

	<p>POLICIES AND PROCEDURES</p> <p>Title: ENTERAL TUBE FEEDING -Pediatrics</p> <p>I.D. Number: 1026</p>
<p>Authorization:</p> <p>[X] SHR Nursing Practice Committee</p>	<p>Source: Nursing</p> <p>Date Reaffirmed: Feb 2017 foley catheter 3.4.8</p> <p>Date Effective: May 2016</p> <p>Scope: SHR and Affiliates</p>

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DEFINITIONS

Patient - patient, client or resident who is receiving care in a SHR facility/affiliate, or is a participant in a SHR recognized program or service.

1. PURPOSE

- 1.1 To provide consistent best practice guidelines for management of pediatric patients receiving enteral feeding.
- 1.2 To minimize complications associated with enteral tube feeding.

2. POLICY

<p>Physician Order Required</p>	<ul style="list-style-type: none"> • To start or discontinue tube feeding • Route (i.e. NG, OG, NJ, PGJ, GT, JT), formula type, volume, flow rate • Flush type and amount • Blood work as appropriate • To give medications via enteral feeding tube
<p>Consult</p>	<ul style="list-style-type: none"> • Dietitian • Pediatric Surgery for percutaneous feeding access (i.e., PEG, PGJ) • Gastrostomy Nurse as needed
<p>Types of tubes- Short term Long term</p>	<ul style="list-style-type: none"> • PVC feeding tubes – 3 day dwell • Polyurethane or Silicone feeding tubes – 30 day dwell • Enteral feeding tubes with a stylet – 30 day dwell; <i>inserted by physician or RN with additional training (see PICU Nasojejunal Feeding Tube Insertion Policy)</i>
<p>Anatomical location of enteral feeding tube</p>	<p>Short term nutritional support</p> <ul style="list-style-type: none"> • Nasogastric (NG) • Orogastric (OG) • Nasojejunal (NJ) – <i>Inserted by physician or RN with additional training.</i> <p>Surgically placed tubes (long term nutritional support)</p> <ul style="list-style-type: none"> • Gastrostomy (G-tube) • Jejunostomy (J-tube) • Gastro-jejunostomy (G-J tube)

	<p>Radiologically placed tubes (long term nutritional support)</p> <ul style="list-style-type: none"> • Percutaneous enterogastrostomy (PEG) • Percutaneous gastrojejunostomy (PGJ or PEJ)
Method of Administration	<ul style="list-style-type: none"> • Continuous: feeding for 16-24 hours continuously – feeding pump required • Bolus: feeding is infused over a short time period (30-60 minutes) at specified intervals (gravity or feeding pump) • Cyclic: continuous feeding over a specified period (i.e. night time feeds) using feeding pump • Top-up: administering the remainder of a feed via an enteral feeding tube that the patient does not drink orally <p><i>Note: administration set must be labeled with patient's name, formula type, rate, and date.</i></p>
Processing Orders	<ul style="list-style-type: none"> • Orders for enteral formulas/tube feeds: as per usual unit/institutional practice • <i>Note: RUH - Enter the following information into SCM.</i> • Formula name and concentration • Volumes: Total needed for 24 hour period including amount required to flush pump tubing (recommend ordering 120% of volume to be administered) • If supplements needed (ie: formula concentrate or protein powder), enter amount required per 24 hours • Include specific recipes that are written in physician orders • Deadline for ordering formula prepared by dietary is 1300 hours daily; formula is delivered 1500 daily
Medication Administration	<ul style="list-style-type: none"> • Change medications to suspension when able; consult with pharmacy. • Medication in pill or capsule form that are not available as a suspension must be modified to liquid - sterile water is used when mixing • Medications: all oral medication suspensions will be administered in a labeled oral syringe. • Do not give any sublingual, enteric coated or sustained release medication through the feeding tube. • Medications will be given one at a time. (Mixing of medication increases the risks of physical and chemical incompatibilities, tube obstruction and altered therapeutic drug responses).
Special Considerations	<ul style="list-style-type: none"> • Keep the head of the patient's bed elevated during feeds at least 30 degrees unless contraindicated. • If head of bed must be lowered for a procedure, return to elevated position as soon as able. • Consider length of procedure, patient tolerance of feed, and tube type to ensure risk of aspiration is minimized (i.e.: chest physiotherapy) • Monitor patients for intolerance of tube feeding (abdominal distention, nausea, vomiting, diarrhea, abdominal pain)-notify medical team • Administer tube feed formula at room temp -infants-may warm slightly • Low volume continuous feeds <10ml/hr require specialized feeding pump (i.e.: Neofeed) to eliminate wasted formula/expressed breast milk • Expressed breast milk (EBM) – See Pediatric Policy: <u>Breast Milk: Collection, Storage & Administration</u> • PICU-see unit specific policy for insertion of NJ tubes
Infection Control	<ul style="list-style-type: none"> • Maintain clean technique when accessing tube, hanging or making additions to formula/tube feed. • Wipe top of formula can with alcohol swab before opening and let dry before opening can. • Cover, label and refrigerate remaining formula and use within 24hrs.

	<ul style="list-style-type: none"> • Use sterile water for all patient flushes, medication preparation & administration and formula dilutions in acute care settings. • Home Care, LTC <ul style="list-style-type: none"> - Neonates/infants or immunocompromised clients use sterile or boiled tap water (not from the bathroom) to reconstitute formula, medication preparation or for water flushes - tap water (not from the bathroom) or bottled water may be used for other clients if municipal water is safe for community use • Ensure ends of feeding tube are capped when not in use. Clean each enteral tubing connection with an alcohol swab when accessing • Formula will be suspended for no longer than 4 hours <ul style="list-style-type: none"> - Includes reconstituted formula premixed by Dietary, EBM, sterile ready to use products - Exception: Home Care, LTC sterile formula in an open container suspended no longer than 8 hours • Flush feeding set and tubing with tap water prior to refilling with formula for the next period. • Do not add new formula to that remaining in container from previous feed. • Change administration sets and additional medication and administration supplies every 24 hours. <ul style="list-style-type: none"> - Exception: NICU every 4 hours • Mic-Key extension set is changed every 2 weeks at minimum. (Home Care q2-4 weeks)
<p>Confirm Correct Placement of Feeding Tube</p>	<ul style="list-style-type: none"> • Prior to each intermittent feed, medication administration and at least every 4 hours when patient is receiving a continuous feed. • Following episodes of vomiting, retching or severe coughing • See procedure for methods
<p>Flushing of Feeding Tubes</p>	<p>All types (NG,OG, ND,NJ, PGJ, PEG, Button)</p> <ul style="list-style-type: none"> • Flush with a pause/push technique to decrease clogging of tube. • Flush every 4 hours during a continuous feed to maintain patency • Flush after each intermittent feed to maintain patency • Flush after each medication is administered • Infants: 3 mls sterile water, Children: 3-5 mls sterile water, Adolescents: 5-10 mls sterile water or as ordered • NICU: 0.5 -1mls air Pediatric Intensive Care Unit (PICU): air or sterile water as ordered. • G-tubes 5-10 mls sterile water • J-tubes 10-15 mls sterile water is recommended due to longer length
<p>Insertion Site Care</p>	<p>NG, OG</p> <ul style="list-style-type: none"> • Observe skin at nares, lips and oral mucosa for any redness or breakdown every shift. • Alternate nares with re-insertion of nasal tube if possible. • Check security of tape or anchoring device frequently to prevent dislodging. <p>Gastrostomy Button, PGJ, PEG</p> <ul style="list-style-type: none"> • Follow post insertion orders. • Observe & assess PGJ/PEG/Button insertion site every shift – assess skin condition, notify physician of redness greater than 1 cm, swelling, excessive drainage or leaking of gastric contents or tube feed. • Clean insertion site q12 hrs and prn; <ul style="list-style-type: none"> - Use sterile saline for 2 weeks after surgical insertion - Tap water can be used after 2 weeks • Apply absorbent dressing if required (change dressing prn).

	<ul style="list-style-type: none"> • Check security of PGJ/PEG anchoring device frequently to prevent dislodging • Rotate gastrostomy buttons and PEG tubes 360 degrees once daily starting 2 weeks post insertion • J-tubes or G-J tubes should not be rotated as this can cause the tube to coil and occlude
<p>Tube Securement</p>	<p>NG, OG</p> <ul style="list-style-type: none"> • 6, 8, 10 Fr – tape (ex: Hypafix) to nose (2 split ends around tube) and cheek • 12 Fr and larger – Tube fixation device • Exception: NICU uses hydrocolloid protective dressing as base. NG tape to one cheek; OG use a moustache tape. See pictures in Appendix B <p>Button, PGJ, PEG</p> <ul style="list-style-type: none"> • Intermittent – disconnect the extension tube after each feed, flush or medication administration • Continuous – anchor the extension tube to the patient’s abdomen with tape or a securement device to decrease the tension on the tube in the stoma

3. PROCEDURE

3.1 **Methods to verify tube placement:** also refer to *Pediatric Nursing Procedures – 3rd Ed.* Pages 261-269

Nasogastric (NG) or Orogastric (OG) Feeding Tubes:

3.1.1 Confirm that external length of feeding tube matches the baseline measurement documented in the care plan.

3.1.2 Aspirate and visualize gastric contents. Gastric aspirate is clear, off white or grassy green.

3.1.2.1 Difficulty obtaining aspirate:

- use a larger sized syringe
- reposition patient
- inject 1-5 ml of air, wait 5 minutes and try again
- advance the tube 1-2 cm

3.1.3 Test pH of gastric contents (pH of 5.5 or less indicates correct placement in most patients).

- pH strips SKU # 204370 available from SPD

Note: *patients taking acid reducing drugs (e.g. Pantoprazole, Ranitidine) or receiving continuous feeds may have an altered pH*

3.1.4 Observe patient for signs of respiratory distress, especially after episodes of coughing or vomiting.

Nasojejunal tubes (NJ)

3.1.5 Initial placement must be confirmed by x-ray

- 3.1.6 Once placement is confirmed, measure the external length of tube and mark it to have comparative measurements for further tube position confirmation. Some tubes have cm markings – document marking at nare in care plan and confirm q4h

Button (balloon) Feeding Tubes:

- 3.1.7 Check water volume in balloon per unit protocol (admission and weekly thereafter)

Gastrostomy (PEG), Jejunostomy (J-tubes, PGJ)

- 3.1.8 Confirm correct placement by ensuring gastrostomy flange is flush to the skin.

- 3.1.9 **PEG:** compare the level at which the flange for tube is placed (cm markings on tubing) to that recorded in care plan at time of insertion.

- 3.1.10 **PGJ:** Measure external length of tube and compare to length documented in the nursing care plan.

- Check for any discoloration of tube shaft. If discoloration is less than 3 inches (=7.5cm) from insertion site an X-ray should be done to confirm placement. If discoloration of the tube is greater than 3 inches consult Interventional Radiology/surgery for tube check. If tube was initially inserted by Surgeon/Attending Physician they should be notified.

- 3.2 **Administering Enteral Feeds:** *Pediatric Nursing Procedures – 3rd Ed.* Pages 275-283.

- 3.3 **Administering Medication through a Feeding Tube:** *Pediatric Nursing Procedures – 3rd Ed* pages 415-420.

- 3.3.1 Crush medication into powder using a pill crusher, pour powder into a small medication cup and mix with 1-10 mls sterile water depending on age and number of medications to be given.

3.4 **Displaced Feeding Tubes**

Nasogastric (NG) or Orogastic (OG):

- 3.4.1 Notify Physician if concerned that patient has aspirated enteral feed

- 3.4.2 Reinsert if required

Feeding Tubes with Stylet (NJ)

- 3.4.3 Notify Physician

- 3.4.4 Physicians or RNs with additional training can re-insert

- 3.4.5 Obtain order for x-ray to confirm correct placement

Gastrostomy (PEG), Jejunostomy (PGJ):

- 3.4.6 For PG and PGJ tubes, notify physician. Interventional Radiology will need to be consulted for tube reinsertion.

- 3.4.7 Cover site with a sterile dressing.

- 3.4.8 Practitioner may consider insertion of a Foley catheter to maintain a tract for a short period of time. An individualized care plan for the patient must be developed and all other options considered prior to use of a Foley Catheter. Foley is Not intended for feeding

Note: See Appendix A for considerations/cautions

Button (balloon type) feeding tubes:

- 3.4.9 Pediatrics/PICU: RNs certified in Specialty Practice may replace G-button at bedside (See Pediatric Gastrostomy Button Tube Change Policy)
- 3.4.10 Notify physician if unable to reinsert new G-button
- 3.4.11 If G-button not available promptly, follow instructions in Pediatric Gastrostomy Button Tube Change Policy

3.5 Occluded Feeding Tubes

- 3.5.1 If tube occlusion occurs do not force irrigation.
- 3.5.2 Do not use carbonated beverages to attempt to clear occlusion.
- 3.5.3 Attempt to irrigate with 5-10 mls warm sterile water using a gentle back and forth motion.
Exception: NICU - do not attempt to irrigate. Remove and reinsert if appropriate or notify medical team
- 3.5.4 If above is unsuccessful, obtain physician order for pancreatic enzyme mixture: Cotazyme 1 tab and sodium bicarbonate 1 tab (325 mg) in 5 mls sterile warm water
Note: for safety reasons wear gown and mask with face shield when preparing and administering this mixture
- 3.5.5 Infuse gently into feeding tube, clamp tube and leave for 20 mins., preferably for 2 hrs
- 3.5.6 Attempt to irrigate with sterile warm water. If still occluded notify physician. Pancreatic enzyme and sodium bicarbonate solution can be repeated up to 4 times in 24 hours.
- 3.5.7 Notify physician if occlusion persists. Remove N/G, O/G and re-insert unless contraindicated

3.6 Documentation:

- 3.6.1 Document type of feeding tube being utilized
- 3.6.2 Document external length of feeding tube
- 3.6.3 Record formula type, hourly intake, flush volume on fluid balance record
- 3.6.4 Symptoms of feeding intolerance: vomiting, diarrhea, abdominal distension and/or pain.
- 3.6.5 Document insertion site assessment and care.

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SHR Nursing Policy and Procedure Manual

Enteral Feeding Tube with a Stylet: Assisting with Insertion of, Care of, Removal #1109

Medication Administration #1170

Nasogastric/Orogastric Tube: Insertion, Care of, Removal #1040

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Appendix A

Considerations/cautions if using a Foley Catheter for a purpose other than the labelled use

1. Can feeding tube be replaced within 1-2 hours? If reinsertion of a feeding tube can be done then it may not be necessary to maintain the tract with an alternate tube.
2. Potential complications when a Foley is used off label :
 - a. Enteral misconnection – an inadvertent connection between an enteral feeding system and a non-enteral system, such as an intravenous line, peritoneal dialysis catheter that can result in life-threatening events in the clinical area
 - b. Risk of misplacement due to wide variation in length of tube required, due to individual anatomy
 - c. Inward migration of the Foley that can cause a pyloric or small bowel obstruction
 - d. Pancreatitis due to migration of the Foley catheter into the duodenum resulting in obstruction of the pancreatic and biliary tract.
 - e. Peritonitis due to gastric content and enteral formula leaking into peritoneum when temporary tube is not the correct length or Fr. Size.
3. Feeding the patient through the Foley catheter is risky because verification of placement may be difficult
4. As soon as possible arrangements should be made for the appropriate feeding tube to be placed.

Note: For clients with frequent dislodgements, consideration should be given to replacement of tube with one that can be safely replaced by certified nurses at the bedside

Appendix B

Pediatrics/PICU Jejunal Feeding Guidelines

- Feeding regime require written physician’s order for formula, rate and rate changes
- Notify physician if feed adjustments required related to total fluid maintenance order (ex: addition or deletion of IV medications)
- Continuous feeds only
- Initiate feeds with semi-elemental formula and increase daily per chart

Age	Initial formula	Initial Rate	Daily Rate Increase	Calories	Osmolality
Preterm	Pregestimil A+	1mL/kg/hr	1mL/kg/hr q 12 hr	0.68cal/mL	290mOsmo/kg H2O
Newborn to 1 yr	Pregestimil A+	1-2 mL/kg/hr	1-2 mL/kg/hr q 12 hr	0.68cal/mL	290mOsmo/kg H2O
Over 1 to 6 yrs	Peptamen Jr (Vanilla) Mix 80/20 with sterile H2O	1-2 mL/kg/hr	1mL/kg/hr q 12 hr	0.8 cal/mL	288mOsmo/kg H2O
Over 6 to 10 yrs	Peptamen Jr (Vanilla) Mix 80/20 with	1mL/kg/hr	0.5mL/kg/hr q 12 hr	0.8 cal/mL	288mOsmo/kg H2O when mixed

	sterile H2O				
Over 10 to 14 yrs	Peptamen Unflavored	1 mL/kg/hr	0.5mL/kg/hr q 12 hr	1 cal/mL	270mOsmo/kg H2O when mixed
Over 14 yrs	Peptamen Unflavored	0.5-1mL/kg/hr	0.5mL/kg/hr q 12 hr	1 cal/mL	270mOsmo/kg H2O

- Consider initiating with half strength formula if GI problems or multisystem instability/high dose vasoactive meds
- Additions of electrolytes will increase osmolality of feed and may result in feed intolerance
- If NPO for less than 24 hrs for non-GI related procedures, may resume feeds as prior
- Consult with dietitian as soon as possible

Appendix C

Securement of Enteral Feeding Tubes in the NICU

Nasogastric



Orogastric

