

• NGN NCLEX • HIGH-YIELD • 2026 TEST PLAN

PEDS

GI

VOL. 01

The *Little* Gut. Big Trouble.

Three pediatric GI emergencies the NGN loves to test — Pyloric Stenosis, Intussusception, and Hirschsprung Disease. Distinguish them in seconds. Act on them in minutes.

CLINICAL
JUDGMENT
READY

01

THE PROJECTILE

Pyloric Stenosis

Olive-shaped mass · forceful non-bilious vomit · hungry after feeds

02

THE TELESCOPE

Intussusception

Currant-jelly stool · sausage mass · knees-to-chest pain

03

THE SILENT COLON

Hirschsprung Dz

No meconium in 24–48h · ribbon stools · distention

01 Pyloric Stenosis

hypertrophy of the pyloric sphincter — the stomach's exit slams shut

FIRSTBORN MALE

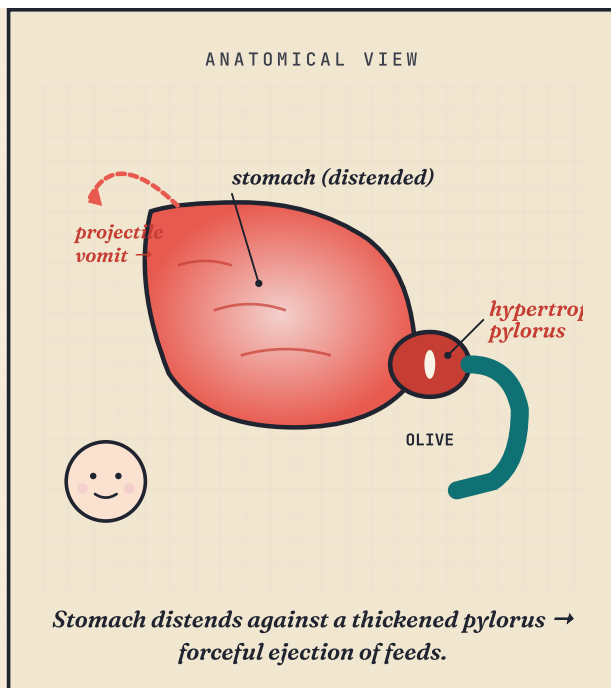
HCL LOSS

METABOLIC ALKALOSIS

PYLOROMYOTOMY

AGE WINDOW

**2–8
Weeks**



PATHO

Circular muscle of the pylorus **hypertrophies**, narrowing the gastric outlet. Milk can't pass → stomach distends → forceful reflex vomiting. Loss of **HCl** via emesis drives classic labs.

HALLMARKS

- ▶ **Projectile, non-bilious vomiting** right after feeding
- ▶ Infant is **hungry again immediately** ("hungry vomiter")
- ▶ **Olive-shaped mass** palpable in RUQ
- ▶ Visible **peristaltic waves** (L → R across epigastrium)
- ▶ Weight loss, dehydration, sunken fontanel

DX + TX

Abdominal ultrasound is gold standard. Definitive treatment = **pyloromyotomy (Ramstedt procedure)** — a laparoscopic split of the pyloric muscle. **Correct fluid/electrolyte imbalance BEFORE surgery.**

NURSING

- ▶ Daily weights, strict I&O, urine output $\geq 1-2$ mL/kg/hr
- ▶ IV fluids with **KCl replacement** — verify voiding first
- ▶ Post-op: small, frequent feeds; upright position; monitor incision
- ▶ Some vomiting post-op is normal x 24–48 hr



ESCALATE IMMEDIATELY

Bilious (green) vomit, bloody stools, no tears/sunken fontanel, lethargy, urine < 1 mL/kg/hr → **impending hypovolemic shock.**

RECOGNIZE CUES

The "Hungry Vomiter"

Non-bilious projectile vomit
+ infant immediately wants

ANALYZE CUES

Alkalosis Pattern

$\downarrow$ Cl⁻, $\downarrow$ K⁺, $\uparrow$ pH, $\uparrow$ HCO₃⁻ =
hypochloremic,

TAKE ACTION

Fluids First, Then OR

NEVER rush to surgery
until electrolytes corrected

to feed again = classic.

hypokalemic metabolic alkalosis.

and infant is voiding.

02 Intussusception

the bowel telescopes into itself – a slow-choke on its own blood supply

PEAK AGE

3 mo – 3 yrs

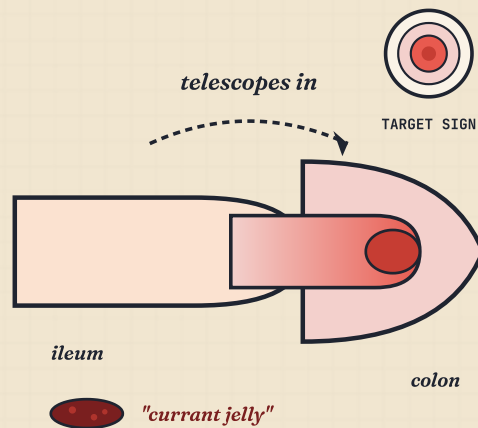
ILEOCOLIC

CURRENT JELLY

AIR ENEMA

SURGICAL EMERGENCY

TELESCOPING BOWEL



Proximal bowel invaginates distal bowel → compressed vessels → ischemia → bloody mucus stool.

PATHO

Proximal bowel (commonly **terminal ileum**) slides into distal bowel (**cecum/colon**). Mesentery gets pinched → **venous congestion** → **ischemia** → **necrosis**. Without reduction: perforation, peritonitis, shock.

HALLMARKS

- ▶ Sudden **severe, colicky abdominal pain** — child draws **knees to chest**, screams
- ▶ Pain episodes come in **waves**, child may appear normal in between
- ▶ **Currant jelly stool** (blood + mucus) — LATE sign
- ▶ Palpable **sausage-shaped mass** in RUQ
- ▶ Bilious vomiting, lethargy, fever (late)

DX + TX

Ultrasound = "target" or "bull's-eye" sign. First-line treatment = **air (pneumatic) or contrast enema** — both diagnostic AND therapeutic. If unsuccessful or perforation suspected → **surgical reduction**.

NURSING

- ▶ NPO, IV fluids, NG decompression, prep for enema/OR
- ▶ Monitor for **passage of normal brown stool** after enema — reduction was successful → **REPORT TO HCP**
- ▶ Post-reduction: observe 24 hr for recurrence (up to 10%)

- ▶ Assess for sepsis: fever, HR, BP, WBC



THE NGN TWIST

A post-enema **brown stool is NOT a routine finding — it's a critical one.** It signals reduction and must be communicated immediately to the provider.

RECOGNIZE CUES

Knees-to-Chest + Blood

Episodic screaming, drawing knees up + currant-jelly stool = intussusception until proven otherwise.

PRIORITIZE

Perfusion Before Pain

Bowel ischemia is the threat — circulation + bowel status top the list before comfort.

EVALUATE

Watch for Recurrence

Returning pain, vomiting, or bloody stool within 24–48h → re-intussusception.

03 Hirschsprung Disease

congenital aganglionic megacolon — a stretch of bowel with no nerves, no motion

NO GANGLION CELLS

NO MECONIUM <48 HR

RIBBON STOOLS

ENTEROCOLITIS = LIFE-THREAT

PRESENTS

**Neonate
– 2 yrs**

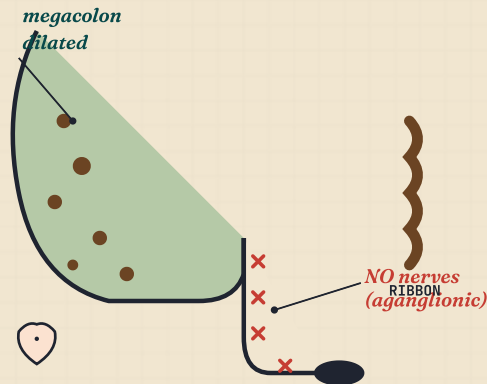
AGANGLIONIC SEGMENT

PATHO

Congenital **absence of parasympathetic ganglion cells** in a distal segment of colon. No innervation → **no peristalsis** → functional obstruction → stool builds up proximally (megacolon).

HALLMARKS

- ▶ **Failure to pass meconium in first 24–48 hrs** of life
- ▶ Bilious vomiting, refusal to feed, abdominal distention



Proximal colon massively dilates behind a distal segment missing enteric ganglia.

- ▶ Older child: chronic constipation, **ribbon-like/pellet stools**, **failure to thrive**, foul-smelling stools
- ▶ **Empty rectum** on digital exam with explosive release of stool/gas on withdrawal

DX + TX

Rectal suction biopsy = gold standard (absent ganglion cells confirms dx). Treatment = **surgical resection with pull-through**; may require a **temporary colostomy** until bowel decompresses and infant grows.

NURSING

- ▶ Measure **abdominal girth** at largest diameter daily, same location
- ▶ High-protein, high-calorie diet; low residue prep
- ▶ Teach stoma care if ostomy placed; emotional support for parents
- ▶ Monitor for **enterocolitis** — the feared complication



ENTEROCOLITIS – LIFE-THREATENING

Fever + explosive foul diarrhea + distention + lethargy = Hirschsprung-associated enterocolitis. Can progress to toxic megacolon and sepsis. Report & escalate immediately.

RECOGNIZE CUES

No Meconium Rule

Any newborn who hasn't passed meconium by 48 hr → think Hirschsprung.

ANALYZE

Missing Nerves = Silence

Aganglionic segment = no peristalsis. Stool can't pass. Bowel dilates behind it.

TAKE ACTION

Fever = Emergency

Fever + foul explosive diarrhea post-op = enterocolitis → NPO, IVF, abx, notify HCP STAT.

Side-by-Side: *memorize these contrasts.*

When the NGN gives you a 30-second cue, these distinctions are the difference between a right answer and a wrong one.

FEATURE	PYLORIC STENOSIS	INTUSSUSCEPTION	HIRSCHSPRUNG DISEASE
CLASSIC AGE	2–8 weeks (firstborn male)	3 months – 3 years	Newborn / first 2 years
CORE MECHANISM	Pyloric muscle hypertrophy	Bowel telescoping into itself	Absent ganglion cells → no peristalsis
VOMIT CHARACTER	Projectile, NON-bilious , after feeds	Initially non-bilious → bilious (late)	Bilious, refusal to feed
SIGNATURE STOOL	Normal or small/infrequent	"Currant jelly" (blood + mucus)	Ribbon-like , pellet, foul, or no meconium
PALPABLE FINDING	Olive-shaped mass RUQ	Sausage-shaped mass RUQ	Distended abdomen, empty rectum
PAIN PATTERN	Hungry, irritable, feeding-related	Knees-to-chest colicky screaming	Chronic discomfort, distention
KEY ELECTROLYTE	Metabolic alkalosis , ↓ Cl ⁻ , ↓ K ⁺	Dehydration, lactic acidosis if ischemic	Dehydration, often normal early
DIAGNOSTIC	Abdominal ultrasound	US "target sign" → air enema	Rectal suction biopsy (gold standard)
TREATMENT	Pyloromyotomy (after fluid correction)	Air/contrast enema ; surgery if fails	Pull-through resection ± colostomy
BIGGEST RED FLAG	Severe dehydration, shock	Bowel necrosis, perforation, peritonitis	Enterocolitis (fever + explosive diarrhea)

Lab & Vitals *Red Flags* at a Glance

SERUM PH (PYLORIC)



Alkalosis from HCl loss via projectile vomit.

K⁺ & CL⁻ (PYLORIC)



Hypokalemia + hypochloremia
— delay surgery until replaced.

WBC (INTUSS / HIRSCH)



Rising WBC/lactate → **ischemia**
or enterocolitis.

URINE OUTPUT



< **1 mL/kg/hr** in infant =
hypovolemia, act now.

Mnemonics that *actually stick.*

P PYLORIC

- P** rojectile vomiting
- Y** ou-know-it's-alkalosis
- L** oss of HCl & K⁺
- O** live-shaped mass, RUQ
- R** amstedt = pyloromyotomy
- I** nfant hungry after emesis
- C** orrect electrolytes → OR

J "CURRANT JELLY"

- C** licky, episodic pain
- U** ltrasound = target sign
- R** educe with air enema
- R** eport brown stool = success
- A** bdominal sausage mass
- N** eeds NPO + NG tube
- T** elescopy = ischemia risk

H HIRSCH

- H** olds meconium >48 hr
- I** mpacted stool proximally
- R** ibbon stools & FTT
- S** uction biopsy confirms
- C** olostomy may be needed
- H** ot + explosive = enterocolitis!

PEDS • GI EMERGENCIES • NGN NCLEX REVIEW RECOGNIZE → ANALYZE → PRIORITIZE → ACT → EVALUATE STUDY HARD • THINK CLINICALLY