CONSIDERATIONS:

1. Nasogastric (NG) tubes are used to deliver nutrition and medications through a tube introduced through the nose into the stomach. The tube can extend into the small intestine, but is then called a naso-jejunal tube.
2. According to the American Society of Parental and Enteral Therapists (ASPEN), nasogastric tubes should rarely be seen outside the hospital:
   a. NG tube placement must be confirmed with X-ray before using it for nutrition/medications
   b. NG tubes are only appropriate for short term therapy. G-tubes should be placed for long-term therapy
   c. NG tubes are associated with more complications than gastrostomy tubes (G-tubes)
3. If a patient returns to the home with a NG tube, there are two indicators that the tube is appropriately in the stomach:
   a. On X-ray, the tube should have been marked with an indelible marker to show its exit point from the nare
   b. Stomach contents can be aspirated and the pH of contents can be checked. pH should be 5 or less on a pH strip. If patient is receiving continuous feed, pH should be <6. If no stomach contents obtained, may use auscultation if specific order is obtained from physician.
4. Potential complications with checking tube placement:
   a. Indelible mark can be at nare, and the gastric tube end can still migrate into the esophagus. Can occur with vomiting
   b. Aspirate pH can be high, but tube is still in stomach. Can happen when there is residual in the stomach. pH 5 or greater can indicate presence of residual formula or migration into the small intestines
   c. Distal end of tube can be in stomach but within stomach's folds, preventing aspiration. Inject air to move tube, or ask patient to roll side to side
   d. Coughing spells and vomiting can displace the tube into the esophagus
5. When NG tubes are placed, they are usually held in place with a tube fixation patch (over the nose bandage) with a clip that holds the tube:
   a. Tube should extend down from the nose, attaching the proximal end to patient's clothes
   b. Do not tape the tube to the patient's forehead, as it can cause a pressure and necrosis to nare
6. Reinsertion of NG tubes at home is not always appropriate. NG tubes are not reinserted in the home for patient with cardiac conditions, certain congenital abnormalities or NPO status.
7. Prior to reinsertion of NG tube in the home, nurse should call to obtain an order from physician to verify placement using pH or auscultation if no aspirate is present.
8. See *Digestive - Enteral Feeding* for administering nutrition/medication through the tube.

EQUIPMENT:

Gloves
NG Tube
Measuring tape
Towel or disposable pad
Irrigating syringe, 10 mL
Water or water soluble lubricant
pH indicator strips
Small bowl or cup

PROCEDURE:

1. Check Tube Placement:
   a. Use two patient identifiers and explain procedure to patient
   b. Adhere to Standard Precautions, including gloves
   c. Check the placement of the tube to determine if the tube is still at the same length as confirmed at X-ray on referral
   d. Using an irrigating syringe, aspirate 10 mL of air
   e. Bend tube back on itself to prevent leakage
   f. Uncap tube and attach irrigating syringe
   g. Inject 2-5 ml of air quickly to push distal end of tube away from stomachs' folds
   h. Aspirate stomach's contents into the syringe
   i. Eject aspirate into a small bowl or cup
   j. Check the pH with the pH strip
   k. If unable to obtain aspirate, use auscultation if there is a specific order from physician to use this method
   l. Discard soiled supplies in appropriate containers and remove gloves and perform hand hygiene
2. Tube Insertion:
   a. Prior to procedure call physician and obtain order to verify placement by using pH or auscultation if no aspirate is present
   b. Use two patient identifiers. Explain procedure to patient
   c. Gather equipment and supplies
   d. Adhere to Standard Precautions; don protective equipment
   e. Place patient supine with head slightly hyperflexed or nose pointed toward ceiling
   f. Measure the tube for approximate length of insertion, and mark the point with a small piece of tape. Method is to measure from nose to earlobe and then to the xiphoid process.

g. Lubricate the tube with water or water soluble lubricant, and insert into one of the nares to predetermined mark. If the patient is able to swallow on command, synchronize passing the tube with swallowing. Remove stylet and cap.
h. Check the position of the tube using one of the following methods:
    i. Attach the syringe to feeding tube and aspirate stomach contents. Check pH levels. PH should be 5 or less. If patient receiving continuous feeds, pH should be 6 or less.
    ii. If no aspirate obtained, inject a small amount of air (0.5-1 ml in very small infants to 5 ml. in larger children or adults) into the tube while simultaneously listening with a stethoscope over the stomach area. Sounds of gurgling or growling will be heard if tube is properly situated in the stomach. If no sounds, remove.
i. Stabilize the tube by taping it to the cheek, not the forehead due to possible damage to the nostril. To maintain correct placement, mark exit from nares, measure and record the amount of tubing extending from the nose to the distal port.
j. Remove gloves and perform hand hygiene
k. Document all findings in patient chart

3. Removal:
    a. Use two patient identifiers
    b. Adhere to Standard Precautions and explain procedure to patient
    c. Place patient in high fowlers position
    d. Place a towel across the patient's chest
    e. Give the patient a couple of tissues to hold for wiping nose as soon as tube is removed
    f. Remove fixation device or tape from patient's nose
    g. Smoothly and evenly withdraw tubing pulling it onto the towel on patient's chest
    h. Provide the patient with items for oral care
    i. Remove gloves and perform hand hygiene

AFTER CARE:

1. Cleanse reusable equipment (irrigating syringe, cup) rinse, allow to air dry
2. When checking placement of tube, document in patient's record:
    a. Visualization of mark at nare
    b. Amount of gastric contents aspirated
    c. pH of aspirate
    d. If no aspirate obtained, document use of auscultation
    e. Patient's response to procedure
3. When removing the tube, document in patient's record:
    a. Time of removal
    b. Patient's response to procedure
4. Communicate with the physician and document:
    a. Concerns about tube placement
    b. Episodes of coughing/vomiting making migration of tube a possibility

REFERENCE:

American Society for Parental and Enteral Nutrition (ASPEN; 2009). Enteral Nutrition Practice Recommendations. *Journal of Parental and Enteral Nutrition.* Special Report.

Perry, A., Potter, P. & Elkin, M. (2012). Nursing Interventions and Clinical Skills, 5th Edition. St. Louis: Elsevier/Mosby

Wong's Clinical Manual of Pediatric Nursing, Wilson, D. & Hockenberry, M.,Eighth Edition Elseuier 263-265

Adopted VNAA; Approved Policy Committee: 02/16