Rapid Review: Administration of Enteral Feedings

Safety Precautions
Safety precautions must be followed each and every time an enteral feeding is administered to prevent contamination, intolerance, aspiration, administration errors, and misconnection errors.

Procedures to prevent contamination include:
- Maintaining strict aseptic technique at all times
- Using only sterile or purified water for formula reconstitution
- Wearing gloves when handling or administering enteral formulas
- Using sterile, liquid enteral nutrition formulas instead of powdered, reconstituted formulas, if possible
- Keeping formulas that have been reconstituted in advance in the refrigerator and discarding within 24 hours
- Discarding reconstituted formulas kept at room temperature within four hours
- Storing unopened, liquid enteral formulas in a cool location away from direct sunlight
- Discarding any formula that is expired
- Changing the administration set for open-system enteral feedings at least every 24 hours, and
- Changing the administration set for closed-system enteral feedings every 24-48 hours, according to the manufacturer’s instructions

Guidelines to follow regarding the hang time of formula to prevent contamination include:
- No more than 4 hours for powdered, reconstituted formulas and formulas with additives
- No more than 4-12 hours for sterile formulas that are poured into an open-system, and
- No more than 24-48 hours for closed-system enteral formulas, per the manufacturer’s instructions

Following guidelines to promote feeding tolerance can prevent problems with vomiting, diarrhea, bloating, and discomfort. Most clinicians prefer slow, continuous, feedings to bolus feedings as they are usually better tolerated. Make sure the pump is calibrated to ensure the delivery of the prescribed volume.

Aspiration can be prevented by:
- Checking tube placement prior to each feeding
- Checking gastric residual every 8 hours for continuous feeding
- Keeping the head of the bed elevated at least 30-45° during feeding and for 1 hour after feeding
- Using the reverse trendelenburg position if elevating the head of the bed is contraindicated, and
- Monitoring for signs of respiratory distress during feedings
Steps that can be taken to prevent administration errors from occurring include verifying the physician’s order for the enteral feeding and comparing it to the enteral nutrition label.

Safety precautions to prevent misconnection errors:
- Ensure that all enteral formulas indicate “Not for IV Use”
- Train nonclinical staff and visitors not to reconnect lines
- Trace tubing back to the source prior to reconnecting
- Do not modify or adapt enteral device connections, and
- Do not use IV pumps for the administration of enteral feeding

**Pump-assisted Feedings**
1) Verify the physician’s order and check the enteral nutrition label against the physician’s order.

2) Cover a bedside table with a protective barrier.

3) Gather and assemble enteral feeding pump, enteral formula, enteral feeding tubing, if needed, enteral feeding bag with tubing attached, if needed, IV pole, and gloves.

4) Elevate the head of the bed 30-45°.

5) Perform hand hygiene and apply gloves.

6) Attach the enteral feeding pump to the IV pole.

7) If the enteral formula is “ready to hang,” spike the container with the enteral feeding tubing. If the enteral formula is not “ready to hang,” pour the appropriate amount of formula into the enteral feeding bag.

8) Hang the container or bag on the IV pole, then prime and clamp the tubing.

9) Attach the primed tubing to the enteral feeding pump.

10) Verify tube placement.

11) Check gastric residual.

12) Once tube placement and gastric residual has been verified, flush the feeding tube with 30cc of water.

13) Attach the primed tubing to the feeding tube.
14) Unclamp the primed tubing and unclamp the feeding tube, if necessary.

15) Set the rate on the enteral feeding pump and press start.

16) Label the formula.

17) Discard of disposable supplies.

18) Clean reusable equipment.

19) Remove gloves, discard, and perform hand hygiene.

The final step is documentation to include: the date and time of the procedure, verification of tube placement and gastric residual, amount and type of enteral feeding, the individual’s response, the condition of the site or dressing, and the signature and title of the clinician.

**Bolus Feedings**

1) Verify the physician’s order and check the enteral nutrition label against the physician’s order.

2) Cover a bedside table with a protective barrier.

3) Gather and assemble towel or absorbent pad, enteral formula, 60mL syringe, and gloves.

4) Elevate the head of the bed 30-45°.

5) Perform hand hygiene and apply gloves.

6) Place the towel or absorbent pad on the individual’s stomach.

7) Verify tube placement.

8) Check gastric residual.

9) Once tube placement and gastric residual has been verified, attach a 60mL syringe to the feeding tube and unclamp the tube, if necessary.

10) Flush the feeding tube with 30cc of water.

11) Administer the ordered amount of formula by filling the syringe with enteral formula, allowing the formula to flow by gravity.
12) Flush the feeding tube with 30cc of water.

13) Clamp the tube, if necessary, and detach the syringe.

14) Instruct the individual to remain upright for at least 1 hour.

15) Place the towel in the soiled laundry container and discard of disposable supplies.

16) Clean reusable equipment.

17) Remove gloves, discard, and perform hand hygiene.

The final step is documentation to include: the date and time of the procedure, verification of tube placement and gastric residual, amount and type of enteral feeding, the individual’s response, the condition of the site or dressing, and the signature and title of the clinician.

**Gravity Feedings**

To administer enteral feedings via gravity, you must first calculate the drip rate.

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\text{Amount of Formula to be Infused (cc/hour) X Drop Factor of Tubing (gtts/mL) = \frac{\text{gtts/minute}}{60 \text{ minutes}}} 
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1) Verify the physician’s order and check the enteral nutrition label against the physician’s order.

2) Cover a bedside table with a protective barrier.

3) Gather and assemble enteral formula, enteral feeding bag with clamp, IV pole, and gloves.

4) Elevate the head of the bed 30-45°.

5) Perform hand hygiene and apply gloves.

6) Pour the appropriate amount of formula into the enteral feeding bag.

7) Hang the feeding bag on the IV pole.

8) Prime, then clamp the tubing.
9) Verify tube placement.

10) Check gastric residual.

11) Once tube placement and gastric residual have been verified, flush the feeding tube with 30cc of water.

13) Attach the primed tubing to the feeding tube and unclamp the feeding tube, if necessary.

14) Slowly unclamp the primed tubing and adjust the drip rate.

15) Label the formula.

16) Discard of disposable supplies.

17) Clean reusable equipment.

18) Remove gloves, discard, and perform hand hygiene.

The final step is documentation to include: the date and time of the procedure, verification of tube placement and gastric residual, amount and type of enteral feeding, the individual’s response, the condition of the site or dressing, and the signature and title of the clinician.