COMPONENTS OF NASOGASTRIC TUBE INSERTION, MAINTENANCE AND REMOVAL ARE POST-ENTRY LEVEL COMPETENCIES FOR REGISTERED NURSES AND LICENSED PRACTICAL NURSES, AND WHICH REQUIRE ASSESSMENT OF COMPETENCY PRIOR TO PERFORMING. (Refer to Policy Statements #1 and 2 for specifics)

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Statements</td>
<td>2</td>
</tr>
<tr>
<td>Guiding Principles</td>
<td>4</td>
</tr>
<tr>
<td>Procedures:</td>
<td></td>
</tr>
<tr>
<td>1. Equipment required</td>
<td>5</td>
</tr>
<tr>
<td>2. Procedure: Insertion of nasogastric tube</td>
<td>5</td>
</tr>
<tr>
<td>2. Verification of placement, irrigation, and tube maintenance</td>
<td>5</td>
</tr>
<tr>
<td>3. Administering enteral feeds</td>
<td>6</td>
</tr>
<tr>
<td>4. Nasogastric tube removal</td>
<td>6</td>
</tr>
<tr>
<td>5. Administering medications via nasogastric tube</td>
<td>6</td>
</tr>
<tr>
<td>6. References</td>
<td>6</td>
</tr>
</tbody>
</table>
POLICY

1. **For Registered Nurses (RNs):**
   1.1. **Insertion** of a Nasogastric (NG) Tube is a **post-entry level competency**.
   1.2. **Maintenance** and **Removal** of NG tubes are **basic entry level competencies**.

2. **For Licensed Practical Nurses (LPNs):**
   2.1. **Insertion** of a small-bore feeding tube is a **post-entry level competency** in **approved practice settings only**.
       2.1.1. LPNs **do not** insert large bore NG tubes.
   2.2. **Removal** of NG tubes is a **post-entry level competency**.
   2.3. **Maintenance** of NG tubes is a **basic entry level competency**.

3. Insertion and removal of a nasogastric tube requires a physician’s order.

4. Although the RN or LPN (approved practice settings only) may insert a small-bore weighted tube **without stylet** for the purpose of complete or supplemental nutritional support, prior to insertion the nurse should refer to their facility specific or unit specific protocols.

5. Nurses (RNs and LPNs) do not insert nasogastric tubes for the purpose of compression, to control bleeding. (i.e.: Esophageal Compression tubes such as a Blakemore tube).

6. Prior to inserting a nasogastric tube, the nurse should review the patient’s history and blood work to assess the potential for and increased risk of bleeding during and following insertion. (e.g.: decreased platelets or increased INR).

7. No more than three attempts at nasogastric tube insertion should be made by any one nurse at any one time.

8. Following insertion of a nasogastric tube for enteral nutrition or medication administration, radiological (X-ray) verification of tube placement **must be done prior** to the initiation of enteral nutrition or medications.

9. Once tube placement is confirmed, the external length of the tube from point of entry at the nare to the tip of the tube is to be measured and documented on the patient’s Kardex (or care plan). A mark or tape is to be placed on the tube at the entry point to the nare to use as an assessment indicator of possible tube migration.

10. Unless the physician orders state otherwise, the patient’s head of the bed should be elevated 30 degrees while the nasogastric tube is in place. If the patient must have the bed in a flat position, it is possible to keep the bed flat yet elevate the head by placing the bed in reverse Trendelenburg position.

11. Due to the increased risk of perforation, **do not place** nasogastric tubes in the refrigerator or on ice prior to insertion.

12. Situations in which the nurse **should not** insert, reinsert, reposition or manipulate a nasogastric tube include patients with:
   12.1. nasal pharyngeal surgery
12.2. esophageal or upper gastrointestinal surgery in the past 30 days.
12.3. surgical procedures at the site of tube entry (i.e.: craniofacial surgery)
12.4. esophageal or nasal pharyngeal obstruction
12.5. severe maxillofacial trauma
12.6. esophageal varices
12.7. basal skull fractures
12.8. thermal or chemical injury to the upper respiratory tract and esophagus

13. If a nasogastric tube is inadvertently removed, consideration should first be given to whether the patient continues to require therapy. If not, a physician’s order is required to discontinue the therapy.

14. A physician order is required before irrigating a nasogastric tube in a patient who has had esophageal or gastrointestinal surgery within the past 30 days.

15. A nasogastric tube is not to be forced past resistance. This may cause damage to nasal mucosa or force the tube into a potentially dangerous position.

16. The end of the NG tube is never to be placed in a container of fluid while checking for placement. If the tube is in the trachea, the patient could inhale the water.

17. If using a large bore nasogastric tube for suction, the lowest suction that will effectively decompress the stomach is to be used.

18. If patient has a large bore Salem sump tube, saline or sterile water is never to be injected into the blue “pigtail” air vent tube. Only air is to be injected into this blue vent.

18.1. The blue air vent is never to be clamped or tied off, connected to suction, or used for irrigation. The air vent must remain patent to ensure proper sump function.

18.2. If the blue air vent is clamped or occluded by drainage, continuous suction may cause damage to the patient’s gastric lining.

19. To prevent tube rupture, a 60mL syringe is to be used to check placement or instill fluid into large bore nasogastric tubes (i.e.: Salem sump). For small bore feeding tubes, a 30mL or larger syringe must be used (silastic, polyurethane).

20. At any time, if uncertainty of nasogastric tube placement exists, particularly in high-risk patients, x-ray verification is warranted. This is done to confirm correct tip placement prior to the administration of enteral nutrition or medication. High risk patients include those with:

20.1. absent or diminished cough or gag reflexes,
20.2. decreased level of consciousness,
20.3. anatomical abnormalities along the placement pathway (i.e., tracheostomy, endotracheal intubation, or cardiomegaly),
20.4. significant debilitation or difficult tube placement.

(Bohnker, Artman, Hoskins, 1987)
GUIDING PRINCIPLES

1. A nurse may insert a nasogastric tube (as per policy statements 1 and 2) after it has been ordered by a physician for the purposes of:
   1.1 decompression of the stomach by removal of flatus and liquid gastric contents (e.g., with full or partial obstruction due to a variety of causes)
   1.2 prevention and relief of nausea and vomiting after surgery or a traumatic event by decompressing the stomach
   1.3 administration of nutrition and/or medications when the oral route cannot be used
   1.4 gastric irrigation
   1.5 diagnostic or motility studies:
      1.5.1 pH monitoring;
      1.5.2 to determine the amount of pressure and motor activity in the GI tract
   1.6 laboratory studies (to obtain a specimen of gastric contents for diagnostic purposes, i.e., when pyloric or intestinal obstruction is suspected)

2. Large bore nasogastric tubes (i.e.: Salem sump) are the most common type of tubes used for gastric decompression. This type of tube uses continuous low pressure to decompress the stomach and should not be used for administering enteral nutrition.

3. Small-bore nasogastric feeding tubes or Levine tubes are used to administer enteral nutrition and medications. They should be flushed with 30-50mL of sterile water when the feeding is stopped for any reason and at least every six hours during continuous infusions.

4. Medications should not be administered into a large-bore nasogastric tube that is inserted for decompression. In the event that this route of administration is required, the placement of the large-bore nasogastric tube should be verified by x-ray.

5. Irrigation of the large bore nasogastric tube with 30 mL of sterile water is done on a regular basis (every 2-4 hours):
   5.1 if the tip of the tube rests against the stomach wall
   5.2 with medication administration, or
   5.3 if the tube becomes blocked with thick secretions.

6. To prevent the large bore nasogastric tube from becoming clogged or air-locked, the manufacturer recommends any irrigation into the main suction lumen be followed with an injection of approx 20 mL of air through the blue pigtail and then reinsert the anti-reflux valve.

7. If using Salem sump, the blue pigtail or air vent should be positioned above the level of the stomach to avoid back flow of stomach secretions. An anti-reflux valve is attached to the blue pigtail to prevent gastric contents from seeping out.
8. In the critical care areas, decompression tubes may be placed orally. Maintenance of these tubes is the same as nasogastric tubes; however once the patient is transferred out of the critical care area, consideration should be given to removing the oral tube and, if required, replacing it with a nasogastric tube.

9. If unsuccessful on the initial attempt to obtain a gastric aspirate from the small-bore tube:
   9.1 Try injecting 10-20mL of air into the tube prior to aspirating. The air might be enough to dislodge the tip of the tube from the gastric mucosa.
   9.2 Have the patient turn onto their left side or change position to see if the tube will move into the fluid pocket and away from the gastric mucosa.
   9.3 Advance the tube 1-2 cm to ensure that the tip is sitting in a pool of fluid in the stomach.

10. Auscultation of an air bolus is no longer considered a reliable or safe method for verification of nasogastric tube placement. This method cannot detect when a tube has inadvertently been placed into the respiratory tract and cannot distinguish between placement in the stomach versus the intestine. (Perry & Potter, 2006)

EQUIPMENT


PROCEDURE

1. INSERTION OF NG TUBE (RNs and - in approved practice settings only - LPNs)

2. VERIFICATION OF NG TUBE PLACEMENT, IRRIGATION, AND MAINTENANCE OF PATENCY (RN and/or LPN)
   2.2 Refer also to the Enteral Nutrition policies. (site-based policies pending distribution of CDHA –policy)

3. CONTINUING ASSESSMENT (RN and/or LPN):
   3.1 Perform assessment of placement/position and patency of the tube:
      3.1.1 upon initial insertion
      3.1.2 each shift, as part of physical assessment
3.1.3 prior to the instillation of fluid for the purpose of irrigation
3.1.4 prior to the administration of nutrition and/or medications
3.1.5 after vomiting, retching, or severe coughing
3.1.6 if the tube is accidentally pulled
3.1.7 if the mark on the tube is not visible or is in a different position
3.1.8 if the patient feels the placement is in question
3.1.9 if there is a change in the patient’s condition, such as abdominal pain, cramping, bloating, fullness or burning with feedings
3.1.10 if there is unusual leakage around the tube
3.1.11 if the patient becomes suddenly short of breath

4. ADMINISTERING ENTERAL FEEDS VIA NASOGASTRIC TUBE (RN’s and/or LPN’s)
   4.2 Refer also to Enteral Nutrition policies (site-based policies pending distribution of CDHA – policy).

5. REMOVAL OF NASOGASTRIC TUBE (RN’s and/or LPN’s):

6. ADMINISTERING MEDICATIONS VIA A NASOGASTRIC TUBE (RN’s; LPN’s in approved practice settings for medication administration):

RELATED CAPITAL HEALTH DOCUMENTS

Site-specific policies addressing enteral nutrition (pending distribution of CDHA policy)

REFERENCES:


HISTORICAL DATES
Integrated – January, 2007{(Replaces December 1996 (DGH); August 1997 (Eastern Shore Memorial Hospital); October 2001 (QEII NC-50-40-110); May 2002 (Hants Community Hospital); (Cobequid Community Health Center)}