HCC3 / NURS 4201

Comprehensive PAINT-Model Study Guide

Perioperative Care & GI Inflammatory Disorders — Exam 1/2 Prep

Built from Dr. Jonathan's lecture transcripts, the HCC3 Learning Map, the PAINT Model handout, and the exam-review recording.

PAINT = Pathophysiology • Assessment • Interventions • Nursing Considerations • Teaching

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How to use this guide

- Each exemplar follows PAINT: Pathophysiology → Assessment (with Normal vs. Abnormal) → Interventions/Meds → Nursing Considerations → Teaching → Complications → Postop (if applicable).
- Yellow 'PRIORITY PEARL' boxes = 'first action' priority pearls -- these are the most heavily tested single-answer prioritization points.
- Every disease ends with Active Recall Questions. Attempt them BEFORE turning to the Master Answer Key at the very end of the guide.
- Master tables at the end consolidate medications, complications, and priority 'what do I do first' scenarios across ALL exemplars for rapid pre-exam review.
- Sections labeled 'What My Professor Emphasized' pull directly from the exam-review recording — these are the highest-yield, most test-relevant statements.

0. Clinical Judgment & Prioritization Frameworks

From the course PAINT Model handout — apply these frameworks to EVERY 'what should the nurse do first' question.

The STAR + Nugget Approach to Studying

- **S — Study:** read chapter key points, watch presentations, create a 'nugget list' of difficult/important facts after first reading.
- **T — Self-Testing:** end-of-chapter questions, NCLEX challenge questions, learning map questions, case studies, adaptive quizzing.
- **A — Analyze (Six-Step Approach):** (1) Cover answers, read only the stem; (2) Rephrase the question in your own words; (3) Identify keywords in the stem; (4) Generate possible answers before looking; (5) Uncover choices one at a time, ruling out incompatible ones; (6) Repeat with survivors, choose the best answer.
- **R — Review & Retest:** reread key sections, focus on the nursing process, review case studies/care plans, retest until mastery.

The PAINT Model

- **P — Pathophysiology:** write the problem and explain it in your own words; forms the basis for interventions and evaluation.
- **A — Assessment:** what cues/findings correspond to the problem; what is normal vs. abnormal; includes history, physical, labs, imaging.
- **I — Interventions:** priority nursing actions (using frameworks like Maslow's, ABCs) PLUS prescribed therapeutics (pharmacologic and non-pharmacologic).
- **N — Nursing Considerations:** individualized, holistic, evidence-based, developmentally appropriate care — culture, religion, age, evaluate if prior therapy worked.
- **T — Teaching & Health Promotion:** education on interventions/therapeutics, self-care, diet/lifestyle, follow-up care.

Clinical Judgment Model Cross-Walk

Nursing Process (ADPIE)	Tanner's Clinical Judgment Model	NCJMM (NGN)
Assessment	Noticing	Recognize Cues
Diagnosis/Analysis	Interpreting	Analyze Cues
Diagnosis/Analysis	Interpreting	Prioritize Hypotheses
Planning	Responding	Generate Solutions
Implementation	Responding	Take Action
Evaluation	Reflecting	Evaluate Outcomes

Prioritization Frameworks

- **Maslow's Hierarchy:** Physiological Integrity → Safe & Effective Care Environment → Psychosocial Integrity → Health Promotion & Maintenance (bottom of pyramid = highest priority).
- **ABC-S:** Airway → Breathing → Circulation → Safety (basic needs first).
- **Acute vs. Chronic / Unstable vs. Stable spectrum:** Acute/Emergent/Unstable/Unpredictable/Unsafe/Deteriorating = HIGHER priority than Chronic/Urgent-Nonurgent/Stable/Predictable/Safe/Improving.
- **AAPIE:** Assessment → Analysis of assessment data & client preference → Planning → Interventions → Evaluation of previous interventions/actions.

1. Perioperative Nursing Care (Pre-, Intra-, Post-op)

Foundational chapter — applies to EVERY surgical exemplar in this course (appendectomy, cholecystectomy, bowel resection, ostomy surgery, etc.).

P — Pathophysiology

- Surgery is invasive; it exposes the patient to anesthetic agents, positioning injury, and environmental hazards — nursing care exists to anticipate and prevent 'never events.'
- AORN, WHO, and The Joint Commission National Patient Safety Goals drive standardized safety practices (surgical checklist, site marking, SBAR handoff, TeamSTEPPS).
- Surgical Care Improvement Project (SCIP) core measures: prophylactic antibiotics, correct hair removal, timely D/C of urinary catheter, VTE prophylaxis — these ARE the standard of care and are testable.

A — Assessment

History / Risk Factors

- **Informed consent** — surgeon's responsibility to explain procedure/risks/alternatives and obtain signature BEFORE sedation. Nurse's role: witness the signature, verify it is signed/dated/timed, and CLARIFY/reinforce information already given — the nurse does NOT provide detailed procedural information.
- Full head-to-toe history: cardiovascular, respiratory, renal, neuro, musculoskeletal, nutrition, skin, psychosocial.
- Medication reconciliation — anticoagulants, antiplatelets/NSAIDs/aspirin/herbals often held; beta blockers, cardiac/seizure/hypertension drugs usually continued with a sip of water; diabetes meds individualized (hold oral hypoglycemics/non-insulin injectables morning of surgery; may continue subq insulin per surgeon).
- Presurgical labs: UA, type & screen, CBC/H&H, coagulation studies, pregnancy test, metabolic panel (glucose, electrolytes, renal/liver function, protein). Hypokalemia → digoxin toxicity risk, slows anesthesia recovery, cardiac irritability. Hyperkalemia → dysrhythmia risk with anesthesia.
- ECG for cardiac history/age threshold (~40-45); CXR for pulmonary history; abnormal results can cancel surgery.

Physical Assessment

- Baseline full set of vital signs within 1-2 hours of surgery.
- Verify allergies documented; verify height/weight for accurate anesthesia dosing.
- NPO status confirmed: general guidance — no fried/fatty food or meat 8 hr before, no light meal 6 hr before, no clear liquids 2 hr before (facility-specific).
- Skin prep: chlorhexidine gluconate shower 1-2 days before; hair removal only by evidence-based method (NOT razor shaving — increases infection risk).
- Bowel prep as ordered for abdominal/pelvic surgery — teach fall precautions (enemas/laxatives cause orthostatic hypotension, vagal stimulation).
- Pre-transfer checklist: consent signed/witnessed, site marked, ID band correct (name x2, DOB, MRN, surgeon), allergy band, jewelry/dentures/prosthetics/hairpins removed or documented, bladder emptied, pre-op meds given (prophylactic antibiotic ~1 hr before incision).

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Vital signs post-op	Return toward pre-op baseline trend	BP change ≥25% from baseline, or 15-20 point systolic/diastolic shift → notify provider
Airway/breathing	Awake patient with clear breath sounds, SpO2 ≥95% or baseline	Talking is NOT proof of adequate gas exchange; stridor/snoring/accessory muscle use/sternal retraction = obstruction or residual paralysis
Temperature/pulse	Slight bradycardia possible from anesthesia	Bradycardia + hypothermia (esp. older adults); tachycardia may = hemorrhage, shock, or pain
Wound drainage color progression	Sanguineous → serosanguineous → serous over first few days	Serosanguineous drainage continuing past post-op day 5, or increasing amount → possible dehiscence, notify surgeon
Peristalsis	Return of flatus/stool is the TRUE indicator (bowel sounds alone are not confirmatory)	Distended, firm abdomen with NO flatus/stool = paralytic ileus
Urine output	Voiding without distention; UOP proportional to intake	<30 mL/hr → report; suggests hypovolemia or renal issue

Diagnostics / Labs

- WBC left shift (increased bands/immature neutrophils) = infection.
- H&H trend down in first 24-48 hr can reflect dilution OR true blood loss — correlate clinically.
- ABGs for patients with respiratory/cardiac disease, ventilated, or chest surgery.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• On return to unit: airway/breathing FIRST (patent airway, SpO2, breath sounds) before anything else.

• Post-op sedated/drowsy patient: LEAST invasive first — try to arouse (call name, tactile stimulation/'sternal rub') BEFORE calling rapid response or giving reversal agents; then escalate based on response.

• Suspected wound EVISCERATION = surgical emergency: cover with a sterile saline-soaked non-adherent dressing, do NOT push organs back in, keep patient NPO and calm, notify surgeon immediately, prepare for return to OR.

- **Respiratory:** incentive spirometer, coughing/deep breathing, splinting the incision, early ambulation — highest incidence of impaired gas exchange is post-op day 2.
- **Cardiovascular/VTE prevention:** anti-embolism stockings/SCDs measured and fitted correctly (too loose = ineffective, too tight = impairs flow); remove 2-3x/day x30 min for skin check; early ambulation.
- **Pain:** treat proactively before activity/ambulation; reassess 20-30 min after IV meds; PCA or around-the-clock dosing > PRN/on-demand for consistent blood levels.
- **GI:** auscultate bowel sounds all 4 quadrants (turn off NG suction first so it isn't mistaken for bowel sounds); absent bowel sounds ≠ confirmed ileus — flatus/stool passage is the true indicator.

- **Fluid/lytes:** strict I&O, monitor for fluid volume deficit/overload, NG drainage → risk for hypokalemia, hyponatremia, hypochloremia, metabolic alkalosis (esp. if irrigated with water instead of saline).

Tubes / Drains / Procedures

- **NG tube:** decompresses stomach; verify placement q4-8h and before instilling anything; irrigate with SALINE not water to avoid electrolyte loss; monitor drainage color (greenish-yellow normal; red/pink = active bleed; coffee-ground/brown = old bleed).
- **Foley/indwelling catheter:** keep bladder empty; standard post-op care.
- **Penrose drain (gravity/open):** drainage ON the dressing is EXPECTED — not a problem.
- **Closed suction drains (Jackson-Pratt, Hemovac):** drainage should be contained in reservoir, NOT expected on the dressing; assess suction is maintained (bulb compressed).
- **T-tube (post-cholecystectomy):** drains bile; initial drainage 200-500 mL/day is normal in first 24 hr; report >1000 mL/day in first 24 hr OR >400 mL/day after post-op day 2; keep drainage bag BELOW insertion site to prevent backflow; usually removed within 24 hr.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Opioids (morphine, hydromorphone)	Post-op pain control	Monitor RR before/after dosing; assess for respiratory depression; PCA/scheduled > PRN for consistency
Meperidine (Demerol)	Rarely used for pain	AVOID, especially older adults — risk of seizures from metabolite accumulation
Antiemetics (ondansetron, dexamethasone)	Prevent/treat PONV — started PRE-operatively	Dexamethasone may transiently raise glucose in diabetics first 12 hr post-op
Prophylactic antibiotics	SSI prevention	Given ~1 hr before incision per SCIP measures
Anticoagulants/VTE prophylaxis	Prevent DVT/PE (leading preventable cause of hospital death)	Combine with mechanical prophylaxis (SCDs/stockings) and early ambulation

Non-Pharmacologic

- Relaxation/diversion, positioning, splinting, gentle massage of stiff joints.

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Wound dehiscence	'Something popped'/gave way sensation; ↑serosanguineous drainage after day 5	Apply sterile non-adherent (Telfa) or saline dressing, instruct patient to bend knees & avoid coughing, notify surgeon — do NOT push tissue back in
Wound evisceration	Visible protrusion of organs through open wound (POD 5-10 most common)	SURGICAL EMERGENCY — cover with sterile saline dressing, keep

Complication	Early Warning Signs	Nurse Does FIRST
		patient calm/NPO, notify surgeon STAT, prep for OR
Paralytic ileus	Distended abdomen, absent/decreased bowel sounds, no flatus/stool, vomiting	NPO, NG decompression as ordered, monitor lytes, encourage ambulation, notify provider if no resolution
VTE/DVT/PE	Unilateral leg swelling/pain/warmth; sudden dyspnea, chest pain, tachycardia	Notify provider immediately; do not massage leg; anticoagulation; oxygen/rapid response if PE suspected
Hypoxemia/atelectasis	Highest incidence POD #2; ↓SpO2, restlessness, confusion (esp. older adult)	Reposition, incentive spirometer, cough/deep breathe, O2 as ordered, escalate if unresolved
Hemorrhage/shock	↑pulse, ↓BP, ↓pulse pressure, restlessness, cool clammy skin, large sanguineous drainage	Notify provider/rapid response, IV fluids, prepare for possible blood products, monitor H&H

N — Nursing Considerations

- Older adults: higher hypothermia risk (thermoregulation changes, less body fat) → shivering increases O2 demand; often placed on low-dose O2 first 12-24 hr to reduce confusion.
- Consider cultural/spiritual needs (e.g., religious emblems may be pinned to gown); document capped teeth, prosthetics, hairpins removed to prevent scalp burns from electrical conduction.
- Case management for post-discharge follow-up, especially outpatient surgery with complex procedures.

T — Teaching & Health Promotion

- Ambulatory surgery patients receiving sedation/general anesthesia MUST have another adult drive them home — document teaching and who received materials.
- Teach splinting incision, proper lifting techniques, avoid heavy lifting/straining per surgeon's restriction.
- Teach signs of infection to report: redness, warmth, increasing pain, purulent/odorous drainage, fever.
- Drug reconciliation before discharge — confirm resumption of home meds, new prescriptions understood (dose, side effects, when to stop).
- Diet high in protein, calories, vitamin C/zinc/iron to promote wound healing.

"What My Professor Emphasized" / How This Could Be Tested

- Consent: nurse WITNESSES the signature only — does NOT explain the procedure or assess adequacy of understanding (that's the surgeon's job).
- Intraoperative phase nursing focus = SAFETY (time-outs, sterile technique, infection control, correct site/patient/procedure).
- Post-op drowsy/unresponsive patient: LEAST invasive intervention first (try to arouse) is a favorite priority question — do not jump to medication reversal or rapid response before attempting to stimulate the patient.

- T-tube output numbers (200-500 mL/day initially; >1000 mL/day in first 24h or >400 mL/day after POD 2 = notify provider) were specifically highlighted and tested.

How to Think Like the Nurse

- See a post-op patient who is drowsy/hard to arouse → Think: least invasive first → tactile/verbal stimulation → reassess response → if unresponsive/RR too low, escalate to rapid response/reversal agent.
- See ↑serosanguineous drainage after POD 5 → Think: possible dehiscence → notify surgeon, do not delay.
- See organs visible in an open wound → Think: evisceration = emergency → sterile saline dressing, NPO, call surgeon immediately.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

1. A patient returns from PACU to the med-surg floor after general anesthesia and is difficult to arouse with a low respiratory rate. What should the nurse do FIRST?
2. The nurse notes serosanguineous drainage on postoperative day 6 that has increased in amount from the previous shift. What is the priority action?
3. A patient 3 days post-abdominal surgery suddenly reports 'something just popped' and the nurse sees loops of bowel protruding through the incision. What is the priority nursing action?
4. Which assessment finding in a post-op T-tube patient requires the nurse to notify the provider?
5. The nurse is auscultating bowel sounds in a patient with an NG tube to low intermittent suction. What must the nurse do before auscultating?

2. GERD (Gastroesophageal Reflux Disease)

Chronic, more serious condition arising from persistent gastroesophageal reflux (backward flow of stomach contents into the esophagus).

P — Pathophysiology

- Reflux occurs when the lower esophageal sphincter (LES) is compromised/relaxed → gastric/duodenal contents irritate esophageal mucosa → inflammation (reflux esophagitis).
- Risk factors: obesity (↑intra-abdominal pressure), H. pylori (poor gastric emptying), NG tube (keeps cardiac sphincter open), pregnancy, tight clothing/binders, ascites, obstructive sleep apnea (worse supine at night), ~31% heritability, smoking/alcohol (↓LES tone).
- Chronic healing can replace normal squamous epithelium with Barrett esophagus — PREMALIGNANT, ↑ esophageal cancer risk. Fibrosis/scarring can also cause esophageal stricture → progressive dysphagia.
- Complications: asthma, laryngitis, dental decay, cardiac mimicry, hemorrhage, aspiration pneumonia.

A — Assessment

History / Risk Factors

- Ask about heartburn/chest pain history, new asthma diagnosis, morning hoarseness, nighttime cough/wheeze (severe reflux reaching pharynx/aspiration), dysphagia/odynophagia.
- Classic symptoms: dyspepsia (indigestion) and regurgitation — occurs after meals, lasts 20 min-2 hr, worsens lying down, relieved by fluids/antacids/upright posture.
- Water brash = sudden salivary hypersecretion WITHOUT a sour/bitter taste (different from regurgitation).

Physical Assessment

- Auscultate lungs for crackles (aspiration sign).
- Assess for chest pain radiating to neck/jaw/back that can MIMIC cardiac pain — must rule out MI first in ED.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Pain pattern	Occurs after meals, relieved by antacids/upright posture	Pain mimicking MI, radiating to jaw/back — must r/o cardiac cause first
Barrett tissue	N/A	New columnar (Barrett) epithelium = premalignant, requires surveillance
Swallowing	No difficulty	Progressive dysphagia = possible stricture

Diagnostics / Labs

- Usually diagnosed clinically from classic symptoms alone — no single definitive test.
- EGD (esophagogastroduodenoscopy) for atypical symptoms — requires moderate sedation, patient needs a driver.

- Ambulatory esophageal pH monitoring = MOST accurate diagnostic test (24-48 hr catheter/wireless capsule + symptom diary).
- Esophageal manometry — cannot diagnose GERD alone, used to rule out motility disorder before considering surgery.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• New chest pain patient with possible GERD in the ED: rule out cardiac cause FIRST — stay with patient, reduce anxiety, do not assume GERD until cardiac etiology excluded.

- Nutrition therapy is the cornerstone: small frequent meals (4-6/day), avoid trigger foods (peppermint, chocolate, fatty/fried foods, caffeine, carbonated beverages, spicy/acidic foods), eat slowly/chew thoroughly, remain upright ≥1 hr after eating, avoid eating within 3 hr of bedtime.
- Elevate HOB with blocks/wedge pillow (not just regular pillows) to reduce nighttime reflux and aspiration risk.
- Weight loss referrals if obese; smoking/alcohol cessation referrals; CPAP for coexisting OSA improves nighttime reflux.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Antacids (calcium carbonate, aluminum/magnesium hydroxide)	Neutralize acid quickly for symptom relief	Calcium carbonate can cause REBOUND acid secretion via gastrin release
H2 receptor antagonists (famotidine)	↓ gastric acid secretion	Slower onset than antacids, longer duration
Proton pump inhibitors (omeprazole, pantoprazole, esomeprazole — end in '-azole')	Most effective acid suppression, promotes healing	Long-term use linked to C. diff, pneumonia, bone fracture, CKD, vitamin/mineral deficiency (research ongoing); do NOT stop abruptly — taper to avoid rebound acid hypersecretion; masks symptoms so recurrence may go unnoticed when stopped

Non-Pharmacologic

- Stretta procedure (endoscopic radiofrequency to LES area, ↓ vagal activity) for select non-obese patients not responding to other measures.

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Barrett esophagus	Chronic unremitting reflux, may become asymptomatic as tissue changes	Refer for surveillance endoscopy/biopsy — premalignant, cancer risk

Complication	Early Warning Signs	Nurse Does FIRST
Esophageal stricture	Progressive dysphagia	Refer for evaluation/possible dilation
Aspiration pneumonia	Cough, fever, crackles, nighttime reflux history	Elevate HOB, notify provider, treat as pneumonia

N — Nursing Considerations

- Treat MORE aggressively in older adults.
- Coordinate with dietitian for individualized meal planning.
- Assess coping/anxiety — ED patients who fear MI need reassurance and to stay with the nurse until diagnosis is clarified.

T — Teaching & Health Promotion

- GERD is a CHRONIC disorder requiring ongoing management, not a cure.
- Teach lifestyle modification list (above) and drug therapy adherence.
- Teach signs of complications (dysphagia, Barrett changes) to report.
- Surgical option (laparoscopic Nissen fundoplication) = standard for SEVERE GERD unresponsive to medical management; recurrence still possible so continue antireflux regimen after surgery.

"What My Professor Emphasized" / How This Could Be Tested

- Sequencing of nausea/vomiting relative to abdominal pain is a recurring assessment differentiator across GI exemplars (also see Appendicitis) — know it applies broadly.
- PPI names ending in '-azole' and their long-term risks were emphasized — expect a question distinguishing PPI vs H2 blocker vs antacid mechanism/teaching.

How to Think Like the Nurse

- See chest pain that could be cardiac OR GERD → Think: rule out MI first, stay with patient, reduce anxiety — do not assume benign cause.
- See long-term PPI use → Think: assess for masked symptoms, osteoporosis risk, infection risk (C. diff/pneumonia), periodically reassess need.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

6. A patient reports chest pain radiating to the jaw after eating a large fatty meal. What is the nurse's priority action?
7. Which statement by a patient on long-term omeprazole indicates a need for further teaching?
8. Which finding in a patient with chronic GERD is most concerning for Barrett esophagus and requires provider notification?

3. Gastritis

Inflammation of the gastric mucosa; acute (heals in days, self-limited) vs. chronic (progressive, atrophic, associated with cancer risk).

P — Pathophysiology

- Prostaglandins normally protect the gastric mucosal barrier. Break in barrier → HCl back-diffuses into mucosa → injures vessels → edema, bleeding, erosion.
- Acute causes: NSAIDs (↓ prostaglandin production), alcohol, caffeine, stress, smoking, radiation, corrosive ingestion, steroids/SSRIs.
- Chronic Type B (most common) = H. pylori infection — direct correlation between organism load and cellular damage; progressive gastric atrophy → loss of parietal cells → ↓ intrinsic factor → pernicious anemia (B12 deficiency) as acid secretion declines to mucus/water only.
- Chronic gastritis ↑ risk for gastric CANCER due to persistent inflammation and gland destruction.

A — Assessment

History / Risk Factors

- NSAID/aspirin/corticosteroid use, alcohol, caffeine, smoking, stress, radiation exposure, toxic workplace exposures (lead, nickel).
- History of Crohn's disease, graft-versus-host disease, uremia, or prior gastric surgery (alkaline reflux).

Physical Assessment

- Acute: rapid-onset epigastric pain, dyspepsia, possible hematemesis (bright red or coffee-ground) or melena (digested blood in small intestine).
- Chronic: often FEW symptoms unless ulceration present — nausea, vomiting, upper abdominal discomfort, post-meal epigastric pain, anorexia.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Acute gastritis course	Resolves in days if muscle layer not involved, no residual damage	Bleeding/hemorrhage if muscle layer involved
Hematemesis appearance	N/A	Coffee-ground = old bleeding; bright red = active bleeding — both abnormal, report
Chronic gastritis labs	N/A	↓B12/pernicious anemia from lost intrinsic factor

Diagnostics / Labs

- EGD with BIOPSY = gold standard for diagnosis; also tests for H. pylori and rules out cancer.
- For accurate H. pylori biopsy results, patient should STOP antacids/PPIs for at least 1 week prior.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Significant GI bleeding with gastritis → treat as emergency: assess hemodynamic stability, notify provider, prepare for possible transfusion/fluids.

- Acute: eliminate the cause, supportive/symptomatic care — healing is usually spontaneous within days.
- Bland, non-spicy diet, small frequent meals; avoid caffeine, alcohol, tobacco, heavily spiced/acidic foods (bell peppers/onions most commonly irritating).
- Stress reduction techniques: progressive relaxation, guided imagery, distraction.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
H2 blockers (famotidine)	Block gastric acid secretion	Standard therapy
Sucralfate	Mucosal barrier fortifier	Give on empty stomach, separate from other meds
PPIs (omeprazole, pantoprazole)	Suppress gastric acid via proton pump	Same considerations as GERD
Antacids (Al(OH)3 + Mg(OH)2, calcium carbonate)	Buffer existing acid	Calcium carbonate can rebound-stimulate gastrin/acid
H. pylori treatment (if positive)	Eradicate infection	See PUD triple/quadruple therapy below

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Hemorrhage (if muscularis involved)	Hematemesis, melena, hypotension, tachycardia	Notify provider, IV access, fluids/blood products, monitor H&H
Pernicious anemia (chronic gastritis)	Fatigue, pallor, neuro symptoms, ↓B12	Provider notification, B12 supplementation
Progression to gastric cancer (chronic)	Weight loss, persistent pain, anemia	Refer for surveillance endoscopy

N — Nursing Considerations

- Older adults may present atypically — assess carefully for silent bleeding.
- Address underlying disease if secondary to Crohn's, CKD, or GVHD.

T — Teaching & Health Promotion

- Avoid NSAIDs/aspirin, alcohol, tobacco long-term.
- Balanced diet, regular exercise (maintains peristalsis), stress management.
- Report black/tarry stools or vomiting blood immediately.

"What My Professor Emphasized" / How This Could Be Tested

- The exam distinguishes gastritis, PUD, and PUD complications by TIMING relative to meals and by TYPE of ulcer — study guide comparison table below is critical.
- H. pylori mechanism (urease → ammonia → neutralizes local acid, burrows into mucus layer to evade immune detection) is emphasized as the 'why' behind chronic infection.

How to Think Like the Nurse

- See hematemesis/melena in a gastritis patient → Think: assess for hemorrhage, hemodynamic status is priority over dietary teaching.
- See chronic gastritis + fatigue/pallor → Think: check B12/pernicious anemia from lost intrinsic factor.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

9. A patient with acute gastritis reports coffee-ground emesis. What does this finding indicate and what should the nurse do?
10. Which patient teaching is appropriate for a patient recovering from acute gastritis?
11. A patient with chronic gastritis has laboratory findings showing macrocytic anemia. What is the pathophysiologic explanation?

4. Peptic Ulcer Disease (PUD)

GI mucosal defenses become impaired and no longer protect the epithelium from acid/pepsin. Three types: duodenal (most common), gastric, and stress ulcers.

P — Pathophysiology

- Most ulcers caused by H. pylori infection (oral-oral or fecal-oral transmission) and/or long-term NSAID use (breaks down mucosal barrier via COX inhibition).
- **Duodenal ulcers:** HIGH gastric acid secretion is the main feature; rapid gastric emptying delivers a large acid bolus to the duodenum, overwhelming buffering/pancreatic secretion.
- **Gastric ulcers:** develop in the antrum near acid-secreting mucosa; NORMAL acid secretion but DELAYED gastric emptying + increased back-diffusion of acid; pyloric sphincter dysfunction allows bile reflux, which breaks the mucosal barrier.
- **Stress ulcers:** acute gastric mucosal lesions after major trauma/critical illness (sepsis, burns, ↑ICP); associated with longer hospital stay and higher mortality — PPI prophylaxis is standard for major trauma/surgery/NPO patients.

Patho → Finding → Why → Nursing Action

Patho Event	Assessment Finding	Why It Happens	Nursing Action
Ulcer erodes through full thickness of stomach/duodenum wall	Sudden severe mid-epigastric pain spreading over entire abdomen; rigid, board-like, tender abdomen	GI contents leak into peritoneal cavity → peritonitis	Notify provider/surgeon immediately — surgical emergency, prepare for OR
Obstruction at pylorus from scarring/edema/inflammation	Bloating, nausea, vomiting; metabolic alkalosis and hypokalemia from vomiting HCl/K+	Loss of gastric acid (H+/Cl-) via vomiting	NG decompression, correct fluid/lyte imbalance, NPO
Ulcer erodes into blood vessel	Hematemesis (bright red or coffee-ground), melena, ↓H&H, tachycardia, hypotension	Bleeding at/above duodenojejunal junction (hematemesis) vs. minimal bleeding (occult/melena, more common with duodenal ulcers)	Notify provider, IV access, fluids/blood products, NG lavage as ordered, monitor coags

A — Assessment

History / Risk Factors

- H. pylori history, NSAID/corticosteroid/chemo/radiation use, prior GI surgery (partial gastrectomy → chronic gastritis risk), family history (duodenal ulcers often familial).
- Alcohol, tobacco, caffeine, stress, diet triggers (tomatoes, caffeinated beverages).
- Pain pattern and relationship to meals/sleep — CHANGE in pain character (intermittent→constant, radiating to back) suggests perforation.

Physical Assessment

- Epigastric tenderness midline between umbilicus and xiphoid.
- Rigid board-like abdomen + rebound tenderness = perforation/peritonitis (emergency).
- Initially hyperactive bowel sounds with perforation, diminishing as infection progresses.
- Orthostatic BP for suspected fluid volume deficit from bleeding — assess for dizziness (fall risk, especially older adults).

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Gastric vs duodenal ulcer pain timing	Gastric: pain 1-2 hr after eating (food doesn't help, may worsen); Duodenal: pain 2-4 hr after eating/at night, RELIEVED by food/antacids	Constant pain radiating to back = complication (penetration/perforation)
Bowel sounds w/ peritonitis	Hyperactive initially	Diminish/absent as infection/peritonitis progresses
Bleeding volume	Mild <500 mL: slight weakness, mild diaphoresis	Massive >1 L/24hr: hypotension, chills, palpitations, diaphoresis, weak thready pulse — hypovolemic shock

Diagnostics / Labs

- H. pylori testing: blood antibody (most common, least accurate for cure), urea breath test and stool antigen test (more accurate, used to confirm eradication).
- EGD = most accurate diagnostic test; allows biopsy for H. pylori and to rule out cancer; rapid urease test confirms H. pylori quickly.
- May repeat EGD q4-6 weeks to evaluate healing.
- Decreased H&H with bleeding; stool occult blood positive.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Rigid, board-like, tender abdomen with severe pain = PERFORATION → notify surgeon immediately, NPO, prepare for emergency surgery, treat for shock.

• Active massive GI bleeding = hypovolemic shock risk → large-bore IV access, isotonic fluids, type & crossmatch, monitor VS/H&H closely.

- Goal pain score ≤3.
- Bland, non-irritating diet during acute phase; avoid bedtime snacks (stimulate acid secretion); food acts as a temporary antacid for 30-60 min then acid REBOUNDS.
- NG tube with lavage for active bleeding — position patient on LEFT side during lavage.
- Isotonic IV fluids (NS, LR) for volume replacement; PRBCs for low H&H; FFP if PTT >1.5x control.
- For obstruction: NG decompression, correct metabolic alkalosis/dehydration; after 72 hr, clamp trial — if retained gastric contents <50 mL/30min, may advance to oral fluids.

Tubes / Drains / Procedures

- Large-bore NG tube for active bleeding/obstruction: determine presence of blood, assess bleeding rate, prevent gastric dilation, allow lavage with ROOM TEMPERATURE solution 200-300 mL aliquots until clear/light pink without clots.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
PPI triple therapy (PPI + 2 antibiotics, e.g., clarithromycin + amoxicillin OR metronidazole + tetracycline)	Eradicate H. pylori	10-14 day course, complete entire course even if feeling better
Quadruple therapy (PPI + 2 antibiotics + bismuth)	Alternative for penicillin allergy	Bismuth: teach temporary harmless black/gray discoloration of stool/tongue; do NOT combine with aspirin (both are salicylates → salicylate toxicity risk)
H2 blockers / PPIs	Reduce acid secretion, promote healing, prevent re-bleeding by raising pH to stabilize clot	Same PPI cautions as above; primary drug of choice for acid-related disorders
Sucralfate	Mucosal protectant	Take on empty stomach

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Perforation	Sudden severe pain spreading over abdomen, rigid board-like abdomen, rebound tenderness, fetal positioning, rapid deterioration to septicemia/hypovolemic shock	SURGICAL EMERGENCY — NPO, notify surgeon STAT, prepare for OR, treat shock
Hemorrhage	Hematemesis (bright red/coffee-ground), melena, ↓H&H, tachycardia, orthostatic hypotension	Notify provider, IV access, isotonic fluids, blood products, NG lavage, acid suppression
Gastric outlet/pyloric obstruction	Bloating, nausea, vomiting, metabolic alkalosis, hypokalemia	NG decompression, correct fluid/lyte imbalance, NPO
Intractable disease	Recurrent pain despite treatment	Refer to gastroenterology

N — Nursing Considerations

- Older adults at higher risk for orthostatic falls from fluid volume deficit — assess dizziness before ambulating.
- Assess psychosocial impact on work/family/leisure and adherence ability.

T — Teaching & Health Promotion

- Complete FULL antibiotic course even if feeling better (H. pylori eradication).
- Report change in pain character, black/tarry stools, vomiting blood immediately.
- Avoid NSAIDs/aspirin, alcohol, tobacco, spicy/acidic foods.
- No definitive dietary restriction proven to speed healing, but bland diet manages symptoms.

"What My Professor Emphasized" / How This Could Be Tested

- 'Know the difference between gastric and duodenal ulcer' was explicitly emphasized (pain timing relative to meals is the classic discriminator, tested via case study).
- Demerol/meperidine avoided in older adults due to seizure risk — this crossed multiple modules (post-op, pancreatitis, PUD) as a recurring 'wrong answer' distractor.
- Bismuth + aspirin interaction (salicylate toxicity) was specifically called out.

How to Think Like the Nurse

- See sudden, severe, spreading abdominal pain with rigid abdomen → Think: perforation → surgical emergency.
- See pain 2-4 hr after eating, relieved by food → Think: duodenal ulcer. See pain worsened/unrelieved by food, 1-2 hr after eating → Think: gastric ulcer.
- See vomiting + metabolic alkalosis + hypokalemia → Think: pyloric obstruction from loss of gastric acid.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

12. A patient with a history of duodenal ulcer reports pain that occurs 2-3 hours after eating and is relieved by food. Is this an expected finding?
13. A patient with PUD suddenly develops a rigid, board-like abdomen with severe generalized pain. What is the nurse's priority action?
14. Which medication should be avoided in a patient taking bismuth subsalicylate for H. pylori treatment?
15. A patient recovering from a bleeding gastric ulcer asks why they still need to take a PPI once the bleeding has stopped. What is the nurse's best explanation?

5. Irritable Bowel Syndrome (IBS)

Functional GI disorder — chronic/recurrent diarrhea, constipation, abdominal pain, and/or bloating. Most common digestive disorder in clinical practice; women affected 2x more than men.

P — Pathophysiology

- No structural disease — motility/sensory dysfunction. Four subtypes: IBS-D (diarrhea), IBS-C (constipation), IBS-A (alternating), IBS-M (mixed).
- Multifactorial: environmental (food/fluid triggers, infection), immunologic/genetic (pro-inflammatory cytokine genes), hormonal, and STRESS/psychological factors — many patients meet criteria for a primary mental health disorder; chronic symptoms can also cause secondary anxiety/depression.
- Visceral hypersensitivity contributes to pain perception; small intestinal bacterial overgrowth (SIBO) contributes to bloating/distention.

A — Assessment

History / Risk Factors

- Bowel pattern changes, stool consistency, mucus in stool (no weight loss expected — red flag if present), GI infection history, medication history, caffeine/sorbitol/fructose intake, stress/anxiety triggers.
- Food diary to identify personal triggers (dairy/lactose, raw fruits, grains → bloating/flatulence).

Physical Assessment

- LLQ pain most common complaint (not universal).
- Bowel sounds vary — hypoactive with constipation, hyperactive with severe diarrhea.
- Patient generally appears WELL, stable weight, normal nutrition/fluid status (key differentiator from IBD).

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Weight	Stable — expected in IBS	Weight loss is NOT typical of IBS — investigate for IBD/other cause
Labs	CBC, albumin, ESR, occult blood typically NORMAL	Abnormal labs suggest an organic disease process, not IBS
Stool	Constipated: small, hard, followed by softer stools. Diarrhea: soft/watery, mucus may be present	Blood in stool is NOT expected in IBS — red flag

Diagnostics / Labs

- Diagnosis of exclusion — routine labs normal.
- Hydrogen breath test for SIBO: NPO 12 hr before (water allowed), baseline breath sample, ingest test sugar, breath samples q15min for 1-5 hr — increased exhaled hydrogen suggests bacterial overgrowth/malabsorption.

I — Priority Interventions

- Dietary fiber/bulk (30-40 g/day), regular meals, 8-10 glasses water/day, chew slowly.
- Holistic approach: health teaching, drug therapy targeted to predominant symptom, stress reduction (relaxation, yoga, counseling referral), regular exercise.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Bulk-forming laxative (psyllium)	IBS-C — hydrophilic, prevents hard/dry stool	Take at mealtime WITH a full glass of water
Lubiprostone	IBS-C (approved for women)	Increases intestinal fluid; take with food and water
Linaclotide	IBS-C, newest agent	Take once daily 30 min BEFORE breakfast; also relieves pain/cramping
Loperamide / psyllium	IBS-D	Antidiarrheal
Alosetron	IBS-D, women, LAST RESORT	Risk of ischemic colitis/severe constipation — patient must agree to report symptoms immediately
Rifaximin	IBS-D with bloating/distention (no constipation)	Non-absorbed local-acting antibiotic; also used for traveler's diarrhea
Tricyclic antidepressant (amitriptyline)	IBS with PAIN as predominant symptom	Take 30-45 min before meals if postprandial pain; effect may be anticholinergic and/or antidepressant
Probiotics	SIBO/bacterial overgrowth	Daily supplementation
Peppermint oil capsules	Adjunct symptom relief	Some evidence of benefit

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Ischemic colitis (from alosetron)	Abdominal pain, bloody stool, constipation	STOP drug, notify provider immediately
Social isolation/anxiety	Avoiding travel/leaving home for fear of no bathroom access	Refer to counseling/support groups

N — Nursing Considerations

- Assess for coexisting anxiety/depression — mental health referral often needed.
- Individualize dietary trigger identification via food diary.

T — Teaching & Health Promotion

- IBS is a chronic, manageable condition without cure — focus on symptom control.
- Identify and avoid personal food triggers.

- Regular exercise supports both stress management and bowel regularity.

"What My Professor Emphasized" / How This Could Be Tested

- Key differentiator tested: IBS patients do NOT lose weight and have NORMAL labs — this distinguishes IBS from IBD (Crohn's/UC), which DO show weight loss and abnormal labs.

How to Think Like the Nurse

- See chronic GI symptoms + normal labs + stable weight → Think: IBS (functional). See chronic GI symptoms + weight loss + abnormal labs/bleeding → Think: organic disease (IBD) — different workup needed.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

16. Which finding would make the nurse question a diagnosis of IBS and suspect a different GI disorder instead?
17. A patient newly started on alosetron for IBS-D should be taught to report which symptom immediately?

6. Peritonitis

Life-threatening acute inflammation/infection of the visceral and parietal peritoneum. Dominant cause of death from surgical infections (mortality up to 20%).

P — Pathophysiology

- Bacterial/chemical contamination of the peritoneal cavity (normally ~50 mL sterile transudate) triggers inflammatory response; body attempts to WALL OFF the infection.
- If walling off fails → diffuse, widespread infection. Vascular dilation/increased capillary permeability (hyperemia) → fluid shifts from ECF into peritoneal cavity/GI tract/connective tissue = THIRD SPACING → ↓circulatory volume → hypovolemic shock → ↓renal perfusion → AKI.
- Peristalsis slows/stops → bowel distends with gas/fluid (up to 7-8 L/day can accumulate) → paralytic ileus. Toxins/bacteria can enter bloodstream → bacteremia/septicemia.
- Common causes: perforated appendicitis/diverticulitis/PUD, penetrating wound, gangrenous gallbladder, bowel obstruction, ascending GI/genital infection, peritoneal dialysis catheter infection.
- Common bacteria: E. coli, strep, staph, pneumococcus, gonococcus. Chemical peritonitis: bile, pancreatic enzymes, gastric acid leakage.

A — Assessment

History / Risk Factors

- Character/location of abdominal pain (localized vs. generalized), fever pattern.
- Recent abdominal surgery, appendicitis, diverticulitis, PUD, penetrating trauma, peritoneal dialysis.

Physical Assessment

- Cardinal signs: abdominal pain, TENDERNESS, DISTENTION.
- Patient lies still, knees flexed, guarded movement, pain worse with movement/coughing.
- Progressive abdominal distention; bowel sounds usually DISAPPEAR as inflammation progresses.
- Localized peritonitis: tender well-defined area with rebound tenderness. Generalized: widespread tenderness.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
WBC	Normal	Elevated to ~20,000 with high neutrophil count
Vital signs	Stable	Unresolved/progressive hypotension, ↓pulse pressure, tachycardia, fever, tachypnea, mental status change = SEPTIC SHOCK warning
Bowel sounds	Present	Absent as peritonitis progresses
Abdominal X-ray	No free air/fluid	Free air/fluid = perforation

Diagnostics / Labs

- WBC ~20,000 with high neutrophils; blood cultures to guide antibiotic selection.
- ABGs for acid-base/respiratory status; abdominal X-ray for free air/fluid (perforation); CT/ultrasound as needed.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Suspected septic shock (progressive hypotension, tachycardia, fever, mental status change) → notify rapid response/provider immediately, obtain cultures BEFORE giving antibiotics (unless delay is dangerous), start broad-spectrum antibiotics and IV fluids promptly.

- Frequent VS monitoring for trends toward septic shock; monitor mental status changes.
- Strict hand hygiene and aseptic technique for all wounds, drains, dressings, urinary catheter care (prevent superinfection).
- Semi-Fowler's position post-op to promote drainage of peritoneal contents to the lower abdomen and improve lung expansion.
- Hourly I&O, respiratory assessment post-abdominal surgery; daily weights same time/scale each morning.

Tubes / Drains / Procedures

- NG tube for gastric/intestinal decompression pre/post laparotomy.
- Peritoneal irrigation drains if placed — maintain STRICT sterile technique throughout irrigation.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Broad-spectrum IV antibiotics	Treat known/suspected pathogens	Draw blood cultures BEFORE first antibiotic dose when possible
Hypertonic IV fluids	Fluid resuscitation for third-spacing	Prescribed immediately after diagnosis
Opioids (e.g., oxycodone/acetaminophen)	Pain control	Pair with stool softener (docusate) — opioids cause constipation which can worsen ileus

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Septic shock	Progressive hypotension, tachycardia, fever, tachypnea, altered mental status	Notify rapid response STAT, cultures then antibiotics, IV fluids
Paralytic ileus	Distended abdomen, no bowel sounds, no flatus/stool	NPO, NG decompression, monitor lytes
Wound dehiscence (open/second-intention healing wounds)	Foul drainage, redness, swelling, temp >101, abdominal pain	Report immediately, manual irrigation/packing as prescribed, sterile technique

N — Nursing Considerations

- Provide calm, non-anxious presence — patients are often fearful about diagnosis.
- Case management/social work consult for supplies, wound care needs, possible home health nurse.
- Older adults with decreased immunity and young adults post-appendicitis are highest risk groups.

T — Teaching & Health Promotion

- Report: foul-smelling drainage, redness/warmth/swelling at incision, temp >101°F, abdominal pain, signs of dehiscence/ileus.
- No lifting for at least 6 weeks after open surgical procedure (laparoscopic patients resume activity in 1-2 weeks).
- Teach wound irrigation/packing technique for open wounds if discharged with ongoing care needs.

"What My Professor Emphasized" / How This Could Be Tested

- Blood cultures BEFORE antibiotics is a classic sequencing/prioritization question across peritonitis and cholecystitis modules.
- Semi-Fowler's positioning post-abdominal surgery serves DUAL purpose: promotes peritoneal drainage AND improves lung expansion — both rationales are testable.

How to Think Like the Nurse

- See progressive hypotension + tachycardia + fever + confusion → Think: septic shock developing → escalate immediately.
- See rigid board-like abdomen + absent bowel sounds → Think: peritonitis, likely from perforation — assess for the underlying cause (appendicitis, diverticulitis, PUD).

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

18. A provider orders blood cultures and IV antibiotics for a patient with suspected peritonitis. In what order should the nurse complete these?
19. Why is a patient with peritonitis positioned in semi-Fowler's after abdominal surgery?
20. Which vital sign trend in a peritonitis patient should prompt the nurse to call a rapid response?

7. Appendicitis

Acute inflammation of the vermiform appendix; most common cause of RLQ pain; most common indication for emergency abdominal surgery.

P — Pathophysiology

- Obstruction of the appendiceal lumen (usually by a fecalith) → bacterial infection invades the wall → mucosa secretes fluid → ↑internal pressure → restricted blood flow → pain.
- Slow process → abscess may develop. Rapid process → perforation → PERITONITIS. Gangrene/sepsis can occur within 24-36 hours; perforation risk rises sharply after 48 hours.

A — Assessment

History / Risk Factors

- SEQUENCE of symptoms matters: abdominal pain FOLLOWED by nausea/vomiting suggests appendicitis; nausea/vomiting BEFORE pain suggests gastroenteritis.
- Classic pattern: cramping in epigastric/periumbilical area, anorexia, pain migrates and intensifies to RLQ.

Physical Assessment

- Pain localizes to McBurney's point (midway between anterior iliac crest and umbilicus, RLQ).
- Pain increased by cough/movement, relieved by flexing right hip/knees → suggests perforation/peritonitis.
- Rebound tenderness (pain after release of palpation pressure) on assessment by provider.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
WBC	N/A	Moderate elevation 10,000-18,000 with LEFT SHIFT (immature WBCs) expected; >20,000 suggests PERFORATION
Pain relief position	N/A	Relief with hip/knee flexion + worse with cough/movement = possible perforation/peritonitis

Diagnostics / Labs

- Labs do not establish diagnosis alone but support it (WBC pattern above).
- Ultrasound may show enlarged appendix; CT scan if symptoms recurrent/prolonged — can reveal fecalith (fecaloma).

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Suspected/confirmed appendicitis: patient is HOSPITALIZED, kept NPO, and prepared for surgery ASAP — do NOT give laxatives/enemas (can cause perforation) and do NOT apply heat to the abdomen (increases circulation/inflammation risk).

- NPO, IV fluids to correct/maintain fluid & electrolyte balance.
- Semi-Fowler's position if tolerated to help contain any drainage in the lower abdomen.
- Once surgery scheduled: opioids and antibiotics may be given.
- Limited pre-op teaching due to emergent nature/severe pain.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
IV antibiotics	Treat/prevent infection, especially if perforated	Prophylactic or therapeutic depending on findings
Opioids	Pain control pre- and post-op	Monitor respiratory status

Non-Pharmacologic

- NO heat to abdomen (increases inflammation/perforation risk). NO laxatives/enemas (can cause perforation).

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Perforation	Sudden relief of pain sometimes followed by diffuse worsening pain, fever >101, rising pulse	Emergency surgery, IV antibiotics, treat for peritonitis
Peritonitis (post-perforation)	Rigid abdomen, diffuse tenderness, absent bowel sounds	See Peritonitis section
Abscess	Localized tenderness, fever	May require drainage, IV antibiotics

N — Nursing Considerations

- Because of severe pain and rapid progression, patient/family teaching is often abbreviated and must be prioritized for the most essential safety information.
- Notes (natural orifice) and laparoscopic approaches minimize invasiveness and recovery time when appropriate.

T — Teaching & Health Promotion

- Post-op: report fever, increasing pain, wound redness/drainage.
- Activity restrictions per approach (laparoscopic vs. open) — laparoscopic resumes activities in ~2 weeks; open in ~6 weeks with no heavy lifting.

Postoperative Care

- Standard post-general-anesthesia care.
- If complicated (peritonitis/abscess found): wound drain, NG tube for decompression, IV antibiotics, opioids.

- Get out of bed evening of surgery to prevent atelectasis.
- Laparoscopic appendectomy: same-day discharge typical, fewer complications, return to normal activity in ~2 weeks.
- Open (exploratory laparotomy, used if diagnosis unclear/high complication risk): hospitalization up to 5 days, return to normal activity ~week 6.

"What My Professor Emphasized" / How This Could Be Tested

- The sequence of nausea/vomiting vs. pain onset is a classic distinguishing question between appendicitis and gastroenteritis.
- 'Do NOT apply heat, do NOT give laxatives/enemas' for suspected appendicitis is a frequently tested safety point (risk of perforation).

How to Think Like the Nurse

- See RLQ pain at McBurney's point + anorexia + pain BEFORE vomiting → Think: appendicitis.
- See sudden pain relief followed by diffuse worsening pain and rigid abdomen → Think: perforation — has likely already progressed to peritonitis.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

21. A patient reports nausea and vomiting that started BEFORE abdominal pain began. What does this sequence suggest?
22. Which two interventions are contraindicated for a patient with suspected appendicitis, and why?
23. A patient with suspected appendicitis has a WBC of 22,000. What does this finding suggest?

8. Gastroenteritis

Inflammation of the mucous membranes of the stomach/intestinal tract causing diarrhea and vomiting; viral or bacterial. Norovirus = leading foodborne cause.

P — Pathophysiology

- Norovirus: resistant to cold, long viral shedding, spreads fecal-oral, person-to-person, contaminated food/water/surfaces; vomiting can aerosolize the virus. Incubation 1-2 days; usually self-limited (~3 days).
- High risk for complications (rapid dehydration/hypovolemia) in immunocompromised, very young, and very old patients.

A — Assessment

History / Risk Factors

- Recent travel (especially tropical), restaurant/fast food/farmer's market exposure, raw/undercooked food (oysters, sushi, rare meat).

Physical Assessment

- Nausea/vomiting typically FIRST, followed by cramping and diarrhea.
- Assess for dehydration: weight loss, poor skin turgor, fever, dry mucous membranes, orthostatic hypotension, oliguria.
- Monitor for hypokalemia manifestations (weakness, cardiac dysrhythmias) from diarrhea/vomiting losses.
- Abdominal distention, hyperactive bowel sounds.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Course	Self-limited, resolves ~3 days	Symptoms lasting beyond 3 days — notify provider
Mental status (older adult)	Alert/oriented	Acute confusion may be the ONLY initial sign of dehydration in an older adult

Diagnostics / Labs

- Diagnosis usually clinical/history-based; stool studies if bacterial cause suspected or symptoms prolonged.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Signs of severe dehydration (esp. very young/old/immunocompromised) → assess for hospitalization/IV fluid need immediately.

- Encourage oral fluid replacement as tolerated (sports drinks, oral rehydration solutions like Pedialyte).
- IV fluids if severe dehydration/unable to tolerate oral intake — hospitalization based on age/severity.

- Perineal skin care: avoid toilet paper/harsh soap, gentle cleansing with warm water/absorbent material, protective barrier creams, sitz baths 10 min 2-3x/day, incontinence pads (not briefs) at night for air circulation.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Antimotility agents	Symptom control	AVOID in bacterial/suspected infectious gastroenteritis — can prevent elimination of the pathogen, prolonging illness
Antibiotics (ciprofloxacin, azithromycin; or ciprofloxacin/ceftriaxone/azithromycin for shigellosis)	Bacterial cause with fever/severe diarrhea	Only when bacterial etiology confirmed/suspected and severe

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Severe dehydration/hypovolemic shock	Poor skin turgor, dry MM, orthostatic hypotension, oliguria, confusion (esp. older adult)	IV fluids, hospitalize, monitor electrolytes
Hypokalemia-related dysrhythmias	Weakness, cardiac irregularity	Monitor K+, replace as ordered, cardiac monitoring

N — Nursing Considerations

- Older adults/young children can decompensate RAPIDLY — low threshold for escalation.
- Confusion may be the only presenting sign of dehydration in older adults.

T — Teaching & Health Promotion

- Hand hygiene ≥30 seconds with antibacterial soap, especially after bowel movements — for patient AND caregivers.
- Do NOT share glasses, dishes, utensils, toothpaste tubes; use disposable utensils in severe cases.
- Patient should NOT prepare food for others while symptomatic.
- Report symptoms lasting beyond 3 days.

"What My Professor Emphasized" / How This Could Be Tested

- Sequence of vomiting THEN diarrhea/cramping (vs. appendicitis's pain-then-vomiting) is a differentiator emphasized across exemplars.
- Avoiding antimotility agents in suspected bacterial gastroenteritis connects back to Patho/Pharm I content — professor explicitly referenced this connection.

How to Think Like the Nurse

- See older adult with new confusion and recent diarrhea/vomiting → Think: dehydration until proven otherwise.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

24. Why should antimotility (antidiarrheal) agents generally be avoided in suspected bacterial gastroenteritis?
25. An older adult with gastroenteritis becomes acutely confused. What should the nurse suspect?

9. Ulcerative Colitis (UC)

Chronic, widespread inflammation of the rectum and rectosigmoid colon that CAN extend to the entire colon; continuous distribution; periods of remission/exacerbation.

P — Pathophysiology

- Mucosa becomes hyperemic, edematous, red; severe inflammation → bleeding, erosions, ulcers, abscesses → tissue necrosis; continued edema/thickening → narrowed colon → possible partial obstruction.
- Cause unknown — genetic + immunologic (autoimmune, IgG antibodies found) + environmental factors; often familial/found in twins.
- Long-term disease → cellular changes → ↑colon cancer risk (pro-inflammatory cytokines, TNF have cytotoxic effects on mucosa).
- Extraintestinal manifestations: migratory polyarthritis, ankylosing spondylitis, erythema nodosum.

A — Assessment

History / Risk Factors

- Family history, prior therapies/surgeries, milk/dairy or spicy/fried food intolerance, elimination pattern (color, frequency, consistency), tenesmus, anorexia, fatigue, relationship of diarrhea to meals/stress/activity, travel, C. diff exposure, NSAID use (can flare disease), extraintestinal symptoms (joint, mouth sores, vision, skin).

Physical Assessment

- Stools contain BLOOD and MUCUS; tenesmus (urgent unpleasant sensation to defecate); lower abdominal colicky pain relieved with defecation; malaise, anorexia, anemia, dehydration, fever, weight loss.
- Mild disease: <4 stools/day, normal vital signs. Fulminant: >10 bloody stools/day.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Severity classification	Mild: <4 stools/day	Fulminant: >10 bloody stools/day + systemic toxicity
Fever + tachycardia	N/A	Could indicate dehydration, peritonitis, or bowel perforation
Colon cancer surveillance	N/A	Colonoscopy recommended for pancolitis >10 years duration due to ↑CRC risk

Diagnostics / Labs

- ↓H&H (chronic blood loss/anemia), ↑WBC/CRP/ESR (inflammation), ↓Na/K/Cl (diarrhea losses), hypoalbuminemia (protein loss in stool with extensive disease).

- MRE (magnetic resonance enterography) = main exam for chronic IBD; patient fasts 4-6 hr, drinks large volume contrast (may cause discomfort/diarrhea — have patient void before positioning), glucagon slows bowel motility for imaging.
- Colonoscopy/upper endoscopy for diagnosis (bowel prep uncomfortable for IBD patients); barium enema with air contrast differentiates UC vs. Crohn's.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Lower GI bleeding >0.5 mL/min → medical emergency, notify rapid response/provider immediately, monitor H&H/VS/mental status.

- Diarrhea management: record stool diary (color, volume, frequency, consistency), skin assessment for perianal irritation, stool cultures if diarrhea continues, twice-weekly weights (daily if hospitalized, same time/scale).
- Bowel rest: NPO for severe symptoms; TPN for severely ill/malnourished; elemental formulas for less severe (absorbed in small bowel, less stimulation).
- Restrict activity during exacerbation to reduce intestinal activity; ensure ready bathroom/commode access for urgency/tenesmus.
- Pain management combined with dietary trigger avoidance (caffeine, alcohol, raw vegetables/high fiber, lactose, carbonated beverages, pepper, nuts, corn, dried fruit, smoking).

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Aminosalicylates (5-ASA)	Mild-moderate disease, anti-inflammatory	First-line maintenance
Corticosteroids	Acute exacerbations	Do NOT stop abruptly; can mask infection signs
Antidiarrheal drugs	Symptom control	Use CAUTIOUSLY, short-term only — risk of TOXIC MEGACOLON
Immunomodulators (azathioprine, mercaptopurine, methotrexate)	Moderate-severe disease, steroid-sparing	↑infection risk, immunosuppression
Biologic response modifiers (anti-TNF monoclonal antibodies)	Moderate-severe, steroid-refractory	↑serious infection risk; screen for TB/hepatitis before starting

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Toxic megacolon	Severe abdominal distention, fever, tachycardia, may follow antidiarrheal overuse	Notify provider immediately, discontinue antidiarrheals, prepare for possible surgery

Complication	Early Warning Signs	Nurse Does FIRST
Lower GI hemorrhage/anemia	Bright red/black/tarry stool, ↓H&H, tachycardia, fluid volume depletion signs	Notify rapid response, large-bore IV, blood products, GI bleed scan if >0.5mL/min
Perforation/peritonitis	Fever + tachycardia + rigid abdomen	Notify provider immediately, surgical emergency
Colorectal cancer (long-standing pancolitis)	N/A — surveillance based	Routine colonoscopy surveillance after 10 years of disease

N — Nursing Considerations

- Older adults with UC are at HIGH risk for fluid/electrolyte imbalance (diarrhea, dehydration, hypokalemia).
- Assess psychosocial impact — anxiety about incontinence often limits activities outside home; screen for depression.
- Coordinate with WOC (wound-ostomy-continence) nurse before/after ostomy surgery for stoma site selection and education.

T — Teaching & Health Promotion

- UC involves remission/exacerbation cycles; relapses can often be prevented with proper adherence to therapy.
- Report fever >101°F, tachycardia, increased diarrhea, severe pain, nausea/vomiting.
- Immunosuppressed patients: report signs of infection, avoid crowds/sick contacts.
- Ostomy patients: no special diet required overall, but avoid gas-producing foods (cabbage, corn, celery, popcorn); adequate salt/water intake (diversions increase fluid/electrolyte loss); caution with heavy sweating/strenuous activity/vomiting/diarrhea.
- Discuss body image, sexual health, and psychosocial adjustment — encourage open discussion with partner.

Postoperative Care

- **RPC-IPAA (restorative proctocolectomy with ileoanal pouch/'J-pouch')** = gold standard surgical procedure for UC; typically 2-stage with temporary loop ileostomy closed 1-2 months later; teach patient bowel continence usually excellent but frequent stools/urgency and possible nighttime leakage are expected initially; pouchitis treated with metronidazole 7-10 days.
- **Total proctocolectomy with permanent ileostomy**: initial output loose, dark green, may have blood; over time 'ileostomy adaptation' occurs — output thickens, decreases, turns yellow-green/brown with little/sweet odor. FOUL odor = infection/blockage.
- Stoma should be PINK to CHERRY RED — pale/blue/dark stoma = report to surgeon immediately (compromised blood supply).
- Ileostomy begins draining ~24 hr post-op, >1 L/day initially — replace fluids with an EXTRA 500 mL/day to prevent dehydration; output thickens after ~1 week.
- Minimally invasive (laparoscopic) surgery = less pain, fewer complications, faster return of bowel function than open approach.

"What My Professor Emphasized" / How This Could Be Tested

- Explicitly compare UC vs. Crohn's — 'what are the differences in those two? How do they differ' was directly quoted from the review session as a MUST-KNOW comparison (see Master Comparison Table below).
- Diet differs by disease ACTIVITY: during exacerbation avoid high fiber; during remission increase fiber — professor specifically noted this nuance needs to be written out/understood, not memorized as a single static diet.
- Antidiarrheal caution (toxic megacolon risk) explicitly emphasized.

How to Think Like the Nurse

- See bloody diarrhea + mucus + tenesmus + weight loss + abnormal labs → Think: IBD (UC or Crohn's), NOT IBS.
- See fever + rigid abdomen in a UC patient → Think: possible perforation/peritonitis — escalate immediately.
- See pale/dusky ileostomy stoma → Think: compromised perfusion — report to surgeon STAT.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

26. A patient with UC is receiving loperamide for diarrhea control. What complication must the nurse monitor for and why should this drug be used cautiously?
27. On post-op day 1 after ileostomy creation, the nurse assesses the stoma and finds it dusky and dark in color. What is the priority action?
28. Which statement by a patient with UC indicates a need for further teaching about diet during an active flare?

10. Crohn's Disease

Chronic inflammatory disease that can affect ANY part of the GI tract from mouth to anus (most often terminal ileum); SKIP LESIONS with normal tissue in between; slowly progressive, unpredictable.

P — Pathophysiology

- Transmural (full-thickness) inflammation → thickened bowel wall, strictures, deep ulcerations, cobblestone appearance → risk for FISTULA formation (abnormal connection between organs/skin) and bowel obstruction from fibrosis/scarring over time.
- Severe malabsorption more common than in UC (small intestine involvement) → malnutrition, anemia (iron deficiency + B12/folate malabsorption), protein-losing enteropathy → ↓albumin.
- Fistula types: enteroenteric, enterocutaneous, enterovesical (bladder), enterovaginal.
- Most patients with Crohn's eventually require surgery, but surgery is LESS curative than for UC because disease can recur anywhere in the GI tract.

A — Assessment

History / Risk Factors

- Same categories as UC: unintentional weight loss, stool frequency/consistency/blood, fever, abdominal pain pattern, psychosocial impact (anxiety very common).

Physical Assessment

- Diarrhea (5-6x/day if ileum only), steatorrhea (fatty stool) common, possible bright red blood in stool.
- Constant abdominal pain, classically RLQ if ileal disease, or periumbilical before/after BMs; both lower quadrants if colon involved.
- Fever common with fistulas/abscesses/severe inflammation.
- Bowel sounds decreased/absent with severe inflammation/obstruction; high-pitched/rushing sounds over narrowed loops.
- Assess for fissures, fistulas on inspection; muscle guarding, masses, rigidity, tenderness on palpation.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Weight	N/A	Weight loss expected/common (catabolism, malabsorption, anorexia, self-restriction)
B12/folate	N/A	Low — from malabsorption in terminal ileum disease
Albumin	N/A	Low — protein-losing enteropathy
Fistula drainage odor	N/A	Foul odor from enteric/enzyme content — priority for skin protection

Diagnostics / Labs

- ↑CRP/ESR (inflammation); low folate/B12 (malabsorption); low albumin (protein loss); urine WBCs may show infection from ureteral obstruction or enterovesical fistula.
- X-rays/MRE show narrowing, ulcerations, strictures, fistulas.
- Fluid/electrolyte losses (K+, Mg2+) if severe diarrhea or fistula present.

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Fistula with high-volume drainage or signs of sepsis (fever, abdominal pain, mental status change, ↑WBC) → notify provider, antibiotics as ordered, monitor closely.

- Nutrition is a TOP priority: high calorie (fistula patients need ≥3,000 kcal/day), high protein, high vitamin, LOW fiber/low residue diet; avoid GI stimulants (caffeine, alcohol).
- Severe exacerbation: bowel rest, hospitalization, TPN if oral intake inadequate.
- Fistula management: protect surrounding skin from caustic enzymes/bile (skin barriers/pouching if drainage >100 mL/24h needs pouch; <100 mL/24h dressings/skin barriers suffice); antifungal treatment to prevent fungal skin infection; wall suction or negative pressure wound therapy for heavy drainage (NOT for long-term use or for patients at bleeding risk).
- Monitor daily weights and urine output closely — decrease in either signals dehydration needing prompt treatment.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
5-ASA agents	Mild-moderate disease	Mixed evidence in Crohn's specifically (more proven in UC)
Azathioprine / mercaptopurine	Immune suppression, moderate-severe disease	Risk of serious infection — monitor CBC
Methotrexate	Immune suppression	Monitor for toxicity
Biologics/monoclonal antibodies (anti-TNF)	When other drugs ineffective	Inhibit TNF, decrease inflammatory response; screen for infection risk
Corticosteroids	Acute exacerbations	Can mask infection (sepsis risk with abscess/fistula) — use cautiously; do NOT stop abruptly
Antibiotics (ciprofloxacin, metronidazole)	Fistulas, abscesses, associated infections	Targeted therapy

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Fistula formation	New drainage tract to skin/bladder/vagina/bowel; foul odor, systemic infection signs, skin breakdown	Skin protection, I&D of abscess, nutrition support, antibiotics

Complication	Early Warning Signs	Nurse Does FIRST
Intestinal obstruction	Progressive from inflammation/edema early → fibrosis/stricture later; distention, pain, vomiting	NPO, decompression, surgical eval if fibrotic
Malnutrition/anemia	Weight loss, fatigue, pallor, low B12/folate/albumin	Nutrition support (TPN if needed), B12 supplementation
Abscess/sepsis	Fever, abdominal pain, mental status change, ↑WBC	I&D, IV antibiotics, monitor for sepsis

N — Nursing Considerations

- Complete psychosocial assessment — chronic disease significantly affects patient/family; anxiety is very common.
- Coordinate with dietitian, WOC nurse, case manager/social worker for supplies and support.

T — Teaching & Health Promotion

- Low-residue, high-calorie diet; avoid milk, gluten (if intolerant), and GI stimulants (caffeine).
- Rest during exacerbations; stress management techniques if stress worsens symptoms.
- Fistula wound care demonstration/return demonstration with caregiver.
- Report signs of infection/sepsis and obstruction promptly.
- Vitamin B12 supplementation teaching if terminal ileum affected.

"What My Professor Emphasized" / How This Could Be Tested

- 'In Crohn's they're gonna have more fiber or less fiber' comparison to UC diet was directly addressed in the review — LOW fiber/low residue diet is the Crohn's answer, with nuance for active vs. remission similar to UC.
- Corticosteroid masking of infection with concurrent fistula/abscess risk is a classic complication-recognition question.

How to Think Like the Nurse

- See RLQ pain + diarrhea + weight loss + low B12 → Think: Crohn's (terminal ileum involvement, malabsorption pattern).
- See new foul-smelling drainage from an unexpected site (skin, vagina, urine cloudy) in a Crohn's patient → Think: fistula formation.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

29. A patient with Crohn's disease and a fistula requires how many calories per day to promote healing?
30. Which lab finding is expected in a patient with long-standing Crohn's disease involving the terminal ileum?
31. A Crohn's patient on corticosteroids develops a new fistula with fever. Why is careful monitoring especially important?

11. UC vs. Crohn's Disease — Master Comparison

Professor specifically emphasized knowing these differences — expect direct comparison/case-study questions.

Feature	Ulcerative Colitis	Crohn's Disease
Location	Rectum → rectosigmoid → may extend to entire colon (continuous)	Anywhere mouth to anus, most often terminal ileum (SKIP lesions, patchy)
Depth of inflammation	Mucosa/submucosa only	Transmural (full thickness)
Stool pattern	Bloody diarrhea with mucus, tenesmus common	Diarrhea (5-6x/day if ileal), steatorrhea, may have bright red blood
Classic complication	Toxic megacolon, hemorrhage, colon cancer risk (long-standing pancolitis)	Fistulas, strictures/obstruction, abscesses, severe malabsorption
Fistulas	Rare	COMMON — cutaneous, enteroenteric, enterovesical, enterovaginal
Surgery	CURATIVE (proctocolectomy removes diseased tissue) — RPC-IPAA is gold standard	NOT curative — disease can recur anywhere; surgery for complications only
Diet during flare	Low fiber/low residue	Low fiber/low residue
Diet in remission	Fiber reintroduced gradually	Generally maintained LOW residue long-term due to stricture risk
Weight loss	Less pronounced than Crohn's	Prominent — malabsorption + catabolism + anorexia
Nutrient deficiency	Anemia from bleeding; hypoalbuminemia if extensive	B12/folate deficiency (terminal ileum), iron deficiency anemia, hypoalbuminemia

Complications Comparison (both diseases share most of these)

- Shared: hemorrhage, strictures, perforation, fistulas (more common in Crohn's), abscesses, malnutrition, colon cancer risk (both, but different mechanisms/timelines), toxic megacolon (more classically UC), extraintestinal manifestations (arthritis, skin, eye, liver).

12. Diverticular Disease (Diverticulosis & Diverticulitis)

***Diverticulosis** = the PRESENCE of pouch-like herniations (diverticula) in the intestinal wall (usually sigmoid colon). **Diverticulitis** = INFLAMMATION/INFECTION of those diverticula. Know this distinction cold — it is heavily tested.*

P — Pathophysiology

- Muscle weakness (aging, low-fiber diet) at points where blood vessels penetrate the muscle layer → herniation of mucosa through the wall → diverticula.
- Low-fiber diet → less bulky stool, constipation, high intraluminal pressure → forces pouch formation.
- If undigested food/bacteria trapped in a diverticulum → reduced local blood supply → bacterial invasion → DIVERTICULITIS → can perforate → intra-abdominal perforation with peritonitis, or lower GI bleeding.
- More common with aging (2/3 of adults >80 years affected); more common in men.

A — Assessment

History / Risk Factors

- History of constipation, low-fiber diet, intermittent LLQ pain (uncomplicated diverticulosis) — often diagnosed incidentally during colonoscopy.

Physical Assessment

- Diverticulitis: LLQ pain (intermittent → progressively steady), nausea/vomiting, low-grade to 101°F fever, chills, tachycardia, abdominal distention, localized tenderness/guarding/rebound tenderness.
- Generalized peritonitis if perforated: profound guarding, widespread rebound tenderness, sepsis/hypotension/hypovolemic shock possible.
- Provider may palpate a mass on rectal exam if perforation is near the rectum.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Diverticulosis	Usually asymptomatic, intermittent LLQ pain, constipation history	N/A — presence alone is not disease
Diverticulitis labs	N/A	↑WBC; ↓H&H with chronic/severe bleeding; positive occult blood
Diet during flare	N/A	High fiber CONTRAINDICATED during acute diverticulitis — worsens irritation

Diagnostics / Labs

- CT scan = preferred to evaluate for abscess/bowel wall thickening; ultrasound may show thickening/abscess; abdominal X-ray for free air.
- Colonoscopy deferred to 4-8 weeks AFTER acute phase resolves to rule out tumor, especially with rectal bleeding (do NOT scope during active inflammation — perforation risk).

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Signs of perforation/peritonitis (generalized rigid abdomen, hypotension, fever) → emergency surgery preparation, notify surgeon STAT.

- Acute diverticulitis: bowel rest — low fiber or CLEAR LIQUIDS based on severity; NPO if severe with NG tube if nausea/vomiting/distention severe; IV fluids for hydration.
- AVOID laxatives and enemas (increase intestinal motility → perforation risk).
- Rest during acute phase; avoid lifting/straining/coughing/bending (↑intra-abdominal pressure → perforation risk).
- Gradually reintroduce fiber as inflammation resolves — this is the OPPOSITE of the maintenance/prevention diet.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Broad-spectrum antibiotics (metronidazole + TMP/SMX or ciprofloxacin)	Treat diverticulitis infection	Combination therapy typical
Opioid or non-opioid analgesics	Pain control based on severity	Moderate-severe may need opioids while hospitalized

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Perforation/peritonitis	Rigid generalized abdomen, hypotension, sepsis	Emergency surgery, IV fluids/antibiotics
Pelvic abscess/bowel obstruction/fistula	Persistent fever/pain, uncontrolled bleeding	Colon resection with/without colostomy — most common surgical procedure
Lower GI bleeding	Bloody, mahogany, or tarry stools	Report immediately, monitor H&H

N — Nursing Considerations

- Older adult considerations reviewed separately in text (higher complication risk).
- Coordinate with case manager for possible colostomy care needs post-surgery.

T — Teaching & Health Promotion

- **Maintenance/prevention diet (diverticulosis, NOT during active flare):** HIGH fiber 25-35 g/day (cellulose/hemicellulose — wheat bran, whole grains, fresh fruit/veg), added GRADUALLY to avoid flatulence/cramping, plenty of fluids, avoid alcohol.
- Avoid foods with seeds/indigestible material that could lodge in a diverticulum: nuts, corn, popcorn, cucumbers, tomatoes, figs (per traditional teaching, still commonly tested even though evidence is evolving).
- Dietary fat should not exceed 30% of total calories.
- **During active diverticulitis: AVOID ALL FIBER** — reintroduce gradually as inflammation resolves.

- If fiber alone insufficient, bulk-forming laxative may be used — avoid other laxative types and enemas.
- Report fever, abdominal pain, bloody/mahogany/tarry stools immediately.
- If colostomy performed: WOC nurse involvement, body image/sexual activity discussion.

"What My Professor Emphasized" / How This Could Be Tested

- Diverticul-OSIS vs. diverticul-ITIS wording distinction and their OPPOSITE dietary fiber recommendations (high fiber for prevention vs. NO fiber during acute flare) was explicitly flagged by the professor as a 'get this straight' concept.

How to Think Like the Nurse

- See LLQ pain + low-grade fever + h/o constipation → Think: diverticulitis — assess for peritonitis signs before advancing diet.
- See patient asking about DIET for prevention vs. DIET during a flare → Think: OPPOSITE answers (high fiber vs. no fiber) — read the question stem carefully for 'acute'/'flare' vs. 'prevention'/'maintenance.'

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

32. What is the difference between diverticulosis and diverticulitis?
33. A patient with diverticulosis asks about diet to prevent flares. What should the nurse teach?
34. A patient hospitalized with acute diverticulitis develops a rigid, generalized, tender abdomen with hypotension. What is the priority nursing action?

13. Celiac Disease & Parasitic Infections

Two additional GI exemplars from the inflammatory intestinal disorders module.

P — Pathophysiology

- **Celiac disease:** multisystem AUTOIMMUNE disease — chronic inflammation of small intestinal mucosa from gluten exposure → bowel wall atrophy → malabsorption and diarrhea. Combination of genetic + immunologic + environmental factors. Higher risk if other autoimmune disease present (RA, diabetes).
- **Parasitic infections:** parasites enter via oral-fecal transmission (contaminated food/water, oral-anal sex, contact with infected feces). Amoebic dysentery example: ulcerations in colon/rectum → pain, bleeding, obstruction; extraintestinal amebiasis (e.g., liver abscess) can be life-threatening if it ruptures.

A — Assessment

History / Risk Factors

- Celiac: anorexia, diarrhea, constipation, steatorrhea, abdominal pain/bloating/distention, weight loss — SOME PATIENTS ASYMPTOMATIC or have atypical symptoms.
- Parasites: travel history, water source (well water, inadequately filtered water), foul-smelling stool, mucus WITHOUT blood (uncomplicated) vs. WITH blood/fever 104°F/tenesmus (severe amebic dysentery).

Physical Assessment

- Celiac: variable presentation; disease activity correlates with dietary adherence.
- Parasitic: assess hydration status, abdominal tenderness, fever pattern.

Diagnostics / Labs

- Celiac: serologic antibody testing, small bowel biopsy for confirmation.
- Parasites: stool ova & parasite exam x3 at 2-3 day intervals, STARTING 2-4 weeks AFTER completion of drug therapy to confirm cure.

I — Priority Interventions

- Celiac: STRICT lifelong GLUTEN-FREE diet is the ONLY treatment — mucosal healing may take up to 2 years after diagnosis; teach hidden sources of gluten (foods, drugs, additives, even cosmetics for touch-sensitive patients); vitamin/mineral supplementation often needed.
- Parasites: hand hygiene is the BEST prevention; avoid direct stool contact, keep toilet clean, avoid rectal sexual contact until therapy complete; household/sexual contacts should have stools examined; treatment effectiveness confirmed by repeat stool exams.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Metronidazole + luminal agent (paromomycin)	Amoebic infections	Standard combination therapy
IV fluids ± opiate-like/atropine agents	Severe amoebic dysentery with dehydration	Hospitalization especially for older adults/extraintestinal disease

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Vitamin/mineral supplements	Celiac disease nutritional support	Replace nutrients lost from avoiding gluten-containing fortified foods

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Amoebic liver abscess rupture	Fever, pain, enlarged liver → sudden deterioration if ruptures	MEDICAL EMERGENCY if ruptured — can be fatal
Celiac malabsorption/nutrient deficiency	Weight loss, fatigue, deficiency symptoms	Nutrition support, supplementation, strict gluten-free adherence

N — Nursing Considerations

- Celiac: some patients react to even skin CONTACT with gluten (like an allergy) — assess individual sensitivity.
- Immigrants/new arrivals to the country may be more likely to carry parasitic infection from country of origin — travel/immigration history is important.

T — Teaching & Health Promotion

- Celiac: read all labels for hidden gluten; gluten-free diet is lifelong, not temporary.
- Parasites: complete full drug course; keep ALL follow-up appointments for repeat stool testing; maintain hygiene precautions until therapy/testing confirms cure.

"What My Professor Emphasized" / How This Could Be Tested

- These two exemplars are lower-yield relative to IBD/PUD/pancreatitis but keep the gluten-free lifelong teaching point and the hand-hygiene-is-best-prevention point in mind for quick-recall questions.

How to Think Like the Nurse

- See chronic diarrhea/bloating + recent international travel/well water exposure → Think: parasitic infection — obtain travel and water source history.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

35. What is the only effective treatment for celiac disease?
36. When should stool specimens be collected to confirm effective treatment of a parasitic infection?

14. Hepatitis

Widespread inflammation of liver cells; can be acute or chronic, viral (HAV-HEV) or from chemical/drug injury.

P — Pathophysiology

- HAV & HBV rates declining due to vaccination. HCV = most common type, NO vaccine available, continues to spread — high risk in incarcerated/close-proximity populations.
- Inflammation impairs the liver's ~400 functions: detoxification, glucose/glycogen regulation, bile synthesis, fat-soluble vitamin storage (A,D,E,K), protein metabolism/albumin (oncotic pressure), ammonia→urea conversion.

A — Assessment

History / Risk Factors

- Chemical/alcohol/drug exposure (including herbal), IV drug use, needle sticks, tattoos, incarceration history, occupation (healthcare, military), sexual history/orientation, family history of liver disease.

Physical Assessment

- Fever, malaise, fatigue, lethargy — full symptom list per textbook table; assess for jaundice, weight loss, increased infection risk (immunocompromise from impaired liver function).

Diagnostics / Labs

- Liver enzymes, hepatitis-specific blood panels, liver biopsy if needed for staging/diagnosis.

I — Priority Interventions

- Diet: EARLY stage — high carb, moderate fat, HIGH protein. If ENCEPHALOPATHY develops — moderate protein, moderate fat, simple carbs (protein restriction only once ammonia-related encephalopathy is present).
- Low sodium diet if ascites present. Small, frequent, nutritionally balanced meals; multivitamins/supplemental liquids.
- Vaccination teaching for HAV/HBV; CDC-specific hand hygiene, especially with shellfish handling; avoid contaminated food/water.
- Promote rest to allow the liver to heal and conserve energy; infection control education specific to hepatitis type.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Avoid hepatotoxic drugs	Protect remaining liver function	Especially acetaminophen — teach patients to check all OTC products for hidden acetaminophen
Vaccines (HAV/HBV)	Prevention	Not therapeutic once infected but critical for prevention/household contacts

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Progression to cirrhosis (chronic hepatitis)	See Cirrhosis section	Long-term monitoring
Fulminant hepatic failure	Rapid deterioration, encephalopathy, coagulopathy	ICU-level care, possible transplant evaluation

N — Nursing Considerations

- Maintain infection control per CDC guidance specific to viral type (contact vs. bloodborne precautions).
- Nutritional status monitoring is ongoing due to fatigue/decreased metabolic energy production.

T — Teaching & Health Promotion

- Vaccination against HAV/HBV per CDC recommendations.
- Strict hand hygiene, especially after handling shellfish or using the bathroom.
- Avoid alcohol and hepatotoxic medications, especially acetaminophen.
- Home care education is TYPE-SPECIFIC — refer to CDC website for current guidance.

"What My Professor Emphasized" / How This Could Be Tested

- Diet nuance: HIGH protein EARLY vs. LOW protein WITH encephalopathy is the same principle tested in Cirrhosis (see below) — the professor explicitly cross-referenced this to avoid confusing the two diet stages.

How to Think Like the Nurse

- See hepatitis patient with worsening confusion → Think: developing hepatic encephalopathy → switch diet teaching to LOW protein, notify provider, check ammonia level.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

37. A patient with acute hepatitis is being taught about diet. Which diet is appropriate at this early stage (no encephalopathy)?
38. Which over-the-counter medication should hepatitis patients be specifically warned to avoid or use with extreme caution?

15. Cirrhosis & Complications (Portal HTN, Ascites, Esophageal Varices, Hepatic Encephalopathy)

Widespread hepatic scarring (fibrosis, nodular regeneration) from chronic alcoholism, chronic viral hepatitis, NASH, bile duct disease, or genetic disease. ~1 in 10 Americans has liver disease.

P — Pathophysiology

- Inflammation destroys hepatocytes → scarring/hardening → disorganized hepatic architecture → obstructs portal venous flow → PORTAL HYPERTENSION.
- Portal HTN → blood seeks collateral channels ('shunting') → splenomegaly, esophageal varices, hemorrhoidal/GI varices, ASCITES.
- ↓Albumin production (impaired protein metabolism) → ↓oncotic pressure → fluid shifts → ascites/third-spacing.
- ↓Ammonia-to-urea conversion → hyperammonemia → HEPATIC (PORTAL-SYSTEMIC) ENCEPHALOPATHY → altered LOC.
- ↓Vitamin K absorption/clotting factor synthesis → bleeding risk; ↓Vitamin D → bone fracture risk.
- ↓Drug/alcohol metabolism → increased toxicity risk from standard medication doses.

A — Assessment

History / Risk Factors

- Alcohol/drug exposure (incl. OTC/herbal), needle stick, tattoo, incarceration, occupation, sexual history, family history, prior medical history.

Physical Assessment

- Jaundice: check sclera/mucous membranes (more reliable than skin tone in darker-complected patients).
- Pruritus, dark tea/cola-colored urine, clay/light-colored stools (biliary obstruction).
- Ascites: abdominal distention, measure girth, daily weight same time/scale.
- Palmar erythema, spider angiomas/ecchymosis, dependent edema, clubbing, fixed flexion of fingers, dry skin/rash — PSE additionally: personality changes, muscle twitching (asterixis).

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
ALT/AST	N/A	ALT most liver-specific — up to 50x normal with liver damage. AST >500 suggests ACUTE hepatocellular process
Ammonia	Normal	Elevated → hepatic encephalopathy risk
Bilirubin/jaundice	N/A	↑direct AND indirect bilirubin with jaundice; urine bilirubin ↑; stool/fecal urobilinogen typically ↓ (opposite of urine)

Category	Expected / Normal	Abnormal / RED FLAG
Post-paracentesis weight	DECREASE expected (fluid removed)	Substantial BP drop after paracentesis = concerning for hypovolemia/shock

Diagnostics / Labs

- LFTs (ALT, AST, ALP, GGT, LDH) all typically elevated but usually LESS severe than in acute hepatitis.
- Liver biopsy: hold aspirin/NSAIDs ~1 week prior, NPO 4-6 hr before, check PT/PTT/platelets pre-procedure. POST: lie on RIGHT side 1-2 hr to splint site, bed rest 24 hr, NPO ≥2 hr, may have referred right shoulder pain, no driving if outpatient, avoid lifting/straining/coughing 1-2 weeks (↑intra-abdominal pressure risk).

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Suspected esophageal variceal rupture (hematemesis, melena) = EMERGENCY — endoscopic control of bleeding is first-line; balloon tamponade (Sengstaken-Blakemore) reserved for refractory bleeding.

• Developing hepatic encephalopathy (personality change, asterixis, ↓LOC) → assess/report immediately, review for precipitating factors (high protein intake, infection, hypovolemia, hypokalemia, constipation, GI bleed, sedatives/opioids).

- **Fluid management/ascites:** fluid restriction <2000 mL/day, LOW-MODERATE sodium (~1-2 g/day) AND protein per current status, diuretics as ordered (monitor for hypovolemia s/s: ↑BUN, ↓serum protein, ↑Hct), daily weights same time/scale, abdominal girth measurement (adjunct, NOT the single best indicator — weight is the primary indicator).
- **Respiratory support:** HOB ≥30 degrees (as high as tolerated) for hepatopulmonary syndrome, O2 via pulse ox monitoring, elevate legs to reduce ankle edema/dyspnea.
- **Bleeding precautions:** prevent constipation (fiber + stool softeners — avoid straining), avoid injections when possible, pad bed rails, soft toothbrush, NO NSAIDs, monitor coags (PT/PTT/INR).
- **Paracentesis care:** full VS + weight before, have patient VOID first (prevent bladder injury), position HOB elevated, monitor VS during, measure/describe/label fluid sent to lab, dry gauze post-removal + assess for leakage, bed rest, weigh again after (compare before/after).
- **Hepatic encephalopathy prevention:** LOW protein, high fiber diet (differs from the earlier high-protein hepatitis diet — protein is restricted ONLY once encephalopathy develops), prevent constipation, avoid sedatives/hepatotoxic drugs.

Tubes / Drains / Procedures

- **Sengstaken-Blakemore tube (balloon tamponade):** emergency treatment for variceal hemorrhage; 3 ports — gastric aspiration, esophageal balloon inflation (20-40 mmHg pressure), gastric balloon inflation (~250 cc air with slight traction) to compress fundal veins.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Lactulose	↓ammonia — hyperosmolar laxative, unabsorbed into large intestine, hydrolyzed to acid,	Titrate to 2-3 soft stools/day; monitor for excessive diarrhea/dehydration

Drug / Class	Why Used	Key Nursing Considerations / Teaching
	renders ammonia unabsorbable, produces diarrhea to eliminate it	
Neomycin	Sterilizes bowel, limits ammonia-forming bacteria	OTOTOXIC, NEPHROTOXIC, NEUROTOXIC — monitor hearing/renal function
Propranolol (beta blocker)	↓portal pressure, reduces variceal bleeding risk	Monitor HR/BP
Diuretics	Manage ascites/fluid overload	Monitor for hypovolemia and electrolyte imbalance
Bile sequestrants (cholestyramine/Questran)	Relieve pruritus from bile salt deposits in skin	May also need topical steroids
AVOID sedatives, opioids, hepatotoxic drugs (esp. acetaminophen)	Prevent worsening encephalopathy/liver injury	Counsel to check with provider before any OTC medication

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Ruptured esophageal varices	Painless rupture, hematemesis, bloody stool, can rapidly progress to airway obstruction/death	Endoscopic control first-line, balloon tamponade if refractory, propranolol for long-term prevention, treat hypovolemic shock
Ascites/hypovolemia from diuretics	↑BUN, ↓serum protein, ↑Hct with diuretic use	Monitor closely, adjust diuretic dosing
Hepatic (portal-systemic) encephalopathy	Personality change, asterixis (muscle twitching), confusion, ↓LOC, ↑ammonia	Low protein/high fiber diet, lactulose/neomycin, avoid sedatives/hepatotoxic drugs, treat precipitating cause (infection, GI bleed, constipation, hypokalemia)
Coagulopathy/bleeding	Easy bruising, prolonged PT/PTT/INR	Bleeding precautions, vitamin K, avoid IM injections/NSAIDs

N — Nursing Considerations

- Distinguish DIET STAGE: hepatitis/cirrhosis WITHOUT encephalopathy = high protein; cirrhosis WITH encephalopathy = LOW protein, high fiber — do not confuse the two.
- Address psychosocial impact of alcohol cessation using THERAPEUTIC, non-confrontational communication (e.g., 'Does it frighten you to consider quitting?' rather than 'Why do you keep drinking?' or giving unsolicited advice).
- Consider transplant eligibility factors: comorbidities, age, blood type — waitlist can be very long; address psychosocial impact of waiting/not receiving an organ.

T — Teaching & Health Promotion

- Small frequent meals, rest between activities, avoid excess vitamin/mineral supplements unless directed.
- STOP alcohol and smoking; avoid ALL hepatotoxic medications, especially acetaminophen; check with provider before any OTC drug.
- Report signs of encephalopathy (confusion, personality change), bleeding, or worsening jaundice.
- Discuss rehab program referrals, case management/social work for financial support and support groups.

"What My Professor Emphasized" / How This Could Be Tested

- Fluid restriction vs. monitoring I&O was directly clarified in the review: BOTH low-sodium diet AND monitoring I&O/abdominal girth are correct answers on a SATA question — abdominal girth is a good adjunct measurement but DAILY WEIGHT is the single BEST practice indicator of fluid status change.
- Diuretic + hypovolemia connection (↑BUN, ↓protein, ↑Hct) was directly tested.
- The professor explicitly modeled THERAPEUTIC communication for a patient refusing to stop drinking — expect an evaluation-style question on this exact scenario.
- Neomycin's triple toxicity (oto-, nephro-, neurotoxic) was specifically called out.

How to Think Like the Nurse

- See jaundice + confusion/personality change + recent high protein intake or GI bleed or infection or constipation → Think: hepatic encephalopathy triggered by a precipitating factor — identify and correct the trigger, restrict protein, give lactulose.
- See patient refusing to quit drinking → Think: therapeutic, non-judgmental communication that explores feelings, NOT confrontation or unsolicited advice.
- See post-paracentesis assessment → Think: weight should DECREASE; a large BP drop is NOT expected and signals a problem.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

39. Which assessment finding after a paracentesis indicates the procedure was successful?
40. A cirrhosis patient has yellow skin and sclera. Which lab values does the nurse anticipate will be elevated?
41. Which combination of findings indicates a cirrhosis patient may be developing hepatic encephalopathy?
42. A patient with cirrhosis states he has no intention of stopping alcohol use after discharge. What is the nurse's most therapeutic response?
43. Why is neomycin used cautiously in patients with hepatic encephalopathy?

16. Cholecystitis

Inflammation of the gallbladder. Acalculous (without gallstones, from biliary stasis) vs. Calculous/cholelithiasis (from gallstones obstructing cystic duct, gallbladder neck, or common bile duct — most common).

P — Pathophysiology

- Remember the FOUR F's for highest gallstone risk: **F**emale (biologically), **F**orty, **F**at, **F**ertile.
- Cholesterol-lowering drugs inhibit the liver from absorbing cholesterol needed to form bile salts → contributes to stone formation.
- Prolonged TPN → biliary stasis → gallstones.
- High-fat, high-calorie, low-fiber, high refined-carb diet increases risk.

A — Assessment

History / Risk Factors

- Ask about pain after eating certain (fatty) foods, flatulence, dyspepsia, eructation/belching, anorexia (means decreased appetite, NOT starvation), nausea, vomiting, abdominal discomfort after high-fat meals.
- IMPORTANT: older adults and patients with diabetes may have ATYPICAL presentation — may have NO pain/fever, just localized tenderness, or may present with acute confusion/delirium as the first sign.

Physical Assessment

- RUQ pain/tenderness often after fatty meal; assess for jaundice if bile duct obstructed.

Diagnostics / Labs

- X-ray, ultrasound, HIDA scan (hepatobiliary iminodiacetic acid), ERCP (endoscopic retrograde cholangiopancreatography), MRCP (magnetic resonance cholangiopancreatography).
- MRI screening: no metal/allergy check, typically NPO before scan.

I — Priority Interventions

- Nutrition promotion top priority — patients need INCREASED PROTEIN intake (risk of malnutrition/low albumin from nausea/vomiting/pain-related poor intake).
- Frequent labs: BUN (kidney function), pre-albumin/albumin/total protein (nutritional status).
- Avoid gas-producing foods.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Ketorolac (Toradol)	Mild-moderate pain (NSAID)	Monitor for GI bleeding/distress with use
Opioids (morphine, hydromorphone)	Severe pain	Monitor respiratory rate before/after; can cause SPHINCTER OF ODDI spasm → rebound abdominal pain from

Drug / Class	Why Used	Key Nursing Considerations / Teaching
		backed-up biliary/pancreatic juices — monitor closely
Antiemetics	Nausea/vomiting control	PRN or scheduled per severity
IV antibiotics	Almost always given — prophylactic (surgery) or therapeutic (infection)	Confirm indication
Ursodiol	Dissolve/stabilize existing gallstones	Non-surgical option for select patients

Complications

Complication	Early Warning Signs	Nurse Does FIRST
Biliary colic	Tissue spasm from bile duct blockage: tachycardia, pallor, diaphoresis, prostration (extreme exhaustion), possible shock signs	Notify provider/rapid response, stay with patient, keep HOB FLAT
Peritonitis (from cholecystitis)	Fever, board-like abdomen	Notify provider immediately, HOB >30°, obtain blood cultures BEFORE antibiotics, prepare for surgery if indicated

N — Nursing Considerations

- High index of suspicion needed for atypical presentation in older adults/diabetics (may present as confusion, not pain/fever).
- Increase protein intake — correct answer on discharge teaching evaluation because of malnutrition/low albumin risk.

T — Teaching & Health Promotion

- Discharge diet teaching: patient should state 'I need to increase my protein intake' as the CORRECT understanding statement (not high-gas vegetables, not large breakfast/small dinner, not avoiding pizza specifically — protein is the key teaching point per the professor's example question).
- Avoid gas-producing foods; high-fat/high-cholesterol foods should be minimized long-term.
- T-tube: teach patient/family drainage expectations and when to call provider (excessive or foul drainage).

Postoperative Care

- **Laparoscopic cholecystectomy** = main surgical intervention — minimally invasive, fewer complications, faster recovery, less post-op pain.
- Monitor airway/O2 post-op; PCA pump — educate patient AND family that ONLY THE PATIENT presses the button, never a visitor/family member.
- **T-tube care** (if placed): drains bile, typically removed within 24 hr; keep drainage bag BELOW insertion site to prevent backflow; initial drainage 200-500 mL/day is normal; report >1,000 mL/day in first 24 hr

OR >400 mL/day after post-op day 2; may be clamped during meals if ordered; flush with normal saline as prescribed.

- NPO until fully awake, advance diet clears→solids, monitor bowel sounds and N/V.
- Wound/dressing assessment for inflammation/infection signs.

"What My Professor Emphasized" / How This Could Be Tested

- Four F's (Female, Forty, Fat, Fertile) explicitly called a must-know mnemonic.
- Discharge teaching example directly from lecture: correct answer to 'which statement shows understanding' = 'I need to increase my protein intake' — memorize this exact teaching point.
- T-tube output numbers are IDENTICAL to the perioperative module numbers (200-500 mL/day initial; >1,000 mL/24h or >400 mL/day after POD2 = notify provider) — cross-reference.
- Blood cultures BEFORE antibiotics for suspected peritonitis reiterated in this module too.

How to Think Like the Nurse

- See older adult/diabetic with vague abdominal complaint and new confusion → Think: atypical cholecystitis presentation — don't rule it out just because pain/fever are absent.
- See post-op opioid patient with new rebound abdominal pain → Think: possible sphincter of Oddi spasm.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

44. Which statement by a patient being discharged after acute cholecystitis indicates correct understanding of dietary teaching?
45. An older adult with diabetes presents with acute confusion and vague abdominal discomfort but no fever or classic pain. What should the nurse suspect?
46. What is the priority safety teaching for a patient and family regarding a PCA pump after laparoscopic cholecystectomy?

17. Acute & Chronic Pancreatitis

Premature activation of excessive pancreatic enzymes destroys ductal tissue/pancreatic cells → AUTODIGESTION and fibrosis of the pancreas.

P — Pathophysiology

- Etiology → obstruction/direct toxic injury → release of pancreatic enzymes: trypsin (edema, necrosis, hemorrhage — can activate other enzymes), elastase (necrosis of blood vessels/ductal fibers → hemorrhage), phospholipase A (fat necrosis, cell membrane disruption), lipase (fat necrosis), kallikrein (edema, vascular permeability, smooth muscle contraction, vasodilation → shock).
- Common causes: alcoholism, gallstones, blunt abdominal trauma, ERCP/surgical manipulation, certain drugs (thiazides, valproic acid, tetracyclines, sulfasalazine, azathioprine), infections, idiopathic.
- COAGULATION disruption is a major potential complication that can result in death — necrotic tissue/enzymes released into the bloodstream alter coagulation.

A — Assessment

History / Risk Factors

- All medications (incl. OTC/herbal), specifically thiazides, valproic acid, tetracyclines, sulfasalazine, azathioprine.
- Alcohol history/amount, biliary disease history, relationship of pain to alcohol/high-fat meals.

Physical Assessment

- Mid-epigastric or LEFT upper quadrant pain, may radiate to back/left flank/shoulder; classic 8/10+ pain with sudden onset.
- Generalized jaundice, gray-blue discoloration of abdomen/periumbilical area/flanks (hemorrhagic pancreatitis sign), decreased/absent bowel sounds.

Normal vs. Abnormal

Category	Expected / Normal	Abnormal / RED FLAG
Amylase	~23-85 (varies by lab)	Elevated in acute pancreatitis (e.g., ~200)
Lipase	0-160	Elevated — MORE specific/lasts longer than amylase
WBC	4,800-10,800	Elevated (leukocytosis)
Glucose	82-110	Elevated (impaired insulin function)
Calcium/Magnesium	Normal	DECREASED — hypocalcemia and hypomagnesemia are classic findings
Pain position	N/A	Fetal position/curling up EASES pain — classic finding

Diagnostics / Labs

- Amylase, lipase, elastase, trypsin all elevated; liver enzymes (ALT/AST) elevated; glucose and bilirubin elevated; Ca2+ and Mg2+ DECREASED; CBC shows leukocytosis.
- CT scan, ultrasound, or ERCP for imaging (CT may show peripancreatic stranding, gallstones).

I — Priority Interventions

PRIORITY PEARL: What the nurse does FIRST

• Sudden shortness of breath in a pancreatitis patient receiving TPN/IV infusion → STOP the infusion FIRST (oxygenation-related priority) before other interventions like checking blood sugar — this exact scenario was used by the professor as a prioritization teaching example.

• Signs of ARDS (increased work of breathing, hyperpnea, noisy respirations, cyanosis, intercostal/substernal retractions) → prepare for possible intubation/mechanical ventilation with PEEP or CPAP.

- IV isotonic fluids (NS or LR) for hydration/hemodynamic support.
- Electrolyte replacement — specifically CALCIUM and MAGNESIUM (both decreased).
- NPO during acute phase (pancreatic rest); NG tube for gastric decompression if distention present.
- Monitor for return of peristalsis — passage of flatus/stool is the reliable indicator, NOT bowel sounds alone (same principle as post-op teaching).
- Monitor closely for multisystem complications: hypovolemia → AKI, paralytic ileus, LEFT-sided pleural effusion (classically left, from proximity to pancreas), atelectasis/pneumonia (esp. older adults), ARDS, multisystem organ failure.

Prescribed Therapeutics — Medications

Drug / Class	Why Used	Key Nursing Considerations / Teaching
Opioids — hydromorphone (Dilaudid), fentanyl	Primary pain management class	IV route best for severe uncontrolled pain (bioavailability); PCA excellent option
AVOID meperidine (Demerol)	N/A — contraindicated	Risk of SEIZURES, especially in older adults — classic wrong-answer distractor
Antibiotics	Prophylactic or for infection	Per severity/clinical picture
Antiemetics	Nausea/vomiting control	PRN or scheduled
Pancreatic enzyme replacement (chronic pancreatitis)	Aid digestion	Take WITH FOOD (not before, not on empty stomach); do NOT mix with milk/dairy or high-protein foods — reduces effectiveness
Insulin therapy	If hyperglycemia develops	Monitor glucose closely

Complications

Complication	Early Warning Signs	Nurse Does FIRST
ARDS	↑work of breathing, hyperpnea, noisy respirations, cyanosis, pallor, intercostal/substernal retractions	O2, prepare for intubation/mechanical ventilation with PEEP or CPAP

Complication	Early Warning Signs	Nurse Does FIRST
Hypovolemia → AKI	↓UOP, ↑BUN/creatinine	IV fluids, monitor renal function
Paralytic ileus	Distention, absent bowel sounds, no flatus/stool	NPO, NG decompression
Left pleural effusion	Dyspnea, decreased breath sounds (often left-sided)	Monitor respiratory status, notify provider
Coagulopathy/hemorrhage	Bleeding, abnormal coags	Monitor coags closely, can be fatal if untreated
Multisystem organ failure	Progressive deterioration across systems	ICU-level supportive care

N — Nursing Considerations

- Older adults may have atypical presentation and dehydrate rapidly.
- Surgical management (cholecystectomy) performed if ERCP is not successful in resolving the underlying obstructive cause.

T — Teaching & Health Promotion

- Nutrition once tolerating food: HIGH carb, HIGH protein, LOW fat, small frequent meals; some nausea/vomiting is NOT expected as they resume eating — report if it occurs.
- AVOID alcohol and caffeine COMPLETELY.
- Chronic pancreatitis: take pancreatic enzymes WITH every meal/snack, never on an empty stomach or mixed with high-protein/dairy foods.
- Report to provider: acute abdominal pain, jaundice, clay-colored stools, dark urine (signs of biliary tract complication).

"What My Professor Emphasized" / How This Could Be Tested

- Direct case-study example from the review: TPN patient develops sudden shortness of breath — the PRIORITY action is to STOP THE INFUSION FIRST (oxygenation-related), not check blood sugar, even though checking blood sugar is also appropriate — read for the FIRST-action framing.
- Demerol/meperidine avoidance (seizure risk, esp. older adults) repeated AGAIN in this module — high-yield across the whole course.
- Calcium and magnesium are BOTH decreased in pancreatitis — repeatedly tested lab pattern.
- Pancreatic enzyme timing (with food, not before/after, never with milk/high protein) explicitly repeated from the test-review recording.

How to Think Like the Nurse

- See sudden dyspnea in a patient on an IV infusion (e.g., TPN) → Think: STOP the infusion first if it could be causing/contributing to a respiratory event, then reassess and address the airway/breathing issue.
- See severe pancreatitis pain relieved by fetal positioning → Think: classic presentation — plan IV opioid (not Demerol) analgesia.

- See decreased Ca2+/Mg2+ in pancreatitis → Think: replace electrolytes as part of standard supportive care.

Active Recall Questions

(Attempt these before checking the Master Answer Key at the end of the guide.)

47. Which laboratory finding best corroborates a diagnosis of acute pancreatitis: WBC 9,000, glucose 95, lipase 0, or amylase 200?
48. A patient with acute pancreatitis reports intense continuous pain that eases when curled in a fetal position. Which medication provides the most comprehensive pain relief, and by which route?
49. A pancreatitis patient receiving TPN suddenly develops shortness of breath. What should the nurse do FIRST?
50. Which electrolyte abnormalities are classically associated with acute pancreatitis?
51. What teaching should the nurse provide about taking pancreatic enzyme replacement in chronic pancreatitis?

18. MASTER TABLES — Rapid Pre-Exam Review

Master Priority / "What Do I Do First" Table

Scenario	Nurse's FIRST Action	Why
Post-op patient drowsy, hard to arouse, low RR	Verbal/tactile stimulation (least invasive)	Assess responsiveness before escalating to rapid response/reversal agents
Wound evisceration	Sterile saline-soaked non-adherent dressing, NPO, notify surgeon STAT	Surgical emergency — protect exposed organs, prevent drying/infection
Suspected GI perforation (rigid, board-like abdomen)	NPO, notify surgeon/provider immediately	Peritonitis/sepsis risk — surgical emergency
Suspected peritonitis, cultures + antibiotics both ordered	Draw blood cultures BEFORE giving antibiotics	Antibiotics can produce false-negative cultures
TPN patient with sudden shortness of breath	STOP the infusion	Airway/oxygenation-related priority over other checks (e.g., glucose)
Suspected esophageal variceal rupture	Notify provider, prepare for endoscopic control of bleeding; balloon tamponade if refractory	Life-threatening hemorrhage — endoscopy is first-line
Ileostomy/colostomy stoma looks pale, dusky, or dark	Notify surgeon immediately	Indicates compromised blood supply to the stoma
Dusky/pale stoma vs. normal pink-cherry red stoma	Report abnormal color immediately	Ischemia risk to bowel tissue
Suspected pyloric/gastric outlet obstruction	NG decompression, correct metabolic alkalosis/dehydration	Relieve pressure, restore fluid/lyte balance before advancing diet
Diverticulitis patient develops rigid, generalized, tender abdomen with hypotension	Notify surgeon immediately, prepare for emergency surgery	Suggests perforation with peritonitis

Master Medication Map

Medication / Class	Used For	Key Point to Remember
PPIs (omeprazole, pantoprazole, esomeprazole)	GERD, gastritis, PUD, stress ulcer prophylaxis	Taper, don't stop abruptly; long-term risk of C. diff, fracture, CKD, pneumonia
H2 blockers (famotidine)	GERD, gastritis, PUD	Slower onset than antacids
Sucralfate	Mucosal protection	Give on empty stomach
Antacids (Ca carbonate, Al/Mg hydroxide)	Quick symptom relief	Calcium carbonate can cause rebound acid secretion

Medication / Class	Used For	Key Point to Remember
H. pylori triple/quadruple therapy	PUD, chronic gastritis	Complete full 10-14 day course; bismuth turns stool/tongue black (harmless); avoid aspirin with bismuth
Bulk-forming laxatives (psyllium), lubiprostone, linaclotide	IBS-C	Take with food/water; linaclotide 30 min before breakfast
Loperamide, alosetron, rifaximin	IBS-D	Alosetron = last resort, ischemic colitis risk
Amitriptyline	IBS with pain	Take 30-45 min before meals if postprandial pain
5-ASA agents, corticosteroids, immunomodulators, biologics	UC & Crohn's	Corticosteroids can mask infection; biologics/immunomodulators ↑infection risk
Antidiarrheals in IBD	Symptom control	Use CAUTIOUSLY — risk of toxic megacolon
Broad-spectrum antibiotics	Peritonitis, diverticulitis, cholecystitis	Cultures BEFORE antibiotics when possible
Opioids (avoid Demerol/meperidine)	Post-op, pancreatitis, cholecystitis, PUD pain	Demerol → seizure risk esp. older adults; monitor RR; opioids can cause sphincter of Oddi spasm in biliary disease
Antiemetics (ondansetron, dexamethasone)	PONV, GI illness nausea	Dexamethasone may transiently raise glucose in diabetics
Lactulose / Neomycin	Hepatic encephalopathy	Lactulose → 2-3 soft stools/day goal; Neomycin ototoxic/nephrotoxic/neurotoxic
Propranolol (beta blocker)	Esophageal varices prevention	Reduces portal pressure
Bile sequestrants (cholestyramine)	Pruritus from cirrhosis/jaundice	Removes bile salts from skin deposits
Ursodiol	Gallstone dissolution	Non-surgical option
Pancreatic enzyme replacement	Chronic pancreatitis	WITH food; never with milk/high protein; never on empty stomach
AVOID hepatotoxic drugs (esp. acetaminophen)	All liver disease	Check all OTC combination products for hidden acetaminophen

Master Complication Recognition Map

Complication	Seen In	Key Recognition Cue
Perforation → peritonitis	PUD, appendicitis, diverticulitis	Sudden severe pain → rigid board-like abdomen → surgical emergency
Evisceration	Post-op abdominal surgery	Organs visible through open wound — cover with sterile saline dressing, NPO, call surgeon

Complication	Seen In	Key Recognition Cue
Dehiscence	Post-op abdominal surgery	'Something popped' feeling, ↑serosanguineous drainage after POD5
Toxic megacolon	UC (esp. with antidiarrheal overuse)	Severe distention, fever, tachycardia
Fistula formation	Crohn's disease	New abnormal drainage tract; foul odor; skin breakdown risk
Hepatic encephalopathy	Cirrhosis	Personality change, asterixis, ↑ammonia
Ruptured esophageal varices	Cirrhosis/portal HTN	Painless massive hematemesis — emergency
Paralytic ileus	Post-op, peritonitis, pancreatitis	Distention, absent bowel sounds, no flatus/stool
ARDS	Severe acute pancreatitis	↑work of breathing, hyperpnea, cyanosis
Pyloric/gastric outlet obstruction	PUD	Vomiting, metabolic alkalosis, hypokalemia
Sepsis/septic shock	Peritonitis, cholecystitis, appendicitis with perforation	Progressive hypotension, tachycardia, fever, altered mentation

Master "How to Think Like the Nurse" — Universal Priority Checklist

52. Is anyone dying / is there an immediate threat to life?
53. Is airway affected? Breathing? Circulation?
54. Is this an expected/normal finding or an abnormal/red-flag finding?
55. Is the patient stable or unstable? Acute or chronic?
56. What assessment do I need to perform immediately?
57. What intervention can I perform independently, right now?
58. What requires provider/rapid response notification?
59. What should I reassess after intervening?
60. Which of several 'technically correct' answers is the ONE priority given the stem's keywords (first, best, most, priority, immediate)?

Cross-Course Recurring Distractors (things the professor said to specifically avoid)

- **Meperidine (Demerol)** — avoid in older adults (seizure risk); appears as a wrong-answer distractor in post-op, PUD, cholecystitis, and pancreatitis pain-management questions.
- **Bowel sounds alone** do NOT confirm return of peristalsis — passage of flatus/stool is the reliable indicator (post-op, pancreatitis, peritonitis, IBD).
- **Cultures before antibiotics**, not after — peritonitis and cholecystitis modules both stressed this sequencing.

- **T-tube output numbers are identical** whether from the perioperative module or cholecystitis module: >1,000 mL/24h or >400 mL/day after POD 2 = notify provider.
- **High protein vs. low protein diet** depends on whether hepatic encephalopathy is present — high protein normally, LOW protein only once encephalopathy develops (hepatitis AND cirrhosis modules).
- **Diverticulosis diet (high fiber) is the OPPOSITE of the diverticulitis acute-flare diet (no fiber)** — read the stem for 'flare' vs. 'prevention/maintenance.'

19. MASTER ANSWER KEY & RATIONALES

Answers are grouped by section in the same order the questions appeared. Attempt every question first before reading this section.

1. Perioperative Nursing Care (Pre-, Intra-, Post-op)

Q1. A patient returns from PACU to the med-surg floor after general anesthesia and is difficult to arouse with a low respiratory rate. What should the nurse do FIRST?

Attempt to arouse the patient with tactile/verbal stimulation (e.g., shake shoulder, call name) — the LEAST invasive intervention — before calling a rapid response or administering a reversal agent. Escalate based on the patient's response.

Q2. The nurse notes serosanguineous drainage on postoperative day 6 that has increased in amount from the previous shift. What is the priority action?

Apply a sterile non-adherent or saline dressing and notify the surgeon — this pattern suggests wound dehiscence, which requires prompt reporting, not just routine dressing change documentation.

Q3. A patient 3 days post-abdominal surgery suddenly reports 'something just popped' and the nurse sees loops of bowel protruding through the incision. What is the priority nursing action?

Cover the wound with a sterile saline-soaked non-adherent dressing, keep the patient NPO and calm, and notify the surgeon immediately — this is evisceration, a surgical emergency. Do not attempt to push the organs back in.

Q4. Which assessment finding in a post-op T-tube patient requires the nurse to notify the provider?

Drainage greater than 1,000 mL in the first 24 hours, OR drainage greater than 400 mL/day after post-op day 2 — both indicate an abnormal amount requiring provider notification.

Q5. The nurse is auscultating bowel sounds in a patient with an NG tube to low intermittent suction. What must the nurse do before auscultating?

Turn off the suction first, so the sound of the suction is not mistaken for bowel sounds.

2. GERD (Gastroesophageal Reflux Disease)

Q1. A patient reports chest pain radiating to the jaw after eating a large fatty meal. What is the nurse's priority action?

Treat this as a possible cardiac event first — obtain vital signs/ECG, notify provider, and stay with the patient to reduce anxiety; GERD is a diagnosis of exclusion in this presentation.

Q2. Which statement by a patient on long-term omeprazole indicates a need for further teaching?

'I can stop taking this medication anytime I feel better' — PPIs should be tapered, not stopped abruptly, to avoid rebound acid hypersecretion.

Q3. Which finding in a patient with chronic GERD is most concerning for Barrett esophagus and requires provider notification?

Progressive dysphagia or a change in the character of reflux symptoms in a patient with long-standing GERD — warrants endoscopic evaluation.

3. Gastritis

Q1. A patient with acute gastritis reports coffee-ground emesis. What does this finding indicate and what should the nurse do?

Coffee-ground emesis indicates OLD gastric bleeding (blood altered by gastric acid). The nurse should assess vital signs for hemodynamic stability, notify the provider, and monitor H&H — bright red emesis would indicate active bleeding, an even more urgent finding.

Q2. Which patient teaching is appropriate for a patient recovering from acute gastritis?

Avoid NSAIDs, aspirin, alcohol, caffeine, and tobacco; eat a bland, low-spice diet with small frequent meals; use stress-reduction techniques.

Q3. A patient with chronic gastritis has laboratory findings showing macrocytic anemia. What is the pathophysiologic explanation?

Chronic gastric atrophy destroys parietal cells, which are the source of intrinsic factor; loss of intrinsic factor impairs B12 absorption, leading to pernicious anemia.

4. Peptic Ulcer Disease (PUD)

Q1. A patient with a history of duodenal ulcer reports pain that occurs 2-3 hours after eating and is relieved by food. Is this an expected finding?

Yes — duodenal ulcer pain classically occurs 2-4 hours after meals or at night and IS relieved by food/antacids, unlike gastric ulcer pain, which is often worsened or unrelieved by food.

Q2. A patient with PUD suddenly develops a rigid, board-like abdomen with severe generalized pain. What is the nurse's priority action?

Recognize this as a possible perforation/peritonitis — notify the surgeon immediately, keep the patient NPO, and prepare for emergency surgery; this is a surgical emergency.

Q3. Which medication should be avoided in a patient taking bismuth subsalicylate for H. pylori treatment?

Aspirin — both are salicylates, and combined use increases the risk of salicylate toxicity.

Q4. A patient recovering from a bleeding gastric ulcer asks why they still need to take a PPI once the bleeding has stopped. What is the nurse's best explanation?

PPIs raise gastric pH, which helps stabilize the clot over the ulcer crater and prevents re-bleeding — acid suppression continues to protect the healing site.

5. Irritable Bowel Syndrome (IBS)

Q1. Which finding would make the nurse question a diagnosis of IBS and suspect a different GI disorder instead?

Unintentional weight loss or abnormal inflammatory labs (elevated CRP/ESR, abnormal CBC) — these are NOT expected in IBS and suggest an organic process such as IBD.

Q2. A patient newly started on alosetron for IBS-D should be taught to report which symptom immediately?

Signs of colitis or severe constipation (e.g., bloody stool, worsening abdominal pain) — alosetron carries a risk of ischemic colitis.

6. Peritonitis

Q1. A provider orders blood cultures and IV antibiotics for a patient with suspected peritonitis. In what order should the nurse complete these?

Draw the blood cultures FIRST, then administer the antibiotics — giving antibiotics first can suppress bacterial growth and produce a false-negative culture.

Q2. Why is a patient with peritonitis positioned in semi-Fowler's after abdominal surgery?

To promote drainage/pooling of peritoneal contents in the lower abdomen (limiting the spread of infection) and to improve lung expansion for better ventilation.

Q3. Which vital sign trend in a peritonitis patient should prompt the nurse to call a rapid response?

Progressive/unresolved hypotension with decreased pulse pressure, tachycardia, fever, tachypnea, and altered mental status — signs of developing septic shock.

7. Appendicitis

Q1. A patient reports nausea and vomiting that started BEFORE abdominal pain began. What does this sequence suggest?

This sequence is more consistent with gastroenteritis. In appendicitis, abdominal pain typically precedes nausea and vomiting.

Q2. Which two interventions are contraindicated for a patient with suspected appendicitis, and why?

Laxatives/enemas and application of heat to the abdomen — both can increase intraluminal pressure/inflammation and precipitate perforation.

Q3. A patient with suspected appendicitis has a WBC of 22,000. What does this finding suggest?

A WBC greater than 20,000 suggests the appendix has already perforated, not simple uncomplicated appendicitis.

8. Gastroenteritis

Q1. Why should antimotility (antidiarrheal) agents generally be avoided in suspected bacterial gastroenteritis?

They can slow elimination of the infecting organism from the GI tract, potentially prolonging the illness or increasing systemic absorption of toxins.

Q2. An older adult with gastroenteritis becomes acutely confused. What should the nurse suspect?

Dehydration — acute confusion may be the only initial sign of dehydration in an older adult and warrants prompt fluid status assessment.

9. Ulcerative Colitis (UC)

Q1. A patient with UC is receiving loperamide for diarrhea control. What complication must the nurse monitor for and why should this drug be used cautiously?

Toxic megacolon — antidiarrheal agents can precipitate this life-threatening complication in IBD patients, so they must be used cautiously and only short-term.

Q2. On post-op day 1 after ileostomy creation, the nurse assesses the stoma and finds it dusky and dark in color. What is the priority action?

Notify the surgeon immediately — a dusky/dark/pale stoma indicates compromised blood supply, which is a surgical emergency.

Q3. Which statement by a patient with UC indicates a need for further teaching about diet during an active flare?

'I should eat plenty of high-fiber foods right now to help my bowels' — high fiber should be AVOIDED during an active exacerbation and reintroduced gradually during remission.

10. Crohn's Disease

Q1. A patient with Crohn's disease and a fistula requires how many calories per day to promote healing?

At least 3,000 calories per day.

Q2. Which lab finding is expected in a patient with long-standing Crohn's disease involving the terminal ileum?

Low B12 and folate levels due to malabsorption, and low albumin from protein-losing enteropathy.

Q3. A Crohn's patient on corticosteroids develops a new fistula with fever. Why is careful monitoring especially important?

Corticosteroids can MASK the signs and symptoms of infection, so a developing sepsis from the fistula/abscess could go unrecognized without vigilant monitoring.

12. Diverticular Disease (Diverticulosis & Diverticulitis)

Q1. What is the difference between diverticulosis and diverticulitis?

Diverticulosis is the PRESENCE of diverticula (pouch-like herniations) in the bowel wall, without inflammation. Diverticulitis is INFLAMMATION or INFECTION of those diverticula.

Q2. A patient with diverticulosis asks about diet to prevent flares. What should the nurse teach?

A high-fiber diet (25-35 g/day), added gradually, with adequate fluid intake — this differs from the diet during an ACTIVE diverticulitis flare, when fiber should be avoided entirely.

Q3. A patient hospitalized with acute diverticulitis develops a rigid, generalized, tender abdomen with hypotension. What is the priority nursing action?

Notify the surgeon/provider immediately — this suggests perforation with peritonitis, a surgical emergency requiring prompt intervention.

13. Celiac Disease & Parasitic Infections

Q1. What is the only effective treatment for celiac disease?

A strict, lifelong gluten-free diet — there is no medication cure.

Q2. When should stool specimens be collected to confirm effective treatment of a parasitic infection?

At least 3 stool specimens collected at 2-3 day intervals, starting 2-4 weeks AFTER the drug therapy course is completed.

14. Hepatitis

Q1. A patient with acute hepatitis is being taught about diet. Which diet is appropriate at this early stage (no encephalopathy)?

High carbohydrate, moderate fat, HIGH protein diet with small frequent meals — protein is restricted only if hepatic encephalopathy develops.

Q2. Which over-the-counter medication should hepatitis patients be specifically warned to avoid or use with extreme caution?

Acetaminophen — it is hepatotoxic and should be avoided or used only under provider guidance, watching for hidden acetaminophen in combination products.

15. Cirrhosis & Complications (Portal HTN, Ascites, Esophageal Varices, Hepatic Encephalopathy)

Q1. Which assessment finding after a paracentesis indicates the procedure was successful?

A decrease in the patient's post-procedure weight compared to the pre-procedure weight — this confirms fluid was removed from the abdominal cavity.

Q2. A cirrhosis patient has yellow skin and sclera. Which lab values does the nurse anticipate will be elevated?

Both direct and indirect bilirubin (and urine bilirubin) will be elevated — consistent with jaundice.

Q3. Which combination of findings indicates a cirrhosis patient may be developing hepatic encephalopathy?

Personality changes and muscle twitching (asterixis), often accompanied by confusion — these reflect elevated serum ammonia affecting the CNS.

Q4. A patient with cirrhosis states he has no intention of stopping alcohol use after discharge. What is the nurse's most therapeutic response?

'Does it frighten you to consider quitting?' — this open-ended, non-judgmental question allows the patient to express feelings about drinking, rather than demanding justification or giving unsolicited advice/warnings.

Q5. Why is neomycin used cautiously in patients with hepatic encephalopathy?

It is ototoxic, nephrotoxic, and neurotoxic, so renal function and hearing must be monitored closely during use.

16. Cholecystitis

Q1. Which statement by a patient being discharged after acute cholecystitis indicates correct understanding of dietary teaching?

'I need to increase my protein intake' — this is correct due to the risk of malnutrition/low albumin from pain-related poor intake and nausea/vomiting.

Q2. An older adult with diabetes presents with acute confusion and vague abdominal discomfort but no fever or classic pain. What should the nurse suspect?

Cholecystitis — older adults and diabetic patients often present ATYPICALLY, sometimes with confusion/delirium as the first sign rather than classic pain and fever.

Q3. What is the priority safety teaching for a patient and family regarding a PCA pump after laparoscopic cholecystectomy?

Only the PATIENT should press the PCA button — family members/visitors should never administer a dose for the patient, to prevent oversedation/overdose.

17. Acute & Chronic Pancreatitis

Q1. Which laboratory finding best corroborates a diagnosis of acute pancreatitis: WBC 9,000, glucose 95, lipase 0, or amylase 200?

Serum amylase of 200 is elevated (normal ~23-85) and corroborates acute pancreatitis; the other values listed are within/near normal limits in this example.

Q2. A patient with acute pancreatitis reports intense continuous pain that eases when curled in a fetal position. Which medication provides the most comprehensive pain relief, and by which route?

IV morphine (or hydromorphone), given IV — meperidine (Demerol) should be avoided due to seizure risk, and the IV route provides the fastest, most reliable bioavailability for severe pain; IM is not appropriate here.

Q3. A pancreatitis patient receiving TPN suddenly develops shortness of breath. What should the nurse do FIRST?

Stop the TPN infusion — the priority is related to oxygenation, and stopping a potentially contributing infusion takes precedence over other actions like checking blood glucose.

Q4. Which electrolyte abnormalities are classically associated with acute pancreatitis?

Decreased calcium (hypocalcemia) and decreased magnesium (hypomagnesemia).

Q5. What teaching should the nurse provide about taking pancreatic enzyme replacement in chronic pancreatitis?

Take the enzymes WITH food (not before or after, and not on an empty stomach); do not mix with milk products or high-protein foods, as this reduces effectiveness.