Nutrition, Tube Feeding and Medications by Tube

Tube placement checks, residuals, aspiration precautions, flushing, drugs through tubes, NG suction, PEG care, TPN basics and diets for GI symptoms for the NCLEX-RN and PN

RN Basics
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IS THE TUBE IN THE STOMACH?

CHECK	WHEN	WHAT IT TELLS YOU
X-ray of the whole tube	After every blind insertion, before the first feeding or drug	The gold standard for a new blind insertion (ASPEN): confirms the tube is not in the airway
External mark or length	Recorded once the x-ray is read; checked every 4 h and before each use	A changed length means the tube moved: hold and report
Aspirate pH	Before use, if policy uses it	Gastric 5.5 or less in Open RN checklists (some policies use 5); acid blockers and formula raise it
Air bolus (whoosh) test	Never	Sounds the same with the tube in the esophagus or lung

SAFETY Coughing, breathlessness or a falling SpO2 during a feed, or a changed tube mark: stop the feeding and all drugs through the tube, keep the head up, notify the provider. A tube is reused only after placement is confirmed.

RUNNING A FEEDING SAFELY

- Head of bed 30–45° during feeds unless contraindicated; after a bolus, upright at least 30° for 1 h
- Bed must go flat: pause the continuous feed, restart when the head is back up
- Flush with water before and after each bolus and each drug, and on a schedule during continuous feeds (at least 30 mL every 4 h); count flushes as intake
- Bolus by gravity; continuous by pump at the ordered mL/h
- Hang time: open-system formula 8 h, closed system 24–48 h; never add drugs to the bag
- Trace every line from client to source; enteral (ENFit) connectors do not fit IV ports
- Regular oral care even while NPO; check the nares or stoma skin daily
- Daily weight, intake and output, glucose and electrolytes as ordered

GASTRIC RESIDUALS: NCLEX AND ASPEN

ASPEN: do not stop feeding for a residual under 500 mL without other signs of intolerance; in the ICU, routine residual checks are not advised. Residuals predict aspiration poorly and checking them clogs tubes. Follow agency policy.

- If checked: 60 mL syringe; return the aspirate once placement is confirmed
- Intolerance: vomiting, distention, nausea, cramping, pain
- Residual plus distention or vomiting: hold the feed, keep the head up, assess, notify the provider

MEDICATIONS THROUGH A TUBE

- Liquid form whenever possible; no liquid: crush immediate-release tablets finely
- Each drug alone, dissolved in 5–10 mL water; never mixed together or into formula
- Flush at least 15 mL water before, between drugs and after (less if fluid-restricted)
- Hold the feed for drugs that need an empty stomach or bind to formula, per pharmacy
- Suction tube: clamp 20–30 min after drugs

Check the ISMP Do Not Crush list or ask the pharmacist. Cannot be crushed: hold and ask the provider for another form.

NEVER CRUSH	WHY
Enteric-coated	The coating protects the stomach or the drug
Extended or sustained release (ER, SR, XL, CR, LA)	Whole dose released at once; can be fatal (extended-release opioids)
Sublingual or buccal	Made to absorb through the mouth lining
Hazardous or irritant drugs	Staff exposure; mucosal irritation (follow hazardous-drug policy)

PROBLEMS AND FIRST ACTIONS

PROBLEM	THINK	NURSE DOES
Diarrhea	Sorbitol in liquid drugs, laxatives, antibiotics, C. difficile, fast or bolus feeds	Review drugs, formula and rate first; keep feeding; skin care; report
Pump alarm, clog	Kink, thick formula, crushed pills, residual checks	Check kinks; warm water, gentle push-pull; enzyme declogger per protocol. No cola, juice or forced fluid
Vomiting, distention	Intolerance, tube moved, ileus	Hold, check the mark and abdomen, notify
PEG out, under about 4 weeks	Immature tract: leak into the abdomen	Reinsert nothing; dry dressing; hold feeds and drugs; notify now
G-tube out, mature tract	The opening starts to close	Cover the site, secure the tube, notify; a new tube is placed right away

NG SUCTION AND PEG SITE CARE

- Low intermittent suction as ordered (start 40–60 mm Hg, not above 80)
- Salem sump: blue vent open, above the stomach; never clamp it or irrigate through it
- Record drainage amount, color, odor, consistency; suction off to listen to bowel sounds
- Nausea or distention, or drainage stops: check kinks, mark and suction; irrigate (often 30 mL saline) only as ordered
- PEG site: clean 1–3 times a day with mild soap and water or saline, dry well; no gauze under the disc
- Report leakage, spreading redness, worse pain, bleeding, formula in the mouth

TPN AT THE BEDSIDE

- Central line (PICC or CVC) for solutions over 900 mOsm/L; a dedicated lumen used for nothing else
- Glucose every 4–6 h at first, per protocol; target under 180 mg/dL; only regular insulin goes in the bag
- Never stop it abruptly: sudden loss of concentrated dextrose causes hypoglycemia. Bag late or interrupted: check glucose, call the provider, and give a dextrose bridge only as ordered or per policy
- Do not hang a bag that leaks, has changed color, has particles, or shows separated oil
- Tubing every 24 h, strict asepsis; fever or a red, painful site: notify, expect cultures
- Daily weight, I&O, electrolytes, Mg and phos; liver tests weekly; triglycerides with lipids

DIETS FOR GI SYMPTOMS

PROBLEM	TEACH
Dumping syndrome (after gastric surgery)	Six small meals; more protein, fat and fiber, few simple sugars; fluids 30 min after meals, not with them; lie down 30 min after eating
GERD, hiatal hernia	Small meals; nothing for 3 h before lying down; head of bed up 4–6 in (MedlinePlus) to 6–8 in (NIDDK), on blocks or a wedge; lose weight, stop smoking; limit alcohol, caffeine, chocolate, mint, fatty, spicy and acidic foods; loose waistbands; bend at the knees
Mucositis	Soft, bland, cool or room-temperature food; no citrus, spice, crunchy foods or alcohol (drinks or mouthwash); saline or baking-soda rinses often; soft brush
Nausea	Small frequent meals; bland starches, cold foods; sip fluids; ginger; avoid strong smells and greasy food; upright 30 min after eating
Chemotherapy diarrhea	Small low-fiber meals, plenty of fluids, salty and potassium foods; no dairy, caffeine, alcohol, fatty food or juice; report blood, fever, dizziness
Dysphagia	Upright, ordered texture and thickness only; cough or wet voice: stop and report (levels on the Therapeutic Diets page)

INFANT FEEDING CUE: PYLORIC STENOSIS

- Usually 3–6 weeks old: projectile, nonbilious vomiting soon after feeds; hungry again right away
- Olive-shaped mass in the upper abdomen, visible waves across it; dehydration, weight loss
- Low chloride and potassium with metabolic alkalosis; fluids and electrolytes first, then pyloromyotomy
- After surgery: small, frequent feeds within hours to a day. Green (bilious) vomiting is not this: report at once

LPN/VN SCOPE

EXAM TIP The 2026 PN plan lets the LPN/VN insert, maintain and remove NG tubes, give feedings and drugs by tube and maintain central lines. The LPN collects data, reinforces teaching, waits for the x-ray reading before first use, and reports intolerance or aspiration signs after stopping the feed. Hanging TPN is limited in some states (Ohio: not by LPNs).

Sources (28) are listed with links at rnbasics.com/sheets/nutrition-tube-feeding-ward.html. For education and exam preparation only. Not medical advice; follow current guidelines and your institution's protocols. RN Basics is an independent study aid not affiliated with any certifying body.