LAXATIVES

Drug Class: Laxatives & Cathartics
System: Gastrointestinal (GI)
NCLEX-RN 2026 · NGN · High-Yield Review

1. DRUG OVERVIEW

Key Indications — WHY we give laxatives:

- Constipation (acute or chronic)
- Bowel prep before colonoscopy, surgery, diagnostic imaging (polyethylene glycol, Mg citrate)
- Prevention of straining → post-MI, post-op, post-partum, hemorrhoids, ↑ ICP, glaucoma (docusate)
- Opioid-induced constipation (senna + docusate; methylnaltrexone if refractory)
- Hepatic encephalopathy — lactulose traps ammonia ($NH_3 \rightarrow NH_4^+$) and excretes it in stool
- Removal of toxins/parasites (rare — stimulants, saline)

High-Yield Clinical Use:

- Docusate = softener of choice when straining must be avoided
- Lactulose = GI drug used NEUROLOGICALLY (lowers ammonia in cirrhosis)
- PEG (MiraLAX, GoLYTELY) = gold standard for colonoscopy prep

2. MECHANISM OF ACTION (SIMPLIFIED)

- **Bulk-forming** → absorb water in intestine → ↑ **stool bulk & soft mass** → stretches bowel wall → peristalsis
- **Stool softeners** → ↓ surface tension → water + fat mix into stool → **softer, easier to pass**
- **Osmotic** → non-absorbable sugars/salts pull water into lumen → ↑ **intraluminal volume** → **peristalsis**
- **Lactulose (special)** → colon bacteria convert it → lactic/acetic acid → **NH_3** → **NH_4^+ (trapped)** → **excreted**
- **Saline (Mg, Na phosphate)** → strong osmotic pull → **rapid, watery evacuation**
- **Stimulant** → directly irritate myenteric plexus → ↑ **peristalsis +** ↓ **water absorption**
- **Lubricant (mineral oil)** → coats stool & intestinal wall → **prevents water reabsorption**
- **Lubiprostone** → activates Cl^- channels in intestine → ↑ **fluid secretion** → **motility**

- **Methylnaltrexone** → blocks peripheral μ-opioid receptors in gut → **reverses opioid constipation WITHOUT blocking CNS analgesia**

🟧 3. THERAPEUTIC EFFECTS — How you know it's working

- Formed, soft bowel movement without straining
- Return of regular bowel pattern (patient-specific, not daily)
- Relief of abdominal discomfort / bloating
- Clear rectal effluent before colonoscopy (bowel prep)
- Lactulose → 2–3 soft stools/day AND ↓ ammonia, ↑ LOC in hepatic encephalopathy
- Active bowel sounds return post-op
- ↓ PRN stimulant use once bulk + fluids + activity are optimized

🟩 4. SIDE EFFECTS & ADVERSE REACTIONS

COMMON:

- Abdominal cramping, bloating, flatulence
- Nausea
- Diarrhea (dose-related)
- Perianal irritation with frequent use
- Orange/brown urine discoloration (senna — harmless)

🚨 SERIOUS / LIFE-THREATENING:

- **Dehydration + electrolyte imbalance** → hypokalemia, hyponatremia, hypomagnesemia → **dysrhythmias**
- **Hypermagnesemia** (Mg-based laxatives + renal impairment) → bradycardia, hypotension, loss of DTRs, resp. depression
- **Bowel obstruction** — bulk-forming taken with insufficient water; esophageal impaction if swallowed dry
- **Lipoid (aspiration) pneumonia** — mineral oil in elderly/bedridden/dysphagia
- **Laxative dependence + loss of colonic tone** (chronic stimulant use — "cathartic colon")
- **Melanosis coli** — brown/black pigment in colon from long-term senna/bisacodyl
- **Rectal bleeding, severe abdominal pain, black tarry stools** → **STOP drug + notify provider**
- **Fat-soluble vitamin deficiency (A, D, E, K)** — chronic mineral oil use
- **Acute phosphate nephropathy** — Na phosphate (OsmoPrep) — avoid in elderly, CKD, CHF

5. PRIORITY NURSING CONSIDERATIONS

ASSESS:

- Last BM, stool pattern, consistency (Bristol scale), frequency
- Bowel sounds in ALL 4 quadrants BEFORE giving
- Abdominal distention, pain, rigidity (rule out obstruction/appendicitis)
- Hydration status, intake/output, skin turgor, mucous membranes
- Current meds (opioids, anticholinergics, Fe, Ca → cause constipation)

MONITOR:

- Vital signs — especially BP, HR (orthostatic with fluid loss)
- Electrolytes → K^+, Na^+, Mg^{2+}, phosphate
- Renal function → BUN, creatinine (before Mg- or phosphate-based)
- Daily weights with bowel prep or chronic use

HOLD / DO NOT GIVE IF:

- 🚫 Undiagnosed abdominal pain
- 🚫 Suspected bowel obstruction, ileus, or perforation
- 🚫 Appendicitis / acute surgical abdomen
- 🚫 Fecal impaction — give enema FIRST, then oral agent
- 🚫 Active GI bleed, ulcerative colitis flare, toxic megacolon
- 🚫 N/V with unknown cause
- 🚫 Mg laxatives if CrCl < 30 / renal failure
- 🚫 Mineral oil if dysphagia, bedridden, or < 6 yr old (aspiration)

DRUG INTERACTIONS:

- Laxatives ↓ absorption of oral drugs taken within 1–2 hr (warfarin, digoxin, OCPs)
- Stimulants + diuretics → compounded hypokalemia → digoxin toxicity
- Mineral oil + docusate → ↑ systemic absorption of mineral oil (don't combine)
- Bisacodyl + milk/antacids/PPI → destroys enteric coating → cramping, early release

6. LABS & DIAGNOSTICS

- **Potassium (K^+):** 3.5–5.0 mEq/L — **< 3.5 = hypokalemia → weakness, U-wave, dysrhythmia**
- **Sodium (Na^+):** 135–145 mEq/L — monitor with osmotics / bowel prep
- **Magnesium (Mg^{2+}):** 1.5–2.5 mEq/L — **↑ with Mg laxatives in renal pts → loss of DTRs, bradycardia**
- **BUN / Creatinine:** check BEFORE Mg- or Na phosphate–based laxatives
- **Phosphate:** monitor with OsmoPrep / Fleet — risk of acute phosphate nephropathy

- **Ammonia:** 15–45 mcg/dL — goal of lactulose is to LOWER ammonia in hepatic encephalopathy
- **Fecal occult blood (FOB):** rule out GI bleed before chronic laxative use
- **CBC:** anemia may indicate chronic GI loss from stimulant abuse

7. ADMINISTRATION & SAFETY

ROUTE & TIMING:

- PO: most classes (many given at bedtime for AM BM — esp. stimulants)
- PR (suppository/enema): bisacodyl, glycerin, mineral oil, soap-suds
- PEG bowel prep: 240 mL every 10 min × 4 L — chilled & flavored to tolerate

KEY ADMINISTRATION RULES:

- **Bulk-forming** → **mix in 8 oz water, drink immediately, follow with 2nd glass of water**
- **Bisacodyl tabs** → swallow WHOLE (enteric-coated); **no milk, antacids, PPI, or food within 1 hr**
- **Mineral oil** → give on EMPTY stomach, upright position, **NEVER at bedtime (aspiration risk)**
- **Lactulose** → mix with juice/water to mask taste; **titrate to 2–3 soft stools/day**
- **Senna** → give at bedtime for morning effect (~6–12 hr)
- **Methylnaltrexone** → SubQ; patient near bathroom — acts in 30–60 min
- **Lubiprostone** → with food + water; **pregnancy test required in women of childbearing age**

HIGH-ALERT PRECAUTIONS:

- NEVER crush enteric-coated bisacodyl
- NEVER give to pt with N/V or unexplained abdominal pain
- Elderly → start LOW, ↑ fall risk from urgency + dehydration
- Pediatric → mineral oil contraindicated < 6 yr; avoid stimulants in young children
- Pregnancy → SAFE: docusate, psyllium, PEG | AVOID: castor oil (uterine contractions), mineral oil (↓ vit K → neonatal hemorrhage)

8. PATIENT EDUCATION

LIFESTYLE FIRST — teach BEFORE pills:

- ↑ fiber 20–35 g/day (fruits, veggies, whole grains, legumes)
- ↑ fluid intake to 2–3 L/day unless restricted
- Daily physical activity — walking stimulates peristalsis
- Respond to urge promptly — suppressing urge worsens constipation

- Establish toilet routine after breakfast (gastrocolic reflex)

SAFE USE:

- Do NOT use for > 1 week without provider notification
- Daily BMs are NOT normal for everyone — 3×/week to 3×/day is normal
- Always take bulk-forming with a FULL glass of water + extra glass after
- Separate laxatives from other oral meds by 1–2 hours
- Expect brownish urine with senna — this is NORMAL

🚨 CALL PROVIDER / SEEK HELP IF:

- Severe abdominal pain, cramping, or rigidity
- Rectal bleeding or black, tarry stools
- No BM after 3 days of use
- Persistent N/V, muscle weakness, palpitations (electrolyte loss)
- Dizziness on standing (dehydration)

🟨 9. NCLEX TEST TRAPS ⚠️

- **TRAP:** "Pt with cirrhosis has 4 loose stools/day on lactulose — **hold the drug."** **WRONG — 2–3 soft stools/day is therapeutic; 4 may be appropriate to ↓ ammonia. Assess LOC before holding.**
- **TRAP:** Mixing test items between **docusate (softener)** and **bisacodyl (stimulant)**. Post-MI pt needs **docusate** to avoid straining, NOT a stimulant.
- **TRAP:** Giving **magnesium-based** laxative to a renal patient → **hypermagnesemia (check BUN/Cr first).**
- **TRAP:** Giving bulk-forming without enough water → **esophageal/bowel obstruction.**
- **TRAP:** Giving mineral oil at bedtime → **aspiration / lipoid pneumonia.**
- **TRAP:** Crushing enteric-coated bisacodyl or giving with milk/antacids → **destroys coating → cramping.**
- **TRAP:** Assuming **daily BM = normal**. Normal range = 3/day to 3/week.
- **TRAP:** Giving a laxative for **fecal impaction without digital disimpaction / enema first — can cause perforation.**
- **TRAP:** Confusing lactulose as "just a laxative" — it is the **primary TX for hepatic encephalopathy**.
- **PRIORITY vs NON-PRIORITY:** Dysrhythmia from hypokalemia > constipation. Treat the **ABC** problem first.

🟩 10. MEMORY BOOSTERS

MNEMONIC — "SOFT BULK" (Laxative Classes):

- S — Stimulant (senna, bisacodyl)

- O — Osmotic (PEG, lactulose, MOM)
- F — Fluid/Stool softener (docusate)
- T — Topical/lubricant (mineral oil)
- B — Bulk-forming (psyllium, methylcellulose)
- U — Uses Cl^- channels (lubiprostone)
- L — Lyses opioid effect in gut (methylnaltrexone)
- K — Kicks in with saline (Mg citrate)

MNEMONIC — "Don't STRAIN" → pts who need DOCUSATE:

- S — Surgery (post-op)
- T — Thrombosis / MI (post-MI)
- R — Rectal issues (hemorrhoids, fissures)
- A — Anticoagulated patients
- I — Increased ICP
- N — New mom (postpartum)

PATTERNS:

- ALL laxatives → push fluids (unless restricted)
- ALL laxatives → HOLD if abdominal pain of unknown origin
- Mg anything + renal failure = 🚫 (Mg laxatives, Mg antacids, Mg sulfate)
- Stimulants — fast relief, short-term only
- Bulk/softener — slow, safe, long-term

QUICK RECALL:

- "Water + fiber before the pill"
- "Lactulose lowers ammonia"
- "Mg + kidneys = no"
- "Mineral oil upright, never at night"
- "Bulk without water = blockage"

🧠 CLINICAL JUDGMENT SNAPSHOT (NGN / NCJMM)

#1 Priority Risk:

- Fluid volume deficit + electrolyte imbalance (esp. hypokalemia) → cardiac dysrhythmia. With Mg-based agents in renal pts → hypermagnesemia → cardiac/respiratory arrest.

What will HARM the patient FIRST?

- Administering a laxative to a pt with undiagnosed abdominal pain or obstruction → perforation / peritonitis / sepsis.
- Giving bulk-forming laxative without adequate water → esophageal or bowel obstruction within minutes to hours.

- Mineral oil in a bedridden or dysphagic patient → aspiration → lipoid pneumonia.

FIRST Nursing Action (prioritization order):

- **1. ASSESS** — bowel sounds, abdominal exam, last BM, pain, hydration, current meds.
- **2. VERIFY** — no contraindications (pain, obstruction, N/V, appendicitis, renal failure for Mg).
- **3. CHECK LABS** — K^+, Mg^{2+}, BUN/Cr as indicated.
- **4. ADMINISTER** — correct route, with full water for bulk; upright for mineral oil.
- **5. MONITOR** — stool output, hydration, electrolytes, VS, response.
- **6. EDUCATE** — fiber, fluids, activity first; short-term use; when to notify provider.

🚨 EMERGENCY (NGN "Take Action") pearls:

- Hypokalemia + digoxin + stimulant laxative → hold dig, get EKG, notify provider, replace K^+.
- Mg toxicity → hold Mg laxative, call provider, prepare IV calcium gluconate (antidote).
- Sudden severe abdominal pain after laxative → HOLD future doses, NPO, vitals, assess for perforation, notify provider STAT.

💊 MOST TESTED DRUGS IN THIS CLASS — Quick Comparison

Class	Prototype Drug	Onset	Key NCLEX Pearl
Bulk-forming	psyllium (Metamucil), methylcellulose (Citrucel)	12–72 hr	MUST give with full glass of water → obstruction risk if fluid inadequate
Stool softener (surfactant)	docusate sodium (Colace)	12–72 hr	Prevents straining → #1 choice post-MI, post-surgery, hemorrhoids
Osmotic	polyethylene glycol (MiraLAX), lactulose, Mg hydroxide (MOM)	30 min – 6 hr	Lactulose → traps ammonia → TX for hepatic encephalopathy
Saline	Mg citrate, Na phosphate	30 min – 3 hr	Mg-based AVOIDED in renal failure (hypermagnesemia risk)
Stimulant	bisacodyl (Dulcolax), senna (Senokot)	6–12 hr	NOT for long-term use → dependence + melanosis coli
Lubricant	mineral oil	6–8 hr	Aspiration → lipoid pneumonia; blocks absorption of A, D, E, K
Cl^- channel activator	lubiprostone (Amitiza)	24–48 hr	Category C — pregnancy test required before starting

Class	Prototype Drug	Onset	Key NCLEX Pearl
Peripheral opioid antagonist	methylnaltrexone (Relistor)	30 min – 4 hr	For opioid-induced constipation; does NOT cross BBB → no reversal of analgesia