### Purpose
To provide guidelines for the care and management of infants requiring esophageal and gastric suction.

### Policy Statement
Gastric or esophageal suctioning may be utilized to prevent aspiration and respiratory compromise, or to facilitate gastric decompression.

When using a one lumen gastric tube to decompress the gastrointestinal tract, a regulator that has an intermittent suction setting, with preset on-and-off cycles must be used. Set the initial level of suction within the “low range” (0 to 80 mmHg), starting between 40-60 mmHg. The suction level should not exceed 80 mmHg. Continuous suction using a single-lumen gastric tube may cause the stomach to collapse leading to direct application of vacuum pressure to the mucosa. This may result in ulceration, hemorrhage or perforation.

Tube patency is essential if suctioning apparatus is to be maintained. Irrigating the tube every 2 to 4 hours with a small volume of air or normal saline helps to ensure that the tube remains open and functioning.

### Applicability
All Covenant Health Neonatal Nursery staff.

### Equipment
- Suction valve with intermittent suction regulator
- Suction container, suction container liner & lid, small suction collection chamber.
- Connecting tubing
- Appropriate Lumen Tube:
  - Gastric Tube #8, 10 or 12 single lumen according to size of patient for occasional or intermittent suction
  - Esophageal Tube – double replogle tube for continuous suction

### Procedure

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<tr>
<th>ACTION</th>
<th>RATIONALE</th>
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<tr>
<td>1.</td>
<td>Perform hand hygiene and gather equipment.</td>
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<td>2.</td>
<td>Assemble suction system as per Appendix A:</td>
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<td>- Place lid on suction liner</td>
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<td>- Place liner in large suction container</td>
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<td>- Remove cap to large port and hook small suction collection chamber onto port. Recap port</td>
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</table>
- Connect tubing from suction container to “vacuum” port on collection chamber
- Attach clear connecting tubing to “patient” port on small collection chamber
- Seal liner by bending connecting tubing with suction turned on. Liner is sealed if clicking is heard and there is no sound of air rushing.

3. Measure patient double lumen tube.
   - Gastric suction tube is measured from the bridge of the nose to the tip of the earlobe and then to a point mid-way between the xyphoid and umbilicus.
   - Esophageal suction tube (replogle) is inserted gently until resistance is met.

   Single-lumen feeding tubes maybe used for occasional or intermittent nasogastric aspiration of stomach contents. A replogle tube is used for esophageal drainage because the holes are at the end of the tube and drain the pouch more effectively than gastric tubes with holes up higher on the end of the tube. A double lumen tube allows drainage of air and fluid with less trauma to the tissue.

4. Insert gastric tube to pre-measured length or insert esophageal drain gently until resistance is met. Stop the procedure if the infant becomes cyanotic or develops increased work of breathing. Do not push against any resistance. Perforation occurs with very little force or sensation of resistance. If respiratory distress develops, the tube could be in the trachea and must be removed.

5. Secure the patient suction tube in place with tape to prevent looping and dislodgment of tube. Attach the patient suction tube to the clear connection tubing.

6. Turn suction on. Suction pressure should be at least 60 mmHg to allow the 50 mmHg interrupter to function correctly.

   Obstructing the air vent can increase the amount of suction at the drainage eyes of the patient tube to unsafe levels.

7. Maintain the air vent free of fluid and do not clamp it off while suction is applied.

8. Keep the air vent above the level of the infant’s upper chest. Attach vent cap to air vent. To prevent reflux of fluid into air vent. The tube will not drain correctly if the air vent has fluid in it.
9. Irrigation:
   - Drainage lumen of patient tube is irrigated prn with 2-5 mL of normal saline
   - Air vent is irrigated with 2-5 ml of AIR.

Irrigation is indicated whenever reflux of fluid in the air vent occurs, when drainage stops unexpectedly, or the patient vomits. Shortening the suction tubing between the patient and the collection chamber may assist in drainage.

10. Report any sanguineous drainage. Mucosal trauma may occur as a result of suction.

11. Changing the System
   - Turn off the suction
   - Change the small collection chamber and long connection tube when chamber is full.
   - Add biohazard gel, cap container, and dispose in biohazard waste container.
   - Change the patient suction tube when irrigation fails to remove the blockage.

Definitions

**Replogle tube** – allows the application of continuous suction to one lumen while the other lumen is vented to the atmosphere, preventing the catheter end holes from generating a vacuum against the gastric mucosa.

Related Documents

Adapted with permission from Stollery Children’s Policy and Procedure Manual:


References


Revisions

July 2005

Oct 2015
Appendix A

1. Remove small red cap from main suction canister

2. and attach Critical Measurement Unit as shown.

3. Attach short red hose from suction container to “vacuum” port on Critical Measurement Unit.

4. Attach clear connecting tubing to “patient” port on Critical Measurement Unit. Set suction as per Policy and Procedure prior to connecting to baby.

5. After measuring, inserting, verifying placement and securing replogle tube, attach anti-reflux valve to vent line and secure with tape in an upright position at bedside.
Signing

Original signed

GAIL CAMERON
SENIOR DIRECTOR OPERATIONS
MATERNAL, NEONATAL & CHILD HEALTH PROGRAMS
COVENANT HEALTH
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May, 2016

DATE

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