Student Name: Olivia Creamer, SNB
Medical Diagnosis/Disease: GI System/ Chron's Disease

NCLEX IV *(8)*: Physiological Integrity/Physiological Adaptation **NCLEX IV *(7)*: Reduction of Risk**

Anatomy and Physiology Normal Structures

GI Tract: Mouth, esophagus, stomach, small intestine, large intestine, rectum, & anus.
Associated Organs: Liver, pancreas, & gallbladder
Enteric (Intrinsic) Nervous System: Regulates motility & secretions along the entire GI tract.
- Two Networks: Meissner (Controls secretion) & Auerbach Plexus (Nerve supply & GI movement)

Functions of the GI system: Supply nutrients to body cells via ingestion, digestion, absorption, & elimination
Ingestion: Intake of food
Hypothalamus = Appetite control center
Ghrelin Hormone = Appetite stimulation; *Leptin hormone* = appetite suppression
Mouth: Mastication & moving of foods to the back of the throat for swallowing, Contains salivary glands to chemically breakdown food & taste buds
Pharynx: Food stimulates receptors in oropharynx to initiate swallow reflex, activating the epiglottis
Esophagus: Hollow, muscular tube that receives food and moves it to the stomach
Digestion & Absorption:
Stomach: Stores food, mixes food with gastric secretions, & empties contents in small boluses into the small intestine. Stores small amounts of H20, ETOH, electrolytes, & certain drugs
- Muscle action mixes food w/ gastric secretions to form **chyme**, which makes food ready for absorption

Small intestine: 23ft long tube that is highly vascular. Contains digestive enzymes that brush borders of microvilli & villi which act to increase the surface area for digestion & absorption (D, J, I)
Elimination:
Large Intestine: Long, hollow tube that facilitates H20 & electrolyte absorption. Also forms feces & serves as a reservoir for fecal masses until defecation. (Ascending, Transverse, Descending)
- Food entering the stomach & duodenum triggers gastrocolic & duodenocolic reflexes, resulting in peristalsis in the colon. Reflexes are more active after the first daily meal.

Defecation: Involuntary & voluntary control
- Feces stimulate sensory nerve endings that produce desire to defecate
- Reflex Center = PNS nerve fibers in sacral part of spinal cord

Liver: Metabolic, secretory, vascular, & storage functions. Produces bile that is essential for fat emulsification & digestion
Pancreas: Exocrine function contributes to digestion through the production & release of enzymes.

Pathophysiology of Disease

Chron's Disease: An autoimmune, inflammatory bowel syndrome that involves any segment of the GI tract from the mouth to the anus
- Involves all layers of the bowel wall
- Ulcerations are deep, longitudinal, & penetrate between islands of inflamed, edematous mucosa (Cobblestone appearance)
- Presence of strictures may cause bowel obstruction
- Microscopic leaks can allow bowel contents to enter the peritoneal cavity- causing abscesses or peritonitis
- Fistulas = Common

Pathophysiology: Results from an overactive, inappropriate, or sustained immune response to environmental & bacterial triggers in a genetically susceptible person. ***The resulting inflammation causes widespread tissue destruction.***
Etiology:
- Highest incidences are in the Northern Hemisphere; Urban areas.
- *Lifestyle factors:* Diet, smoking, & stress increase susceptibility by altering the environment of the GI microbial flora
- Use of NSAIDs, ABXs, & oral contraceptives

Genetic Link: The # of gene variations suggests that IBD is a group of diseases that produce similar types of mucosal destruction
- The path from genetic mutation to abnormal immune responses varies
- *Genes*: NOD2, ATG16L1, IL23R, & IRGM
- *NOD2*- Changes of this gene are associated with a form of Chron's disease that affects the ileum. NOD2 changes prevent normal immune response, allowing bacterial to grow in & invade intestinal cells → Results in chronic inflammation

Anticipated Diagnostics

Labs
CBC: Anemia & WBC
CRP/ ESR: Inflammation
CMP: Electrolyte, hepatic, & renal abnormalities
Serum albumin: Hypoalbuminemia
Vitamin levels: B12, D, niacin, & folic acid)
Fecal calprotectin: Distinguish from IBS

Additional Diagnostics
Abdominal XR
Stool Cx
US for distal small bowel assessment
Barium XR
CT/MR enterography
Upper **endoscopy**
Ileocolonoscopic/ colonoscopy
Wireless vide capsule endoscopy

Colonoscopy screenings q1-3 years after 8-10 years of disease with colon involvement
Annual pap smears
Annual skin examination
Check titer & avoid live vaccines
Dual-energy XR absorptiometry scan

NCLEX II *(3)*: Health Promotion and Maintenance **NCLEX IV *(7)*: Reduction of Risk**

Contributing Risk Factors

Hx of or current cigarette smoking
Family hx of CD
Oral contraceptive use
Diet high in animal protein, sugars, oils, fish, & dietary fat.
Use of NSAIDs, ABX
Stress
Age: Common in young adults

Signs and Symptoms

Mild-severe acute exacerbations that occur @ unpredictable intervals
Diarrhea, wt. loss, **abdominal pain (Crampy)**, fever (Chills), fatigue, abdominal tenderness or distention, **rebound guarding**, palpable mass, & fistulas/ fissures/ perianal lesions.
Hyperactive bowel sounds, pallor, dry mucous membranes.

Possible Therapeutic Procedures

Non-surgical
Drug therapy: Amino salicylates, antimicrobials, corticosteroids, immunomodulators, & biologic therapies
- Antidiarrheals/ spasmodic

Dietary changes (High protein & vitamin)
Physical & emotional rest
Education
Surgical
Resection of the diseased segments w/ reanastomosis of the remaining intestine
Stricture-plasty
- Indicated for massive hemorrhage, strictures, obstructions, fistulas, or abscesses

Prevention of Complications

(What are some potential complications associated with this disease process)
↑ R/F small intestinal cancer
↑ R/F C. difficile infection
Perforation, perianal abscesses, strictures, & fistulas, & short bowel syndrome
Malnutrition & micronutrient deficiencies**, R/F fluid imbalance,** osteopenia, osteoporosis, & bone Fx

Prevent exacerbations- Quit smoking & prioritize diet modification
- Mediterranean diet

Strict adherence to treatment plan

NCLEX IV *(6)*: Pharmacological and Parenteral Therapies

Anticipated Medication Management
Amino salicylates, antimicrobials, corticosteroids, immunomodulators
Biologic therapies → IL, JAK, anti-TNF, & alpha 4-integrin inhibitors
Antidiarrheals, antispasmodics, **analgesics**, methylcellulose or psyllium,
PPIs & H2 receptors blockers for gastric distress. Ca+ & Vit. D supplements

NCLEX IV *(5)*: Basic Care and Comfort

Non-Pharmacologic Care Measures
High-calorie, high-vitamin, **high-protein diet** (Mediterranean diet is preferred)
EN during drug exacerbations, physical & emotional rest, & referral for counseling or a support group
Regular physical activity as tolerated, **stress reduction**, & smoking cessation

NCLEX III *(4)*: Psychosocial/Holistic Care Needs

What stressors might a patient with this diagnosis be experiencing?
Physical pain: **Abdominal discomfort**, pain with bowel movements, S/E of medication therapy, & post-operative complications
Emotional: Embarrassment, frequent bathroom trips, inability to enjoy certain foods, change in lifestyle, & genetic concerns (with children)
Financial: **Length of hospitalization**, loss of work from symptom management/ HCP appointments, cost of treatment therapy

Client/Family Education

List 3 potential teaching topics/areas
Drug therapy: Drug purpose and mechanism of action, S/E, when to & how much to take, etc.
***Nutrition therapy*:** Consume a high-calorie, high-vitamin- high protein diet. Utilize a Mediterranean-diet model.
Disease process education: Nature of the disease, treatment options risks, smoking cessation, lifelong monitoring, & routine health maintenance.

NCLEX I *(1)*: Safe and Effective Care Environment

Multidisciplinary Team Involvement
(Which other disciplines do you expect to share in the care of this patient)

PCP/ HCP, **gastroenterologist**, dietitian/ nutritionist, **colorectal surgeon**, IBD RN specialist, pharmacist, case management/ social worker, psychologist/ psychiatrist, PT/OT, radiology technician, & rheumatology or ophthalmology for associated complications.

Potential Patient Problems (Nursing Diagnoses)

To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for dehydration/ deficient fluid volume

Clinical Reasoning: Evidenced by the loss of GI fluids occurring with frequent episodes of loose, watery stool.

Goal 1: Will have one, firm-solid bowel movement during my time of care.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes.	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess abdomen for tenderness and distention q4h. Auscultate bowel sounds in all four quadrants q4h.	**Educate on the importance of a high-calorie, high-protein, high-vitamin, & high-fiber (Dependent on severity of condition) diet daily.**
Assess the frequency and consistency of bowel movements q6h or PRN.	Administer Infliximab as ordered.
Assess skin turgor on bilateral upper extremities q6h.	Provide education on the importance of adequate PO fluid intake in maintaining fluid balance and hemodynamic stability daily.
Assess CMP laboratory values daily (Na+, K+, & chloride).	If unable to consume liquids PO, collaborate with primary RN and HCP and consider need for **intravenous fluids** with electrolyte replacements daily as needed.
Assess I&O q2h & evaluate the color and clarity of urine.	Encourage PO fluid intake every hour. Provide beverages that satisfy preferences and comply with dietary orders/ restrictions.
Monitor VS q4h (HR, BP, RR). Palpate peripheral pulses on bilateral upper and lower extremities daily.	Gently assist in slow position changes and encourage dangling at the side of the bed prior to standing daily.

Goal 2: Will verbalize the importance of a high-calorie, high-protein, and high-vitamin diet by the end of my care.

Anticipated Patient Problem: Acute pain
Clinical Reasoning: Evidenced by facial grimacing, abdominal guarding, and a report of pain >5 on a 0-10 scale.
Goal 1: Will rate pain on a scale of 0-10 less than or equal to 2 by the end of my care.
Goal 2: Will verbalize two pain management strategies/ techniques by the end of my care (i.e., Deep breathing, repositioning, guided imagery, & distraction).

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes.	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess severity of pain utilizing a 0-10 scale q4h or PRN.	**Administer morphine via IVP as ordered.**
Monitor VS (RR, HR, & BP) q4H	Assist in deep breathing exercises daily. Initiate and/ or promote use of an incentive spirometer every hour.
Monitor for complaints of fatigue q4h.	**Promote energy conservation by implementing rest periods, terminating activity when pain or fatigue arises, and "clustering" care daily.**
Assess for signs of anxiety, depression, or distress q6h or PRN (Report of feeling "anxious", "sad" or trouble concentrating. Fatigue, agitation, withdrawal, or observable restlessness).	**Guide through guided imagery daily. Promote relaxation and utilize distraction techniques (i.e., Reading, watching television, speaking with family) daily.**
Assess duration and quality of sleep, as well as sleeping habits daily.	Promote sleep hygiene by minimizing noise & distractions, maintaining a comfortable room temperature/ dark environment, and limiting late-night screen time daily.
Assess levels of activity daily. - Are coordination and gait intact? Does the pt. show disinterest in ambulation or repositioning due to pain?	Assists with ADLs daily or ad lib (Bed bath, oral care, ambulation to bedside commode/ chair, &/ or repositioning)

To Be Completed During the Simulation:

Actual Patient Problem: Deficient fluid volume
Clinical Reasoning: Evidenced by a hemoglobin value of 7.0 and an RBC value of 2.7, report of dizziness and lightheadedness, and evidence of a gastrointestinal bleed. Also evidenced by a SBP <100 mmHg.
Goal: Hemoglobin will be between 12-16 mg/dL and RBCs will be between 4.2-5.4 mg/dL by the end of my care. Met: ☐ Unmet:✓
Goal: SBP will be between 120 and 130 mmHg by the end of my care. Met: ☐ Unmet:✓

Actual Patient Problem: Acute pain
Clinical Reasoning: Evidenced by a complaint of abdominal pain/ cramping that is >/= a 6 on a 0-10 scale.
Goal: Will rate pain less than or equal to a 2 by the end of my care. Met: ✓ Unmet:☐
Goal: Will verbalize two non-pharmacologic strategies to reduce pain by the end of my care. Met: ☐ Unmet:✓

Additional Patient Problems: Knowledge deficit related to inadequate consumption of protein rich foods with a diagnosis of Crohn's disease. Ineffective coping as evidenced by implementation of inappropriate stress relieving strategies (Daily consumption of alcohol for work-related stressors)

Patient Problem	**Time**	**Relevant Assessments**	**Time**	**Multidisciplinary Team Intervention**	**Time**	**Reassessment/ Evaluation**
Acute pain	1600	C/O 6/10 abdominal/ epigastric pain that began in the morning. States that pain is aggravated by stress.	1600	Promoted a period of rest. Collaboratively decided to "cluster" care and delay a head-to-toe assessment to a later time.	1630	Reports, "I am feeling lightheaded and dizzy. I feel like I am about to faint." SpO2 94% on RA, BP 94/56, RR: 26, P 110.
Deficient fluid volume	1630	Reports, "I am feeling lightheaded and dizzy. I feel like I am about to faint." SpO2 94% on RA, BP	1630	Initiation of O2 therapy via NC. Started on 2L/min.	1645	States, "I am feeling worse, I think I am going to throw up." P 104, SpO2 96% on 2L NC, BP 98/60, RR 22.

		94/56, RR: 26, P 110.				
Deficient fluid volume	1645	States, “I am feeling worse, I think I am going to throw up.” P 104, SpO2 96% on 2L NC, BP 98/60, RR 22.	1650	Placed in supine position with bilateral lower extremities elevated. Moist, cold cloth placed on forehead.	1700	Resting in bed with HOB lowered and bilateral extremities elevated. P 100, SpO2 95% on 2L NC, BP 98/62, RR 20.
Deficient fluid volume	1900	Resting in bed with HOB elevated. BP 102/62, P 100, RR 24, SpO2 95% on 2L NC. Hgb 7.0 mg/dL. RBC 2.7.	1900	1.5 units of PRBCs administered via IV.	1930	Reports HA and restlessness. There is slight facial flushing. BP 103/60. P 96 bpm. T 101.8 F. RR 22.
Deficient fluid volume	1930	Reports HA and restlessness. There is slight facial flushing. BP 103/60. P 96 bpm. T 101.8 F. RR 22. States, “I feel awful, what is going on?”.	1945	Stopped transfusion of PRBCs. Dr. McGuire notified.	2000	Assessed by Dr. March. Concerned of a GI bleed- endoscopy scheduled for the next A.M to visualize GI mucosa. Change of shift report (SBAR) was given to oncoming RN. Recommended close monitoring of VS (Q2H) and administration of acetaminophen for HA and antipyresis.
Acute pain	1600	P 106. RR 24. BP 98/58. SpO2 95% on 2L NC. C/O RLQ abdominal pain, cramping and tenderness. Rates pain 8/10 and states, “I feel awful. It started this morning.”	1600	Morphine 4mg via IV bolus administered.	1630	States, “I feel so much better; thank you for helping me.” Rates pain 2-3/10. Denies abdominal soreness or cramping.
Ineffective coping	1645	States, “I have no support system and I certainly don’t have time to exercise. I mean, I don’t know how else to relax. I look forward to going home in the evening and relaxing with a couple glasses of wine.” States that watching TV and reading does not interest her.	1700	Promoted use of guided imagery and journaling at the end of the day. Encouraged proper sleep hygiene- following a strict sleeping schedule and minimizing distractions at P.M. Provided with stress management pamphlet.	1715	States, “Oh, thank you, I feel so much better after having talked to you. Having a plan at home will really help me know what to do. I mean, I want to work on decreasing my stress. These suggestions really help.”
Deficient knowledge	1715	States, “I usually don’t have time to eat a good breakfast, but I eat a sandwich for lunch. And then after a long day at work, I’ll come home and have a glass of wine with dinner to relax.”	1730	Educated on the importance of consuming foods high in protein to reduce the risk for malnutrition associated with Crohn’s disease. Provided with a printable pamphlet on “MyPlate”.	1745	Stated, “These suggestions will really help with eating better.” “I plan on making smarter choices in the cafeteria and avoiding caffeine.”
Deficient knowledge	1745	States, “I usually take ibuprofen for any pain that I have.”	1745	Educated on the importance of avoiding NSAIDs. Informed that NSAIDs can exacerbate Crohn’s disease symptoms by irritating the intestinal lining.	1750	Stated, “Thank you so much for your help, your suggestions have really encouraged me to make changes. I will try not to take ibuprofen for pain, and instead use alternatives to NSAIDs.

ATI Virtual Clinical Questions and Reflection:

1) Identify two members of the healthcare team collaborating in the care of this patient:
    a. **Dr. March- Gastroenterologist**
    b. **Kari- Emergency department RN**

2) What were three steps the nursing team demonstrated that promoted patient safety?
    a. **Frequent hand hygiene and the application of clean gloves prior to assessing the pts. ileostomy**
    b. **Utilizing two patient identifiers (Full name and DOB) prior to performing procedures and administering medications/ transfusions.**
    c. **Utilizing the SBAR communication technique to optimize continuity of care.**

3) Do you feel the nurse and medical team utilized therapeutic communication techniques when interacting with individuals, families, and health team members of all cultural backgrounds?

    a. If **yes**, describe: **Yes, I feel as though all members of the health team utilized effective, therapeutic communication while taking care of the client. The care team utilized open-ended questions, gentle touch, and summarizing to optimize interactions and provide the best patient-centered care. They remained professional both in front of the patient and when communicating with other healthcare staff. The registered nurse listened attentively and was extremely empathetic throughout all phases of the client’s care. Towards the end of the encounter when they were discussing lifestyle modifications, the registered nurse fostered a safe environment that encouraged the client to openly discuss their at-home**

situations and stressors. When offering the client suggestions on how to modify her current habits and diet, she remained considerate and encouraged her to actively engage in the conversation.

Reflection

1) Go back to your Preconference Template:

    a. Indicate (circle, star, highlight, etc.) the components of your preconference template that you saw applied to the care of this patient. **DONE**

2) What was the priority nursing problem? Provide rationale.
The priority nursing problem is "Deficient fluid volume". It is evidenced by a Hgb value of 7.0 mg/dL, and an RBC value of 2.7 mg/dL. There were patient complaints of dizziness, lightheadedness, and a general feeling of being unwell. During "my time of care", she also had a systolic BP of < 100 mmHg. The care team attempted to resolve the fluid/ blood loss with a transfusion of PRBCs and continuous IVF.
3) Review your Patient Problem Form: Did you see many of your anticipated nursing assessments and interventions used?
Assessments & interventions that were seen in the clinical scenario were bolded & highlighted on the nursing problem tables**

    a. Were there interventions you included that *were not* used in the scenario that could help this patient?

        i. If **yes**, describe: **I would have liked to see the care team encourage oral hydration to maintain hemodynamic stability. Along with this, I would have also liked to see them closely monitor intake and output to assess hydration status and monitor perfusion to the kidneys. I think it would have been interesting to see the scenario incorporate her ileostomy a bit more. I would have also liked to see her mobility status. During the clinical scenario, she was primarily bedrest and frequently complained of dizziness, lightheadedness, and a general feeling of being unwell. Her reaction to dangling at the edge of the best or even a short, brisk walk may provide as to the status of her condition (Improving or decompensating).**
        ii. If **no**, describe: **The administration of infliximab and promotion of sleep hygiene did not pertain to this clinical scenario.**

4) After completing the scenario, what is your patient at risk for developing?

    a. Another GI bleed or worsening of her existing Crohn's disease
    b. Why? **The client's current lifestyle habits are not optimal for gastrointestinal well-being. Drinking alcohol every night to cope with stress causes damage to the mucosal lining of the digestive tract, leading to inflammation and eventually tears. A diet low in protein can compromise the "barrier" function of the intestinal mucosa and can lead to the malabsorption of nutrients. Protein is also a key factor in repairing bodily tissue. A diet low in protein after GI bleed can delay its healing process and prolong the symptoms associated with the condition.**

5) What was your biggest "take-away" from participating in the care of this patient? How did this impact your nursing practice?
My biggest "take-away" from participating in the care of this client was the critical importance of adhering to the institutions policies and safety measures for blood transfusions. I learned that prior to transfusing PRBCs, you must check the patient's identity, the blood type, and the blood product with another RN at the bedside. I also learned the importance of closely monitoring VS frequently after initiating the blood transfusion. Any change in status during and/ or after the blood transfusion, like an increase in temperature, a drop in BP, and an increase in pulse, should be reported to the healthcare provider STAT. Blood transfusions can have serious complications and swift medical intervention is imperative.