NEWBORN NURSES
PATIENT CARE PROCEDURES

SUBJECT:                NASOGASTRIC TUBE INSERTION & FEEDINGS
EFFECTIVE DATE:   5/91

EQUIPMENT:
Formula
Measuring cup
Tegaderm & Duoderm
60 ml syringe for bolus feeds or feeding bag with pump
Feeding tube (size depends on age of child and may be with or without a stylet)
K-Y jelly (water soluble lubricant)
Extension tubing, if used
Syringes 10 – 20ml size luer lock
Stethoscope or PH Paper
Gloves, non-sterile

PROCEDURE:
1. Explain procedure to child and caretakers.
2. Wash hands.
3. Assemble all equipment on a clean workspace and apply gloves.
4. Remove feeding tube from package (stylet may already be inside the feeding tube).
5. Measure the tube distance for insertion from tip of the patient’s nose to the earlobe to stomach, half way between breastbone and the naval. Mark this point with water soluble tape, on the NG tube. Measure the length of the tubing from the mark to the distal end of the tube and document this length in the Nurse’s Notes. This distance may be checked on a daily basis to assess if the NG tube has advanced or dislodged from original placement.
6. Lubricate the tube with K-Y jelly, if no stylet will be used to guide the tube. (Do not use Vaseline). If stylet present, check to see that stylet moves freely in and out of tube. When reinserting stylet, make sure it does not come out the bottom of the tube or feeding holes. Lubricate the end of the feeding tube with sterile water if K-Y jelly is not available, prior to inserting into the patient. Save stylet in a plastic bag for tube reinsertion when NG tube comes out.
7. Obtain assistance in holding child to insert nasogastric tube.
8. Choose a nostril. Alternate to different nares each time the tube is put in.
9. Insert tube in nose directing it upward back towards the throat and downward. Pass the tube until the marked distance site is reached.
10. If you meet resistance, if the tube comes out of the mouth, or if the child changes color/coughs/has respiratory distress, withdraw NG tube and reinsert.
11. Secure tube in place and be sure it is not bent. To secure tube, apply skin barrier (Duoderm) to area adjacent to nares and then apply tape/Tegaderm over NG/Duoderm.
12. Pin the tube to the child’s clothing to prevent the tube from being pulled and
13. There are two ways to check placement of the NG tube:
   A. Attach a 10ml syringe into the end of the feeding tube. Not the pig-tail (if applicable). Gently inject 5cc's of air. Listen for "swish" sound in stomach. If the "swish" sound is not heard, reattempt to check for placement. Remove the tube if the "swish" sound is not heard.
   B. You may also check the pH of stomach contents when gently pulling back on syringe. Take a drop of the fluid that is pulled out and drop it on pH paper. If the pH is acidic showing as a 1 to 4, the fluid is coming from the stomach and the NG tube is in the correct spot.
14. If the end of the tube was not in the stomach, reinsert nasogastric tube as in the above procedure.
15. Check for placement.
16. Do not start the tube feeding if placement of tube is not verified.
17. Check placement of tube prior to each feed.
18. Prior to each feed, check for residual of stomach contents (food). Gently pulling back on syringe to obtain residual stomach contents. Notify the physician if greater than 20% of the volume of bolus feeding remains in the stomach prior to the next feeding.
19. Change NG tube every week, alternating the insertion into each nostril.
20. The child's nose may become irritated by the tube; apply Vaseline to nostril.
21. Also, change the tube to a new one when:
   A. There is a leak in the tube.
   B. The stylet (guide wire) no longer reinserts properly. The tube has stretched and the guide wire will no longer reach the end of the tube. Do not introduce stylet while feeding tube is in place.
   C. Unable to get tube clean or it has an odor.
22. Observe for coughing and/or breathing difficulties during feeding or while inserting NG tube.
23. To begin feeding:
   A. Measure out the desired amount of the correct strength and type of formula.
   B. Take out formula at least one hour before use, if refrigerated. This allows the formula to reach room temperature before giving to prevent cramping.
   C. If using extension tubing or feeding bags, fill the entire system with formula.
   D. Attach the 60 ml syringe (for bolus feeds) or feeding bag to the NG tube. If pump feeding: apply tubing to pump, set rate and start pump.
   E. If bolus feeding: adjust level of 60 ml syringe or feeding bag control clamp so that the formula flows with gravity over the amount of time ordered by the physician for the entire feeding.
   F. A small amount of reflux (a rise in the amount of formula in the syringe After the nasogastric tube is unclamped) is not abnormal.
   G. If it is necessary to refill the syringe or bag, do so when volume reaches 10ml (this will prevent air from being forced into the stomach.
   H. During feedings, keep the child's head elevated (about 30 degrees), to prevent aspiration (choking on formula). You may use a wedge, blankets, or pillows under the mattress while feedings are being given to older children. Infants
can and should be held during feeding to promote/maintain bonding. Offer a pacifier to satisfy sucking needs.

I. When the feeding is completed, flush the nasogastric tube with 5-10cc's of sterile water, or as ordered by the physician. You may leave the nasogastric tube unclamped and attached to the syringe for 10 - 15 minutes after the feeding or as ordered by the physician. This will help prevent the child from vomiting.

J. Feeding syringe and extension tubing need to be washed after use and air dried.

K. Feeding bags are rinsed after use or at least every 12 hours. Bags are generally changed daily.

24. To rinse feeding syringes and extension tubing:
   A. Wash syringe and extension tubing with dish soap and hot water or in a dishwasher.
   B. Rinse well.
   C. Place them on a paper towel and allow them to air dry.

25. To rinse feeding bags:
   A. Take bag and tubing to sink and empty out any remaining formula.
   B. Fill bag with water (warm tap water) and rinse bag thoroughly.
   C. Fill bag again with about 3 oz of warm tap water. DO NOT POUR OUT
   D. Hang bag up and allow water to run through all the tubing. If the water does not flow, squeeze the drip chamber a few times and it should flow.
   E. Check that the drip chamber is clean. It may be necessary to turn the drip chamber upside down to clean it well.
   F. If unable to remove old formula from the tubing, try rinsing the tubing with a solution of 1 part white vinegar and 3 parts water.

26. When to call physician:
   A. When testing the placement of the feeding tube before each feeding, you get increased amounts of contents from the last feeding.
   B. If child vomits repeatedly during or after feeding.
   C. If child has an increasing amount of watery, loose stools.

27. Document the completion and tolerance of the procedure on the PD Flow sheet, Clinical Progress Notes and on the appropriate flow sheets.

NOTE: The length of time an NG Tube may be maintained or re-used is dictated by the material the tube is made from. The manufacturer’s guidelines should be followed in deciding the length of time before expiration and the replacement of the tube. Generally, silastic type NG tubes are able to be used for time frames of up to a month and other plastic types are to be changed after a week. Tubes that are pulled out before the expiration date may be cleaned, examined to be sure it is in working order without leaks and then reinserted. The process of cleaning the NG tube should follow the manufacturer’s guidelines. In general, NG tubes may be washed with mild dish soap and water, rinsed well and dried on a paper towel. An alternative is to use a 1:3 mixture of white vinegar and water, rinse well and dry. The expiration date should be tracked and a new tube re-inserted upon NG tube expiration. Tubes with a stylet will need to have the stylet saved for use in replacing the NG tube.