N431 Care Plan # 3

Lakeview College of Nursing

Linda Duong

Demographics (3 points)

Date of Admission	Patient Initials	Age	Gender
4/4/2021	D.R.	57	Female
Race/Ethnicity Caucasian	**Occupation** Unemployed	**Marital Status** Divorced	**Allergies** Betadine (Rash), latex (unknown reaction), penicillin (unknown reaction), pollen (unknown reaction)
Code Status Full Code	**Height** 165.5 cm	**Weight** 154 kg	

Medical History (5 Points)

Past Medical History: Allergic rhinitis, anxiety, asthma, chronic obstructive pulmonary disease, diastolic dysfunction (left) ventricle, fibromyalgia, gastroesophageal reflux disease, hypertension, hyperlipidemia, hypothyroidism, irritable bowel syndrome, lumbar compression fracture, neuropathy, obstructive sleep apnea, osteoarthritis, urinary incontinence, obesity

Past Surgical History: Cholecystectomy (2010)**,** esophagogastroduodenoscopy biopsy (2017), cystoscopy (2018), cardiac catheterization (2020)

Family History: D.R.'s father had a history of hypertension and heart attack. Her mother had a history of hypertension. No family history was reported for her grandfather and grandmother on either paternal or maternal side.

Social History (tobacco/alcohol/drugs): The patient denies past use of tobacco, alcohol, and recreational drugs.

Assistive Devices: The client uses a walker to help assist her when she walks.

Living Situation: The patient lives at home with her son in Charleston, Illinois.

Education Level: The patient's highest level of education is a high school diploma.

Admission Assessment

Chief Complaint (2 points): Abdominal pain and vomiting with mid sternal chest pain.

History of present Illness (10 points): The 57-year-old Caucasian female presented to the emergency room on 4/4/2021 with lower abdominal and mid sternal chest pain and vomiting. The patient states, "I have lower abdomen, and chest pain radiating to my back and have been vomiting at home." The patient mentions she feels nauseous, and these symptoms have been going on for the past hour. The patient says she feels pain in her chest and lower abdomen, and the pain is sharp, aching, and stabbing. The patient states both her legs are weak, and walking and voiding aggravate her pain. The patient mentioned laying down, and Advil helps relieve her pain.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Nephrolithiasis

Secondary Diagnosis (if applicable): Dysuria and urinary tract infection

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

The patient's primary diagnosis was nephrolithiasis, with a secondary diagnosis of dysuria and urinary tract infection. Nephrolithiasis is the formation of stones, also called calculi, in the kidney (Capriotti & Frizzell, 2016). Although stones can develop in the ureter or bladder, kidney stones are most common; pain associated with kidney stones is based on the stone's location (Capriotti & Frizzell, 2016). The most common renal calculi are calcium stones, struvite stones, uric acid stones, and cystine stones (Capriotti & Frizzell, 2016).

According to Capriotti and Frizzell (2016), the formation of renal calculi involves dietary and intestinal absorption factors, endocrine abnormalities, crystalline components in the blood, constituents of urine, pH of urine, urinary tract structures, and heredity (Capriotti & Frizzell, 2016). The majority of renal calculi consists of calcium composed of calcium oxalate (Capriotti & Frizzell, 2016). Causes for these stones are due to hyperabsorption of calcium and oxalate from the gastrointestinal tract (Capriotti & Frizzell, 2016). Struvite stones are less common and are usually associated with chronic urinary tract infection and specific urine pH (Capriotti & Frizzell, 2016). The bacteria have an enzyme urease, which can react with urea in the urine to form ammonia and carbon dioxide (Capriotti & Frizzell, 2016). Uric acid stones account for 6% of renal calculi and are associated with high purine intake (Capriotti & Frizzell, 2016). High purine levels in the bloodstream occur with high ingestion of meats or whenever there is a high cellular breakdown (Capriotti & Frizzell, 2016). Lastly, cystine stones account for 2% of renal calculi and occur due to failure of renal tubular reabsorption of cystine which will cause crystal formation (Capriotti & Frizzell, 2016).

Capriotti and Frizzell (2016) explain that there are three theories regarding the formation of renal calculi. The first theory suggests a supersaturation of the urine by stone-forming crystalline constituents (Capriotti & Frizzell, 2016). Crystals can act as a nucleus in which more crystalline constituents settle and build into a calculus (Capriotti & Frizzell, 2016). The second theory proposes a deposition of calcium phosphate onto an area of tubule cell membranes in the renal papilla (Capriotti & Frizzell, 2016). The renal papilla is an area of the kidney that empties into the minor calyx, and the calcium phosphate compounds collect layers of collagenous material and cellular debris (Capriotti & Frizzell, 2016). The third theory implies that people with nephrolithiasis have a deficiency of one or all proteins that inhibit stone formation (Capriotti & Frizzell, 2016).

Nephrolithiasis is caused by a renal calculus flow into the ureter and becomes impacted and obstructed (Capriotti & Frizzell, 2016). As the stone travels down the ureter, it scrapes the ureter's membrane causing minor bleeding into the urine and intense colicky pain (Capriotti & Frizzell, 2016). Obstruction of urine can occur, which increases pressure within the kidneys, causing backpressure into the renal pelvis called hydronephrosis. Hydronephrosis occurs when edema and distention of the renal pelvis interfere with renal blood flow and function (Capriotti & Frizzell, 2016). Prolonged hydronephrosis causes compression of the kidney tissue, ischemia, and irreversible kidney damage (Capriotti & Frizzell, 2016).

Nephrolithiasis' main symptom is pain. The pain can be described as renal or ureteral colic pain because it occurs in waves and can be excruciating pain in the flank and upper outer quadrant of the abdomen on the affected side (Capriotti & Frizzell, 2016). Patients can typically feel the pain radiating to the lower abdomen and groin (Capriotti & Frizzell, 2016). The pain's intensity can cause the patient to have cool, clammy skin, nausea, and vomiting (Capriotti & Frizzell, 2016). Hematuria can also be significant due to the damage caused by the stone's obstruction or movement (Capriotti & Frizzell, 2016). Some vital signs of a person with nephrolithiasis include increased blood pressure, temperature, and heart rate (Capriotti & Frizzell, 2016). During the first assessment at 0910, the patient's blood pressure was 120/64 mmHg, the temperature was 36.7 degrees Celsius, and pulse was 85 beats per minute. During this student's second assessment, the patient's temperature was 36.8 degrees Celsius, and pulse was 76 beats per minute. The patient's systolic and diastolic blood pressure decreased from 120/64 mmHg to 95/66 mmHg during this clinical shift, indicating she was hypotensive.

Laboratory tests include CBC, chemistry lab test, urine analysis, urine culture, and blood test to assess clotting times (Capriotti & Frizzell, 2016). D.R. had a CBC, chemistry lab test, and a urinalysis performed during this hospital visit. A patient who has nephrolithiasis may need diagnostic tests to diagnose the pain. Diagnostic tests that health care providers may utilize include urine analysis, x-rays, intravenous pyelography, abdominal ultrasonography, retrograde urography, and C.T. scanning (Capriotti & Frizzell, 2016). D.R.'s diagnostic tests during this hospital visit include electrocardiography, C.T. abdomen and pelvis with contrast, x-ray chest one view, and echocardiogram complete with contrast.

Treatment options for nephrolithiasis include symptom management and pain relief due to the nature of the pain that interferes with daily living activities (Capriotti & Frizzell, 2016). A diet that includes citrus fruits, legumes, and vegetables raises the pH and produces more alkaline urine, whereas meat and cranberry juice can keep the urine's pH more acidic (Hinkle & Cheever, 2018). Antibiotics, dietary changes, and urine pH alterations with medications like thiazide diuretics can help reduce stone formation risk (Capriotti & Frizzell, 2016). Opioid analgesic agents can be given to prevent shock and syncope that results from unbearable pain (Hinkle & Cheever, 2018). According to Capriotti and Frizzell (2016), most renal stones will pass spontaneously with the administration of large amounts of fluid to increase urine volume. Patients are instructed to drink at least 3 liters of fluid a day strain all urine. If the stone cannot pass, lithotripsy may be used to break up the stone into smaller particles to felicitate passage (Capriotti & Frizzell, 2016). Surgery is often the last form of treatment if the stone does not pass on its own (Capriotti & Frizzell, 2016). D.R. has been taking hydrochlorothiazide to treat fluid retention and increase her urine output. The treatment plan for this patient includes dietary and lifestyle modification and increased fluid intake daily.

Pathophysiology References (2) (APA):

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives* (1st ed.). F.A. Davis.

Hinkle, J.L., & Cheever, K. H. (2018). *Brunner & Suddarth's textbook of medical-surgical nursing* (14th ed.). Wolters Kluwer Health Lippincott Williams & Wilkins.

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	3.80-5.41	4.26	3.20	A decrease in red blood cells indicates kidneys are not functioning correctly to filter blood. Red blood cells transport oxygen from the lungs to tissues throughout the body (Pagana et al., 2019).
Hgb	11.3-15.2	12.3	9.5	A decrease in hemoglobin indicates a reduction in oxygen transportation throughout the body (Pagana et al., 2019).
Hct	33.2-45.3	36.4	27.2	A decrease in hematocrit indicates an insufficient supply of healthy red blood cells circulating in the body (Pagana et al., 2019).
Platelets	149-393	297	218	N/A
WBC	4.0-11.7	8.7	6.4	N/A
Neutrophils	45.3-79.0	70.7	63.0	N/A
Lymphocytes	11.8-45.9	19.6	28.1	N/A
Monocytes	4.4-12.0	7.0	5.3	N/A
Eosinophils	0.0-6.3	1.9	1.8	N/A
Bands	0.0 - 6.0	N/A	N/A	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-	136-145	139	141	N/A
K+	3.5-5.1	3.5	3.6	N/A
Cl-	98-107	102	104	N/A
CO2	21-31	31	31	N/A
Glucose	74 -109	99	93	N/A
BUN	7 - 25	9	14	N/A
Creatinine	0.70 - 1.30	1.08	1.08	N/A
Albumin	3.5 - 5.2	N/A	N/A	N/A
Calcium	8.6 - 10.3	9.2	7.8	A decrease in calcium levels indicates urinary retention and complications with the parathyroid glands (Lewis, 2018).
Mag	1.6 - 2.4	N/A	N/A	N/A
Phosphate	2.5-4.5	N/A	N/A	N/A
Bilirubin	0.3 - 1.0	0.5	N/A	N/A
Alk Phos	34 - 104	101	N/A	N/A
AST	13-39	14	N/A	N/A
ALT	7-52	8	N/A	N/A
Amylase	30-110	N/A	N/A	N/A
Lipase	11 - 82	N/A	N/A	N/A

Lactic Acid	0.5 - 2.0	N/A	N/A	N/A
Troponin	0.000 - 0.030	< 0.010	N/A	N/A
CK-MB	0.60 - 6.30	N/A	N/A	N/A
Total CK	30 - 223	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	0.86 - 1.14	N/A	N/A	N/A
PT	11.9-15.0	N/A	N/A	N/A
PTT	22.6 - 35.3	N/A	N/A	N/A
D-Dimer	0.00 - 0.62	N/A	N/A	N/A
BNP	0 - 100	N/A	N/A	N/A
HDL	< 60	N/A	N/A	N/A
LDL	< 100	N/A	N/A	N/A
Cholesterol	< 200	N/A	N/A	N/A
Triglycerides	< 150	N/A	N/A	N/A
Hgb A1c	4-5.6%	N/A	N/A	N/A
TSH	0.4- 5.0	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	Yellow/Clear	Straw/Clear	N/A	N/A
pH	5.0 - 8.0	7.0	N/A	N/A

Specific Gravity	1.005 - 1.034	1.025	N/A	N/A
Glucose	Low-normal	Negative	N/A	N/A
Protein	Low-negative	Negative	N/A	N/A
Ketones	Low-negative	Negative	N/A	N/A
WBC	< or = 5	Negative	N/A	N/A
RBC	0-3	Negative	N/A	N/A
Leukoesterase	Low-negative	Negative	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	80-100	N/A	N/A	N/A
PaCO2	33-45	N/A	N/A	N/A
HCO3	21-28	N/A	N/A	N/A
SaO2	95-100	N/A	N/A	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	Positive or Negative	N/A	N/A	N/A
Blood Culture	Positive or Negative	N/A	N/A	N/A
Sputum Culture	Positive or Negative	N/A	N/A	N/A
Stool Culture	Positive or Negative	N/A	N/A	N/A

Lab Correlations Reference (1) (APA):

Lewis, J. (2018). *Hypocalcemia (low level of calcium the blood).* Merck Manuals Consumer Version. https://www.merckmanuals.com/home/hormonal-and-metabolic disorders/electrolyte-balance/hypocalcemia-low-level-of-calcium-in-the-blood

Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2019). *Mosby's diagnostic and laboratory test reference.* Elsevier.

Sarah Bush Lincoln Health Center (2020). *Reference range (lab values).* Mattoon, IL.

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

<u>Electrocardiography (EKG): 4/3/2021</u>

The results of the EKG were finalized on 4/3/2021. The patient was admitted to the emergency department, and per protocol, an EKG was performed due to the patient's chief complaint of abdominal pain and vomiting with mid sternal chest pain. The results indicated sinus arrhythmia.

<u>CT Abdomen and Pelvis with Contrast: 4/3/2021</u>

The results of the CT abdomen and pelvis with contrast were finalized on 4/3/2021. The interpreting radiologist indicated that the patient had lower abdominal pain. The radiologist's impression stated the patient had 5mm calculus on her left ureter causing mid left side hydronephrosis and hydroureter.

<u>X-Ray Chest 1 View: 4/3/2021</u>

The results of the x-ray chest 1 view were finalized on 4/3/2021. The interpreting radiologist indicated that the patient had chest pain. The radiologist's impression stated the patient had no acute cardiopulmonary process.

Echocardiogram Complete with Contrast: 4/4/2021

The results of the echocardiogram were finalized on 4/4/2021. The interpreting radiologist indicated that the patient had chest pain. The radiologist's impression stated the patient had no evidence of pericardial effusion.

Diagnostic Test Correlation (5 points):

Electrocardiography (EKG): 4/3/2021

The indications for this diagnostic test were abdominal pain and vomiting with mid sternal chest pain. Per the emergency department's protocol, the health care provider ordered this test to record the heart's electrical signals to detect heart complications associated with the patient's chief complaint. According to Johns Hopkins Medicine (2019), an EKG is used to evaluate the heart's function. The test uses electrodes connected to an ECG machine by lead wires to record the heart's impulses and see how fast the heart is beating, the rhythm of the heartbeats, and the strength and timing of the electrical impulses (Johns Hopkins Medicine, 2019).

CT Abdomen and Pelvis with Contrast: 4/3/2021

The indication for this diagnostic test was lower abdominal pain. The health care provider ordered this test to look for complications and bleeding of the internal organs. A CT abdomen and pelvis with contrast is a diagnostic imaging test used to detect diseases in the small bowel, colon, and other internal organs to determine the cause of unexplained pain (Capriotti & Frizzell, 2016).

X-Ray Chest 1 View: 4/3/2021

The indications for this diagnostic test were chest pain. A chest x-ray evaluates cardiac, respiratory, and skeletal structures in the lung cavity for potential diseases and infection present. According to Stokes & Roberts-Thomson (2017), X-rays help rule out pulmonary infections and malignancy that may not show pathologies related to valvular heart disease and pulmonary arterial hypertension.

Echocardiogram Complete with Contrast: 4/4/2021

The indications for this diagnostic test were chest pain. An echocardiogram has high sensitivity and specificity for the diagnosis of acute myocardial infarction. This diagnostic test uses sound waves to produce the heart's images to identify angina-related problems, including heart muscle damage due to poor blood flow (Mahmoud, 2017).

Diagnostic Test Reference (1) (APA):

Capriotti, T. & Frizzell, J.P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives.* 1st ed. F.A. Davis Company

John Hopkins Medicine. (2019). *Electrocardiogram*. https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/electrocardiogram

Mahmoud, M. Z. (2017). Echocardiography in the evaluation of chest pain in the emergency department. *Polish Journal of Radiology*, *82*, 798–805. https://doi.org/10.12659/pjr.904031

Stokes, M. B., & Roberts-Thomson, R. (2017). Diagnostic tests: The role of cardiac imaging in clinical practice. *Australian Prescriber*, *40*(4), 151–155. https://doi.org/10.18773/austprescr.2017.045

Current Medications (10 points, 1 point per completed med)
10 different medications must be completed

Home Medications (5 required)

Brand/Generic	Desyrel/ trazodone hydrochloride	Lasix/ furosemide	VESIcare/ solifenacin succinate	Monoket/ isosorbide mononitrate	Slow-K/ potassium chloride
Dose	100mg	40mg	5mg	60mg	20mEq
Frequency	HS	Daily	Daily	Daily every morning	Daily
Route	PO	PO	PO	PO	PO
Classification	Triazolopyridine derivative and antidepressant	Loop diuretic and antihypertensive diuretic	Antimuscarinic and bladder antispasmodic	Nitrate and antianginal	Electrolyte cation and electrolyte replacement
Mechanism of Action	Blocks serotonin reuptake along the presynaptic neuronal membrane, causing an antidepressant effect. Trazadone exerts an alpha-adrenergic blocking action and produces histamine blockade, causing a sedative effect.	Inhibits sodium and water reabsorption in the loop of Henle and increases urine formation. As the body's plasma volume decreases, aldosterone production increases, which promotes sodium reabsorption and the loss of potassium	Antagonizes the effect of acetylcholine on muscarinic receptors in detrusor muscle, decreasing the muscle spasms that cause inappropriate bladder emptying. This action increases bladder capacity and volume, which relives the sensation of	Isosorbide may interact with nitrate receptors in vascular smooth-muscle cell membrane. By interacting with receptors, drug is reduced to nitric oxide. This improves cardiac output by reducing mainly preload but also	Acts as the major cation in intracellular fluid, activating many enzymatic reactions essential for physiologic processes, including nerve impulse transmission and cardiac and skeletal muscle contraction.

		and hydrogen ions.	frequency and urgency and enhances bladder control.	afterload.	
Reason Client Taking	To treat major depression	To reduce edema caused by renal disease including nephrotic syndrome.	To treat overactive urinary bladder	To prevent angina	To prevent or treat low blood levels of potassium
Contraindications (2)	-Hypersensitivity to trazodone or its components. -Use within 14 days of an MAO inhibitor.	-Hypersensitivity to furosemide or its components. -Anuria	-Urine retention -Gastric retention	-Orthostatic hypotension -Hypersensitivity to isosorbide or other nitrates	-Acute dehydration -Hyperkalemia
Side Effects/Adverse Reactions (2)	Hypotension, abdominal pain	Restlessness, arrhythmias	Fatigue, urinary tract infection	Agitation, nausea	Weakness, chest pain
Nursing Considerations (2)	-Give trazodone shortly after the patient has a meal or light snack to reduce nausea. -Closely monitor depressed patients for suicidal thoughts and tendencies.	-Obtain patient’s weights before and periodically during furosemide therapy to monitor fluid loss. -Know that daily dosing drug should be given in the morning, so patient’s	-Monitor patient after the first dose for hypersensitivity reactions. Anaphylactic reactions and angioedema may occur with solifenacin therapy. -Monitor	-Give drug 1 hour before or 2 hours after meals. -Give with meals if patient experiences adverse GI reactions or severe headaches.	-Administer oral potassium with or immediately after meals. -Monitor patient receiving tablet forms of potassium for abdominal pain or

		sleep won't be interrupted by increased need to urinate.	patient for signs of anticholinergic CNS adverse reactions, especially after treatment began or dosage increased.		distention, gastrointestinal bleeding, or severe vomiting, as this can cause GI obstruction.
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Monitor the patient's vital signs and mental status, hyperthermia, and muscle rigidity.	Monitor patient's blood pressure, hepatic and renal function, as well as BUN, blood glucose, and serum creatinine, electrolyte, potassium, and uric acid levels.	Monitor patient's urine output, AST, ALT, BUN, creatinine and vital signs.	Monitor patient's blood pressure and vital signs. Assess patient's heart sounds and obtain EKG.	Monitor patient's potassium levels before and after administration, EKG, mental status, respirations, creatine level, and urine output.
Client Teaching needs (2)	-Urge patient to avoid taking trazodone on an empty stomach because doing so can increase the risk of dizziness or lightheadedness. -Instruct patient to not stop taking trazodone	-Instruct patient to take furosemide at the same time each day to maintain therapeutic effects. -Advise patient to change position slowly to minimize effects of	-Instruct patient to take solifenacin with a full glass of water and to swallow the tablet whole. -Caution patient to avoid exertion in a warm or hot environment because sweating	-Caution patient that abrupt drug discontinuation may cause angina and increase the risk of MI. -Teach patient to reduce the effects of orthostatic hypotension by changing position	-Teach patient how to take her radial pulse and advise her to notify provider about significant changes in heart rate or rhythm. -Inform patient to keep follow-up lab

	therapy abruptly.	orthostatic hypotension and to take furosemide with food or milk to reduce GI distress.	can be delayed which could increase body temperature and increase risk for heatstroke.	slowly. Advise him to lie down if she becomes dizzy.	appointment as directed by provider to determine serum potassium levels.

Hospital Medications (5 required)

Brand/Generic	Norvasc/ amlodipine besylate	Lipitor/ atorvastatin calcium	Cymbalta/ duloxetine hydrochloride	Amrix/ cyclobenzaprine hydrochloride	Neurontin/ gabapentin
Dose	5mg	80mg	60mg	10mg	600mg
Frequency	Daily	HS	Daily	HS	TID
Route	PO	PO	PO	PO	PO
Classification	Calcium channel blocker and antianginal, antihypertensive	HMG-CoA reductase inhibitor and antihyperlipidemic	Selective serotonin and norepinephrine reuptake inhibitor and antidepressant, neuropathic and musculoskeletal pain reliever	Tricyclic antidepressant-like agent and skeletal muscle relaxant	1-amino-methyl cyclohexane acetic acid and anticonvulsant

Mechanism of Action	Binds to dihydropyridine and nondihydropyridine cell membrane receptor sites on myocardial and vascular smooth-muscle cells and inhibits influx of extracellular calcium ions across slow calcium channels.	Reduces plasma cholesterol and lipoprotein levels by inhibiting HMG-CoA reductase and cholesterol synthesis in the liver and by increasing the number of LDL receptors on liver cells to enhance LDL uptake and breakdown.	Inhibits dopamine, neuronal serotonin, and norepinephrine reuptake to potentiate 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 levels.	Acts in the brain stem to reduce or abolish tonic muscle hyperactivity. Cyclobenzaprine relieves muscle spasms without disrupting muscle function.	Gamma aminobutyric (GABA) inhibits the rapid firing of neurons associated with seizures. It prevents exaggerate 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.
Reason Client Taking	To control hypertension and chest pain	To control lipid levels as adjunct to diet in primary to hypercholesterolemia and mixed dyslipidemia	To treat major depressive disorder	To relieve muscle spasms associated with acute painful musculoskeletal conditions	To treat nerve pain
Contraindicati	-	-Active hepatic	-Chronic	-	-Decreased

ons (2)	Hypersensitivity to amlodipine -Significantly low blood pressure	disease -Unexplained persistent rise in serum transaminase levels	liver disease -Severe renal impairment	Arrhythmias -Heart block and other conduction disturbances	lung function -Depression
Side Effects/Adverse Reactions (2)	Arrhythmias, fatigue	Depression, weight gain	Anxiety, extremity pain	Drowsiness, urine retention	Lack of coordination, joint stiffness
Nursing Considerations (2)	-Assess patient frequently for chest pain when starting or increasing the dose of amlodipine. -Monitor blood pressure while adjusting dosage because symptomatic hypotension can occur.	-Expect lipid levels 2 to 4 weeks after therapy starts, to adjust dosage as directed, and to repeat periodically until lipid levels are within desired range. -Monitor for symptoms for hyperbilirubinemia and jaundice; notify provider if these symptoms occur and expect the drug to be discontinued until cause of liver dysfunction has been identified.	-Watch patient closely for evidence of suicidal thoughts or behaviors. -Avoid stopping duloxetine therapy abruptly because withdrawal symptoms can occur including insomnia, nausea, and irritability.	-Take safety precautions to prevent falls if patient is dizzy or weak. -Assess patient for autonomic instability, mental status changes, and provide support care as ordered.	-Monitor patients for evidence of suicidal ideations or behaviors when therapy starts or dosage changes. -Gabapentin capsules can be opened and mixed with apple sauce, fruit juice, pudding, or water before administration.
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	Monitor patient's pulse, AST, ALT, blood pressure, and EKG. Assess patient for chest pain	Monitor patient's lipid panel (LDL, HDL, cholesterol, and triglyceride) blood glucose, AST, ALT, and	Monitor patient's blood pressure, serum sodium levels, AST, ALT,	Monitor patient's vital signs, peripheral pulses, mental status, and fall risk.	Monitor patient's mental status, renal function (BUN and creatinine)

	routinely.	vital signs.	and mental status.	Assess patient's neurovascular status, strength, and range of motion.	, and vital signs. Assess patient's pain level routinely.
Client Teaching needs (2)	-Inform patient to notify provider if dizziness, arm or leg swelling, difficulty breathing, hives, or rashes occur. -Educate patient to take amlodipine with food to reduce GI upset.	-Educate patient to take dug at the same time each day to maintain its effect. -Instruct patient to take a missed dose as soon as possible (unless it is almost time for the next dose).	-Educate patient to take capsule whole and do not crush the medication because it alters the enteric coating and may affect drug absorption. -Inform the patient that full effect of duloxetine can take weeks to occur and emphasize the importance of continuing to take the drug as directed by the provider.	-Inform patient about lack of alertness and dexterity caused by drug. -Advise patient to ask for assistance with walking, driving, or hazardous activities if she experiences dizziness or weakness.	-Educate patient to take a missed dose as soon as she remembers and caution against doubling the dosage. -Caution patient not to stop drug abruptly and notify provider if adverse effects occur such as dizziness, drowsiness, and ataxia.

Medications Reference (1) (APA):

2020 Nurse's drug handbook. (2020). Jones & Bartlett Learning.

Assessment

Physical Exam (18 points)

GENERAL (1 point): **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	**Alertness:** The patient was A&O x 4 **Orientation:** The patient was alert and oriented and was able to verify name, DOB, and location (hospital) **Distress:** The patient is not visibly distressed; she was calm and cooperative. **Overall appearance:** The patient was well-groomed and had a clean look.
INTEGUMENTARY (2 points): **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	**Skin color:** Color was usual for ethnicity **Character:** The patient's skin was intact **Temperature:** Warm to the touch **Turgor:** Loose and elastic **Rashes:** None present **Bruises:** None present **Wounds:** None present **Braden Score:** 19, No risk for pressure ulcers
HEENT (1 point): **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	**Head/Neck:** Trachea is midline, oral mucosa is moist and intact. Uvula is midline, no tonsil enlargement noted. Tongue is pink with no lesions. **Ears:** Symmetrical, tympanic membrane is pink and grey bilaterally **Eyes:** PERRLA patient's pupils constricted normally, EOM was normal. Sclera appears white with no inflammation or drainage bilaterally. **Nose:** Septum is midline, no sign of bleeding or mucus. **Teeth:** No cavity present teeth was intact and had a yellow tint
CARDIOVASCULAR (2 points):	**Heart sounds:** Regular S1, S2 sounds present

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:**	**Cardiac rhythm:** Rhythm is regular for age **Peripheral Pulses:** Radial and pedal pulses are 3+ bilaterally and were noted at 85 and 76 beats per minute. **Capillary Refill:** Normal, fingertips blanched white in less than 3 seconds
RESPIRATORY (2 points): **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	**Accessory Muscle:** Accessory muscle was not used during respiration **Breath Sounds:** All lobes posteriorly and anteriorly were clear bilaterally **Location:** Lung sounds were normal for age; high-pitched breath sounds in all lobes bilaterally anteriorly and posteriorly. **Character:** Loud, high-pitched bronchial breath sounds **Respiratory Rate:** 16 and 16 per minute. Respirations are regular in rhythm, even, and appeared unlabored, the patient was on oxygen 100% room air.
GASTROINTESTINAL (2 points): **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:**	**Diet at home:** Regular diet **Current Diet:** Healthy heart diet, 1800-2000 calorie consistent carbohydrate diet **Height:** 165.5cm **Weight:** 154kg **Auscultation Bowel sounds:** Active bowel sounds in all 4 quadrants **Last BM:** 04/3/2021 **Palpation: Pain, Mass etc.:** Abdomen is soft to touch, tender to palpitation **Inspection:** **Distention:** Non-distended **Incisions**: N/A **Scars:** N/A **Drains:** N/A **Wounds:** N/A **Feeding Tubes/PEG Tube:** N/A
GENITOURINARY (2 Points): **Color:** **Character:** **Quantity of urine:**	**Color:** Straw **Character:** Clear **Quantity of urine:** 200 mL

Pain with urination: Y ☐ N ☒ **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☐ N ☒** **Type:** N/A **Size:** N/A	**Inspection of genitals:** Clean and intact, no lesions present
MUSCULOSKELETAL (2 points): **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** 60; High Risk **Activity/Mobility Status:** **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☐ **Needs support to stand and walk** ☒	**Neurovascular status:** Radial and pedal pulse are 3+ bilaterally. Skin is warm to touch in upper and lower extremities. The patient's skin color is normal for ethnicity. **ROM:** Upper extremities are equal in strength; lower extremities are equally weak. The patient complained of pain when lifting her legs bilaterally during the assessment. **Supportive devices:** Walker for mobility. **Strength:** Lower extremities are equally weak bilaterally, upper extremities are equal in strength bilaterally **ADL Assistance:** One assist to mobilize
NEUROLOGICAL (2 points): **MAEW: Y ☐ N☒** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no -** **Legs ☒ Arms ☐ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	**MAEW:** Upper extremities are equal in strength bilaterally; lower extremities are equally weak bilaterally. The patient complained of pain when lifting her legs bilaterally during the assessment. **PERRLA:** Pupils constrict normally **Strength Equal:** No, upper extremities are equal strong bilaterally, lower extremities are equally weak bilaterally. The patient complained of pain when lifting her legs bilaterally during the assessment. **Orientation:** A & O x 4 Patient was alert and orientated. Patient was able to verify her name, DOB, and location (hospital). **Mental Status:** Alert and Orientated **Speech:** Clear **Sensory:** Intact **LOC:** Patient was alert and oriented
PSYCHOSOCIAL/CULTURAL (2 points): **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	**Coping methods:** The patient identifies her son as her primary support. The patient watches TV and sleep as coping mechanisms. **Developmental level:** The patient has an appropriate developmental level for her age. **Religion and what it means to pt:** The patient did not report having a religion preference. **Personal/Family Data:** The patient is lives at home and says her son is her main support

	system. He helps her with her activities of daily living and supports her around the house.

Vital Signs, 2 sets (5 points)

Time	**Pulse**	**B/P**	**Resp Rate**	**Temp**	**Oxygen**
0910	85 beats per minute	120/64 mmHg	16 Respirations per minute	36.7 degrees Celsius (Oral)	94% on room air
1055	76 beats per minute	95/66 mmHg	16 Respirations per minute	36.8 degrees Celsius (Oral)	95% on room air

Vital Sign Trends:

According to the patient's vital sign trends, minimal changes occurred between the vital signs taken at 0910 and 1055. During the first vital signs assessment, the patient's vital signs were within normal ranges; her pulse (85 beats per minute), blood pressure (120/64 mmHg), respiration rate (16 respirations per minute), temperature (36.7 degrees Celsius), and oxygen (94% on room air). During the patient's second assessment at 1055, her pulse was 76 beats per minute, respiration rate was 16 respirations per minute, the temperature was 36.8 degrees Celsius, and oxygen was 95% on room air. The patient had an abnormal systolic blood pressure of 95 and diastolic blood pressure of 66 mmHg; these values decreased during this student's second assessment indicating the patient was hypotensive at the time of her assessment.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0910	Numeric	Lower Abdomen	10/10	Sharp, burning, cramping pain	The patient was given meloxicam to relieve her pain.
1055	Numeric	N/A	0/10	N/A	The patient stated she was not in pain; no intervention was needed at this time.

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: 18 Gauge **Location of IV:** Right arm **Date on IV:** 4/4/2021 **Patency of IV:** Flushed with no difficulty **Signs of erythema, drainage, etc.:** No signs of erythema, drainage. **IV dressing assessment:** No phlebitis or infiltration present. IV dressing was clean, dry and intact, flushed with no difficulty, and there were no signs of redness or drainage around the site.	The patient's IV is saline lock.

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
Sprite- 355 mL **Total: 355mL**	Urine- 200 mL **Total: 200mL**

Nursing Care

Summary of Care (2 points)

Overview of care:

This student performed and documented the physical assessment for this client. This student also obtained her vital signs and pain level twice during the clinical shift, administered her daily morning medications, promoted bed rest, changed her soiled gown, and helped her ambulate to the restroom.

Procedures/testing done:

The patient did not leave the floor, no procedures or tests were done during this clinical shift.

Complaints/Issues:

The patient complained that her former care partner was rude to her and requested a new care partner for the duration of her stay in the hospital. D.R. also complained that drinking water upset her stomach and asked to drink Sprite throughout the day. The patient was alert and oriented, and this student routinely checked up on this patient throughout the clinical shift.

Vital signs (stable/unstable):

D.R.'s vital signs showed stability during this clinical shift except for the changes in her blood pressure. The patient's systolic and diastolic blood pressure at 0910 was 120/64 mmHg, and at 1055, her blood pressure decreased to 95/66 mmHg. The patient's pulse, respiratory rate, temperature, and oxygen levels remained within normal limits during this clinical shift. Meloxicam was administered for pain during this clinical shift, and the patient reported pain decreased to 0/10 during her second pain assessment.

Tolerating diet, activity, etc.:

The patient is on a healthy heart 1800-2000 calorie consistent carbohydrate diet and showed no difficulties while eating her breakfast. D.R. tolerated activities well and showed weakness in both her lower extremities when she ambulated to the restroom. The patient could ambulate to the bathroom with one assist during this clinical shift and complained of lower extremity pain during her physical assessment.

Physician notifications:

The physician was notified of the patient's blood pressure changes at 0910 (120/64 mmHg) and 1055 (95/66 mmHg).

Future plans for patient:

The patient will be discharged to go home with her son this afternoon. The goal for the patient is to void pain-free and show no signs of urinary tract infection. Future plans for this patient includes dietary and lifestyle modification and increased fluid intake daily.

Discharge Planning (2 points)

Discharge location:

The patient is to be discharged to go home with her son in Charleston, Illinois.

Home health needs (if applicable): The patient does not require home health needs.

Equipment needs (if applicable): The patient requires a walker to assist with ambulation. During the physical assessment, the patient showed weakness in both lower extremities bilaterally.

Follow up plan:

The patient did not have a follow-up plan at the time of this clinical shift.

Education needs:

The patient requires additional information regarding consuming a nutritionally balanced diet and incorporating an adequate water intake daily. Educate the patient about the importance of nutrition and how changing her lifestyle habits can prevent health complications. Also, include information regarding how the patient can prevent kidney stones and urinary tract infections in the future.

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

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	**Rational** • Explain why the nursing diagnosis was chosen	**Intervention (2 per dx)**	**Evaluation** • How did the patient/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Impaired urinary elimination related to renal stones as evidenced by oliguria (Vera, 2019).	The nursing diagnosis was chosen because the patient has urinary retention due to renal stones.	**1.** Record the patient's intake and output during the clinical shift and notate the characteristics of the urine (Vera, 2019). **2.** Promote sufficient intake of fluids throughout the day and encourage the patient to ambulate if possible (Vera, 2019).	-The patient responded well to the nurse's actions because she reported having no pain when voiding. -Goal met: The patient reported no signs of voiding difficulties by the end of the clinical shift.
2. Risk for deficient fluid volume related to decrease oral intake as evidenced by patient refusing to drink water	The nursing diagnosis was chosen because the patient refused to drink water during this clinical shift.	**1.** Monitor patient's vital signs and evaluate pulses, capillary refill, skin turgor, and mucous membranes (Vera, 2019).	-The patient responded well to the nurse's actions because she increased her fluid intake throughout the day. -Goal met: The patient increased her fluid intake to three to four liters by

throughout this clinical shift (Vera, 2019).		**2.** Encourage appropriate diet, clear liquids, and fluid intake of three to four liters within cardiac tolerance (Vera, 2019).	the end of the clinical shift.
3. Acute pain related to lower abdominal cramps as evidenced by grimaced facial expression and reports of discomfort (Vera, 2019).	The nursing diagnosis was chosen because the patient complained of lower abdominal cramps and reported the pain was sharp and burning.	**1.** Determine and note location, duration, intensity, and radiation of pain. Document nonverbal signs like restlessness, elevated pulse, and blood pressure (Vera, 2019). **2.** Implement comfort measures such as focused breathing, guided imagery, and warm blankets (Vera, 2019).	- The patient responded well to the nurse's actions because she reported feeling no pain during her second pain assessment. -Goal met: The patient verbalized her pain was controlled by the end of the clinical shift. D.R. reported her pain as a 0/10 on a numeric scale ranging from 0-10.
4. Deficient knowledge related to unfamiliarity with information resources as evidenced by statement of misconception and inaccurate follow-through of instructions (Vera, 2019).	The nursing diagnosis was chosen because the patient had concerns about avoiding the reoccurrence of kidney stones in the future.	**1.** Promote regular activity and exercise programs throughout the day (Vera, 2019). **2.** Educate the patient on how to identify signs and symptoms requiring medical evaluation such as recurrent pain, hematuria, and oliguria (Vera, 2019).	-The patient responded well to the nurse's actions because she verbalized an understanding of the disease process and potential complications. -Goal met: The patient was able to identify necessary lifestyle changes and correlate symptoms with causative factors by the end of the clinical shift.

Other References (APA):

Vera, M. (2019). *4 Urolithiasis (renal calculi) nursing care plans.* Nurseslabs. https://nurseslabs.com/4-urolithiasis-nursing-care-plans/

Concept Map (20 Points):

Subjective Data

Patient states, "I have lower abdomen and chest pain radiating to my back and have been vomiting at home for the past hour."

Nursing Diagnosis/Outcomes

1. Impaired urinary elimination related to renal stones as evidenced by oliguria (Vera, 2019).

-Goal met: The patient reported no signs of voiding difficulties by the end of the clinical shift.

2. Risk for deficient fluid volume related to decrease oral intake as evidenced by patient refusing to drink water throughout this clinical shift (Vera, 2019).

-Goal met: The patient increased her fluid intake to three to four liters by the end of the clinical shift.

3. Acute pain related to lower abdominal cramps as evidenced by grimaced facial expression and reports of discomfort (Vera, 2019).

-Goal met: The patient verbalized her pain was controlled by the end of the clinical shift. D.R. reported her pain as a 0/10 on a numeric scale ranging from 0-10.

Objective Data

Vital Signs:
0910: P:85, B/P: 120/64 R:16, T: 36.7 C (Oral), O: 94%, Pain: 10/10
1055: P:76, B/P: 95/66* R:16, T: 36.8 C (Oral), O: 95%, Pain: 0/10

Lab Results on Admission: RBC: 4.26 HgB: 12.3 Hct: 36.4; Platelets: 297; WBC: 8.7; Neutrophils: 70.7; Lymphocytes: 19.6, Monocytes: 7.0, Na+: 139, K+: 3.5, Cl-: 102, CO2: 31, Glucose: 99, BUN: 9, Creatinine: 1.08, Calcium: 9.2, Bilirubin: 0.5, Alk Phos: 101, AST: 10, ALT: 8, Troponin: <0.010

Urinalysis: Color: Yellow, Clarity: Clear, pH: 7.0, Specific Gravity: 1.025

Diagnostic Test: Electrocardiography (EKG): 4/3/2021 (sinus arrhythmia), CT Abdomen and Pelvis with Contrast: 4/3/2021 (5mm calculus on her left ureter causing mild left side hydronephrosis and hydroureter), X-Ray Chest 1 View: 4/3/2021 (no acute cardiopulmonary process), Echocardiogram Complete with Contrast: 4/4/2021 (no evidence of pericardial effusion).

Patient Information

The 57-year-old Caucasian female presented to the emergency room on 4/4/2021 with lower abdominal and mid sternal chest pain and vomiting. The patient has a history of allergic rhinitis, anxiety, asthma, chronic obstructive pulmonary disease, diastolic dysfunction of (left) ventricle, fibromyalgia, gastroesophageal reflux disease, hypertension, hyperlipidemia, hypothyroidism, irritable bowel syndrome, lumbar compression fracture, neuropathy, obstructive sleep apnea, osteoarthritis, urinary incontinence, and obesity. D.R.'s surgical history includes cholecystectomy (2010), esophagogastroduodenoscopy biopsy (2017), cystoscopy (2018), cardiac catheterization (2020). The patient denies use of tobacco, alcohol and recreational drugs.

Nursing Interventions

Diagnosis 1:
1. Record the patient's intake and output during the clinical shift and notate the characteristics of the urine (Vera, 2019).
2. Promote sufficient intake of fluids throughout the day and encourage the patient to ambulate if possible (Vera, 2019).

Diagnosis 2:
1. Monitor patient's vital signs and evaluate pulses, capillary refill, skin turgor, and mucous membranes (Vera, 2019).
2. Encourage appropriate diet, clear liquids and fluid intake of three to four liters within cardiac tolerance (Vera, 2019).

Diagnosis 3:
1. Determine and note location, duration, intensity, and radiation of pain. Document nonverbal signs like restlessness, elevated pulse, and blood pressure (Vera, 2019).
2. Implement comfort measures such as focused breathing, guided imagery, and warm blankets (Vera, 2019).

Diagnosis 4:
1. Promote regular activity and exercise program throughout the day (Vera, 2019).
2. Educate the patient on how to identify signs and symptoms requiring medical evaluation such as recurrent pain, hematuria, and dysuria (Vera, 2019).