TITLE: INSERTION, FEEDING, MEDICATIONS, AND REMOVAL OF A SMALL LUMEN FEEDING TUBE (nas04)

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RESPONSIBILITY:
RN-Insertion of feeding tube
LPN-feeding/medications

PURPOSE: To establish a standard for the safe insertion of non-weighted small bore feeding tubes into the stomach for feeding and medications. Indicated for patients who cannot eat normally because of dysphagia, oral or esophageal obstruction or trauma, for patients who are unconscious, or have undergone gastrointestinal tract surgery that prohibits normal ingestion of food. If the patient is a Bariatric surgical patient, consult a bariatric surgeon if a feeding tube is indicated.

PATIENT EDUCATION:
1. Explain to the patient what you are going to do in a step-wise fashion.
2. If the patient is alert, solicit cooperation by discussing the need for swallowing during insertion.
3. Respond to patient questions.

EQUIPMENT: (for insertion)
1. Feeding tube with guide wire
2. Non-sterile gloves
3. Lubricant
4. 35 ml Syringe
5. Stethoscope

PROCEDURE:

INSERTION: (RN only)
1. Assemble materials. Identify patient.
2. Open feeding tube package. Leave guide-wire in tube for the insertion.
3. Moisten the tip of the feeding tube with a water-soluble lubricant.
4. Measure tube placement by holding the tip of the tube at the tip of the patient’s nose and measure to the patient’s earlobe. From the earlobe, measure the catheter to the xiphoid process and add 3 inches. Mark the measured distance by noting the centimeter mark.
5. Elevate the patient to a sitting position as tolerated. Assess both nostrils for structural abnormalities, patency, and ease of air exchange.
6. Tilt the head forward (chin to chest as tolerated).
7. Perform hand hygiene. Apply gloves. Gently insert
PROCEDURE (cont’d):

8. Thread the tube into the nose until resistance is met, or the patient coughs or gags.

9. Request the patient to swallow. Sips of water or ice chips may stimulate swallowing—do not give sips/ice chips if no gag reflex is present or if the patient has an ineffective swallow.

10. As swallowing occurs, rapidly and smoothly thread the tube into the nostril to the placement mark.

11. Using a syringe, inject a bolus of air while listening with a stethoscope over the left upper abdomen. Air injection may be audible if the tube is in the stomach. (Due to the small lumen size of feeding tubes, lack of air injection auscultation does not necessarily mean improper placement).

12. Using the syringe, attempt to aspirate gastric contents (lack of gastric aspirations does not positively indicate improper placement).

13. Limit insertion attempts to two (2) per RN and a total of three to four (3-4) attempts per patient. If unsuccessful at this point, notify the MD. The tube may need to be placed in the Radiology Department under Fluoroscopy.

14. Tape the tube in place. Cut a three inch length of one-inch cloth tape and cut up one end up the center about 1 1/2 inches. Tape the un-torn end to the nose and crisscross the two free ends around the tube.

15. Obtain a STAT chest X-RAY, requesting “for feeding tube placement”. The Radiology Tech may need to do an abdominal film depending on the patient to determine feeding tube placement.

16. Close the end of the tube with a rubber stopper attached to the tube and await results of the chest x-ray “wet reading” prior to removing the stylet and then initiating the feeding infusion.

17. When the tube’s placement is confirmed by X-RAY, gently remove the stylet. Never try to reinsert a partially or fully removed stylet while the feeding tube is in place; the stylet may perforate and cause injury to the patient.

NOTE: A Lopez enteral valve can be used for feeding. Attach Lopez valve directly to the feeding tube. Insert the feeding set securely into the universal adapter. Turn the “OFF” indicator towards the medication port. The arrows will show the fluid flow from the feeding device to the patient.

The most common change protocol for the lopez valve in an acute care setting is weekly. (ICU Medical, Inc.)
PROCEDURE (cont’d):

CLOSED TUBE FEEDING SYSTEM:
1. Kangaroo Epump Safety Screw Spike with flush bag
2. Ordered 1-liter Enteral nutrition container (feeding).
3. Infusion pump.
4. 60 ml syringe
5. Stethoscope
6. Water to fill flush bag, if used.

IF CLOSED TUBE FEEDING SYSTEM NOT USED:
Assemble the following:
1. Kangaroo Epump Safety Spike with flush bag
2. Prescribed tube feeding formula.
3. Infusion pump
4. 60 ml syringe
5. Stethoscope
6. Water to fill flush bag, if used.

NOTE: Check the date on all formula containers. Discard all powdered formula within 24 hours of mixing it.

CLOSED TUBE FEEDING SYSTEM – 24 HOUR SYSTEM
(this is the preferred method for continuous feedings)
1. Provide privacy and perform hand hygiene.

2. Inform the patient about the procedure for receiving nourishment through a tube.

3. Elevate the patient’s bed to a high or semi-Fowler’s (at least 30 degrees) position to prevent aspiration by gastroesophageal reflux and to facilitate digestion.

CAUTION NOTE: May need to clarify with the physician if feeding can be interrupted for procedures (i.e., CPT, diagnostic tests, therapy) or if the head of the bed cannot remain elevated during a continuous tube feeding.

4. Remove the cap or plug from the feeding tube. To check its patency and position, use the syringe to inject 10 ml of air through the tube while auscultating the patient’s stomach with a stethoscope. Listen for a whooshing sound. Aspiration of stomach contents also confirms that the tube is patent and properly positioned.

5. Fill or spike feeding container and water bag prior to setting up pump. Turn pump on by pressing power button. (FEEDING SET BAG MUST BE 18 INCHES ABOVE THE TOP OF THE FEEDING PUMP) Select “keep settings” or “clear settings” Load the set per diagram on panel (DO
PROCEDURE (cont’d):


7. Setting the feeding rate: Select “adjust feed” then “feed rate” using the buttons adjust from 1 ml to 400 ml as ordered by physician. Select “enter” when ordered rate is set.

8. Setting the flush rate: Select “adjust flush” then “flush volume” set the volume of water per flush cycle from 10 to 500 ml’s. Select “enter” when physician ordered flush rate is set.

Select “flush interval” to define the time interval between the start of each flushing cycle from 1 to 24 hours as ordered by physician. Select "enter" then “done” then Select “done”

9. The use of this closed tube feeding system replaces the need for routine flushing procedures as the pump will automatically flush what has been entered. Check with MD to see if they want the automatic flush administered.

10. To change rate or clear volume: Select “hold” then select “clear volume” then select “adjust settings” to adjust all settings then select “run”

11. If pump feeding is manually stopped or turned off, automatic flushing does not occur. If pump remains in OFF mode (not on HOLD), it is recommended to flush with 20-30 ml of warm water (use a 30 ml syringe) to rinse remaining product from the feeding set.

12. Check bowel sounds at least every shift or more often as indicated. Assess for complaints of fullness and/or abdominal distention.

*Aspirate stomach contents to determine amount of residual every 4 hours or as ordered by physician. Hold feeding for two hours if residual volume greater than 400 ml. Alert MD if residual remains greater than 400 ml after two hours. Return up to 200 ml of aspirated contents to stomach to prevent electrolyte imbalance.

13. Change feeding tubing and supplement every 24 hours. Apply a label with date, time/initials, formula and rate.

14. If the patient becomes distended, nauseated or vomits, stop the feeding immediately. Notify the physician.

IF CLOSED TUBE FEEDING SYSTEM NOT USED:
1. Provide privacy and perform hand hygiene.

2. Inform the patient about the procedure for receiving nourishment through a tube.

3. Add the tube feeding to the feeding bag. Fill flush bag with water (if ordered). **Set the rate ordered by physician as instructed above.**

4. Elevate the patient’s bed to a high or semi-Fowler’s (at least 30 degrees) position to prevent aspiration by gastroesophageal reflux and to facilitate digestion. **CAUTION NOTE:** May need to clarify with the physician if feeding can be interrupted for procedures (i.e., CPT, diagnostic tests, therapy), or if the head of the bed cannot remain elevated during a continuous tube feeding.

5. Remove the cap or plug from the feeding tube. To check its patency and position, use the syringe to inject 10 ml of air through the tube while auscultating the patient’s stomach with a stethoscope. Listen for a whooshing sound. Aspiration of stomach contents also confirms that the tube is patent and properly positioned.

6. Connect the feeding bag tubing to the feeding tube.

7. Thread the tubing through the continuous pump device and set **at the rate ordered by the physician as described above.** **Add the** feeding formula to the bag. Use only the amount of formula to be infused in four hours. Completely infuse each 4-hour amount. Flush the tubing with warm water (50ml) every 4 hours unless physician orders automatic flush system (25 ml/hour) to be utilized.

8. Check bowel sounds at least every shift or more often as indicated. Assess for complaints of fullness and/or abdominal distention.

   *Aspirate stomach contents to determine amount of residual every 4 hours or as ordered by physician. Hold feeding for two hours if residual volume greater than 400 ml. Alert MD if residual remains greater than 400 ml after two hours. Return up to 200 ml of aspirated contents to stomach to prevent electrolyte imbalance.*

9. Change feeding tubing every 24 hours. Apply a label with date, time/initials, formula and rate.

10. If the patient becomes distended, nauseated or vomits, stop the feeding immediately. Notify the physician.

MEDICATIONS:

1. Consult with a pharmacist prior to administering
medications via an NG tube. Enteric-coated or sustained release medications cannot be crushed; otherwise medications can be crushed and diluted in water prior to administration. Liquid forms of the medication are the best.

2. If the medication is a tablet, crush finely with room temperature water until dissolved. If the medication is a capsule, empty contents into water and mix until dissolved. If medication is too thick, it may need to be thinned with enough water to allow it to pass easily through the tube.

3. Identify patient and place him in semi-fowlers position.

4. To check for proper placement of the tube for the initial feeding or administration of medications, a chest film should be done. After the initial confirmation of the tube placement, the nurse can unclamp the tube and aspirate stomach contents with a syringe.

5. Insert a catheter-tipped barrel into the tube and rinse tubing with 30 ml tepid water through the medication port of the Lopez valve. Pinch off the tubing and insert the catheter-tipped syringe filled with the medication. Release the tubing and allow the medication to flow into the stomach.

6. After the medications have been administered, flush with 30-50 ml tepid water through the Medication port of the Lopez valve (unless ordered otherwise by the MD).

7. Keep the patient in semi-Fowlers position unless contraindicated. Position the patient on their right side with head slightly elevated to minimize esophageal reflux (Lippincott, 2013).

8. If the tube was connected to suction, wait 30-60 minutes before reattaching (unless otherwise ordered) to allow for sufficient time for the medication to be absorbed.

**NOTE:** The absorption of the following medications is inhibited with tube feedings: Ciprofloxacin and Phenytoin (Dilantin). Hold tube feeding 1 hour before and 2 hours after administration of enteral Ciprofloxacin and 1 hour before and 1 hour after the administration of enteral Phenytoin (Dilantin).

**NOTE:** Liquid Tylenol is not recommended as its viscosity tends to obstruct the tube.

**NOTE:** Consult with the physician and/or Dietitian if tube feeding must be held due to the administration of these medications in case they want to titrate/adjust the tube
PROCEDURE (cont’d):  

REMOVAL:
1. Protect the patient gown with a towel.

2. Flush the tube with air, clamp or pinch it to prevent fluid aspiration during withdrawal, and withdraw it gently and quickly.

DOCUMENTATION:
1. Nursing Reassessment Flowsheet: Document the date, time, tube type and size, site of insertion, area of placement and confirmation of proper placement. Also document patient reaction to the procedure and a description of any aspirated material. Patient/family education.

REFERENCE:


