DIANE'S NGN NCLEX 2026 STUDY SERIES · MODULE: GI / HEPATOBILIARY SURGERY

Cholecystectomy

Surgical removal of the gallbladder — the most common surgery for cholelithiasis & cholecystitis. Master the pre-op assessment, post-op priorities, T-tube care, and the NCLEX traps that catch students every time.

System: GI / Hepatobiliary | Surgical / Perioperative | NCJMM: Recognize → Analyze → Prioritize → Evaluate | High-Yield 2026

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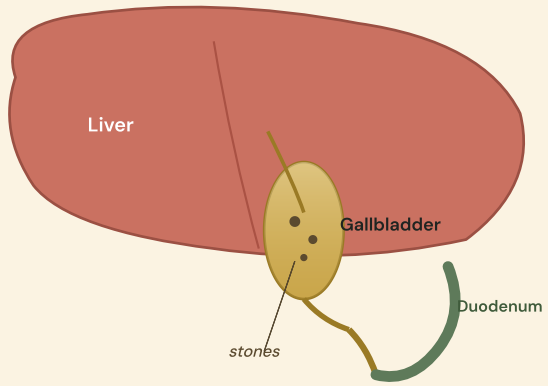
DEFINITION / OVERVIEW

What Is It & Why It Matters

QUICK FACTS

- **Cholecystectomy** = surgical removal of the gallbladder.
- Treats **cholelithiasis** (gallstones), **cholecystitis** (inflammation), and biliary colic.
- Two approaches: **Laparoscopic** (most common — 4 small incisions, same-day discharge) and **Open** (large RUQ incision, used when complications or anatomy require it).
- After removal, bile flows directly from the liver into the duodenum — no storage reservoir.



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PATHOPHYSIOLOGY — SIMPLIFIED

How We Get From Stones to Surgery

1. Bile Made — Liver produces bile to digest fats →

2. Stored — Gallbladder concentrates & stores bile →

3. Stones Form — Cholesterol or pigment stones precipitate →

4. Obstruction — Stone blocks cystic or common bile duct →

5. Inflammation — Bile backup → cholecystitis, pain, infection, possible rupture

Surgery solves it: Once the gallbladder is removed, bile drains continuously from the liver into the duodenum via the common bile duct. Patients may have looser stools and fat intolerance initially, but the body adapts within weeks.

SIGNS & SYMPTOMS

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Early Warning vs. Red-Flag Findings

🟢 Early / Mild — Pre-Op Recognition

- RUQ **dull pain or fullness**, especially after a fatty meal
- Nausea, indigestion, bloating, belching
- Fat intolerance (greasy food triggers symptoms)
- Mild RUQ tenderness on palpation

🚨 Late / Severe — Red Flags

- **Severe RUQ pain** radiating to the right shoulder or scapula
- **Murphy's sign** — pain with palpation that stops inspiration
- Fever, chills, leukocytosis → infection / cholecystitis
- **Jaundice**, clay-colored stools, dark tea-colored urine → CBD obstruction
- Steatorrhea (fatty, foul stools)
- Rebound tenderness, board-like abdomen → rupture / peritonitis 🚨

> **RED FLAG:** RUQ pain + fever + jaundice = **Charcot's Triad** → ascending cholangitis. This is a medical emergency. Notify HCP immediately.

PRIORITY NURSING INTERVENTIONS

4 ABCs · Safety · NCLEX Prioritization

PRE-OP

Before Surgery

- **NPO** after midnight (or per protocol)
- Verify **signed consent**
- Baseline VS, labs (LFTs, CBC, coags, lipase, amylase)
- Educate on procedure, IS, splinting, ambulation
- Hold anticoagulants per HCP order
- Skin prep, antibiotic prophylaxis

POST-OP · LAP

Laparoscopic Recovery

- Monitor 4 puncture sites — assess for bleeding, drainage, signs of infection
- **Early ambulation** (within hours) — releases trapped CO_2
- Manage **shoulder pain from CO_2** — reposition, ambulate, apply warmth
- Advance diet as tolerated — start clear liquids → low-fat solids
- Pain control with prescribed analgesics + antiemetics
- Discharge often same-day or 23-hr observation

POST-OP · OPEN

Open Recovery

- **Semi-Fowler's** position to ease tension on RUQ incision
- **Splint incision** when coughing, deep breathing, IS use
- Use IS q1–2 h while awake — pneumonia risk is HIGH (high abdominal incision)
- Early ambulation; assess bowel sounds, monitor for ileus
- Manage pain aggressively (poor pain control = poor breathing)
- Inspect dressing & drains; track I&O

🔵 T-Tube Care (After Open Cholecystectomy with CBD Exploration)

- Keep drainage bag **BELOW the level of the gallbladder** (prevent reflux)
- Expected output: **300–500 mL/day in the first 24 h**, gradually decreasing
- Report drainage **> 1000 mL/day** or sudden increase/decrease
- **Never clamp or irrigate** a T-tube without an HCP order
- Position tubing to prevent kinking or pulling
- Assess insertion site for bile leakage, redness, drainage
- Bile is irritating — protect skin with barrier ointment
- Before removal: HCP may order tube clamped **1–2 hours before/after meals** to test tolerance
- Report jaundice, clay stools, dark urine → bile not reaching duodenum

PHARMACOLOGY

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Key Drugs Around Cholecystectomy

DRUG / CLASS	PURPOSE	KEY SIDE EFFECTS	NURSING CONSIDERATIONS
Morphine / Hydromorphone *Opioid analgesics*	Post-op pain control	Respiratory depression, constipation, nausea, sedation	**2026 update:** No longer routinely contraindicated in biliary pain — sphincter of Oddi spasm concern is largely outdated. Monitor RR > 12, sedation, pain score.
Ketorolac (NSAID)	Adjunct pain control, opioid-sparing	GI bleed, renal injury, platelet inhibition	Limit ≤ 5 days; assess renal function, no in active GI bleed.
Ondansetron (Zofran) *5-HT3 antagonist*	Post-op nausea / vomiting	Headache, constipation, QT prolongation	Check baseline QT; monitor for serotonin syndrome with other agents.
Cefazolin / Cefoxitin *Cephalosporin antibiotic*	Surgical prophylaxis	Allergic reaction, C. diff with prolonged use	Give within 60 min before incision; assess penicillin allergy.
Cholestyramine *Bile acid sequestrant*	Persistent post-cholecystectomy diarrhea	Constipation, bloating, ↓ fat-soluble vitamin absorption	Mix with fluid; separate from other meds by 1 h before / 4 h after.
Enoxaparin *LMWH*	VTE prophylaxis post-op	Bleeding, thrombocytopenia (HIT)	Do NOT aspirate or expel air bubble; rotate abdominal sites.

NCLEX TEST TRAPS

6 Wrong vs. Right — What Catches Students

TRAP #1 — Right shoulder pain after lap chole

❌ "Call HCP — patient is having a heart attack!"

VS

✅ Referred pain from **retained CO_2**. Ambulate, reposition, apply warmth — pain resolves in 24–48 h.

TRAP #2 — T-tube draining 250 mL of bile

❌ "Empty the bag and clamp the tube — too much output."

VS

✅ **Expected!** 300–500 mL/day in first 24 h is normal. **Never clamp without HCP order.**

TRAP #3 — Murphy's sign vs. McBurney's point

❌ Confusing the two assessment findings.

VS

✅ **Murphy = gallbladder** (RUQ, pain stops inspiration). **McBurney = appendix** (RLQ, between umbilicus & ASIS).

TRAP #4 — Morphine for biliary pain

❌ "Hold the morphine — it causes sphincter of Oddi spasm!"

VS

✅ **2026 update:** Morphine is acceptable. Old teaching is outdated; clinically insignificant in most patients.

TRAP #5 — Patient with low-grade temp and shoulder pain on POD 1

❌ Assume infection and start antibiotics.

VS

✅ Low-grade temp + shoulder pain in first 24–48 h is usually **atelectasis + retained CO_2**. Use IS, ambulate, reassess.

TRAP #6 — Diet teaching

❌ "You'll need a strict low-fat diet for life."

VS

✅ Low-fat diet is **temporary (4–6 weeks)**. Most patients return to a regular diet — gradual fat reintroduction.

PATIENT & FAMILY EDUCATION

7 Discharge Teaching That Sticks

🍽️ Diet & Activity

- **Low-fat diet for 4–6 weeks**, then gradual reintroduction.
- Eat small, frequent meals to ease digestion.
- Loose stools / mild diarrhea is normal initially — body is adapting.
- **No heavy lifting (> 10 lb) for 4–6 weeks.**
- Walk daily; avoid strenuous exercise until cleared.
- No driving while taking opioids.

📞 When to Call the HCP

- Fever > 101 °F, chills
- Increasing redness, warmth, drainage, or separation at incision
- **Jaundice, clay-colored stools, dark urine** (bile duct obstruction)
- Severe abdominal pain not relieved by meds
- Persistent N/V, inability to tolerate fluids
- Calf pain / swelling, chest pain, SOB (DVT/PE)

🩹 Incision Care & Medications

- Keep incisions **clean and dry**; remove dressings as instructed (often after 24–48 h).
- Showers OK after 24–48 h; **no tub baths or swimming for 1–2 weeks**.
- Take pain meds before discomfort peaks; pair with stool softener to prevent constipation from opioids.
- Resume regular medications as instructed; clarify anticoagulants with HCP.
- Keep follow-up appointment (typically 1–2 weeks).

NCJMM · NEXT GENERATION CLINICAL JUDGMENT MEASUREMENT MODEL

★ Apply It: Clinical Judgment Scenario

> ***Scenario:*** *A 45-year-old female (BMI 32) is 4 hours post-op laparoscopic cholecystectomy. She reports right shoulder pain rated 6/10 and feels "bloated." Vitals: BP 128/82, HR 88, RR 18, T 99.1 °F (37.3 °C), SpO_2 96% on room air. Four laparoscopic incisions are clean, dry, and intact. She has not yet ambulated.*

STEP 1

Recognize Cues

Right shoulder pain, abdominal bloating, low-grade temp, post-op POD 0, no ambulation yet, BMI elevated. Vitals stable.

STEP 2

Analyze Cues

Shoulder pain is classic **referred pain from retained CO_2** (peritoneal irritation of the diaphragm). Low-grade temp + bloating fit normal post-lap chole pattern, not infection. No red flags.

STEP 3

Prioritize / Take Action

Ambulate the patient (releases CO_2), reposition, apply warmth to shoulder, give scheduled analgesic, encourage IS use, advance to clear liquids if tolerated.

STEP 4

Evaluate Outcomes

Pain ↓ to 3/10 within 1 h of ambulation, bloating improving, temp trending down, lungs clear, tolerating fluids. Plan continues — no escalation needed.

MEMORY BOOSTERS & MNEMONICS

8 Make It Stick

RISK FACTORS

The 5 F's of Gallstones

F F F F F

Fat · **F**emale · **F**orty · **F**ertile · **F**air (light skin)

ASSESSMENT

Murphy's Gallbladder, McBurney's Appendix

Murphy = right upper (gallbladder) — pain stops inspiration on RUQ palpation.
McBurney = right lower (appendix) — point between umbilicus & ASIS.

T-TUBE

The 3 "3's" of T-Tube Care

300–500 mL drainage in first 24 h · decreases over **3** days · only clamp with HCP order (never on your own — count to **3** before you act).

DIET

Fat-Free for 4–6

Low-**F**at diet for **4–6** weeks post-op. Then gradual fat reintroduction. Not lifelong.

LAP CHOLE

"Look Up — Shoulder!"

Lap chole shoulder pain = **CO_2** trapped under the diaphragm. **Ambulate** to release it. Resolves in 24–48 h.

RED FLAG

Charcot's Triad

Fever · **J**aundice · **R**UQ pain → ascending cholangitis (medical emergency). Notify HCP STAT.