

DEBRIEFING/GUIDED REFLECTION OVERVIEW

Reflux vomiting may be caused by abdominal distention. Vomiting results in a loss of hydrogen ions and potassium from the stomach, leading to a reduction of chlorides and potassium in the blood and to metabolic alkalosis. Dehydration and acidosis develop from loss of water and sodium. With acute fluid losses, hypovolemic shock may occur.

Fluid resuscitation for severe hypovolemia is critical. Solutions are categorized as isotonic, hypotonic, or hypertonic, according to whether their total osmolality is the same as, less than, or greater than that of blood.

This patient has a metabolic alkalosis related to vomiting and loss of gastric secretions. Treatment of metabolic alkalosis is aimed at reversing the underlying disorder (small bowel obstruction). Dehydration is managed by restoring normal fluid volume by administering sodium chloride (isotonic) fluids. In patients with hypokalemia, potassium is administered as KCL to replace both K⁺ and CL⁻ losses. Monitor intake and output.

Initial medical treatment of nasogastric tube, IV fluids, and nothing by mouth is required. Serial abdominal x-rays are used to assess progress. If the exam and x-ray results do not improve or get worse, obstruction becomes a likely diagnosis. If the patient needs surgery a broad-spectrum antibiotic should be administered just prior to operation. In this patient, the obstruction is secondary to adhesions from prior surgeries.

SCENARIO OVERVIEW

Estimated Scenario time: 30 minutes
Guided Reflection time: 30 minutes

Target Groups: Nurses
Complex Case

Brief Summary:

This case presents a preoperative patient who presents to the Emergency Department with severe dehydration. The symptoms of dehydration are related to poor intake of fluids by mouth and reflux vomiting (small bowel obstruction). The student will be expected to demonstrate basic assessment to detect signs and symptoms of severe dehydration and impending hypovolemic shock, notify the physician immediately and provide the appropriate treatment.

Learning Objectives:

- Identifies the primary nursing diagnosis
- Implements patient safety measures
- Evaluates patient assessment information including vital signs
- Implements therapeutic communication
- Implements direct communication with multidisciplinary team members
- Demonstrates effective teamwork
- Prioritizes and implements Physician Orders appropriately

Scenario Specific:

- Recalls and implements policies related to legal informed consent and information security
- Initiates relevant cardiac and respiratory monitoring
- Recalls signs and symptoms of severe dehydration
- Implements treatment of severe dehydration in a timely manner
- Identifies metabolic imbalance as evidenced by lab values

REPORT TO STUDENTS

Time: 04:00 a.m.

A 52-year-old patient has just arrived in the Emergency Department with complaints of severe abdominal pain and vomiting over the last few days. Abdomen is distended. He has poor skin turgor and dry mucous membranes. He has not urinated since yesterday. He has felt “dizzy” and “weak” all evening. He thought it might be the flu, but decided to come in because the stomach pains were getting worse. He has signed informed consent for treatment and labs have been drawn.

Clinical signs immediately visible:

- Lethargic and pale
- Expressing pain
- Abdominal distention

ADDITIONAL INFORMATION, MEDICAL HISTORY

Patient data: Male – Age 52 years. Weight 167 pounds (76 kg). Height 62 inches (1.6 meters).

DOB: 8/13/XX

MR#: PCS81300

Allergies: Demerol

Prior medical history: Past surgical history is notable for cholecystectomy, appendectomy, and right inguinal hernia repair, all more than 5 years ago.

Recent medical history: Complaining of abdominal pain and vomiting that began 1-2 days ago. He has also noted some “swelling” in his abdomen and feels bloated. Has had poor appetite, admits to not eating or drinking much for the past few days because of an “upset stomach”. Had a bowel movement about 3 days ago which contained blood and mucous.

EQUIPMENT CHECKLIST

Equipment	Medications and Fluids
<input type="checkbox"/> Universal precautions equipment	<input type="checkbox"/> Normal Saline 1000 mL
<input type="checkbox"/> Stethoscope	<input type="checkbox"/> Buprenorphine hydrochloride (Buprenex) 0.3 mg IVP
<input type="checkbox"/> Blood pressure cuff	
<input type="checkbox"/> SpO2 monitor	
<input type="checkbox"/> SpO2 probe	
<input type="checkbox"/> Thermometer	
<input type="checkbox"/> ECG monitor	
<input type="checkbox"/> ECG electrode cables	
<input type="checkbox"/> Oxygen supply source	
<input type="checkbox"/> Oxygen delivery devices (nasal cannula and/or mask)	
<input type="checkbox"/> IV pump	
<input type="checkbox"/> IV tubing	
<input type="checkbox"/> IV start supplies	
<input type="checkbox"/> Nasogastric tube	
<input type="checkbox"/> Suction canister and tubing	
<input type="checkbox"/> Emesis basin	
<input type="checkbox"/> General medication administration supplies	
	Documentation Forms
	<input type="checkbox"/> Patient Information Card – blank
	<input type="checkbox"/> Physician Orders
	<input type="checkbox"/> Data Collection Form
	Diagnostics available
	<input type="checkbox"/> Complete Blood Count
	<input type="checkbox"/> Chemistry Profile

PREPARATION OF SIMMAN SIMULATOR

- Emergency Department
- Dressed in male clothing
- Secure ID band with patient name, DOB, and MR#
- Wedding ring on hand

NUMBER OF PARTICIPANTS

Student Roles:

- 1 primary nurse
- 1 secondary nurse
- 1 observer

Instructor Roles:

- 1 physician or advanced practice nurse

	Monitor Settings (Actions)	Patient / Manikin (Actions)	Student Interventions (Events)	Cue / Prompt
5 to 10 minutes	Initial state: awRR: 24 HR: 120 BP: 98/52 SpO2: 92% Temp: 100.2 F	Auscultation sounds: Bowels sounds hyperactive Vocal sounds: “My stomach feels bloated – I would say 4 on a pain scale.” “I think I am going to throw up again.”	Wash hands Introduce self Identify patient Obtains vital signs Perform pain assessment Assess fluid status Apply oxygen Apply ECG leads Ask secondary nurse to get the physician in the room	Role member providing cue: Patient Cue: If student fails to recognize dehydration status, patient will say, “My mouth is so dry.”
10 to 20 minutes	Fluid bolus Trend: BP > 120/80 over 8 minutes Oxygen trend: SpO2 > 97% over 5 minutes	Vocal sounds: “I feel dizzy”	Communicate directly with physician Obtain IV access Initiate fluid bolus Monitor vital signs every 5 minutes Evaluate lab data	Role member providing cue: Lab Cue: Lab reports given
20 to 30 minutes		Vocal sounds: “I feel a little better, but my stomach is still cramping pretty bad.”	Insert Nasogastric tube and connect to suction canister.	

CORRECT TREATMENT

Proposed correct treatment (outline):

- Wash hands
- Introduce self
- Identify the patient (name, ID band, DOB, MR#)
- Obtain BP, pulse, respiratory rate, temperature, SpO2
- Perform a patient assessment
- Recognize severe dehydration
- Apply oxygen
- Attach ECG monitor leads
- Notify physician immediately
- Obtain IV access and administer appropriate fluid bolus
- Assess fluid status
- Auscultate breath sounds
- Monitor BP, HR, RR, and SpO2 frequently
- Insert nasogastric tube
- Communicate effectively with patient and physician

NURSING DIAGNOSIS

Fluid Volume Deficit related to active fluid volume loss

Defining characteristics:

- Weakness
- Decreased skin turgor
- Thirst and dry mucous membranes
- Increased pulse rate and decreased BP
- Increased body temperature
- Elevated hematocrit
- Increased urine concentration with decreased output

Acute Pain related to physical injury (bowel obstruction)

Defining characteristics:

- Verbal report
- Observed evidence
- Guarding
- Autonomic responses (changes in vital signs)
- Expressive behavior

Hyperthermia related to dehydration secondary to bowel obstruction

Defining characteristics:

- Increased body temperature
- Increased respiratory rate
- Tachycardia