/testing done:** The patient had a COVID-19 screening and a single portable chest x-ray completed.

**Complaints/Issues:** The patient's only complaint was the amount of pain and discomfort she was in following the right total knee arthroplasty.

**Vital signs (stable/unstable):** The patient's vital signs were stable and within normal limits.

**Tolerating diet, activity, etc.:** The patient was on a regular diet as tolerated. The patient was also using a walker and had limited activity. The patient was waiting for physical therapy to come examine her.

**Physician notifications:** No notifications were presented at this time.

**Future plans for patient:** The patient will continue to be monitored for any pain or bleeding up until discharge. The client will be taught how to take care of the incision sites and what to look for in case of an infection or the opening of an incision. The patient will see physical therapy before being discharged. The patient will also see physical therapy at home once discharged.

**Discharge Planning (2 points)**

**Discharge location:** The patient will be discharged home.

**Home health needs (if applicable):** The patient will have physical therapy at home but no other home health needs.

**Equipment needs (if applicable):** The patient uses a walker but notes that she already has one at home.

**Follow up plan:** The patient will follow-up with her primary care provider within fourteen days after discharge. The patient will continue to monitor her pain, stools, and incisions once discharged and will call her provider if she experiences any significant pain or bleeding.

**Education needs:** The patient will need education on how to properly clean her incision sites and what to watch for in case of an infection. The client should get education on a proper diet with the right balance of nutrition to help prevent further constipation since she is on pain medication. The patient should also be educated on exercise she can do without physical therapy to increase her physical mobility.

**Nursing Diagnosis (15 points)**
***Must be NANDA approved nursing diagnosis and listed in order of priority***

| **Nursing Diagnosis**<br>• Include full nursing diagnosis with "related to" and "as evidenced by" components | **Rational**<br>• Explain why the nursing diagnosis was chosen | **Intervention (2 per dx)** | **Evaluation**<br>• How did the patient/family respond to the nurse's actions?<br>• Client response, status of goals and outcomes, modifications to plan. |
|---|---|---|---|
| 1. Postoperative acute pain related to right total knee arthroplasty as evidenced by reports of pain. | This patient had a right total knee arthroplasty. The patient reported her pain a five on a scale of one to ten at 0800. Two hours later at 1000 the patient reported her pain a seven on a scale of one to ten | 1. Assess the client's pain description of pain such as quality, nature, and severity of pain at least twice an eight-hour shift.<br>2. Administer pain medication | The patient was given hydrocodone-acetaminophen at 0800 after assessing her pain level. Two hours later the patient was given dilaudid at 1000 for an increased level of pain. The patient's pain was assessed every two hours while I was there. The patient was checked on thirty minutes later and reported moderate discomfort from her incision sites and stated, "My right knee still feels very achy and sore." The |

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| | | | patient's husband was not there but she said he is very supportive and will be there later in the day. Overall, the client responded well, and her goals were mostly met. |
| 2. Risk for infection related to breakage in the skin as evidenced by a right total knee arthroplasty. | The patient had a large midline incision made in the right knee and a hemovac drain put in place. | 1. Maintaining sterile technique when changing dressings and providing any kind of incision site and drain care.<br>2. Inspect incision sites at least once every eight-hour shift. Document any signs of local inflammation and infection and changes in character wound drainage, | The patient was given education on what to look for in case of an infection. The patient understood the education. The dressings were checked once an hour while I was there and showed no new signs of bleeding or infection. The dressings were not changed or taken off while I was there. The patient's husband was not there but she said he is very supportive and will be there later in the day. Overall goals were met. |
| 3. Impaired physical mobility related to right total knee arthroplasty as evidenced by decreased muscle strength. | The patient just had a right total knee arthroplasty and was instructed to put a little bit of weight on the knee, but she should not trust the knee completely just yet. | 1. Demonstrate and assist with transfer techniques and use of assistive devices.<br>2. Perform and assist with range of motion exercises. | The nurse demonstrated to the patient on how to stand and pivot from the bed to the chair with the walker. During the demonstration, the nurse also showed the patient how to do it without putting full pressure on the right lower extremity. The patient was educated on range of motion exercises that she can do anytime on her how and was instructed to do them as often as she can tolerate it. The patient's husband was not there but she said he is very supportive and will be there later in the day. |

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| | | | Overall, the goals were met. |
| 4. Risk for peripheral neurovascular dysfunction related to immobilization as evidenced by orthopedic surgery. | The patient had a right total knee arthroplasty which puts the patient at risk for experiencing a disruption in her circulation, sensation, and motion of her extremity. | 1. Palpate pulses on both sides, evaluate capillary refill, skin color, and temperature. Compared with the non-operated limb.<br>2. Assess the motion and sensation of operated extremity. | The nurse and I palpated the pulses on both sides, and they appeared strong. The patient's capillary refill was less than two seconds. The patient's skin color and temperature were also within normal range. The patient had decreased motion on the operated side but full sensation. The patient's husband was not there but she said he is very supportive and will be there later in the day. Overall, goals were met. |

**Other References (APA):**

Vera, M. B. (2019b, June 1). *5 Total Joint (Knee, Hip) Replacement Nursing Care Plans*. Nurseslabs. https://nurseslabs.com/5-total-joint-knee-hip-replacement-nursing-care-plans/

**Concept Map (20 Points):**

N431 CARE PLAN

**Subjective Data**

The patient stated, “I have been having trouble with my right knee for a couple of years.”
The patient stated, “the pain feels sort of achy and just uncomfortable.”
The patient stated, “moving around and walking on it for long distances would make it worse.”
The patient rated her pain a five on scale of one to ten at 0800.
The patient rated her pain a seven on a scale of one to ten at 1000.

**Objective Data**

Vital signs at 0730: pulse was 68 bpm radial; blood pressure was 118/74 left arm; respirations were 16 bpm; temperature was 98.3 F orally; and oxygen was 99% nasal cannula at 2L. Vital signs at 1030: pulse was 72 bpm radial; blood pressure was 121/72 left arm respirations were 18 bpm; temperature was 98.5 F orally, and oxygen was 98% nasal cannula at 2L. The patient had an elevated glucose level, white blood cell count, neutrophil count, and lymphocyte count. The patient had a decreased red blood cell count, hemoglobin level, and hematocrit level. The patient had a COVID-19 screening and a single portable chest x-ray completed.

**Patient Information**

On February 9th, a 75-year-old Caucasian, married, female, came into OSF Sacred Heart Medical Center for a scheduled surgery. The patient had a right total knee arthroplasty on 2/9/21. The patient has a past medical history of age-related nuclear cataract of the left and right eye, osteoarthritis, depression, dizziness, embolism from a blood clot, fibromyalgia, heart attack, high cholesterol, hypertension, methadone withdrawal, migraine, pneumonia, rheumatoid fever, sleep apnea, spondylosis of lumbar spine, trochanteric bursitis, and vitamin D deficiency. The patient has a past surgical history of a right biopsy, right and left cataract removal with implant, colonoscopy, hysterectomy, heart catheterization, and a right total knee arthroplasty. The patient uses a walker for an assistive device. The patient was given hydrocodone-acetaminophen and dilaudid for pain. The patient is also on continuous lactated ringers for fluid and electrolyte replacement due to a decreased blood volume.

**Nursing Diagnosis/Outcomes**

**1. Postoperative acute pain related to right total knee arthroplasty as evidenced by reports of pain. -** The patient was given hydrocodone-acetaminophen at 0800 after assessing her pain level. Two hours later the patient was given dilaudid at 1000 for an increased level of pain. The patient’s pain was assessed every two hours while I was there. The patient was checked on thirty minutes later and reported moderate discomfort from her incision sites and stated, “My right knee still feels very achy and sore.” The patient’s husband was not there but she said he is very supportive and will be there later in the day. Overall, the client responded well, and her goals were mostly met.

**2. Risk for infection related to breakage in the skin as evidenced by a right total knee arthroplasty. -** The patient was given education on what to look for in case of an infection. The patient understood the education. The dressings were checked once an hour while I was there and showed no new signs of bleeding or infection. The dressings were not changed or taken off while I was there. The patient’s husband was not there but she said he is very supportive and will be there later in the day. Overall goals were met.

**3. Impaired physical mobility related to right total knee arthroplasty as evidenced by decreased muscle strength. -** The nurse demonstrated to the patient on how to stand and pivot from the bed to the chair with the walker. During the demonstration, the nurse also showed the patient how to do it without putting full pressure on the right lower extremity. The patient was educated on range of motion exercises that she can do anytime on her how and was instructed to do them as often as she can tolerate it. The patient’s husband was not there but she said he is very supportive and will be there later in the day. Overall, the goals were met.

**4. Risk for peripheral neurovascular dysfunction related to immobilization as evidenced by orthopedic surgery. -** The nurse and I palpated the pulses on both sides, and they appeared strong. The patient’s capillary refill was less than two seconds. The patient’s skin color and temperature were also within normal range. The patient had decreased motion on the operated side but full sensation. The patient’s husband was not there but she said he is very supportive and will be there later in the day. Overall, goals were met.

**Nursing Interventions**

1. Assess the client’s pain description of pain such as quality, nature, and severity of pain at least twice an eight-hour shift. 2. Administer pain medication.
1. Maintaining sterile technique when changing dressings and providing any kind of incision site and drain care. 2. Inspect incision sites at least once every eight-hour shift. Document any signs of local inflammation and infection and changes in character wound drainage,
1. Demonstrate and assist with transfer techniques and use of assistive devices. 2. Perform and assist with range of motion exercises.
1. Palpate pulses on both sides, evaluate capillary refill, skin color, and temperature. Compared with the non-operated limb. 2. Assess the motion and sensation of operated extremity.