PURPOSE:
To prevent infection and skin breakdown of the tracheostomy and surrounding tissues.

CONSIDERATIONS:
1. Generally in homecare, tracheostomy care is a clean procedure. If tracheostomy is new (within 4 to 6 weeks) or patient is immuno-compromised, sterile technique should be used.
2. It is recommended that suctioning equipment be kept available for an emergency, especially for patients with new tracheostomy tubes or when the patient’s condition requires suctioning to control secretions.
3. Cleaning the inner cannula:
   a. If communication is impaired, an alternate system of communication should be established.
   b. Keep extra sterile tracheostomy tube and obturator on hand in case of accidental expulsion of the tube or blocked tube.
   c. Prevention of complications in the patient with a tracheostomy should include assessment for:
      (1) Tube displacement leading to inadequate air exchange, coughing and/or vessel erosion.
      (2) Subcutaneous emphysema.
      (3) Pneumothorax.
      (4) Stomal infection.
      (5) Amount, color, consistency and odor of secretions.
      (6) Collection of secretions under dressing, bibs, or twill tape, which will promote infection.
      (7) Occlusion of cannula.
      (8) Tracheal erosion.
      (9) Lower respiratory infection.
   d. Tracheostomy cleaning may need to be performed more frequently when the tracheostomy is new. The healed tracheostomy may be cleansed less frequently if few secretions and encrustations are present.
   e. The use of powder, oil-based substances or dressings cut to fit around stoma is contraindicated due to danger of aspiration.
   f. Soft cuffs should be inflated to a minimally occlusive volume to reduce the risk of tissue necrosis.
   g. When the ventilator-dependent patient cannot be off the ventilator long enough for the inner cannula to be cleaned, insert spare cannula from extra tracheostomy set. Reconnect patient to ventilator.
4. Changing the tracheostomy ties:
   a. Tracheostomy ties stabilize the tracheostomy tube and prevent accidental expulsion from trachea.
   b. Length of ties depends on neck size. The neck may change in size due to swelling and/or changes in body position. Ties should be examined frequently to insure proper tension. Ties that are too loose will allow expulsion of the tube; too tight causes necrosis, circulatory and respiratory impairment. Tight or crooked ties could lead to malpositioning of the tracheostomy tube and subsequent tracheal erosion. You should be able to slip only one or 2 fingers between the collar and the neck.
   c. Alternate securing the knot to the right and left side of the neck to avoid irritation.
   d. Velcro tracheostomy holder should be changed if soiled.
5. Changing and cleaning the tracheostomy button/plug:
   a. Buttons and plugs are used as the last stage to wean the patient from tracheostomy. It consists of a short tube that fits the stoma and reaches the trachea and a solid cannula that closes the tube. The plug fits directly into the stoma and into the trachea and usually does not require ties to hold it in place.
   b. Recommended time of cleaning is mornings upon awakening at least twice a week and PRN. Early morning secretions are usually the most viscous.
   c. Always inspect the clean button, cannula or plug for defects, especially the "petals" at the cannula’s proximal end.
6. Many masks/mouthpieces distributed for protection while performing artificial respiration are not adaptable for use with a tracheostomy tube. When a patient has a tracheostomy tube and has not been designated as do not resuscitate, special equipment such as a manual resuscitator or a mask/mouthpiece, which can be used with a tracheostomy tube, should be available to protect the nurse if artificial ventilation is needed.
7. Metal tubes can be cleaned and reused. Clean metal tubes with soap and water using pipe cleaners, and making sure to rinse well. Using a pan specifically used for trachostomy tubes, boil tube parts for 15 minutes. Drain water; allow metal parts to cool and to air dry. Then, place in sterile container. DO NOT leave metal tubes soaking for long periods of time as this causes pitting of the metal.

EQUIPMENT:
Gloves goggles/mask with eyeshield and other personal protective equipment (PPE), as needed
Suction catheter
Sterile normal saline or distilled water
4x4 gauze sponges
Stethoscope
Hemostat
Second tracheostomy tube and obturator
Respiratory – Cleaning Inner Cannula

SECTION: 9.05

Strength of Evidence Level: 3

__RN__RT__LPN/LVN__HHA

3 small bowls
Measuring tape
Suction machine
Impervious trash bag
Hydrogen peroxide
Cotton-tipped applicators
Bandage scissors
5-10 mL syringe for cuffed tracheostomy tube
Small nylon bottlebrush and/or pipe cleaner
Trachostomy tube pan
Twill tape or velcro ties

FOR TRACHEOSTOMY BUTTON/PLUG
Clean button and cannula or clean plug
Hydrogen peroxide
Small bottle brush or pipe cleaner
Gloves and other PPE, as needed
Water-soluble lubricant
4x4 precut unfilled gauze tracheostomy dressings
Clean plastic bag

PROCEDURE:
1. Adhere to Standard Precautions.
2. Explain procedure to patient.
3. To clean the inner cannula (nonmetal):
   a. Prepare equipment.
      (1) Place impervious trash bag near work site.
      (2) Create a clean field for equipment.
      (3) Pour hydrogen peroxide in one container.
      (4) Pour distilled water or saline into second container.
      (5) Pour distilled water or saline into third container into which 4x4 sponges are placed for cleaning encrustations.
      (6) Prepare new tracheostomy ties for replacement, if soiled.
   b. Place patient in semi-Fowler's position.
   c. Remove oxygen, ventilation or humidification devices.
   d. Suction patient.
   e. Return patient to oxygen or ventilator to allow rest period before continuing care.
   f. Remove old tracheostomy bib or dressing and discard.
   g. Remove and discard contaminated gloves. Wash hands.
   h. Put on clean gloves.
   i. Using presoaked 4x4 sponge and damp applicators, gently wash skin around stoma, under tracheostomy ties, and flanges. Wipe only once with each sponge or applicator and discard.
   j. Clean inner cannula:
      (1) Unlock and remove inner cannula.
      (2) Place inner cannula in hydrogen peroxide and allow soaking to remove encrustation.
      (3) Using nylon brush or pipe cleaners, gently scrub inner cannula.
      (4) Rinse cannula with normal saline or distilled water. Shake off excess solution.
      (5) Examine cannula for patency; if not clean, repeat cleansing process.
      (6) Re-insert clean inner cannula in tracheostomy tube and lock securely into position.
   k. Assess patency of airway, position of the tube and patient's respiratory status.
   l. If applicable, reconnect patient to oxygen, ventilator or humidification.
   m. Apply new tracheostomy bib or dressing.
   n. Tighten tracheostomy ties, if too loose. Replace old ties, if soiled.
   o. Discard soiled supplies in appropriate containers.
4. Changing the tracheostomy ties:
   a. Adhere to Standard Precautions.
   b. Explain procedure to patient.
   c. Prepare twill ties according to method selected:
      (1) Double strand tie method: Cut two lengths of 20 inches twill tape.
      (2) Single strand with slt ties: Cut two lengths of twill tape, one 10 inches, one 20 inches. Fold back one inch and cut small slit, repeat with second tie.
      (3) Single strand with knot: Cut two lengths of twill tape 20 inches each. Tie large knot in end of each strand.
   d. With patient in semi-Fowler's position, remove the old ties by untying or cutting and discard.
   e. Examine neck for skin breakdown.
   f. Change ties according to method selected:
      (1) Double strand tie method: Thread through hole in tracheostomy tube flange. Approximate ends; repeat with second tie.
      (2) Single strand with slt ties: Thread slt end through underside of tracheostomy and then, thread the other end of tie completely through slt ends and pull taut so it loops firmly through tube's flange.
      (3) Single strand with knot: Thread unknotted end of tie through tracheostomy tube flange hole.
   g. Bring both ends of ties to right or left side of neck and secure.
   h. Evaluate tapes for snugness. Tie should be loose enough to admit one finger underneath.
   i. Cut off excess tape.
5. Changing/cleaning the tracheostomy button or plug:
   a. Adhere to Standard Precautions.
   b. Explain procedure to patient.
   c. With patient in sitting position, cleanse the area around the stoma using distilled water and a 4x4 gauze.
   d. Remove button, cannula or plug carefully using an out and down pull.
   e. Inspect skin area around stoma for any breakdown or any type of irritation.
   f. If using a button, lubricate clean cannula with water-soluble lubricant and insert button into cannula as far as it will go. If using a plug, lubricate and insert gently.
   g. Check fit by pulling gently outward. If inserted correctly, it will remain in stoma.
   h. Clean button cannula or plug by soaking in hydrogen peroxide and cleaning with small bottlebrush or pipe cleaner.
   i. Rinse with water, allow to air dry and store in clean, covered jar or plastic bag.
   j. Discard soiled supplies in appropriate containers.

AFTER CARE:
1. Clean reusable equipment and suction machine. (See Cleaning and Disinfection of Respiratory Equipment.)
2. Document in patient's record:
   a. Procedure performed and time.
   b. Quantity and quality of suctioned secretions.
   c. Drainage, color, odor and quantity of drainage on dressing.
   d. Condition of stoma and surrounding skin.
   f. Instructions given to patient/caregiver.
   g. Patient/caregiver understanding of instructions.

RESOURCES:
Aaron's Tracheostomy Page Cleaning Equipment 1996-2010
http://www.tracheostomy.com/faq/equipment/index.htm


