

### Medications

**Insulin lispro (Humalog)-** 1-20 units, TID

**Therapeutic classifications:** antidiabetic

**Pharmacological classifications:** antidiabetic

**Reason client is taking:** to decrease glucose levels (Jones & Bartlett Learning, 2022).

**Nursing assessments:** monitor for s/s of hypoglycemia or hyperglycemia and monitor blood sugars every 6 hours (Jones & Bartlett Learning, 2022).

**Insulin glargine (Lantus)-** 22 Units, daily

**Therapeutic classifications:** antidiabetic

**Pharmacological classifications:** antidiabetic

**Reason client is taking:** to decrease glucose levels (Jones & Bartlett Learning, 2022).

**Nursing assessments:** monitor for s/s of hypoglycemia or hyperglycemia and monitor blood sugars every 6 hours (Jones & Bartlett Learning, 2022).

### Relevant Lab Values/Diagnostics

Glucose **226**; Normal: 70- 100 mg/dl

Reason: Patient has type 1 diabetes

A1C **12.6**%; Normal: 5.7%- 6.4%

Reason: Patient has type 1 diabetes

Beta-hydroxybutyrate **1.9**; 0.4- 0.5 mmol/L

Reason: Patient is in ketosis

**Diagnostics:** XR Chest PA/Lat- This was preformed because the patient had persistent vomiting for two days. Patient has type 1 diabetes, and this was used to rule out pneumonia.

### Demographic Data

**Admitting diagnosis:** Hyperglycemia and ketosis

**Age of client:** 14 years old

**Sex:** Female

**Weight in kgs:** 53.5 kg

**Allergies:** Amoxicillin

**Date of admission:** 09/20/2023

**Psychosocial Developmental Stage:** Identity vs Confusion

**Cognitive Development Stage:** Formal Operation Stage

### Admission History

Patient is a 14-year-old female with a past medical history of type 1 diabetes. Patient went to Carle in Danville on 9/20 for complaints of persistent nausea, vomiting, diarrhea, and a sore throat. These symptoms were persistent over the past few days. The patient did not mention any aggravating or relieving factors. Patient also reports not taking any medication.

### Medical History

**Previous Medical History:** Fever in pediatric unit, heart murmur (02/18/2020), and type 1 diabetes mellitus as of August 2018.

**Prior Hospitalizations:** Previously hospitalized for grand mal seizure, 2/2 influenzas, hypoglycemia, and shock.

**Past Surgical History:** N/A

**Social needs:** Patient insurance changed and no longer has an insulin pump. She lives at home with mom and brother. She is actively involved with her school cheer team.

### Pathophysiology

#### Disease process:

Type 1 diabetes is a chronic autoimmune disease characterized by the body's immune system mistakenly attacking and destroying the insulin-producing beta cells in the pancreas. Insulin is a hormone that is essential for controlling blood sugar levels because it makes it easier for cells to absorb glucose from the bloodstream and use it as energy. The body lacks insulin because of the pancreas' inability to produce it when the beta cells are damaged. Those who have type 1 diabetes are dependent on outside insulin therapy to control their blood sugar levels (Capriotti, 2020).

**S/S of disease:** In general, type 1 diabetes can have a variety of symptoms. A few common sign and symptoms include irritability, weight loss, fatigued, vision changes, nausea, vomiting polyuria, frequent thirst, increased appetite, and slow healing wounds (Phelps, 2020). My patient presented with vision changes, nausea, vomiting, and fatigue.

#### Method of Diagnosis:

There are a few different ways to diagnose type 1 diabetes. The glycated hemoglobin (A1C) test, random blood sugar test, fasting blood sugar test, and ketone testing are all tests that can be performed to diagnose type 1 diabetes (Phelps, 2020).

#### Treatment of disease:

Insulin therapy is the main treatment for type 1 diabetes since individuals with this condition have little to no insulin production because the pancreatic beta cells that produce insulin have been destroyed. The goal of treatment is to maintain blood sugar (glucose) levels within a target range to prevent both immediate and long-term complications (Capriotti, 2020). My patient takes insulin every day.

### Active Orders

Blood sugars ACHS + 3 AM

Reason: to prevent patient going into hyperglycemia or hypoglycemia and monitor their blood glucose.

Diet order- diabetic diet

Reason: Patient is on a diabetic diet for carb control.

Vital signs- Q4

Reason: to ensure patient stability.

**Assessment**

<b>General</b>	AOx4, well-groomed and in no acute distress
<b>Integument</b>	Skin is normal for ethnicity, warm, and dry. Capillary refill is less than 3 seconds in fingers and toes bilaterally.
<b>HEENT</b>	Head and neck are symmetrical, trachea midline without deviation. Bilateral carotid pulses are palpable and 2+. Bilateral sclera white, bilateral cornea clear, bilateral conjunctiva pink, no visible drainage from eyes. Bilateral lids are moist and pink, without lesions or discharge noted. PERRLA bilaterally. Turbinate's are pink and moist bilaterally, and no visible bleeding or polyps. Bilateral frontal and maxillary sinuses are nontender to palpation.
<b>Cardiovascular</b>	Clear S1 and S2 without murmurs, gallops, or rubs. PMI is palpable at the fifth intercostal space at MCL. Normal rate and rhythm.
<b>Respiratory</b>	Normal rate and rhythm, along with the pattern of respirations. Respirations are symmetrical, with no respiratory distress. No wheezes, crackles, or rhonchi noted.
<b>Genitourinary</b>	Patient is receiving fluids. Urine is yellow without foul odor, no reported or observed difficulties or pain with voiding.
<b>Gastrointestinal</b>	Abdomen is nondistended, soft, and nontender to palpation. No CVA tenderness noted bilaterally. Last BM 9/20/23.
<b>Musculoskeletal</b>	All extremities have full ROM. Hand grips and pedal pushes and pulls demonstrate normal and equal strength.
<b>Neurological</b>	General and purposeful motor response. PERRLA bilaterally.
<b>Most recent VS (highlight if abnormal)</b>	<p><b>Time:</b> 0916</p> <p><b>Temperature:</b> 36.7 Celsius</p> <p><b>Route:</b> Oral</p> <p><b>RR:</b> 16</p> <p><b>HR:</b> 75</p> <p><b>BP and MAP:</b> 111/71</p> <p><b>Oxygen saturation:</b> 95% on room air</p> <p><b>Oxygen needs:</b> None</p>
<b>Pain and Pain Scale Used</b>	Numeric scale- 0/10, patient denies pain

<b>Nursing Diagnosis 1</b>	<b>Nursing Diagnosis 2</b>	<b>Nursing Diagnosis 3</b>
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<p>Risk of unstable blood sugar is related to insufficient diabetes management and adherence to the diabetes management plan, as evidenced by blood sugar at 226 mg/dl.</p>	<p>Risk for noncompliance related to young age, as evidenced by 14 years old.</p>	<p>Risk for deficient knowledge related to complications of hyperglycemia, as evidenced by acute confusion.</p>
<p><b>Rationale</b> The patient's blood sugar was elevated (226).</p>	<p><b>Rationale</b> The patient was admitted for hyperglycemia and is only 14 years old.</p>	<p><b>Rationale</b> The patient came to the hospital hyperglycemic and had acute confusion from the elevated glucose.</p>
<p><b>Interventions</b> <b>Intervention 1:</b> Educate the patient on how to properly monitor blood glucose levels (Phelps, 2020). <b>Intervention 2:</b> Educate the patient on dietary restrictions, carbohydrates, and meal planning (Phelps, 2020).</p>	<p><b>Interventions</b> <b>Intervention 1:</b> Demonstrate to the patient and family how to self-administer insulin using the sliding scale (Phelps, 2020). <b>Intervention 2:</b> Have a set schedule for insulin administration to prevent noncompliance and have family/ school be aware of the schedule (Phelps, 2020).</p>	<p><b>Interventions</b> <b>Intervention 1:</b> Provide the patient and family with teaching of the signs and symptoms of hypoglycemia and hyperglycemia (Phelps, 2020). <b>Intervention 2:</b> Educate the patient on how to properly dispose of insulin needles (Phelps, 2020).</p>
<p><b>Evaluation of Interventions</b> The patient can independently monitor blood glucose and learn the proper diet for type 1 diabetes.</p>	<p><b>Evaluation of Interventions</b> The patient learned to adjust to having a chronic disease and self-insulin administration.</p>	<p><b>Evaluation of Interventions</b> The patient learned about managing the signs and symptoms of hyperglycemia and hypoglycemia. The patient also understood the importance of proper disposal of the insulin needles.</p>

### **References (3):**

Capriotti, T. (2020). *Davis Advantage for Pathophysiology: Introductory Concepts and Clinical Perspectives*. 2nd ed., F.A. Davis, 2020.

Jones & Bartlett Learning, LLC. (2022). *2022 Nurse's Drug Handbook* (20th ed.).

Phelps, L. L. (2020). *In Spark's & Taylor's Nursing Diagnosis Reference Manual 11th ed. Essay*. Wolters Kluwer