N441 Care Plan

Lakeview College of Nursing

Katie Finn

Demographics (3 points)

Date of Admission 8/28/22	**Client Initials** TL	**Age** 19	**Gender** Female
Race/Ethnicity Black/African American	**Occupation** Unemployed	**Marital Status** Single	**Allergies** Escitalopram – suicide ideation
Code Status Full Code	**Height** 157.5 cm	**Weight** 70.3 kg	

Medical History (5 Points)

Past Medical History: Diabetes mellitus type 1, bipolar disorder, and a brain lesion (diagnosis dates are unknown for all).

Past Surgical History: Patient denies any surgeries.

Family History: Maternal grandmother has diabetes mellitus type 2 and hypertension.

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use): Patient denies any tobacco or alcohol use. Patient does report exposure to secondhand tobacco smoke and smokes marijuana use two to three times a week. The patient does not know how much marijuana she uses when she does smoke it.

Assistive Devices: The patient uses a portable glucometer device.

Living Situation: The patient lives at home with her grandmother.

Education Level: The patient has completed up to 11th grade. This should not inhibit the patient's ability to learn.

Admission Assessment

Chief Complaint (2 points): Nausea and vomiting

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

On August 28, 2022, a 19-year-old African American female patient arrived via ambulance at the Emergency Department (ED) at 0489. The patient reports experiencing nausea

and vomiting for the past three to four days and that she had not been taking her standard ten units of insulin with meals as prescribed because she had forgotten her long acting and regular insulin "somewhere during a family trip." The patient reported being in the hospital in Indianapolis the previous week for elevated blood glucose levels. The patient said that nausea "would come in waves" and frequently. The vomiting would occur about once to twice a day, and all she could do was "lay down and try not to throw up." The patient did not report any other methods of relieving nausea but reported that moving around and standing up worsened nausea. The patient also reported cramping abdominal pain with nausea, shortness of breath, chest pain, palpitations, and "a pounding headache that will not go away."

The ED found the patient's blood glucose was more significant than 400 mg/dL and tachycardic. The ED gave the patient a bolus of fluid and routine blood work. The patient was admitted to the Intensive Care Unit at 1345 for diabetic ketoacidosis.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Diabetic ketoacidosis

Secondary Diagnosis (if applicable): N/A

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

Insulin helps move glucose from the bloodstream and into the body’s cells so the cells can use the glucose for energy. Without insulin, glucose will build up in the bloodstream, and the cells will not have a source of energy to do cellular functions. Missed or decreased dose(s) of insulin will cause diabetic ketoacidosis (DKA) (Hinkle et al., 2022).

The lack of insulin in the body and the lack of glucose in the cells causes the body to increase glucose production in the liver, leading to hyperglycemia. The body will also increase the breakdown of fat, leading to increased fatty acids, which ends in increased ketone bodies in

the blood (Hinkle et al., 2022). The buildup of ketones in the body creates an acidic environment in the bloodstream, putting the body in metabolic acidosis (Capriotti, 2020).

Signs and symptoms associated with DKA include polyuria, polydipsia, fatigue, blurred vision, weakness, tachypnea or Kussmaul respirations, and headache (Hinkle et al., 2022). Patients can also have orthostatic hypotension if there is a significant decrease in intravascular volume (Hinkle et al., 2022). Additionally, patients can experience gastrointestinal symptoms like nausea, vomiting, abdominal pain, and anorexia (Hinkle et al., 2022). Lastly, one of the hallmark traits of DKA is the fruity-smelling breath from the ketone buildup (Capriotti, 2020). This patient has been experiencing nausea, vomiting, shortness of breath, chest pain, abdominal pain, palpitations, and headaches.

DKA will also manifest with blood glucose levels between 250 and 800 mg/dL, low serum bicarbonate levels, low pH, and an increased anion gap (Capriotti, 2020). Diagnostic testing for DKA includes arterial blood gases, urine pH, electrocardiogram for changes caused by hyperkalemia, blood glucose levels, blood urea nitrogen (BUN), creatinine, and hematocrit labs (Hinkle et al., 2022). The patient had arterial blood gases, complete metabolic panel, blood glucose, urinalysis, complete blood count with differential, and is on telemetry. Upon admission to the ICU, the patient had a blood glucose level of 432 mg/dL, a high anion gap of 23.0 mmol/L, a low venous CO2 level of 7 mmol/L, and low HCO3 of 15.

The best way to help treat DKA is to give the patient an insulin drip via IV with blood glucose levels read hourly (Hinkle et al., 2022). Restoring electrolytes is another priority when treating DKA to prevent cardiac changes from hyperkalemia (Hinkle et al., 2022). Patients will also be rehydrated with 0.9% sodium chloride normal saline (NS) with dextrose 5% to prevent quick declines in the blood glucose from the insulin drip (Capriotti, 2020). The patient had 0.9%

NS with potassium chloride infused, dextrose 5% with 0.45% sodium chloride infused, and regular insulin IV drip.

Pathophysiology References (2) (APA):

Capriotti, T. M. (2020). *Davis advantage for pathophysiology: Introductory concepts and clinical perspectives* (2nd ed.). F. A. Davis Company.

Hinkle, J. L., Cheever, K. H., & Overbaugh, K. (2022). *Brunner & Suddarth's textbook of medical-surgical nursing* (15th ed.). Wolters Kluwer.

Laboratory Data (15 points) ***Some labs had not been completed when values were recorded by the student**

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 x 10^6/mcL	4.03	N/A	N/A
Hgb	11.3 – 15.2 g/dL	11.4	N/A	N/A
Hct	33.2% – 45.3%	36.2	N/A	N/A
Platelets	140 – 440 K/mcL	428	N/A	N/A
WBC	4.0 – 11.7 K/mcL	7.60	N/A	N/A
Neutrophils	2.4 – 8.4 x 10^3/mcL	5.60	N/A	N/A
Lymphocytes	0.8 – 3.7 x 10^3/mcL	1.50	N/A	N/A
Monocytes	0.3 – 1.1 x 10^3/mcL	0.50	N/A	N/A
Eosinophils	0.0 – 0.5 x 10^3/mcL	0.00	N/A	N/A
Bands	3% – 5%	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 mmol/L	131	133	N/A
K+	3.4 – 5.1 mmol/L	4.6	3.8	N/A
Cl-	98 – 107 mmol/L	101	106	N/A
CO2	21 – 31 mmol/L	7	15	N/A
Glucose	< 140 mg/dL	432	249	The patient's glucose is elevated due to noncompliance with treating and managing her diabetes, putting her into DKA. The glucose in the blood is not being taken up by the cells due to the patient not using her insulin as prescribed (Van Leeuwen & Bladh, 2019).
BUN	7 – 25 mg/dL	7	9	N/A
Creatinine	0.50 – 1.20 mg/dL	0.70	0.52	N/A
Albumin	3.5 – 5.2 g/dL	3.8	*N/A	N/A
Calcium	8.2 – 9.6 mg/dL	8.9	8.2	N/A
Mag	1.6 – 2.2 mg/dL	1.7	*N/A	N/A
Phosphate	2.5 – 4.5 mg/dL	N/A	N/A	N/A
Bilirubin	0.3 – 1.0 mg/dL	0.4	*N/A	N/A
Alk Phos	34 – 106 units/L	88	*N/A	N/A
AST	5 – 34 units/L	9	*N/A	N/A
ALT	0 – 55 units/L	6	*N/A	N/A
Amylase	100 – 300 units/L	N/A	N/A	N/A

Lipase	0 – 60 units/L	N/A	N/A	N/A
Lactic Acid	3 – 23 units/L	N/A	N/A	N/A
Troponin	0.000 – 0.030 ng/mL	N/A	N/A	N/A
CK-MB	96% – 100%	N/A	N/A	N/A
Total CK	36 –160 units/L	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	0.9 – 1.1	N/A	N/A	N/A
PT	10 – 13 seconds	N/A	N/A	N/A
PTT	23.0 – 32.4 seconds	N/A	N/A	N/A
D-Dimer	0.0 – 0.5 mcg/mL	N/A	N/A	N/A
BNP	< 100 pg/mL	N/A	N/A	N/A
HDL	> 55 mg/dL	N/A	N/A	N/A
LDL	< 130 mg/dL	N/A	N/A	N/A
Cholesterol	< 200 mg/dL	N/A	N/A	N/A
Trigly cerides	35-135 mg/dL	N/A	N/A	N/A
Hgb A1c	4% to 5.9%	13.1	N/A	The value is elevated due the patient's long-term noncompliance in diabetes treatment and management. The patient's glucose levels have been elevated for an extended period of time (Van Leeuwen & Bladh, 2019).
TSH	2-10 µU/mL	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	Light yellow to amber; clear to translucent	Clear and light yellow	N/A	N/A
pH	5.0 – 8.0	5.0	N/A	N/A
Specific Gravity	1.005 – 1.030	1.024	N/A	N/A
Glucose	Negative	3+	N/A	The patient has too much glucose in the blood from noncompliance in diabetes treatment and the kidneys are trying to rid of the body of excess glucose by putting it in the urine (Van Leeuwen & Bladh, 2019).
Protein	Negative to trace	Trace	N/A	N/A
Ketones	Negative	4+	N/A	Since the cells are not able to use the glucose in the blood from lack of insulin from noncompliance with diabetes, the body will break down proteins. Ketones are the

				byproduct of protein break down and is building up in the blood and is excreted in the urine (Van Leeuwen & Bladh, 2019).
WBC	Negative	Negative	N/A	N/A
RBC	Negative	Negative	N/A	N/A
Leukoesterase	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	7.20	N/A	With the patient's noncompliance with her diabetes, the body will break down proteins and build up ketones in the blood. The ketones are acidic causing the body to be in metabolic acidosis and making the pH low (Van Leeuwen & Bladh, 2019).
PaO2	80 – 100 mm Hg	95	N/A	N/A
PaCO2	35 – 45 mm Hg	7	N/A	The body is trying to compensate the metabolic acidosis by blowing off more CO2 because CO2 is acidic. This tries to help bring the body back to homeostasis and creates a low CO2 value (Van Leeuwen & Bladh, 2019).
HCO3	21 – 28 mEq/L	15	N/A	N/A
SaO2	95% – 100%	98%	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	Negative	N/A	N/A	N/A
Blood Culture	Negative	N/A	N/A	N/A
Sputum Culture	Negative	N/A	N/A	N/A
Stool Culture	Negative	N/A	N/A	N/A

Lab Correlations Reference (1) (APA):

Van Leeuwen, A. M., & Bladh, M. L. (2019). *Davis's comprehensive handbook of laboratory & diagnostic tests with nursing implication* (8th ed.). F. A. Davis Company.

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

Chest x-ray (8/28/22): The x-ray showed small, ill-defined opacity in the right upper lung. The left lung was clear and expanded with heart and pulmonary vasculature within defined limits.

Continuous telemetry: The patient has displayed sinus tachycardia but has no irregularities in the rhythm.

Diagnostic Test Correlation (5 points):

Chest x-ray: The chest x-ray is used to determine the size, contour, and position of the heart. It can also be used to visualize the lungs (Hinkle et al., 2022). The patient was experiencing chest pain and the physician wanted to ensure the patient was not having any cardiac issues or pulmonary issues.

Continuous telemetry: Since the patient had experienced chest pain, telemetry allows for continuous visualization of the electrical activity of the heart (Hinkle et al., 2022).

Diagnostic Test Reference (1) (APA):

Hinkle, J. L., Cheever, K. H., & Overbaugh, K. (2022). *Brunner & Suddarth's textbook of medical-surgical nursing* (15th ed.). Wolters Kluwer.

Current Medications (10 points, 1 point per completed med)
10 different medications must be completed
Home Medications (5 required)

Brand/ Generic	Ibuprofen/ Advil	Pantoprazole/ Protonix	Fluoxetine/ Prozac	Insulin lispro/Humalog	Calcium carbonate/ TUMS
Dose	400 mg	40 mg	10 mg	10 units	1000 mg
Frequency	Once a day	Once a day	Once a day	Three times daily with meals	Q8H PRN
Route	Oral	Oral	Oral	Subcutaneous	Oral
Classification	Analgesic, anti-inflammatory, antipyretic/ NSAID (Frandsen & Pennington, 2021)	Proton pump inhibitor/ Antiulcer (Jones & Bartlett, 2020)	Selective serotonin reuptake inhibitor/ Antidepressant (Jones & Bartlett, 2020)	Hormone/Antidiabetic (Frandsen & Pennington, 2021)	Calcium salts/ Antacid, anti-hypermagnesemia, anti-hyperphosphatemia, anti-hypocalcemia, calcium replacement, cardiotonic (Jones & Bartlett, 2020)
Mechanism of Action	Ibuprofen blocks prostaglandin synthesis and modulates T-cell production. It also inhibits inflammatory cells by the process of chemotaxis to destroy the cells of inflammation (Frandsen & Pennington, 2021).	Inhibits the proton pump in the gastric parietal cells preventing HCl from forming (Jones & Bartlett, 2020).	The medication increases the amount of serotonin available in the nerve synapses by selectively inhibiting reuptake of serotonin by the CNS neurons. The elevated levels of serotonin may elevate mood, reduce depression, land diminish panic symptoms (Jones & Bartlett, 2020).	The insulin will lower blood glucose levels by increase glucose uptake by the cells in the body. The cells, especially in the skeletal muscle and fat cells will uptake the glucose and this decreasing glucose production by the liver (Frandsen & Pennington, 2021).	It increases the intracellular and extracellular levels of calcium to maintain homeostasis. It also neutralizes or buffers stomach acid to relieve discomfort from hyperacidity (Jones & Bartlett, 2020).
Reason Client Taking	Anti-rheumatic	Gastric ulcers	Bipolar disorder	Diabetes mellitus type 1	Heartburn and indigestion
Contraindications (2)	1. Acute kidney failure 2. Stomach ulcers (Frandsen & Pennington, 2021)	1. Hypersensitivity to the drug 2. Patient is on rilpivirine-containing products (Jones & Bartlett, 2020)	1. In conjunct with NSAIDs due to increased risk of bleeding 2. In conjunct with anticonvulsants due to potential for anticonvulsant toxicity (Jones & Bartlett, 2020)	1. Hypoglycemia 2. Hypokalemia (Frandsen & Pennington, 2021)	1. Hypercalcemia 2. Decreased kidney function (Jones & Bartlett, 2020)
Side Effects/ Adverse Reactions (2)	1. GI bleeding 2. Rash (Frandsen & Pennington, 2021)	1. Hepatic failure 2. Rhabdomyolysis (Jones & Bartlett, 2020)	1. Arrhythmias 2. Hypoglycemia (Jones & Bartlett, 2020)	1. Hypoglycemia 2. Tachycardia (Frandsen & Pennington, 2021)	1. Hypotension 2. Hypercalcemia (Jones & Bartlett, 2020)
Nursing Considerations (2)	1. Total daily dose should not exceed 3200 mg 2. The drug should be taken with food to prevent GI upset (Frandsen & Pennington, 2021).	1. Do not administer longer than medically necessary 2. Monitor PT/INR during therapy if patient is on an anticoagulant (Jones & Bartlett, 2020)	1. Expect to taper drug when being discontinued 2. Use cautiously in patients with a history of seizures (Jones & Bartlett, 2020)	1. Give Humalog insulin up to 15 minutes before or immediately after a meal 2. Always draw up the rapid acting insulin into the syringe first if mixing with a long-acting insulin (Frandsen & Pennington, 2021)	1. Monitor for Chvostek's and Trousseau's signs 2. Store medication at room temperature and protect from heat, light, moisture, and direct light (Jones & Bartlett, 2020)
Key Nursing Assessment(s) / Lab(s) Prior to Administration	1. Obtain baseline kidney function prior to medication 2. Assess for GI ulcers prior to administration of medication (Frandsen & Pennington, 2021)	1. Monitor for bone fractures if using multiple doses, a day for a year or more 2. Monitor for diarrhea from C. difficile (Jones & Bartlett, 2020)	1. Monitor patients with diabetes mellitus for altered blood glucose levels 2. Monitor patients for serotonin syndrome (Jones & Bartlett, 2020)	1. Check the patient's blood glucose levels prior to administering insulin or feeding 2. Assess the patient for signs and symptoms of hypoglycemia post-administration (Frandsen & Pennington, 2021)	1. Check serum calcium levels prior to administration 2. Check renal labs prior to administration (Jones & Bartlett, 2020)

Client Teaching needs (2)	1. Instruct the patient to drink 2-3 quarts of fluid daily 2. Instruct the patient to report any signs of GI bleeding (Frandsen & Pennington, 2021)	1. Swallow the tablets whole without chewing or crushing 2. Notify all providers of this drug use (Jones & Bartlett, 2020)	1. Educate the patient on serotonin syndrome signs and symptoms to report to the physician 2. Educate on not abruptly stopping the medication (Jones & Bartlett, 2020)	1. Educate the patient to always wear or carry diabetic identification 2. Educate the patient to take antidiabetic medication as prescribed (Frandsen & Pennington, 2021)	1. Educate the patient to chew the chewable tablets thoroughly before swallowing and drink a full glass of water after 2. Educate the patient to take the tables 1 to 2 hours after meals (Jones & Bartlett, 2020)

Hospital Medications (5 required)

Brand/ Generic	Acetaminophen/ Tylenol	Gabapentin/Neurontin	Insulin regular/Human	Ondansetron/Zofran-ODT	Oxcarbazepine/ Trileptal
Dose	650 mg	100 mg	1.5 units/hour	4 mg	20 mg
Frequency	Q4H PRN	Twice a day	Continuous	Q6H PRN	Once a day
Route	Oral	Oral	Intravenous	Oral	Oral
Classification	Non-salicylate/Antipyretic, nonopioid analgesic (Jones & Bartlett Learning, 2021)	1-amino-methyl cyclohexane acetic acid/Anticonvulsant (Jones & Bartlett, 2020)	Hormone/Antidiabetic (Frandsen & Pennington, 2021)	Selective serotonin receptor antagonist/Antiemetic (Jones & Bartlett Learning, 2021)	Glucose-elevating agent, antidote/ Monosaccharide (Frandsen & Pennington, 2021)
Mechanism of Action	Blocks prostaglandin production to inhibit the cyclooxygenase enzyme which interferes with pain impulse generation in the peripheral nervous system. It also reduces fevers by acting directly on the hypothalamus and inhibiting prostaglandin E2 synthesis (Jones & Bartlett Learning, 2021).	The drug is structured like gamma-aminobutyric acid (GABA) and will inhibit neurotransmitters in the brain. This action may prevent painful stimuli and pain-related responses to relieve postherpetic neuralgia and restless legs syndrome symptoms (Jones & Bartlett, 2020).	The insulin will lower blood glucose levels by increase glucose uptake by the cells in the body. The cells, especially in the skeletal muscle and fat cells will uptake the glucose and this decreasing glucose production by the liver (Frandsen & Pennington, 2021).	The medication will block the action of serotonin in the vagal nerve terminals of the intestine. This action will reduce nausea and vomiting by preventing signals to the CNS from the serotonin in the small intestine (Jones & Bartlett Learning, 2021).	The drug blocks or closes sodium channels in the neuronal cell membrane. This action slows down nerve impulse transmission and decreases the rate at which neurons fire (Jones & Bartlett Learning, 2021).
Reason Client Taking	Relieve mild to severe pain	Neuropathy pain	Diabetes mellitus type 1	To treat nausea and vomiting.	Bipolar disorder
Contraindications (2)	1. Severe hepatic impairment 2. Hypersensitivity to acetaminophen or its components (Jones & Bartlett Learning, 2021)	1. In conjunct with CNS depressants 2. In conjunct with aluminum and magnesium containing antacids (Jones & Bartlett, 2020)	1. Hypoglycemia 2. Hypokalemia (Frandsen & Pennington, 2021)	1. Orally disintegrating tablets with aspartame should not be used in patients with phenylketonuria 2. Hypersensitivity to the drug or its components (Jones & Bartlett Learning, 2021)	1. Hypersensitivity to the drug or its components 2. Hypersensitivity to eslicarbazepine acetate (Jones & Bartlett Learning, 2021)
Side Effects/ Adverse Reactions (2)	1. Hypotension 2. Pulmonary edema (Jones & Bartlett Learning, 2021)	1. Intracranial hemorrhage 2. Hypotension (Jones & Bartlett, 2020)	1. Hypoglycemia 2. Tachycardia (Frandsen & Pennington, 2021)	1. Intestinal obstruction 2. Angioedema (Jones & Bartlett Learning, 2021)	1. Suicidal ideation 2. Pancreatitis (Jones & Bartlett Learning, 2021)
Nursing Considerations (2)	1. Doses should not exceed 60 mg/kg/day 2. Monitor renal function if the patient is on long-term therapy (Jones & Bartlett Learning, 2021).	1. Administer the drug at least 2 hours after an antacid 2. Administer the initial dose of this brand at bedtime to minimize adverse reactions. (Jones & Bartlett, 2020)	1. Do not use if cloudy, discolored, or unusually viscous 2. The catheter tubing and reservoir insulin should be changed very 48 hours or as specified by the pump manufactures (Jones & Bartlett, 2020)	1. Assess for improvements in GI symptoms 2. Assess for dizziness and drowsiness that may affect gait and balance (Jones & Bartlett Learning, 2021)	1. Administer the XR tablets 1 hour before or 2 hours after a meal 2. Monitor the patient for suicidal ideation or behavior (Jones & Bartlett Learning, 2021)
Key Nurs	1. Obtain baseline liver	1. Obtain baseline renal	1. Check the patient's blood	1. Obtain baseline liver	1. Obtain baseline serum

ing Assessment(s) / Lab(s) Prior to Administration	function prior to medication 2. Obtain baseline kidney function prior to administration (Jones & Bartlett Learning, 2021)	function labs 2. Monitor the patient for suicidal thinking or behavior, especially when starting or changing dosage (Jones & Bartlett, 2020)	glucose levels as ordered by the provider 2. Assess the patient for signs and symptoms of hypoglycemia periodically (Frandsen & Pennington, 2021)	function prior to medication 2. Assess the patient's baseline motor function prior to administration (Jones & Bartlett Learning, 2021)	sodium levels and regularly prior to administration 2. Obtain therapeutic drug levels before each administration (Jones & Bartlett Learning, 2021)
Client Teaching needs (2)	1. Instruct the client that analgesics are more effective when taken before pain becomes severe 2. Educate the client on signs and symptoms of liver toxicity and renal failure. (Jones & Bartlett Learning, 2021)	1. Educate the patient not to take the drug within 2 hours of taking an antacid 2. Instruct the patient to take a missed dose as soon as they remember unless the next dose in in less than 2 hours (Jones & Bartlett, 2020)	1. Educate the patient to always wear or carry diabetic identification 2. Educate the patient to take antidiabetic medication as prescribed (Frandsen & Pennington, 2021)	1. Instruct the client to report any severe or prolonged headache 2. Educate the client on GI signs and symptoms to report (Jones & Bartlett Learning, 2021)	1. Instruct the patient not to stop the drug abruptly 2. Instruct the patient not to drink alcohol during drug therapy (Jones & Bartlett Learning, 2021)

Medications Reference (1) (APA):

Frandsen, C. & Pennington, S. S. (2021). *Abrams' clinical drug therapy: Rationales for nursing practice* (12th ed.). Wolters Kluwer.

Jones & Bartlett Learning. (2021). *2021 Nurse's drug handbook* (20th ed.). Jones & Bartlett Learning.

Assessment

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

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	The patient was alert and oriented to self, place, time, and situation (A&O x4). The patient appeared calm and was well groomed and clean.
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	The patient's skin color was normal for ethnicity, warm, dry, and intact. It exhibited elastic turgor with no bruising or rashes. The Braden score was 21 indicating no risk of pressure ulcers and no drains were present. The patient had one lesion on the right antecubital region about 5 mm large from previous blood draws.
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	The patient's head was normocephalic with the trachea midline. Ears appeared symmetrical with no visible discharge or drainage. The patient did not have difficulty hearing and was responsive to noise. The patient's pupils were 2 mm and exhibited PERRLA. The eyes also displayed full extraocular movements and were symmetrical with no drainage or inflammation. The conjunctiva was pink and moist. The nose appeared midline with no deviated septum and patent nares. Nasal and buccal mucosa was moist, pink, and had no lesions. The uvula was midline and tonsils were +1. The patient had all her teeth.
CARDIOVASCULAR: **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒** **Location of Edema:**	S1 and S2 heart sounds were heard with no S3 or S4 sounds, or murmurs heard. Cardiac rhythm was sinus tachycardia. Radial and pedal pulses were regular and +2 bilaterally. Capillary refill was < 3 seconds in fingers and toes bilaterally. No jugular vein distention or edema noted.
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	The lung sounds were audible and clear bilaterally in all the lobes anteriorly and posteriorly. Breathes were even with no

ET Tube: N/A **Size of tube:** **Placement (cm to lip):** **Respiration rate:** **FiO2:** **Total volume (TV):** **PEEP:** **VAP prevention measures:**	accessory muscle or chest deformities. The patient denies any difficulty breathing, coughing, or sputum production. The patient was not intubated.
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	Patient has regular diet at home but is currently nothing by mouth. Patient's height is 157.5 cm and weighs 70.3 kg. When auscultated, clicks and gurgles were heard at a rate of 5-30 per minute in all four abdominal quadrants. Patient denies vomiting and diarrhea nor pain with bowel movements. The patient stated she does not remember when her last bowel movement was. Abdomen was slightly tender, soft, and not distended when palpated. There are no drains, incisions, or wounds on the abdomen. Patient does not have any ostomies, nasogastric or feeding tubes.
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☐** **Dialysis: Y ☐ N ☐** **Inspection of genitals:** **Catheter: Y ☐ N ☐** **Type:** **Size:** **CAUTI prevention measures:**	Patient reports urine as yellow, clear, and with no odor. The patient voided three times this shift and was continent. Patient denies any pain when urinating. Genitals were not inspected. Patient does not have any catheters and is not on dialysis.
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☐ N ☒**	Neurovascular status is intact, and patient is in control of her senses. Patient does not report any paresthesia or paralysis nor displays pallor. The patient has full range of motion in all four extremities with 5/5 strength in left upper and both lower extremities. The patient reported

Fall Risk: Y ☐ N☒ **Fall Score: 0** **Activity/Mobility Status:** **Independent (up ad lib) ☒** **Needs assistance with equipment ☐** **Needs support to stand and walk ☐**	having some weakness in the right upper extremity and was assessed 4/5 strength compared to the left upper extremity. The patient's Morse Fall score was 0 indicating a low fall risk. Patient is independent and does not need help with ADLs.
NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no -** **Legs ☐ Arms ☒ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	The patient has full range of motion in all four extremities with 5/5 strength in right upper and both lower extremities bilaterally. The right upper extremity was assessed as 4/5 strength compared to the left upper extremity. Eyes exhibit PERRLA signs and articulates well. Patient is A&O x4 as discussed before. Patient is also alert to her surroundings and calm. Patient can sense touch all over each extremity
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	The patient claims that she is not using any coping methods. Her developmental level is appropriate for her age and education. The patient has completed school through 11th grade and is planning to obtain her GED and take college courses. She lives at home with her grandmother, is not religious, and unemployed.

Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0800	113 bpm	111/72 right arm	18 breaths/min	36.7 C temporal	97% room air
1136	97 bpm	111/77 right arm	16 breaths/min	36.5 C temporal	100% room air

Vital Sign Trends/Correlation:

The heart rate decreased a little and the oxygen saturation increased a little as well. Otherwise, the patient's vitals stayed stable during this clinical.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions

0800	Numeric	Right leg and lower back	8/10	Muscle cramp	Tylenol
1136	Numeric	Right leg and lower back	6/10	Muscle cramp	None

IV Assessment (2 Points)

IV Assessment	**Fluid Type/Rate or Saline Lock**
Size of IV: **Location of IV:** **Date on IV:** **Patency of IV:** **Signs of erythema, drainage, etc.:** **IV dressing assessment:**	Both are 20 gauge Left antecubital (AC) and left anterior wrist (AW) 8/28/22 AC and 8/30/22 AW Both IVs have no sign of erythema or drainage. Neither IVs have signs of infiltration or phlebitis. Both IVs have clean, dry, and intact Tagaderm dressings. The left AC was infusing 5% dextrose in 0.45% normal saline at 125 mL/hr, magnesium sulfate at 12.5 mL/hr, and regular insulin at 1.5 mL/hr. The left AW was infusing potassium phosphate at 41.7 mL/hr.
Other Lines (PICC, Port, central line, etc.)	The patient does not have any other lines.
Type: **Size:** **Location:** **Date of insertion:** **Patency:** **Signs of erythema, drainage, etc.:** **Dressing assessment:** **Date on dressing:** **CUROS caps in place: Y ☐ N ☐** **CLABSI prevention measures:**	The patient does not have any other lines.

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
11.25 mL regular insulin 937.5 mL dextrose 5% in 0.45% NS 62.55 mL potassium phosphate 93.75 mL magnesium sulfate	972 mL urine

Nursing Care

Summary of Care (2 points)

Overview of care: The patient is starting to be weaned off the insulin drip, but it will not be discontinued until she has three consecutively stable CMPs. The patient is still NPO and has her blood glucose levels taken every hour.

Procedures/testing done: The patient will continue to have CMPs drawn until they are stable and have Accu-checks every hour. The patient also had a chest x-ray completed before the ICU.

Complaints/Issues: The patient's only complaint is the pain she feels in her right leg and lower back.

Vital signs (stable/unstable): She had stable vitals during this clinical shift.

Tolerating diet, activity, etc.: The patient is tolerating being NPO, activity, and treatment.

Physician notifications: Accu-checks hourly and do not discontinue the insulin drip until the patient has three consecutively stable CMPs.

Future plans for client: The patient will be discharge to her home and education on compliance for her diabetes will be needed.

Discharge Planning (2 points)

Discharge location: Home

Home health needs (if applicable): N/A

Equipment needs (if applicable): Insulin injection pen and insulin

Follow up plan: The patient will go back home and will follow up with her primary care provider.

Education needs: Compliance to diabetes treatment and monitoring.

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

Nursing Diagnosis	Rationale	Interventions (2 per dx)	Outcome Goal (1 per dx)	Evaluation
1. Imbalanced nutrition related to insufficient insulin as evidenced by increased ketones in urine, nausea, and vomiting	This was chosen because the patient has not been using her insulin as prescribed and her body is not able to utilize the glucose in her bloodstream.	1.Monitor serum glucose every hour 2.Maintain NPO status as ordered by the physician	1. The patient's serum glucose will stay stable and within defined limits before discharge.	The patient's glucose levels were still elevated above 200 mg/dL during this shift. The patient was compliant with the Accu-checks, but the goal was not met. The glucose levels will continue to be checked and the NPO status has not been changed by the physician.
2. Risk for infection related to impaired skin integrity as evidenced by lesions from repeated needle sticks from blood draws and glucose checks.	This was chosen due to the need for multiple blood draws needed for CMPs and glucose checks. Thus, increasing the risk for infection.	1. The skin will be appropriately cleaned before each needle stick. 2.The patient will demonstrate techniques to prevent infection when checking glucose levels.	1. The patient will be able to show the appropriate way to clean the area for needle sticks to check glucose levels prior to discharge.	The education session has not occurred yet, but the skin is cleaned with isopropyl alcohol for 15 seconds prior to needle sticks by the nurse and phlebotomist. The goal has not been met.
3. Risk for unstable blood glucose level related to noncompliance on diabetes management as evidenced by the patient's A1c being 13.1% upon admission.	The patient's A1c was 13.1% when admitted to the ICU indicating noncompliance with diabetes management. This puts the patient at risk for elevated blood glucose levels.	1. Monitor blood glucose levels hourly 2. Administer insulin as prescribed by the physician.	1. The patient's blood glucose levels will remain within defined limits and stable before discharge.	The patient's glucose levels were above 200 mg/dL during this shift, so the goal was not met. The insulin administration will continue as prescribed and glucose checks will continue hourly.
4. Risk for fluid volume deficit related to hyperglycemia-induced osmotic diuresis as evidenced by elevated glucose levels and the patient urinating frequently.	The patient has been urinating frequently and her blood glucose levels have stayed elevated above 200 mg/dL.	1. Monitor serum electrolyte levels and report abnormalities. 2. Monitor skin turgor with each shift to check for dehydration	1. The patient's electrolyte values will remain within established limits.	The patient's electrolytes for this shift were within defined limits and the goal was met. The electrolytes will continue to be drawn as ordered by the physician.
5. Deficient knowledge related	There is evidence that the patient	1. Assess the patient's	1. The patient will be able to teach back the	None of the interventions have

to insufficient information as evidenced by the patient did not report the need for more insulin to her provider.	has been in DKA before with previous hospitalizations. The patient also did not get more insulin after forgetting it in Indiana. The patient has shown that she does not understand the important of taking her insulin as prescribed.	knowledge on diabetes compliance 2. Identify the patient's learning methods that work best	information taught on diabetes compliance.	been implemented. The goal has not been met. The patient will be educated prior to discharge.

Other References (APA):

N/A

Concept Map (20 Points):

Subjective Data

19-year-old female patient with nausea, vomiting, chest pain, shortness of breath, palpitations abdominal pain, and headaches.

The patient has diabetes mellitus type 1 and had stopped taking her insulin due to forgetting it in Indiana.

Nursing Diagnosis/Outcomes

Imbalanced nutrition related to insufficient i in urine, nausea, and vomiting

atient's serum glucose will stay stable and within defined limits before discharge.

Risk for infection related to impaired skin integrity as evidenced by lesions from repeated needle sticks from blood draws and glucose checks.

The patient will be able to show the appropriate way to clean the area for needle sticks to check glucose levels prior to discharge.

Risk for unstable blood glucose level related to noncompliance on diabetes management as evidenced by the patient's A1c being 13.1% upon admission.

The patient's blood glucose levels will remain within defined limits and stable before discharge.

Risk for fluid volume deficit related to hyperglycemia-induced osmotic diuresis as evidenced by elevated glucose levels and the patient urinating frequently.

The patient's electrolyte values will remain within established limits.

Deficient knowledge related to insufficient information as evidenced by the patient did not report the need for more insulin to her provider.

The patient will be able to teach back the information taught on diabetes compliance.

Objective Data

Blood serum glucose 432 mg/dL
Hgb A1c 13.1%
pH 7.20
PaCO2 7 mm Hg
Urine glucose +3
Urine ketones +4

Client Information

ugust 28, 2022, a 19-year-old African American female patient arrived via ambulance at the Emergency Department (ED) at 0489. The patient reports experiencing nausea and vomiting for the past three to four days and that she had not been taking her standard ten units of insulin with meals as prescribed because she had forgotten her long acting and regular insulin "somewhere during a family trip." The patient reported being in the hospital in Indianapolis the previous week for elevated blood glucose levels. The patient said that nausea "would come in waves" and frequently. The vomiting would occur about once to twice a day, and all she could do was "lay down and try not to throw up." The patient did not report any other methods of relieving nausea but reported that moving around and standing up worsened nausea. The patient also reported cramping abdominal pain with nausea, shortness of breath, chest pain, palpitations, and "a pounding headache that will not go away."

The ED found the patient's blood glucose was more significant than 400 mg/dL and tachycardic. The ED gave the patient a bolus of fluid and routine blood work. The patient was admitted to the Intensive Care Unit at 1345 for diabetic ketoacidosis.

Nursing Interventions

Monitor serum glucose every hour
Maintain NPO status as ordered by the physician
The skin will be appropriately cleaned before each needle stick.
The patient will demonstrate techniques to prevent infection when checking glucose levels.
Monitor blood glucose levels hourly
Administer insulin as prescribed by the physician.
Monitor serum electrolyte levels and report abnormalities.
Monitor skin turgor with each shift to check for dehydration
Assess the patient's knowledge on diabetes compliance
Identify the patient's learning methods that work best