N431 Care Plan #2

Lakeview College of Nursing

Harold S. Henson

Demographics (3 points)

Date of Admission 03-08-20	**Patient Initials** M.K.	**Age** 27	**Gender** Female
Race/Ethnicity Caucasian	**Occupation** Elementary School Teacher	**Marital Status** Married	**Allergies** S
Code Status Full Code	**Height** 5'3" (160cm)	**Weight** 176 lbs (80kg)	

Medical History (5 Points)

Past Medical History: Pregnancy-induced hypertension, rheumatoid arthritis, anemia

Past Surgical History: Cesarean section, Lithotripsy

Family History: Mother – diabetes, Brother – diabetes, Father – MI

Social History (tobacco/alcohol/drugs): never smoker, casual drinker (1-2x per month), never drug use

Assistive Devices: None

Living Situation: Lives at home with husband and daughter

Education Level: Bachelor's degree in elementary education

Admission Assessment

Chief Complaint (2 points): Generalized "not feeling well"

History of present Illness (10 points):

The patient lives at home with her husband and daughter. She has been training for an upcoming marathon and has been running to get into shape and to improve upon her time. The patient states that she has run over 50 miles within the past three days trying to break her personal record. The patient brought herself to the hospital and complained of having generalized weakness and states that she is "not feeling well." She states no aggravating factors and no alleviating factors. She stated her pain as a 6/10 at 0700.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Rhabdomyolysis

Secondary Diagnosis (if applicable): N/A

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

Rhabdomyolysis is a clinical syndrome and occurs when contents of injured muscle cells leak into the circulation, or when the release of toxic intracellular material, such as myoglobin leaks into the blood circulation due to skeletal muscle cell damage (Hinkle & Cheever, 2018). The kidneys cannot handle the amount of myoglobin, and it can damage them, and in some cases, can cause kidney failure (Hinkle & Cheever, 2018). This leakage results in electrolyte abnormalities, acidosis, clotting disorders, hypovolemia, and acute renal failure (Taylor et al., 2018). Several conditions, both traumatic and non-traumatic, can lead to rhabdomyolysis (Hinkle & Cheever, 2018). Injury, overexertion, infection, drug use, or the use of certain medications can cause rhabdomyolysis (Hinkle &

Cheever, 2018). Patients with rhabdomyolysis often require intensive care of this life-threatening syndrome (Hinkle & Cheever, 2018). According to Hinkle & Cheever (2018, p. 2171), "The classic triad of clinical manifestations suggestive of rhabdomyolysis includes myalgias (muscle cramps), generalized muscle weakness, and darkened urine."

Diagnostic testing used to identify rhabdomyolysis includes blood tests (CBC) and urine analysis (UA). The patient has a past medical history of having anemia and her hemoglobin and sodium levels were below normal values, and potassium and total CK were elevated indicating rhabdomyolysis. The serum creatinine kinase (CK) is the most sensitive indicator of rhabdomyolysis (Hinkle & Cheever, 2018). The patient's UA results did not indicate common findings of rhabdomyolysis; however, it did indicate polyuria, which is common with diabetes mellitus and can be associated with rhabdomyolysis (Hinkle & Cheever, 2018). The patient's imaging tests include Chest X-ray and EKG. These tests help identify that the patient did not have any abnormalities. The treatment given to the patient includes IV fluids, a high-calorie diet, and medications to stabilize her electrolyte levels, acid-base, and water balance.

Pathophysiology References (2) (APA):

Hinkle, J.L., & Cheever, K.H. (2018). *Brunner & Suddarth's Textbook of Medical Surgical Nursing* (14th ed.). Wolters Kluwer Health Lippincott William & Wilkins.

Taylor, C., Lynn, P., & Bartlett, J. L. (2019). *Fundamentals of nursing: The art and science of person-centered care*. Wolters Kluwer

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	3.9–5	N/A	N/A	
Hgb	11-15.5	**8.8**	**N/A**	A decrease in production of red blood cells (decreased erythropoiesis) or hemoglobin is indicative of anemia, which the patient has (Hinkle & Cheever, 2018).
Hct	33.2-45.3%	N/A	N/A	
Platelets	150-400(k)	N/A	N/A	
WBC	5-10(k)	7.4	N/A	
Neutrophils	45-80%	N/A	N/A	
Lymphocytes	11.8-46	N/A	N/A	
Monocytes	4.4-12	N/A	N/A	
Eosinophils	0-6.3	N/A	N/A	
Bands	< x 10^9/L	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-	135-145	**123**	**N/A**	Hyponatremia can result from underlying conditions, such as kidney failure, or other factors, such as drinking too much water or taking certain medications (Hinkle & Cheever, 2018).
K+	3.5-5.0	**5.5**	**N/A**	Hyperkalemia can result from rhabdomyolysis, hemolysis, renal failure, acidosis, and medications (Hinkle & Cheever, 2018).
Cl-	98-107	N/A	N/A	
CO2	21-34	N/A	N/A	
Glucose	70-99	86	N/A	
BUN	6-20	10	N/A	
Creatinine	0.5-0.9	**1.67**	**N/A**	Creatinine is a specific marker of renal function, and rise in rhabdomyolysis (Hinkle & Cheever, 2018).
Albumin	3.5-5.2	N/A	N/A	
Calcium	8.6-10.4	N/A	N/A	

Mag	1.6-2.4	N/A	N/A	
Phosphate	2.5-4.5	N/A	N/A	
Bilirubin	<1.2	N/A	N/A	
Alk Phos	32-100 U/L	N/A	N/A	
AST	<32	N/A	N/A	
ALT	<33	N/A	N/A	
Amylase	50-150	N/A	N/A	
Lipase	10-140 U/L	N/A	N/A	
Lactic Acid	0.4-2.3	N/A	N/A	
Troponin	0-0.4 ng/mL	N/A	N/A	
CK-MB	5-25 IU/L	N/A	N/A	
Total CK	22-198 U/L	**3568**	**N/A**	Rhabdomyolysis is a clinical syndrome characterized by elevated serum creatine kinase (CK) in the blood (Hinkle & Cheever, 2018).

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	
PT	11.9-15	N/A	N/A	
PTT	23-37	N/A	N/A	
D-Dimer	< 500ng/mL	N/A	N/A	
BNP	<100pg/mL	N/A	N/A	
HDL	> 40	N/A	N/A	
LDL	< 100	N/A	N/A	
Cholesterol	< 200	N/A	N/A	
Triglycerides	< 150	N/A	N/A	
Hgb A1c	0-5.7	N/A	N/A	
TSH	0.358-3.740	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 Admissio	Today's Value	Reason for Abnormal

		n		
Color & Clarity	Yellow/ Clear	N/A	N/A	
pH	4.5-8.0	N/A	N/A	
Specific Gravity	1.005-1.035	N/A	N/A	
Glucose	< 0.8 mml/L	N/A	N/A	
Protein	6.4-8.4 g/dL	N/A	N/A	
Ketones	0.6-1.5	N/A	N/A	
WBC	5-10(k)	N/A	N/A	
RBC	3.9-5.0	N/A	N/A	
Leukoesterase	4.5-11(k)	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	
PaO2	75-100	N/A	N/A	
PaCO2	35-45	N/A	N/A	
HCO3	22-26	N/A	N/A	
SaO2	>92%	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	Straw	N/A	N/A	
Blood Culture	N/A	N/A	N/A	
Sputum Culture	N/A	N/A	N/A	
Stool Culture	N/A	N/A	N/A	

Lab Correlations Reference (APA):

Hinkle, J.L., & Cheever, K.H. (2018). *Brunner & Suddarth's Textbook of Medical Surgical Nursing* (14th ed.). Wolters Kluwer Health Lippincott William & Wilkins.

Normal Lab Values - Common Laboratory Values. (n.d.). Retrieved from https://www.meditec.com/resourcestools/medical-reference-links/normal-lab-values/

Diagnostic Imaging

All Other Diagnostic Tests (5 points): Chest X-ray, EKG

Diagnostic Test Correlation (5 points):

Chest X-ray: negative for any acute abnormalities

EKG_ shows NSR, no noted abnormalities

Diagnostic Test Reference (APA):

Key, E. (2020, March 08). Diagnostic Tests. Lakeview College of Nursing, Charleston, IL.

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

Home Medications (5 required)

Brand/Generic	**loratadine (Claritin)**	**Prenatal vitamin (Vynatal)**	**azathioprine (Azasan)**	**hydroxychloroquine (Plaquenil)**	**folic acid (Folvite)**
Dose	10 mg	2 chewable gummies	50 mg	200 mg	1 mg
Frequency	Daily	Daily	Daily	Daily	Daily
Route	PO	PO	PO	PO	PO
Classification	antihistamin	vitamins	immunosupp	antirheumatic	vitamins

	e		ressant	(DMARD)	
Mechanism of Action (Davis, 2020).	Blocks peripheral effects of histamine released during allergic reactions.	Contain fat-soluble vitamins (A, D, and E) and most water-soluble vitamins (B-complex vitamins B1, B2, B3, B5, B6, B12, vitamin C, biotin, and folic acid). These vitamins are a diverse group of compounds necessary for normal growth and development. Many act as coenzymes or catalysts in numerous metabolic processes. Liquid products do not contain folic acid.	Antagonizes purine metabolism with subsequent inhibition of DNA and RNA synthesis.	Inhibits protein synthesis in susceptible organisms by inhibiting DNA and RNA polymerase.	Necessary for formation of coenzymes in metabolic systems (purine and pyrimidine synthesis required for maintenance in erythropoiesis); stimulates platelet production in folate deficiency anemia. Enhances elimination of formic acid in methanol toxicity via provision of

					coenzyme to folate dehydroge nase.
Reason Client Taking (Key, 2020).	Relief of symptoms of seasonal allergies	Prevention of vitamin deficiencies and to provide larger doses of folic acid.	Treatment of rheumatoid arthritis	Treatment of severe rheumatoid arthritis	Reduces neural tube defects
Contraindications (2) (Davis, 2020).	1) Pregnancy or children <2 yr (safety not established). Syrup contains sodium benzoate, avoid use in neonates. 2) Hepatic impairment	1) Hypersensitivit y to preservatives, colorants, or additives, including tartrazine, saccharin, and aspartame (oral forms). 2) Patients with anemia of undetermined cause.	1) Has been shown to cause fetal harm. 2) Appears in breast milk.	1) Hepatic impairment 2) Renal impairment	1) Hypersensi tivity to preservativ es, colorants, or additives, including tartrazine, saccharin, and aspartame (oral forms). 2) Patients with anemia of undetermin ed cause.
Side Effects/Adverse Reactions (2)	1) Confusion	1) Urine discoloration	1) Pulmonary	1) Anxiety	1) Bronchosp

(Davis, 2020).	2) Weight gain	2) Allergic reactions to preservatives, additives, or colorants.	edema 2) pancytopenia	2) Aplastic Anemia	asm 2) Erythema
Nursing Considerations (2) (Davis, 2020).	1) Assess allergy symptoms (rhinitis, conjunctivitis, hives) before and periodically during therapy. 2) Assess lung sounds and character of bronchial secretions.	1) Assess patient for signs of nutritional deficiency before and throughout therapy. Patients at risk include geriatric patients and those who are debilitated, burned, or unable to take oral nutrition and those with malabsorption syndromes or chronic alcoholism. 2) If overdose occurs, treatment includes induction of emesis or	1) Assess for infection (vital signs, sputum, urine, stool, WBC) during therapy. 2) Leukocyte count of < 3000 or platelet count of > 100,000/mm 3 may necessitate a reduction in dose or temporary discontinuation.	1) Assess patient monthly for pain, swelling, and range of motion. 2) Patients on prolonged high-dose therapy should have eye exams prior to and every 3– 6 mo during therapy to detect retinal damage.	1) Except during pregnancy and lactation, f olic acid should not be given in therapeutic doses greater than 0.4 mg daily until pernicious anemia has been ruled out. 2) Use caution when giving the parenteral preparations to premature

		gastric lavage, calcium gluconate IV if hypocalcemic, and maintenance of high urine output.			infants. These preparations contain benzyl alcohol and may produce a fatal gasping syndrome in premature infants.
Key Nursing Assessment(s)/Lab(s) Prior to Administration (Medscape, 2020).	1) Maintain fluid intake of 2000–3000 mL/day to decrease viscosity of secretions. 2) May cause false-negative result on allergy skin testing.	1) Toxicity rarely occurs with multivitamin preparations because of the small amounts per unit of fat-soluble vitamins. For symptoms, see individual vitamin entries. 2) Assess patient for imbalanced nutrition and indications of	1) Assess range of motion; degree of swelling, pain, and strength in affected joints; and ability to perform activities of daily living before and periodically during therapy. 2) Monitor	1) Monitor CBC and platelet count periodically throughout therapy. May cause decreased RBC, WBC, and platelet counts. If severe decreases occur that are not related to the disease process, hydroxychloroquine should be discontinued. 2) Assess deep tendon reflexes periodically to	1) Test using Schilling test and serum vitamin B12 levels to rule out pernicious anemia. Therapy may mask signs of pernicious anemia while the neurologic deterioration

		less than body requirements.	renal, hepatic, and hematologic functions before beginning therapy, weekly during the 1st mo, bimonthly for the next 2– 3 mo, and monthly thereafter.	determine muscle weakness. Therapy may be discontinued should this occur.	continues. 2) Physically asses for skin lesions, color; adventitious sounds; CBC, Hgb, Hct, serum folate levels, serum vitamin B12 levels, Schilling test.
Client Teaching needs (2) (Medscape, 2020).	1) Instruct patient to take medication as directed. 2) Advise patient to avoid taking alcohol or other CNS depressants concurrently with this	1) Encourage patient to comply with recommendations of health care professional. Explain that the best source of vitamins is a well-balanced diet with foods from the 4 basic food groups.	1) Instruct patient to take azathioprine as directed. If a dose is missed on a once-daily regimen, omit dose; if on several-times-a-day dosing, take as soon as	1) Instruct patient to take medication exactly as directed and continue full course of therapy even if feeling better. Missed doses should be taken as soon as remembered unless it is almost time for next dose. Do not double doses.	1) Encourage patient to comply with recommendations of health care professional. Explain that the best source of vitamins is a well-

	drug.	2) Advise parents not to refer to chewable multivitamins for children as candy.	possible or double next dose. Consult health care professional if more than 1 dose is missed or if vomiting occurs shortly after dose is taken. Do not discontinue without consulting health care professional. 2) Advise patient to report unusual tiredness or weakness; cough or hoarseness; fever or chills; lower back or side pain; painful	2) Instruct patient to contact health care professional if no improvement is noticed within a few days. Treatment for rheumatoid arthritis may require up to 6 mo for full benefit.	balanced diet with foods from the 4 basic food groups. 2) Report rash, difficulty breathing, pain or discomfort at injection site.

			or difficult urination; severe diarrhea; black, tarry stools; blood in urine; or transplant rejection to health care professional immediately.		

Hospital Medications (5 required)

Brand/Generic	**0.9% normal saline (sodium chloride) (Slo-Salt)**	**sodium chloride (NaCl) (Slo-Salt)**	**sodium polystyrene sulfonate (Kayexelate)**	**acetaminophen (Tynelol)**	**docusate calcium (Kaopectate Stool Softener)**
Dose	250 mL/hr	1 tablet	30 mg	650 mg	100 mg
Frequency	PRN	Daily	Once	Q6H PRN	BID PRN
Route	IV	PO	PO	PO	PO

Classification	Mineral and electrolyte replacement	Mineral and electrolyte replacement	Hypokalemic, electrolyte modifier	Antipyretic, nonopioid analgesic	Laxative/stool softener
Mechanism of Action (Davis, 2020).	Sodium is a major cation in extracellular fluid and helps maintain water distribution, fluid and electrolyte balance, acid-base equilibrium, and osmotic pressure. Chloride is the major anion in extracellular fluid and is involved in maintaining acid-base balance. Solutions of NaCl resemble extracellular	Sodium is a major cation in extracellular fluid and helps maintain water distribution, fluid and electrolyte balance, acid-base equilibrium, and osmotic pressure. Chloride is the major anion in extracellular fluid and is involved in maintaining acid-base balance. Solutions of NaCl resemble extracellular	Exchanges sodium ions for potassium ions in the intestine (each 1 g is exchanged for 1 mEq potassium).	Inhibits the synthesis of prostaglandins that may serve as mediators of pain and fever, primarily in the CNS. Has no significant anti-inflammatory properties or GI toxicity.	Promotes incorporation of water into stool, resulting in softer fecal mass. May also promote electrolyte and water secretion into the colon.

	fluid. Reduces corneal edema by an osmotic effect.	fluid. Reduces corneal edema by an osmotic effect.			
Reason Client Taking	Volume resuscitation in rhabdomyolysis (Davis, 2020).	Volume resuscitation in rhabdomyolysis (Davis, 2020).	Reduction of serum potassium levels (RNpedia, 2020).	Pain/Fever relief (Key, 2020).	Constipation relief (Key, 2020).
Contraindications (2) (Davis, 2020).	1) Hypertonic (3%, 5%) solutions should not be used in patients with elevated, slightly decreased, or normal serum sodium. 2) Fluid retention or hypernatremia.	1) Hypertonic (3%, 5%) solutions should not be used in patients with elevated, slightly decreased, or normal serum sodium. 2) Fluid retention or hypernatremia.	1) Life-threatening hyperkalemia 2) vascular intestinal atherosclerosis	1) Severe hepatic impairment 2) Acute liver disease	1) Abdominal pain 2) Vomiting
Side Effects/Adverse Reactions (2)	1) Pulmonary edema	1) Heart Failure	1) Constipation	1) Dyspnea	1) Diarrhea

(Davis, 2020).	2) Hyponatremia	2) Hypervolemia	2) Sodium retention	2) Hypertension	2) Rash
Nursing Considerations (2) (Davis, 2020; Medscape, 2020).	1) Assess fluid balance (intake and output, daily weight, edema, lung sounds) throughout therapy. 2) Monitor serum osmolarity in patients receiving hypertonic saline solutions.	1) Assess fluid balance (intake and output, daily weight, edema, lung sounds) throughout therapy. 2) Monitor serum osmolarity in patients receiving hypertonic saline solutions.	1) Monitor intake and output ratios and daily weight. Assess for symptoms of fluid overload (dyspnea, rales/crackles, jugular venous distention, peripheral edema). Concurrent low-sodium diet may be ordered for patients with HF. 2) Monitor response of symptoms of hyperkalemia	1) Assess amount, frequency, and type of drugs taken in patients self-medicating, especially with OTC drugs. Prolonged use of acetaminophen increases the risk of adverse renal effects. For short-term use, combined doses of acetaminophen and salicylates should not exceed the recommended dose of either drug	1) Assess for abdominal distention, presence of bowel sounds, and usual pattern of bowel function. 2) Do not administer within 2 hr of other laxatives, especially mineral oil. May cause increased absorption.

			(fatigue, muscle weakness, paresthesia, confusion, dyspnea, peaked T waves, depressed ST segments, prolonged QT segments, widened QRS complexes, loss of P waves, and cardiac arrhythmias). Assess for development of hypokalemia (weakness, fatigue, arrhythmias, flat or inverted T waves,	given alone. Do not exceed maximum daily dose of acetaminophen when considering all routes of administration and all combination products containing acetaminophen. 2) Assess fever; note presence of associated signs (diaphoresis, tachycardia, and malaise).	

			prominent U waves).		
Key Nursing Assessment(s)/Lab(s) Prior to Administration (Medscape, 2020).	1) Monitor serum sodium, potassium, bicarbonate, and chloride concentrations and acid-base balance periodically for patients receiving prolonged therapy with sodium chloride. 2) Assess patient for symptoms of hyponatremia (headache, tachycardia, lassitude, dry mucous membranes, nausea, vomiting,	1) Monitor serum sodium, potassium, bicarbonate, and chloride concentrations and acid-base balance periodically for patients receiving prolonged therapy with sodium chloride. 2) Assess patient for symptoms of hyponatremia (headache, tachycardia, lassitude, dry mucous membranes, nausea, vomiting,	1) : Monitor serum potassium daily during therapy. Notify health care professional when potassiump to 4– 5 mEq/L. 2) Monitor renal function and electrolytes (especially sodium, calcium, bicarbonate, and magnesium) prior to and periodically throughout therapy.	1) Assess overall health status and alcohol usage before administering acetaminophen. Patients who are malnourished or chronically abuse alcohol are at higher risk of developing hepatotoxicity with chronic use of usual doses of this drug. 2) Evaluate hepatic, hematologic, and renal function periodically	1) Do not confuse Colace with Cozaar. Do not confuse Dulcolax (docusate sodium) with Dulcolax (bisacodyl). Do not confuse Kaopectate Stool Softener (docusate calcium) with Kaopectate (bismuth subsalicylate). 2) Assess color, consistency, and amount of

	muscle cramps) or hypernatremia (edema, weight gain, hypertension, tachycardia, fever, flushed skin, mental irritability) throughout therapy. Sodium is measured in relation to its concentration to fluid in the body, and symptoms may change based on patient's hydration status.	muscle cramps) or hypernatremia (edema, weight gain, hypertension, tachycardia, fever, flushed skin, mental irritability) throughout therapy. Sodium is measured in relation to its concentration to fluid in the body, and symptoms may change based on patient's hydration status.		during prolonged, high-dose therapy. If overdose occurs, acetylcysteine (Acetadote) is the antidote.	stool produced.
Client Teaching needs (2) (Hinkle & Cheever, 2018; Medscape, 2020).	1) Explain to patient the purpose of the infusion.	1) Explain to patient the purpose of the infusion.	1) Advise female patient to notify health care	1) Advise patient to discontinue acetaminophen and	1) Advise patients that laxatives should be

	2) Advise patients at risk for dehydration due to exposure to extreme temperatures when and how to take NaCL tablets. Inform patients that undigested tablets may be passed in the stool; oral electrolyte solutions are preferable.	2) Advise patients at risk for dehydration due to exposure to extreme temperatures when and how to take NaCL tablets. Inform patients that undigested tablets may be passed in the stool; oral electrolyte solutions are preferable.	professional if pregnant or breast feeding. 2) Advise patient to avoid taking antacids or laxatives during therapy, unless approved by health care professional; may cause systemic alkalosis.	notify health care professional if rash occurs. 2) Inform patients with diabetes that acetaminophen may alter results of blood glucose monitoring. Advise patient to notify health care professional if changes are noted.	used only for short-term therapy. Longterm therapy may cause electrolyte imbalance and dependence. 2) Advise patient not to use laxatives when abdominal pain, nausea, vomiting, or fever is present.

Medications Reference (APA):

Davis, F.A. (2020, March 13). *Online Resource Center for Instructors and Students*. https://davisplus.fadavis.com

N431 Care Plan

Hinkle, J.L., & Cheever, K.H. (2018). *Brunner & Suddarth's Textbook of Medical Surgical Nursing* (14th ed.). Wolters Kluwer Health Lippincott William & Wilkins.

Key, E. (2020, March 13). Document. Lakeview College of Nursing, Charleston, IL.

Medscape (2020, March 13). *Drugs & Diseases*. https://reference.medscape.com

RNpedia (2020, March 13). *Complete Nursing Notes and Community*. https://www.rnpedia.com/

Assessment

Physical Exam (18 points)

GENERAL (1 point): **Alertness:** A&Ox2 Pt is alert and oriented to person/place/time/current situation. **Orientation:** A&Ox2 Pt is alert and oriented to person/placetime/current **Distress:** No acute distress	Patient is A&Ox2, lethargic, no acute distress, and appears stated age.

Overall appearance: Appears stated age	
INTEGUMENTARY (2 points): **Skin color:** Pink **Character:** PWD **Temperature:** Warm **Turgor:** Appropriate for age **Rashes:** No noted rashes **Bruises:** No noted bruises **Wounds:** No noted wounds **Braden Score:** 20 **Drains present: Y☐ N ☒** **Type:**	Skin is PWD (pink, warm and dry) and intact. Skin turgor is appropriate for age. No noted lesions or rashes. Braden Score of 20 indicates no risk for developing pressure ulcer.
HEENT (1 point): **Head/Neck:** Head is normocephalic and atraumatic. Trachea is midline **Ears:** TMs pearly gray bilaterally. **Eyes:** PERRLA and EOMI bilaterally **Nose:** No noted deviated septum, polyps or turbinates. **Teeth:** Teeth are present and appropriate for age	Patient has no palpable lymph nodes. Head is normocephalic and atraumatic. Trachea is midline. Eyes are PERRLA and EOMI bilaterally. TMs pearly gray bilaterally. No noted deviated septum, polyps or turbinates. Moist mucus membranes, no noted exudate, lesions, erythema around the head and neck. .
CARDIOVASCULAR (2 points): **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** RRR **Peripheral Pulses:** dorsalis pedis 2+ bilaterally **Capillary refill:** <3 seconds upper and lower extremities bilaterally **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒**	S1, S2 detected. RRR (regular, rate and rhythm). No noted murmurs, gallops, or rubs. Capillary refill less than 3 seconds. 2+ pedal pulses bilaterally. No noted deformities. No noted edema.

Location of Edema:	
RESPIRATORY (2 points): **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	Lungs CTA (clear to auscultation) bilaterally. No noted wheezes, rhonchi or crackles.
GASTROINTESTINAL (2 points): **Diet at home:** Regular **Current Diet:** High calorie diet **Height:** 160cm **Weight:** 80kg **Auscultation Bowel sounds:** Present in all four quadrants (hypoactive) **Last BM:** 03/08/2020 **Palpation: Pain, Mass etc.:** **Inspection:** No noted lesions or rashes **Distention:** No noted distention **Incisions:** No noted incisions **Scars:** Scar present from C-section **Drains:** No noted drains **Wounds:** No noted wounds **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	Bowel sounds present in all four quadrants. Patient is on a high calorie diet. Patient voided stool x2 today.
GENITOURINARY (2 Points): **Color:** Yellow **Character:** Yellow color, Clear **Quantity of urine:** 1750 mL voided in 4 hours. **Pain with urination: Y ☐ N ☒**	Patient urinated a total of 1750 mL in 4 hours on 03/08/2020. Polyruia (438 mL/hr). Patient has family history of diabetes mellitus.

Dialysis: Y ☐ N ☒ **Inspection of genitals:** I did not inspect genitals **Catheter: Y ☐ N ☒** **Type:** **Size:**	
MUSCULOSKELETAL (2 points): **Neurovascular status:** All 4 extremities are atraumatic, well developed, and move without difficulty (MAEW). No noted erythema, cyanosis, or edema. **ROM:** Intact in the upper and lower extremities bilaterally and moves without difficulty **Supportive devices:** None **Strength:** 5/5 in upper and lower extremities bilaterally **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☐ N☒** **Fall Score:** 20 **Activity/Mobility Status:** Patient can ambulate freely with no assistance **Independent (up ad lib) ☒** **Needs assistance with equipment ☐** **Needs support to stand and walk ☐**	Hand grips equal bilaterally. DTRs intact. ROM intact in the upper and lower extremities bilaterally, 5/5 musculoskeletal strength in upper and lower extremities bilaterally and moves without difficulty (MAEW). No noted erythema, cyanosis, or edema. Patient is NOT a fall risk as evidence by Morse Fall Scale of 20.
NEUROLOGICAL (2 points): **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no - Legs ☐ Arms ☐ Both ☐** **Orientation:**	Patient is A&Ox4. She is able to orient person/place/time/current situation. Muscle strength and sensation intact in upper and lower extremities bilaterally. No noted nuchal rigidity or meningeal signs.

Mental Status: A&Ox4 **Speech:** Normal **Sensory:** Intact **LOC:** Normal for appropriate age	
PSYCHOSOCIAL/CULTURAL (2 points): **Coping method(s):** Talking with friends **Developmental level:** Appropriate for age **Religion & what it means to pt.:** Patient is a Christian, and treats others with kindness. **Personal/Family Data (Think about home environment, family structure, and available family support):** Pt lives at home with husband and daughter. Pt has a concerned family who visits frequently.	Patient's coping method is talking with her friends. Patient states that she is of Christian faith and practices kindness towards others. Patient is married and resides at home with husband and daughter. She has a concerned family who visits with her frequently.

Vital Signs, 2 sets (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0700	76	126/68	16	36.5 C	98%
1100	68	118/62	16	368	97%

Vital Sign Trends:

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0700	6/10 (0-10 pain scale)	Generalized pain	Moderate	Generalized pain	Tylenol administered
1100	2/10 (0-10 pain scale)	Generalized pain	Minimal	Generalized pain	No intervention at this time

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: 20 gauge **Location of IV:** Left AC **Date on IV:** 03-08-20 **Patency of IV:** Patent, no phlebitis/infiltration present, infusing without difficulty **Signs of erythema, drainage, etc.:** No noted signs of erythema, drainage, etc. **IV dressing assessment:** Clean, dry, and intact	
Size of IV: 18 gauge **Location of IV:** Right hand **Date on IV:** 03-09-20 **Patency of IV:** Patent, no phlebitis/infiltration present, infusing without difficulty **Signs of erythema, drainage, etc.:** No noted signs of erythema, drainage, etc.	0.9% NS IV solution 1,000mL IV drip 250mL/hr

IV dressing assessment: Clean, dry, and intact	

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
0.9% NS at 250 mL/hr x4 hours Tea PO 240 mL with breakfast Apple Juice 120 mL with breakfast	Urine = 1,750 mL total voided in 4 hours Stool x2

Nursing Care

Summary of Care (2 points)

Overview of care:

The patient is a 27-year-old female and has a past medical history of pregnancy-induced hypertension, rheumatoid arthritis, and anemia. The patient has a family history of diabetes mellitus. She is diagnosed with having rhabdomyolysis. She is A&Ox4 and does not show any signs of acute distress. This patient is a runner and recently overexerted herself training for an upcoming marathon, which may have induced rhabdomyolysis. She is being treated with aggressive fluid replacement therapy to reduce the risk of kidney damage. She drank 240 mL of tea and 120 mL of apple juice with her breakfast.

The patient urinated 1,750 mL in 4 hours (polyuria) and stool x2. The patient complained of generalized pain and rated her pain at 6/10 on a 0-10 pain scale at 0700 and was given Tylenol 650mg. She later rated her pain at 2/10 on a 0-10 pain scale at 1100. She has a 20 gauge IV in her left peripheral artery dated 03-08-20, and an 18 gauge IV on her right hand dated 03-09-20. The patient's

medications consisted of 0.9% NS IV solution 250mL/hr; NaCl 1 tablet PO; Kayexelate 30g PO; acetaminophen 650mg PO; and docusate 100mg PO. She did not show any signs of acute distress, and her vital signs remained stable throughout my time with her. The patient had a Chest X-ray and EKG, and both tests identified no acute abnormalities. She will be monitored continuously until the hospitalist determines the appropriate treatment. I anticipate that the patient will be tested for diabetes mellitus and stay at the hospital until her kidneys recover and can maintain urine production and electrolyte balance. The patient's husband and daughter may need to assist her in managing a kidney-friendly diet so that her mother keeps the right amount of fluid, vitamins, and minerals in her blood. The patient's husband and daughter will help her return home at the appropriate time.

Procedures/testing done: Chest X-ray and EKG

Complaints/Issues: Generalized “not feeling well”

Vital signs (stable/unstable): Stable

Tolerating diet, activity, etc.: Regular diet and tolerating diet and activity

Physician notifications: Nothing at this time. Continue to monitor patient.

Future plans for patient: The patient will be treated with aggressive fluid replacement, and will stay at the hospital until her kidneys recover. The patient may be prescribed medications to help control the amounts of vitamins and minerals in her blood, as well as treatments for adequate fluid intake.

Discharge Planning (2 points)

Discharge location: Patient plans to discharge back home with her husband and daughter

Home health needs (if applicable): No noted discharge needs or case management concerns

Equipment needs (if applicable): None

Follow up plan: Will follow up with primary care physician in one week following discharge.

Education needs: Reduce the occurrence of rhabdomyolysis. The patient will be educated on the causes of rhabdomyolysis and the different things that can cause muscle tissue to be damaged before being discharged (i.e., anemia, muscle injury, and very intense exercise). The patient will be educated on the symptoms of rhabdomyolysis, such as muscle pain, reddish-brown urine, and muscle weakness. The patient will be educated on when she should see her doctor, and the types of treatment (i.e., IV fluids, medications, and treatments for kidney function).

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. Deficient fluid volume related to excessive urine output as evidence by 1750mL voided in 4 hours.	The patient's I&O indicate polyuria that can lead to dehydration and electrolyte imbalance.	1. Measure I&O accurately. Weigh daily. Calculate fluid losses. 2. Monitor BP (noting postural changes) and HR.	* The patient is cooperative and husband agrees with intervention. * The patient and family understand that the Assessment can help

			estimate fluid replacement needs. Fluid intake should approximate losses through urine and insensible water losses (diaphoresis, metabolism). Orthostatic hypotension and tachycardia suggest hypovolemia.
2. Ineffective tissue perfusion related to anemia as evidence by a decreased hemoglobin level.	The patient has a PMH of anemia, which can lead to heart problems, increased risk of infections, and decrease kidney function associated with rhabdomyolysis.	**1.** Assess for signs of decreased tissue perfusion. **2.** Check rapid changes or continued shifts in mental status.	* The patient is cooperative and husband agrees with intervention. * The patient and family understand that particular clusters of signs and symptoms occur with differing causes. Evaluation of Ineffective Tissue Perfusion defining characteristics provides a baseline for future comparison. Electrolyte/acid-base variations, hypoxia, and systemic emboli influence cerebral perfusion. In addition, it is directly related to cardiac output.
3. Risk for	Rhabdomyolysis	**1.** Monitor WBC count	* The patient is

infection related to rhabdomyolysis as evidence by an elevated concentration of creatinine phosphokinase and myoglobin.	leads to renal dysfunction, which can lead to life-threatening infection. This patient also has a family history of diabetes mellitus, which weakens immune system defenses.	with differential. **2**. Obtain specimen(s) for culture and sensitivity and administer appropriate antibiotics a s indicated.	cooperative and husband agrees with intervention. * The patient and family understand that although elevated WBCs may indicate generalized infection, leukocytosis may reflect injury within the kidney. A shifting of the differential to the left is indicative of infection. Verification of infection and identification of specific organism aids in choice of the most effective treatment.
4. Fatigue related to rhabdomyolysis as evidence by generalized muscle weakness	The patient's labs indicate hyponatremia and hyperkalemia, which lead to decrease muscular and cardiac function.	**1.** Observe physiological reaction to activities such as any alterations in BP, respiratory rate, or heart rate. **2.** Assess the patient's ability to perform ADLs, instrumental activities of daily living (IADLs), and demands of daily living (DDLs).	* The patient is cooperative and husband agrees with intervention. * The patient and family understand that tolerance varies significantly, depending on the phase of the disease progression, nutrition condition, fluid balance, and quantity or sort of opportunistic diseases that patient has been subjected to. Fatigue can restrict the patient's

			ability to participate in self-care and do her role responsibilities in the family and society, such as working outside the home.

Other References (APA):

Hinkle, J.L., & Cheever, K.H. (2018). *Brunner & Suddarth's Textbook of Medical Surgical Nursing* (14th ed.). Wolters Kluwer Health Lippincott William & Wilkins.

Swearingen, P. L. (2016). *All-in-one nursing care planning resource: Medical-surgical, pediatric, maternity, psychiatric nursing care plans*. Elsevier/Mosby.

Concept Map (20 Points):

N431 Care Plan

Subjective Data

Generalized weakness
Generalized muscle pain
Nausea
Tender muscles

Objective Data

Decreased hemoglobin level
Decreased sodium level
Elevated potassium level
Elevated Total CK level

Patient Information

The patient is a 27-year-old female and has a past medical history of pregnancy-induced hypertension, rheumatoid arthritis, and anemia. The patient has a family history of diabetes mellitus. She is diagnosed with having rhabdomyolysis.

Nursing Diagnosis/Outcomes

Deficient fluid volume related to excessive urine output as evidence by 1750mL voided in 4 hours.
Outcome: Display I&O near balance; good skin turgor, moist mucous membranes, palpable peripheral pulses, stable weight and vital signs, electrolytes within normal range.
Ineffective tissue perfusion related to anemia as evidence by a decreased hemoglobin level.
Outcome: Patient shows no further worsening/repetition of deficits.
Risk for infection related to rhabdomyolysis as evidence by an elevated concentration of creatinine phosphokinase and myoglobin.
Outcome: Experience no signs/symptoms of infection.
Fatigue related to rhabdomyolysis as evidence by generalized muscle weakness.
Outcome: Patient explains energy conservation plan to offset fatigue.

Nursing Interventions

Measure I&O accurately. Weigh daily. Calculate fluid losses.
Monitor BP (noting postural changes) and HR.
Assess for signs of decreased tissue perfusion.
Check rapid changes or continued shifts in mental status.
Monitor WBC count with differential.
Obtain specimen(s) for culture and sensitivity and administer appropriate antibiotics as indicated.
Observe physiological reaction to activities such as any alterations in BP, respiratory rate, or heart rate.
Assess the patient's ability to perform ADLs, instrumental activities of daily living (IADLs), and demands of daily living (DDLs).

N431 Care Plan

N431 Care Plan