

SPECIALIZED PROCEDURES FOR SCHOOLS

Since the adoption of Public Law 94-142, Education for All Handicapped Children's Act of 1975, school districts have been called upon to provide services for students with handicapping conditions, which impede educational participation. Although the student with spina bifida presents one of the greatest challenges for school personnel, schools can maximize education opportunities for these students by being prepared to provide the necessary health procedures. The responsibility for managing the health care needs of the student with handicapping conditions most appropriately lies with the school nurse or other health care professional. Because of the role that the school nurse plays in the management of health needs of all students with special health/medical care needs, the nurse will function as a contributing member of the Admission, Review and Dismissal Committee.

Clean Intermittent Catheterizations in the Public Schools¹

Because Clean Intermittent Catheterization (CIC) is a procedure schools frequently find difficult to deal with, this position paper has been developed to provide school districts with guidance in providing quality care for the student needing this procedure. The Texas Nurses Association (TNA) believes that courts have been correct in finding that Clean Intermittent Catheterization (CIC) is a special education related service under Public Law 94-142. Therefore, BISSD has developed policies for its provision.

By definition, CIC is a clean (not sterile) catheterization procedure that is normally done three to four times a day to empty the bladder. It replaces the physiologic mechanism and maintains an infection-free urinary tract as well as socially accepted dryness. Although CIC is initially done for the child until a mental age of approximately seven years is attained, it is an activity of daily living for many children with spina bifida to learn as soon as possible. To facilitate the student's achievement of this developmental task, TNA identifies the role of the school nurse as that of teacher and consultant. Teaching the child the self-catheterization procedure and consulting with classroom staff that will perform the procedure until the child has acquired the skill are among the primary responsibilities of the school nurse. In addition, the school nurse will serve as liaison between home, school, and health community in matters related to the student's medical and health care needs.

The following guidelines are recommended for the school nurse in management of the student requiring CIC:

1. Conduct a parent conference to ascertain current health status of student and to obtain approval to report or confer with other health care professionals about the student's health status/needs
2. Obtain current recommendations from the student's source of medical care
3. Design and assist with implementation of the individual health management plan for the student as part of the student's individual education plan (IEP)
4. Conduct teacher/school nurse conferences regarding student's specific health problems to include
 - a. Nature of health problem - student's self-care ability
 - b. Signs and symptoms indicating need of medical diagnosis/ treatment
 - c. Recommended classroom management to ensure scheduling and coordination of the CIC faculty (classroom teacher) and staff
 - d. Teaching appropriate staff CIC, serving as resource person to those responsible for daily CIC
5. Monitor student progress and modify health maintenance plan if indicated
6. Observe, evaluate and report (with parent approval) to student's physician the student's health status, reaction to medication or treatment prescribed by the physician and interpret to the physician those factors in the school that might affect the student's condition
7. Develop/present in-service education concerning CIC and other special health care needs of this student to facilitate the learning process
8. Update professional information level by initiating and maintaining contact with available resources (School Nurse Conference Group of the Texas Nurses Association; Nurse Coordinators Committee of the Spina Bifida Association of Texas; Texas Education Agency School Nurse Consultant).

NOTE: Texas Nurses Association's Board of Directors has approved the content of this position statement. (March 1984)

PROCEDURE FOR CATHETERIZATION IN SCHOOL

Outcome Standard:

Safe procedure used to empty the bladder

General Information:

Catheterization replaces the physiologic mechanism of emptying the bladder and maintains an infection free urinary tract as well as socially acceptable dryness

Equipment:

- Catheter
- Basin to collect urine
- Paper towels
- Lubricant
- Mirror if needed
- Container for cleaning catheter

Implementation:

1. Child washes hands
2. Nurse or aide gives two pieces of paper towel
3. Child wheels self to get the bag that has supplies
4. Child wheels self to the bathroom and gets out of Wheelchair
5. Nurse or aide moves wheelchair out and closes door of the bathroom
6. Child catheterizes self and takes care of toilet needs.
7. Nurse opens the door, moves wheelchair in, and locks wheels. Child gets self into the wheel chair and buckles.
8. Child puts the dirty catheter (which is in paper towel) and the container for clean catheter on the lap, wheels out and washes the catheter
9. Nurse or aide gives a piece of paper towel to wipe the washed catheter
10. Child returns the washed and dried catheter to container
12. Child wheels self and puts the container back in supply bag, zips it shut and replaces bag in designated area
13. Child washes hands.
14. Child returns to class.

Special Considerations:

One to wipe hands, the other to place dirty catheter in

If the child needs help, a nurse or aide may assist by putting the bag in the lap.

After the child is finished, he/she may call on the nurse for assistance in leaving the bathroom.

A paper towel is given to wipe hands

This procedure does not usually take more than minutes.

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GENERAL INFORMATION SHEET

Children with Gastrostomy Feeding Buttons²

Dear (Teacher, Lunch Aide, Bus Driver, etc.):

_____ (Student) has a condition that requires a gastrostomy-feeding button. This is a simple and safe way of giving food, medicines and fluids directly into the stomach because the child is unable to take these by mouth.

The gastrostomy is a surgical opening into the stomach. A gastrostomy-feeding button is put into the surgical opening. It is held in place from the inside of the stomach and is capped between feedings to prevent leakage. These gastrostomy buttons do not normally cause the child discomfort and are covered by clothing.

The child may receive feedings or medication through the gastrostomy-feeding button as needed during the school day in the classroom, the lunchroom, or the health office. Unless he or she has a condition that otherwise would interfere with participation in physical education or other activities, there is no reason why he or she cannot participate fully. Special consideration may be needed, however, for field trips or other activities where the child may not be able to receive a regularly scheduled feeding.

If the child has any problems with his/her gastrostomy-feeding button, contact:

These staff members have been trained to deal with any problems that may arise with this child.

For more information about gastrostomy buttons, or the student's needs, consult the school nurse or parent.

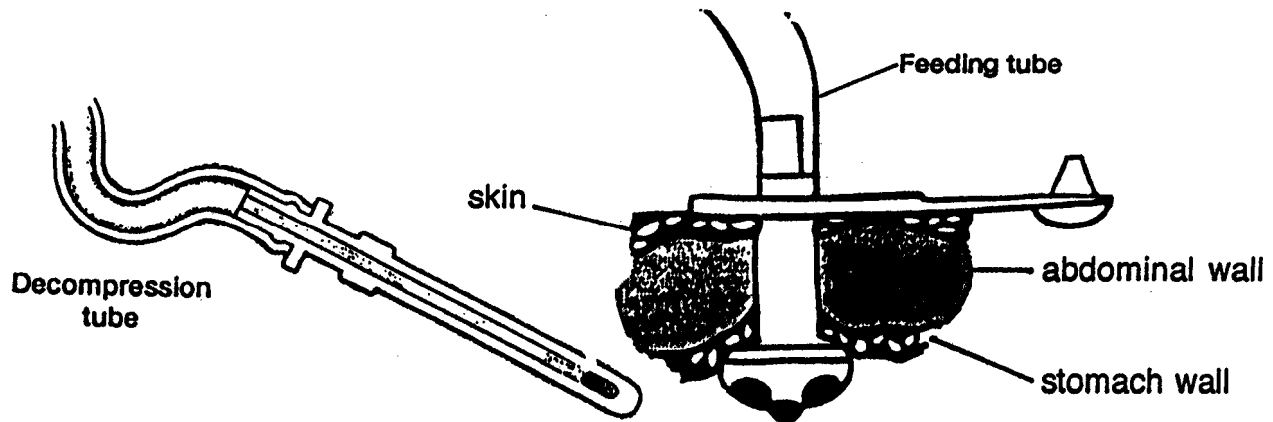
PROCEDURE FOR GASTROSTOMY FEEDING VIA BUTTON WITH G-TUBE

Outcome Standard:

Safe administration of liquid feedings through feeding button

General Information:

A gastrostomy is an operation performed to create an opening into the stomach for the purpose of administering food and fluids. A feeding button is a device inserted by which the feedings are administered.



Equipment:

- Nutritional supplement
- 50 cc H₂O
- Clean gloves
- Reservoir bag with tubing and regular clamp
- Disposable washcloth
- Medication as ordered
- 60 ml syringe (catheter-tip)
- Graduated containers
- Adapter to connecting tube
- Clean towel
- Decompression tube

Implementation:

1. Gather all required equipment. Check the expiration date on the supplementary feeding. Shake well. Have water available to follow feeding.
2. Provide privacy and wash hands.
3. Measure medication, if ordered, into small medication cups.
4. Place person in a semi-fowler position either in wheelchair or on bean bag using the electric lift.
5. Because of the type of G-Tube, residual is not checked. Assess for bowel sounds before feed- and monitor for abdominal distention.

Special Considerations:

Keep supplement and water at room temperature to prevent cramping and reduce gas formation

This promotes digestion and helps prevent esophageal reflux of the feeding solution.

Feedings are contraindicated if no bowels sounds are present or if there is a suspected intestinal obstruction.

6. Apply clean gloves
7. If abdomen is distended use the decompression tube.
 - Attach an open syringe, without plunger, onto decompression tube.
 - Lubricate end of decompression tube with water
 - Open gastrostomy button flap and insert decompression tube to the end/lip of the white plastic solid piece of the decompression tube.
 - Allow him/her to expel formula or gas until less distention or irritability is experienced.
8. Assess peristomal skin for maceration, redness, swelling and pain. If such signs are observed, notify parent via phone and communication book.
9. Remove the plug on the G-tube and attach the feeding tube. Attach the syringe to tube. Administer medication and flush with water.
10. Clamp the feeding tube.
11. Fill the feeding bag with the supplement and prime the tube with formula.
12. Place a disposable wash cloth or towel around the site to protect skin surfaces and keep clothing clean.
13. Attach the drip tubing to the feeding tube and adjust the drip rate.
14. Disconnect the bag tubing, connect the syringe and administer medication.
15. Flush the tubing with water.
16. Clamp feeding tube and disconnect from button. Close button.
17. Remove gloves and discard.
18. Record feeding in records.
19. Clean tubing and syringe with soap and water.

This opens the one-way valve in the center of the gastrostomy button to allow extra air and undigested formula to be expelled.

Prevent excess air entering the stomach

*Total volume of supplement x 15 =
Total time of infusion in minutes
(gtts/ml = gtts/min)*

At the end of the day, wash with vinegar and water.

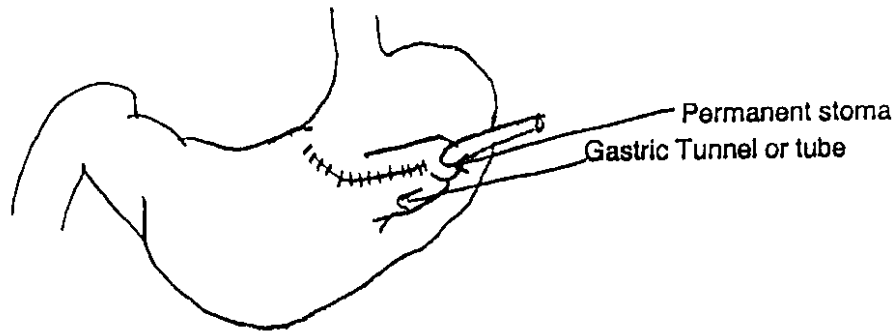
PROCEDURE FOR FEEDING VIA JANEWAY GASTROSTOMY TUBE³

Outcome Standard:

Safe administration of liquid feeding can be expected through a Janeway gastrostomy.

General Information:

A gastrostomy is an operation performed to create an opening into the stomach for the purpose of administering food and fluids. The Janeway procedure involves the creation of a tunnel (called a gastric tube) that is brought out through the abdomen to form a permanent stoma.



Equipment:

- Nutritional supplement
- 60 ml. syringe
- 8 oz. of water
- Graduated containers
- Clean gloves
- 14 F. 16" length Rob-Nel catheter
- 2" x 2" gauze
- Disposable washcloths
- Anti-fungal medication
- Petroleum jelly
- Transpore tape
- Medication as ordered by doctor

Implementation:

1. Gather all required equipment. Check the expiration date on the nutritional supplement, shake well. Have water available to follow feeding.
2. Provide privacy and wash hands.
3. Crush medication, if ordered, in pill crusher. Empty crushed medication into cup and mix with small amount of supplement. Stir well.
4. Assess for bowel sounds before feeding and monitor for abdominal distention.
5. Place person in semi-fowler's position either in wheelchair or transfer to bean bags.
6. Apply clean gloves.
7. Remove ostomy dressing and dispose of the dressing.

Special Consideration:

Keep supplement and water at room temperature to prevent cramping and reduce gas formation

Feedings are contraindicated if no bowel sounds are heard or there is suspected intestinal obstruction.

This promotes digestion and helps prevent esophageal reflux of the feeding solution.

8. Assess peristomal skin for maceration, redness, swelling and pain. If such signs are observed, notify parent immediately via phone and communication book.
9. Place a disposable wash cloth or towel around the site to protect skin surfaces and keep clothing clean.
10. Lubricate the distal end of the feeding tube with water.
11. Insert the feeding tube into the ostomy opening about 4 to 6 inches until resistance is met. Crimp the tubing.

Tubing should be crimped to prevent opening to air.

12. Attach the syringe to the feeding tube, release crimp and aspirate. Measure residual gastric contents.
 - If residual is less than 100 ml, proceed with feeding.
 - If residual is greater than 100 ml, hold the feeding for one hour and then recheck the residual. If residual remains high (> 100 ml), notify the parent.

If residual remains high, formula/ feeding is probably not being absorbed properly.

13. Re-instill any aspirate obtained.

Helps prevent electrolyte imbalance.

14. Crimp the tubing and disconnect the syringe from the feeding tube

15. Remove the plunger from the syringe and then reattach the syringe to the proximal end of the feeding tube.

16. Pour a small amount of the supplement into the syringe.

17. Release crimp

18. As the solution flows into the stomach, tilt the syringe to allow air bubble to escape.

Air bubbles may cause discomfort.

19. Add the formula with medication dissolved in it to the syringe and continue feeding. Add more supplement when about one-fourth of the solution remains in the syringe.

Avoid allowing syringe to empty completely as air may enter the stomach causing distention and cramping.

20. Increase or decrease the flow rate by raising or lowering the syringe. The feeding should be administered slowly over 10-15 minutes.

Slow administration will help prevent sudden stomach distention, which can cause nausea, vomiting, cramping, and diarrhea.

21. After administering the feeding, flush the tube with 8 oz. of water.

Flushing removes particles and solution from the tube.

22. Crimp the feeding tube when it empties.

Crimping prevents leakage from the tube.

23. Remove the syringe and feeding tube.

24. Keep student in semi-fowler position for 30 minutes.

This position prevents leakage and gastric reflux into the esophagus and enhances the normal digestive process.

25. Provide care for stoma at least once a day or as necessary.

- Clean stoma with mild soap and water. Pat dry.
- Apply anti-fungal cream and petroleum jelly with Q-Tip® to stoma (or whatever is prescribed by physician).
- Cover the stoma with two, 2x2 gauzes.
- Using Transpore tape, measure a piece approximately 4 inches long and cut this in half lengthwise, making 2 pieces approximately 4"x 1/2". Place the tape across the gauze. Rotate the placement of the tape with each dressing change.

Rotation of the tape will help prevent skin irritation.

26. Remove gloves and dispose.

27. Provide frequent mouth care for patient comfort.

28. Recording medication and feeding in student records.

PROCEDURE FOR GASTROSTOMY FEEDING VIA A MIC-KEY® BUTTON⁴

Outcome Standard:

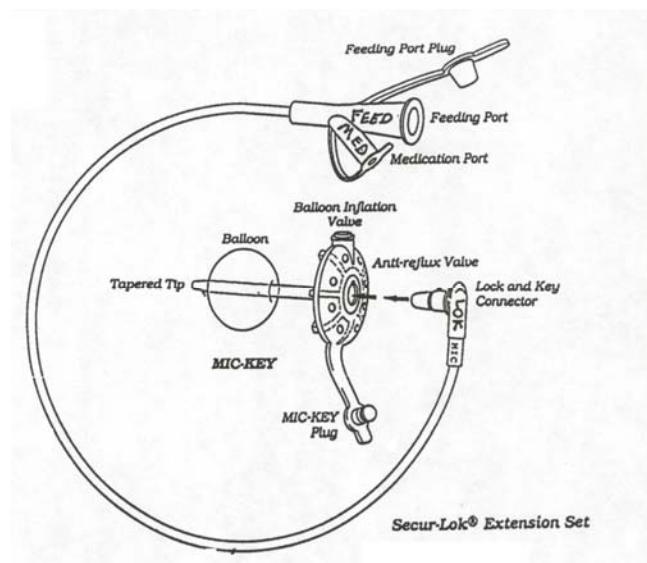
Safe administration of liquid feedings and medications through a Mic-Key® gastrostomy

General Information:

A gastrostomy is an operation performed to create an opening into the stomach for the purpose of administering food, fluids and medications. The Mic-Key® feeding button is a device inserted by which the feedings, fluids and medications are administered.

Equipment:

- Nutritional Supplement
- H₂O
- Clean gloves
- Reservoir bag with tubing and regular clamp
- Disposable washcloth
- Medication as ordered
- Secur-Lok® extension set
- Clean towel
- Catheter-tip syringe
- 5 cc Luer-tip syringe
- Graduated containers



Implementation:

1. Gather all required equipment. Check the expiration date on the supplemental feeding can, shake well. Give feedings followed by water.
2. Provide privacy and wash hands.
3. Prepare feeding and medication:
 - Draw up medication
 - Shake supplement well, pour into feeding bag and prime tubing.

Special Considerations:

Keep supplement and water at room temperature to prevent cramping and reduce gas formation.

Prevents excess air into the stomach.

4. Place in a semi-fowler position on beanbag.
5. Apply clean gloves
6. Open the plug on the Mic-Key[®] to reveal the MIC
 - With the Secur-Lok[®] Extension Set, align the lock and key connector by placing the black line on the Secur-Lok[®] Extension Set with the Mic-Key[®] balloon valve.
 - Lock into place by turning the connector **clockwise** until a slight resistance is noted (approximately 3/4 turn). **NOTE: DO NOT TURN** the connector past the stop point.
 - Attach a cath-tip syringe with 10 cc water to the feed port of the Secur-Lok[®] Extension Set. Aspirate for gastric contents. Note amount and appearance.
 - Return contents to stomach. Note the ease of returning and/or any leakage at stoma site.
 - When patency is assured, administer medication and begin feeding.
7. Pull plug from medication port and attach syringe with medication. Inject and flush with 3 cc water. Cap.
8. Remove the plug from the feeding port and attach the primed feeding tube.
 - Set drip rate.
 - Flush tubing and feeding with 120 cc water.
9. Clamp the feeding tube.
10. Assess peristomal skin for maceration, redness, swelling and pain. If such are observed, notify parent by phone and communication book.
11. Record feeding and medication administration on medication sheets.
12. If abdomen is distended, decompress. Attach the Secur-Lok[®] extension set.
 - Flush with 5-10 cc warm water after decompressing if not feeding.
13. Clean tubing and syringe with soap and water.
 - At the end of the day wash with vinegar and water.

This promotes digestion and helps prevent esophageal reflux of the feeding solution.

The Secur-Lok[®] Extension Set is used for both enteral feedings and gastric decompressions.

If any leakage is observed, check for appropriate balloon inflation and correct. Not more than 10cc should be used to inflate balloon

To be used for medication given prior to feeding.

Total volume of supplemental feeding x 15 gtt/cc = gtt/min. (Total time of infusion in minutes)

Opening the feeding port on the Secur-Lok[®] Extension Set allows for gastric decompression.

PROCEDURE FOR MANUAL ABDOMINAL DECOMPRESSION THROUGH GASTROSTOMY TUBE³

Outcome Standard:

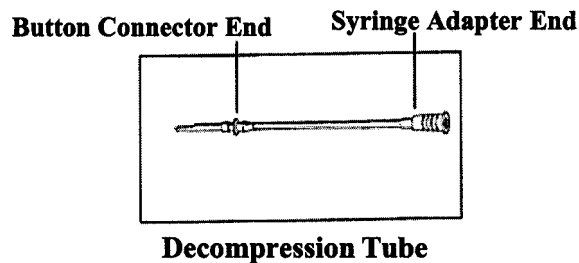
Manual abdominal decompression will be used when a person is unable to expel flatus and abdominal distention occurs inhibiting adequate respirations.

General Information:

This is the process of allowing excess air and/or residual stomach content out of the stomach through the button. It is similar to "burping" an infant at feeding.

Equipment:

- Correct size of decompression tube (see picture)
- 60 cc catheter tip syringe
- Water
- Small basin or bowl



Decompression Tube

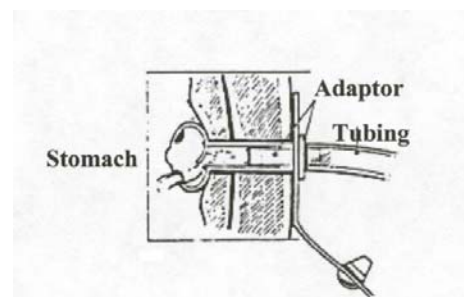
Implementation:

1. Gather all required equipment.
2. Position person.
3. Wash hands.
4. Remove plunger from syringe and attach to decompression tube.
5. Open safety plug.
6. Attach button connector of decompression tube by gently pushing it into button shaft.
7. Position syringe below the level of the stomach and invert it over the bowl.
8. Check to see if abdomen is soft and not distended.

Special Considerations:

Correct size of decompression tube is necessary to fit button.

Person may be sitting or lying on right side at 30½ angle.

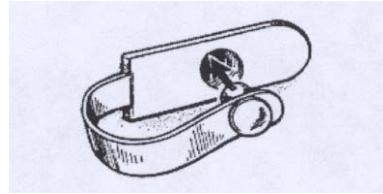


Gas or residual gastric contents will be expelled.

9. If manual decompression is necessary, place your hand at the lower 1/3 of the stomach, below gastric button and massage firmly.
10. Flush button with 10 cc water taking care to leave some water in tubing.
12. Remove decompression tube. Wash syringe and tubing with warm water and mild soap and store in clean area.
13. Replace safety plug on button.

Manual massage will help to move gas towards decompression tube.

This will clear button of gastric contents.



14. Wash hands.

**POSSIBLE PROBLEMS THAT REQUIRE
IMMEDIATE ATTENTION⁵
Children Being Fed Through Gastrostomy Tubes**

Observations:

Reason/Action:

Color changes/breathing difficulty

This may be due to aspiration of feeding into lungs. Stop feeding immediately. Call nurse if not present. Assess situation. If problem continues, institute emergency plan and notify parents.

Possible Problems That Are Not Emergencies

Nausea and/or cramping

Check rate of feeding; may need to decrease rate.

Check temperature; may be too cold--stop feeding; let feeding get to room temperature, then administer. If problem continues, notify school nurse, parent and doctor.

Vomiting

If you have checked all of the above, stop feeding, call school nurse, parent and doctor.

Blocked gastrostomy button

May be due to inadequate flushing or very thick food or fluid. Flush with warm water after feeding or medication. If blockage remains, contact parents.

Bleeding/drainage/redness/irritation

Check skin around gastrostomy button site daily. Clean stoma site if leakage of food/fluid/medication comes in contact with skin.

Refer to child-specific guidelines for cleaning instruction. Turn button in a complete circle with each cleaning.

Dry stoma site well; open to air to facilitate drying.

Leaking of stomach contents

May be due to a problem with the anti-reflux valve (sticking or broken).

Gastrostomy button falls out

This is not an emergency. Save the button for reinsertion. In some children whose tract may close quickly, the G-tube button may need to be inserted within 1-2 hours. Cover gastrostomy site with Band-Aid or clean dressing. Contact parents and physician.

Individual complains of fullness at feeding time

Decompression may be required; consult the doctor. If feeling persists, check with the doctor; quantity, method, or type of feeding may need to be adjusted.

Feeding set does not fit securely in button

Ensure it is an appropriate feeding set. Confirm that French size on button matches French size of feeding set.

RESPIRATORY SYSTEM⁶

Structure and Function:

Breathing is the use of oxygen as a source of energy for the body, and the exchange of oxygen for carbon dioxide. The exchange of these gases takes place in the alveoli (tiny air sacs) of the lungs.

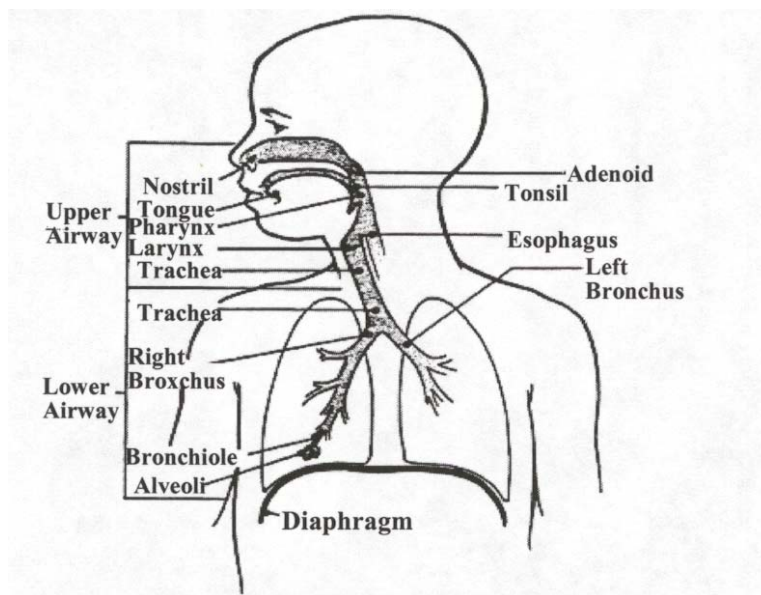
The respiratory system can be divided in two parts: the upper airway and the lower airway.

The Upper Airway: Air enters the body through the nose and mouth to reach the pharynx (back of the throat), before passing through the larynx (voice box) to the trachea (wind pipe).

As air enters the nose, the hairs in the nostrils filter out larger dust particles. The air then passes through the nose, where a large area of moist mucus membrane adds moisture and warms the air to body temperature. When air reaches the back of the throat, the tonsils and adenoids again filter bacteria and viruses.

Air then passes through the larynx and down into the trachea. This passage of air through the larynx during inhalation (breathing in) and exhalation (breathing out) is essential for normal speech production.

Mucus comes from the tissues that line both the upper and lower airway. When this fluid is not warmed and humidified in a natural way, the mucus can dry and partially or completely solidify, causing a blockage in the airway.



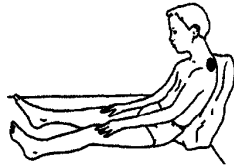
The Lower Airway: The trachea divides into the two main air tubes (the right bronchus and the left bronchus). Each bronchus subdivides into smaller bronchi that enter each lobe of the lungs. The bronchi then subdivide further into smaller ducts that enter each individual alveolus (air sac). It is here that the actual exchange of oxygen and carbon dioxide takes place.

The lungs occupy most of the chest cavity. They are elastic structures continuously filling and shrinking with each breath of air.

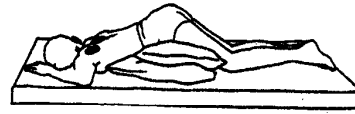
The main muscles of breathing are the diaphragm and the intercostal muscles, located between the ribs during normal breathing. The breathing (respiratory) rate in an adult is about 12-16 times a minute, in a baby about 24-36 times a minute, and 16-20 times a minute for a school-age child. In any person, these rates will vary depending on exercise, excitement and illness.

CPT

UPPER LOBES



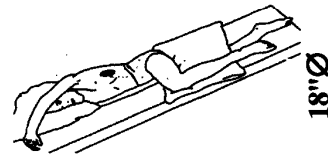
1. The child is sitting up, leaning forward. You clap over the upper back on each side of the chest. The area of clapping is marked with a black dot in the diagrams.



6. Remaining in head-down position, roll child onto stomach. Clap over the middle of the back below the tip of the shoulder blade, on each side of the chest. (Next to the spine, not on it.)



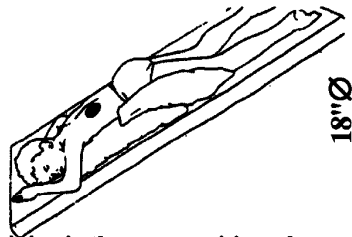
2. The child is sitting up, leaning back. You clap over the area between the collar bone and the top of the should blade.



7. Remaining in head-down position, roll child on left side and clap over lower ribs, just beneath the arm pit. Repeat for the other side.

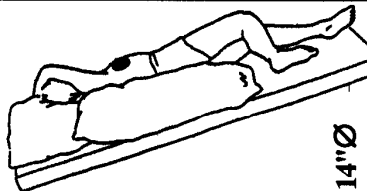


3. The child is placed on his back, lying flat. Clap between the collar bone and nipple on each side of the chest.

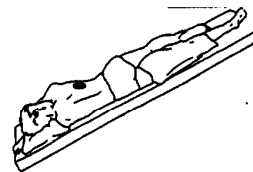


8. Remaining in the same position, clap over the lower ribs on both sides. Do not clap below the lung field.

RIGHT MIDDLE

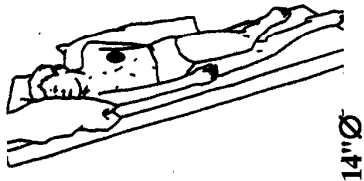


4. The child is placed in a head-down position on his/her back, then rotated 1/4 turn forward on left side. You clap over right nipple.



9. Remaining in head-down position, roll child 1/4 turn from stomach. Clap on both sides over the middle of the back, next to the spine, just below the tip of the shoulder blade.

LEFT LINGULAR



5. Remaining in head-down position, roll child 1/4 turn forwards on right side and clap over left nipple.

LOWER LOBES

After
completing CPT,
encourage the child
to cough.

DISORDERS AFFECTING THE RESPIRATORY SYSTEM⁶

Many disorders and conditions can affect the respiratory system and cause the need for oxygen, suctioning, tracheostomy or ventilator assistance.

Disorders of the nervous system that may affect the strength and effectiveness of respiratory movements:

- Brain damage from inadequate oxygen due to head trauma, drowning, suffocation or other accidents
- Spinal cord injuries
- Neuromuscular disorders such as polio and Lou Gehrig's disease

Disorders of the muscles that may affect the strength and effectiveness of the respiratory movements:

- Injuries to the chest wall or the diaphragm
- Conditions such as muscular dystrophy

Problems of the upper airway that may affect passage of air to and from the lungs:

- Structural problems of the nasal/oral cavity, such as cleft palate or blockage of the nasal passages (Choanal Atresia)
- Disorders affecting the ability to swallow, such as muscular dystrophy, cerebral palsy, and burns of the airway
- Blockages caused by tumors, swelling, and scarring that narrow the airway

Problems of the lower airway that may affect passage of air or normal respiratory function:

- Swelling, scarring and other structural blockages in the trachea
- Cystic fibrosis, which causes increased amounts of thick mucus in the lung and airway
- Bronchio-pulmonary dysplasia, causing chronic oxygen dependency due to lung scarring
- Asthma, which may also necessitate chronic oxygen use

OXYGEN USE⁶

Purpose:

Oxygen is used to provide oxygen needed for body functions, to relieve shortness of breath and to reduce the workload of the heart.

Oxygen use is indicated for physical conditions in which a child is unable to get enough oxygen into the body, or needs more oxygen, such as chronic lung conditions like bronchiole-pulmonary dysplasia (BPD), cystic fibrosis (CF), or heart problems.

Suggested Settings:

Wherever the child is.

*****WARNING--THERE SHOULD BE NO SMOKING, OPEN FLAME OR HEAT SOURCE CLOSE TO THE OXYGEN; THIS MAY INCREASE THE RISK OF FIRE. EQUIPMENT AND OXYGEN SUPPLY MUST BE CHECKED AT LEAST DAILY, OR MORE OFTEN, DEPENDING ON THE EQUIPMENT.*****

Suggested Personnel and Training:

The school nurse or other adult may administer oxygen through a nasal cannula or a mask with proven competency-based training in appropriate techniques and problem management.

Use of tracheostomy collars requires a registered nurse or respiratory therapist with training, due to the care needs of the child with a tracheostomy.

Any school personnel with regular contact with a student who requires oxygen must receive general training, covering the child's special health care needs and potential problems, as well as how to implement the emergency plan.

A basic skills checklist can be used as a foundation for competency-based training in appropriate techniques. They outline specific procedures for oxygen use step-by-step. Once the procedures have been mastered, the completed checklist serves as documentation of training.

The Health Care Plan: Issues for Special Consideration

Each student's Health Care Plan must be tailored to individual needs. The following section covers the procedure for oxygen use and possible problems and emergencies that may arise. It is essential that this section be reviewed before writing the Health Care Plan.

For a child who requires oxygen, the following items should receive particular attention:

- The student's underlying condition and possible problems associated with the condition or treatment.
- Oxygen safety precautions including posting of "Oxygen In Use" warnings
- Spare oxygen supply and safe storage when not in use
- Adaptation of classroom for necessary equipment and storage (length of tubing, oxygen source)
- Signs and symptoms shown by the student when not receiving adequate oxygen (cyanosis, agitation or distress)
- The student's baseline status, including color, respiratory rate, pulse and blood pressure
- The child's ability to request oxygen or assistance
- The percentage and/or liter flow of oxygen prescribed

Oxygen Safety Precautions

- Do not smoke or allow open flames near oxygen. Store oxygen away from heaters, radiators or hot sun.

- Never permit oil, grease or highly flammable material to come into contact with oxygen cylinders, liquid oxygen, valves, regulators or fittings. Do not lubricate with oil or other flammable substances, and do not handle equipment with greasy hands or rags.
- Never put anything over oxygen gas tank.
- Know who the oxygen supply company contact person is; have number posted in an obvious place.
- Return any defective equipment to the authorized company for replacement.
- Have spare oxygen readily accessible, based on the student's needs. This should be stored safely in a secure place.
- Keep extra tubing and tank equipment (wrenches, etc.) in an easily accessible place.
- If using oxygen gas, be sure that the tank is securely placed in its stand and cannot fall or be knocked over.
- Be careful that the oxygen tubing does not become kinked, blocked or disconnected.
- Use only the flow meter setting prescribed by the child's doctor.
- Notify the local fire department that oxygen is in use in the school.
- Secure the oxygen tank or liquid system for transport in an upright position. Make sure the gauge and valve stem are protected from damage.

Equipment

Oxygen sources:

- Oxygen gas -
 - Pure oxygen gas is stored under pressure in a metal tank or cylinder. Tanks come in different sizes, ranging from small (portable) to large (stationary). The tank size used by the student depends upon the amount of oxygen flow needed. The amount of oxygen available in the tank is indicated by the pressure gauge on the tank.
- Oxygen liquid -
 - Oxygen liquid systems utilize a thermal storage container, which keeps the pure oxygen as a liquid at -300 degrees Fahrenheit. A smaller portable container (thermos) is usually used to deliver the oxygen to the student. Depending upon the prescribed liter flow for the student, the thermos may require refilling from the larger storage tank.
- Additional equipment for both gas and liquid systems include:
 - Tank stand or carrier
 - Regulator with pressure gauge and flow meter
 - Wrench for gas tank valve
 - Humidification source
 - Oxygen tubing, mask, cannula or trach collar
- Oxygen concentrator -
 - This is an electronically powered machine that removes nitrogen from room air and concentrates the remaining oxygen for delivery to the student. This type of system delivers a lower concentration of oxygen at low liter flows. An oxygen concentrator requires an electrical outlet, and is not portable. Some units may contain a "back up" battery in the event of power failure. Each unit has an air filter, which requires periodic cleaning. Additional equipment for oxygen concentrator systems include:
 - Humidification source
 - Oxygen tubing, mask, cannula or trach collar
 - Emergency oxygen tank for power failure
- Nasal Cannula

NASAL CANNULA⁶

Outcome Standards:

Safe, adequate administration of oxygen to assist respirations

General Information:

A nasal cannula is used to deliver a low to moderate concentration of oxygen. It can be used as long as nasal passages are open; deviated septum, swelling of the passage, mucus, or polyps may interfere with adequate oxygen intake. It is easy to use. Eating, talking and coughing are possible.

Equipment:

- Oxygen source and backup
- Cannula and tubing (plus extra connecting tubing)
- Humidity source (if needed)
- Adaptor to connect tubing
- Scissors

Extra connecting tubing may be used to increase mobility

Scissors are used to cut adaptor to size.

Implementation:

1. Assemble equipment.
2. Wash hands.
3. Attach cannula tubing to oxygen source securely.
4. Set liter flow on the flow meter as prescribed by the doctor. **Never change this setting without first contacting the doctor.**
5. Check cannula prongs to make sure that air is coming out.
6. Insert prongs into child's nose. **Make sure both prongs are in the nostrils.**

Special Considerations:

Make sure a proper adaptor is available for the oxygen source. Check that tank has enough oxygen. Attach humidifier, if ordered. Check that all pieces are secured tightly to prevent leaks.

Too high an oxygen flow may irritate the nose. If you are concerned that the flow rate is inappropriate, contact the doctor

Hold them up to your hand or cheek to feel for air coming up.

Gently insert prongs into the child's nostrils (one in each side).



Loop the tubing over each ear then under the chin; secure by sliding the clasp up under the chin. Make sure that it is comfortable for the child. If the child is not comfortable, the cannula tubing may be secured behind the head rather than under the chin.

7. Wash hands.
8. Document procedure and problems in log.

Notify the parent of any problems.

OXYGEN MASK⁶

Outcome Standards:

Safe, adequate administration of oxygen to assist respirations

General Information:

An oxygen mask can deliver higher or lower concentrations of oxygen than the nasal cannula, and is useful when nasal passages are blocked.

Equipment:

- Oxygen source and backup
- Mask and tubing (plus extra connecting tubing)
- Humidity source (if needed)
- Adaptor to connect tubing
- Scissors

Extra connecting tubing may be used to increase mobility

Scissors are used to cut adaptor to size

Implementation:

1. Assemble equipment.
2. Wash hands.
3. Set oxygen flow on flow meter to the rate prescribed by the doctor. **Do not change setting without first contacting the doctor.**
4. Check that oxygen flow is coming out of the mask.
5. Place the mask over the child's nose and mouth.

Special Considerations

Too high a flow rate may cause irritation to the skin.

Hold mask up to your cheek to feel air flow. If no flow is felt, check oxygen supply, connections, flow rate and tubing for obstruction

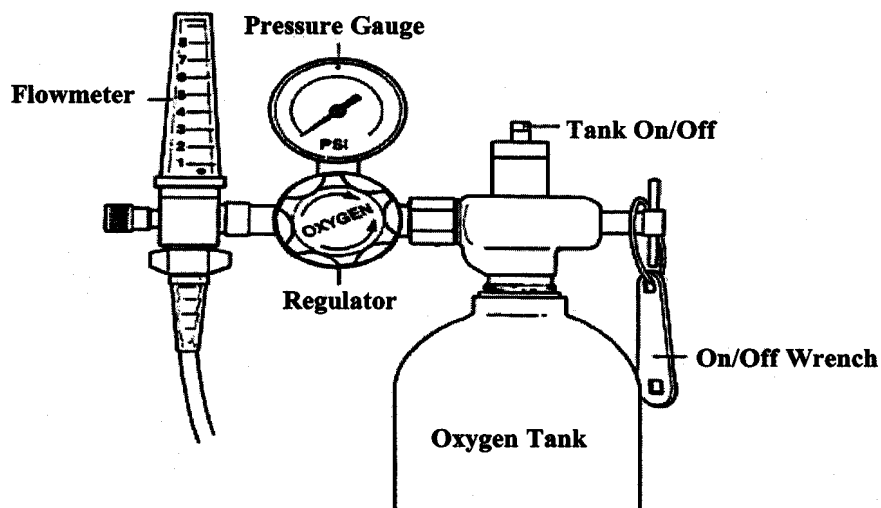
Tighten the elastic band over the child's head and pinch mask over the bridge of the nose for a good fit. Make sure that the child is comfortable with the mask.



6. Wash hands.
7. Document procedure and problems in log.

Notify parent of any problems.

OXYGEN TANK SET-UP



PROBLEMS THAT REQUIRE IMMEDIATE ATTENTION FOR CHILDREN REQUIRING OXYGEN⁶

Observations:

The child shows any of the following signs of respiratory distress:

- Increased shortness of breath, or rapid breathing rate.
- Agitation
- Blueness or pallor of the lips, nails or ear lobes
- Pulling in of the muscles at the neck or chest
- Confusion, dizziness or headache
- Rapid or pounding pulse
- The child remains in respiratory distress despite

Reason/Action:

Stay calm
Reassure student

Check child!

Position child to open airway. Make sure mouth, nose, or trach tube are not obstructed by food or mucus.

Check trach tube placement. Make sure collar is not out of position or obstructing trach tube.

Check equipment!

Check oxygen flow; if weak or inadequate flow Make sure tank is not empty or defective. If so, replace with back-up tank.

- *Make sure valve, regulator and flow meters are on proper settings.*
- *Make sure tubing is not blocked or kinked.*
- *Check all connections from oxygen source to child.*
- *Make sure tubing, mask cannula or collar are not blocked.*
- *Make sure humidifier bottle is properly attached.*

Initiate emergency procedure and notify

receiving adequate oxygen flow, has a respiratory arrest or becomes unconscious.

parents. Begin CPR if needed.

Other Potential Problems

Redness, dryness, or bleeding of the skin

May be due to irritation from the device or from insufficient humidity.

Notify parent to discuss problem with doctor.

NEVER USE POWDERS ON THE FACE.

TRACHEOSTOMY COLLAR⁶

Outcome Standards:

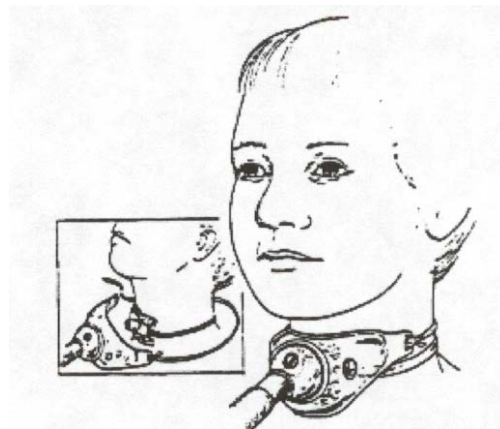
Safe, adequate administration of oxygen to assist respirations

General Information:

The collar is one means of delivering oxygen or humidified air to the tracheostomy. The tracheostomy collar may be used with a humidifying device and tubing to prevent dry and/or thick secretions from plugging the trach, and to administer oxygen to the student.

Equipment:

- Extra nebulizer/humidifier
- Heating device, if indicated
- Wide bore tubing
- Trach collar
- Oxygen tubing
- Nipple adapter
- Oxygen source (if needed)



Implementation:

1. Wash hands.
2. Assemble equipment.
3. Unwrap humidifier device; place cover on as described.
4. Dial percent of oxygen as ordered.
5. Connect to compressed air/oxygen source.
6. Connect to heater if required.
7. Take wide bore tubing and place one end on the collar and the other on the humidifier or heater.
8. With compressed air/oxygen source on, look at mist at the end of tubing. You should see a fine mist when held up to the light.

Special Considerations

There are several types of humidification devices. Check child-specific guidelines.

Some children may only require compressed air.

Some children may use cool mist.

If this is not present, check that all connections are on securely and compressed air/oxygen is flowing. Turn on higher flow, and then return to flow ordered to see if mist is present.

9. Place collar on child's neck over tracheostomy tube in the midline.

10. Wash hands.

11. Document procedure and problems in log.

Notify parent of any problems.

GENERAL INFORMATION SHEET⁶

Children Who Use Oxygen

Dear (Teacher, Lunch Aide, Bus Driver, etc.):

_____ (Student) has a condition that requires the use of additional oxygen. When used appropriately, this is a safe method that allows the child to be normally active. Oxygen is kept in a small tank or thermos and goes everywhere the child does. The oxygen is given to the child through a mask or small plastic tubing close to the child's nose. Children with tracheostomies receive oxygen through a collar, which fits over the tube. Some children need oxygen continuously, while others may only need it intermittently.

Depending on the child's condition, she or he may be able to participate in many regular school activities with some modifications, which are determined by the school staff, the parents, doctor and school nurse. **THERE SHOULD BE NO SMOKING OR OPEN FLAMES IN THE ROOM WHERE OXYGEN IS BEING USED. THE OXYGEN TANKS SHOULD NOT COME INTO CONTACT WITH OIL, GREASE, GREASY HANDS OR RAGS.**

It is recommended that you participate in CPR training. It is also important to learn how to recognize the warning signs of breathing problems.

The following staff members have been trained to deal with any problems that may arise with this student.

For more information about oxygen use, or the student's needs, consult the school nurse or the parents.

PEAK FLOW MONITORING

Outcome Standard:

Peak flow will be utilized to assess asthmatic students who are not in obvious respiratory distress on an as needed basis as determined by the nurse.

General Information:

A baseline reading must be determined on a day or series of days when the student is asymptomatic of respiratory complaint. Three (3) readings need to be taken; they can be three at one time or one on three different occasions. The best (highest) reading determined to be the student's baseline should be recorded on a flow chart for each student evaluated.

Equipment:

- Peak flow meter
- Large mouthpiece (size is determined according to size of child)

Implementation:

1. Gather all required equipment.
2. Insert large mouthpiece over the unit, or the small mouthpiece into the unit *A large mouthpiece should be used unless the student's mouth is too small to make an airtight seal.*
3. Make certain the red indicator is at the bottom of the scale.
4. Hold the peak flow meter vertically near the mouthpiece. *Make certain the opening is not blocked.*
5. Have the student inhale deeply, then place his/her mouth tightly around the mouthpiece. *The mouth should form an airtight seal.*
6. Have the student blow out hard and fast using a "huff" type of expiration. *The student should blow as hard and fast as possible. The final position of the red indicator is the peak flow reading.*
7. Have the student repeat the procedure for a total of three readings. *Take the best reading of the three as the peak flow.*
8. Be certain to move the red indicator back to the bottom of the scale after each use.

Determining Value:

1. If the student is in obvious respiratory distress (i.e. wheezing, nasal flaring, retraction, shortness of breath), *It is **not** necessary to obtain peak flow readings. Proceed with medication routine. Call medical assistance PRN*
2. If the reading is within 20% of peak baseline and the student is asymptomatic, *The student should be able to resume normal activities*
3. If the reading is 20%-50% of peak baseline, *The student may need medication adjustment. If inhaler is available (and time appropriate), allow the student to use his inhaler and recheck peak flow.*

4. If peak remains 20%-50% below peak,
5. If peak reading is less than 50% of baseline,

Inform parents.

*The student needs **immediate** medical attention.*

Cleaning/Infection Control:

1. The plastic mouthpieces can be cleaned and used between students
2. Disposable mouthpieces cannot be cleaned.

Soak the mouthpieces in a solution of ¼ cup to 1 gallon bleach solution, rinse and dry well.

Write the students' names on them and place them in a plastic bag to be used only by those certain students. If the mouthpieces become soft or tear, discard and replace them.

PROCEDURE FOR ADMINISTERING NEBULIZER TREATMENTS

Outcome Standard:

Nebulization will help improve the clearance of pulmonary secretions.

General Information:

Nebulization is a process of adding fine drops of moisture or fine particles of medication to inspired air. The water or medication is usually broken up by gas under pressure or by high-frequency vibrations (ultrasonic nebulization). Nebulization improves the clearance of pulmonary secretions by altering the tracheo-bronchial mucosa.

Equipment:

- Pulmo-Aide®
- Nebulizer manifold
- Medication as per doctor order
- Connecting tubing
- Normal saline

Implementation:

Special Considerations:

1. Gather all required equipment. Check to ensure that all medications are available and expiration dates are current.
2. Provide privacy and wash hands.
3. Place person in a comfortable sitting position in a wheelchair or semi-fowler's position on a bean bag.
4. Wash hands.
5. Take person's heart rate before and after the treatment.
6. Add the prescribed amount of medication and saline to the nebulizer. Connect the tubing to the Pulmo-Aide®
7. Place the face mask on person and verbally encourage him to breath deeply. Observe for person's chest expansion.
8. Turn Pulmo-Aide® on.
9. On completion of the treatment, there may be increased secretions and coughing. Encourage several deep breaths.
10. Assess for need to suction.
11. Record medication used, description of secretions and amount suctioned
12. Change nebulizer filters every 6 months

Diaphragmatic expansion and lung compliance are greater in this position. This ensures maximal effectiveness of medication(aerosolized particles) to the basilar areas of the lungs.

Broncho-dialators may cause tachycardia palpitations, dizziness, nausea, or nervousness.

A fine mist from the device should be visible. Nebulization will normally take 15-20 minutes.

The medication may dilate airways, facilitating expectoration of secretions.

Note tolerance of the treatment.

Part # is 5650D-602. Change on 9/1 & 2/1

PROCEDURE FOR CLEANING THE NEBULIZER/COMPRESSOR

Outcome Standard:

Nebulizer will be clean and free of pathogens. The life of the nebulizer will be extended.

General Information:

To prevent possible of risk of infection from contaminated medication, cleaning of the nebulizer is recommended after each aerosol treatment.

Equipment:

- Pulmo-Aide® parts
- Nebulizer manifold
- Connecting tubing

Implementation:

Special Considerations:

1. With power switch in the "Off" position, unplug power cord from wall outlet.
2. Disconnect tubing from tubing connector and set aside
3. Disassemble mouthpiece or mask from cap.
Open chamber by turning cap counterclockwise and remove baffle
4. Wash all items, except tubing, in hot water/ dishwashing detergent solution.
Rinse under hot tap water to remove detergent residue for 30 seconds.
5. Using a clean container or bowl, soak items
Soak items in one part white vinegar to two parts hot water for 30 minutes.
6. With clean hands, remove items from vinegar solution. Rinse under hot tap water and air dry on clean paper towel. Store in zip-lock bag.
Do not towel dry nebulizer parts as this could contaminate them. Do not place parts in dishwasher.
7. If using a medical bacterial-germicidal disinfectant follow manufacturer's instructions carefully
prepare
To prevent possible risk of infection from contaminated cleaning solutions, always
fresh solution for each cleaning cycle & discard
8. Keep the outer surface of the tubing dust-free.
Wipe it and compressor cabinet with a clean damp cloth frequently. Disposable nebulizer tubing does not have to washed because only filtered air passes through it.

PROCEDURE FOR PULSE OXIMETRY MONITORING IN SCHOOL



Outcome Standard:

Safe method for monitoring oxygen saturation in the blood (%SpO₂), along with pulse rate and pulse strength

General Information:

Pulse oximetry is the standard method for noninvasive monitoring of oxygen saturation.

An infrared light is directed through tissue and reflected onto a sensor. The sensor then determines the amount of oxygen saturation of hemoglobin in the blood. Oxygen saturated blood predictably absorbs less red light than oxygen depleted blood. Normal arterial oxygen saturation is 95%-99%.

Equipment:

- Portable Finger Oximeter
- 2 AAA Alkaline Batteries
- Isopropyl Alcohol Wipes

Implementation:

1. Attach pulse oximeter to patient by inserting patient's clean, dry finger into the device until fingertip touches the stop guide.
2. Be sure patient's finger is centered over the light and detector.
3. Activate device by pressing ON button.
4. SpO₂ value will be displayed in percent, and pulse rate will be displayed in beats per minute. A six-segment bar graph displays logarithmic strength of the pulse.
5. Remove patient's finger from device.
6. Disinfect pulse oximeter by wiping with isopropyl alcohol. Never immerse pulse oximeter in liquid.

Special Considerations:

Remove fingernail polish or false nails before applying pulse oximeter. These may cause inaccurate SpO₂ readings.

Patient must remain still to obtain an accurate reading.

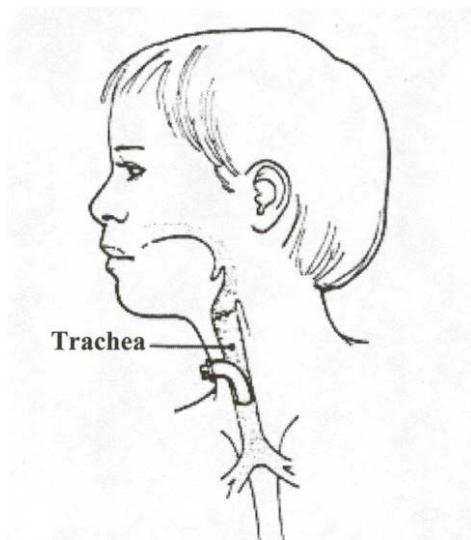
Any condition that restricts blood flow, such as use of a blood pressure cuff, may cause inaccurate SpO₂ and pulse rate readings.

Pulse oximetry should be used in conjunction with clinical signs and symptoms. It is only intended as an adjunct in patient assessment.

TRACHEOSTOMY⁶

Purpose:

A tracheostomy (trach) is a surgical opening into the trachea (windpipe) in the neck, which allows air to go in and out of the lungs. The opening in the neck is called a stoma. A metal or plastic tube, called a tracheostomy tube, may be inserted through the stoma into the trachea; other children may not need a trach tube. There are various types of tracheostomy tubes, which are held in place with a tie around the neck.



Some children will have a tracheostomy because of an injury or condition that requires bypassing the normal breathing passages. Other children require a tracheostomy because of neurological, muscular, or other conditions that make it difficult for them to breathe effectively or to clear secretions or mucus out of their breathing passages without assistance. A tracheostomy allows long-term access to a ventilator or respirator (breathing machine), as well as an easy way to clear the windpipe of mucus. Many children with tracheostomies are able to speak. Most are able to eat and drink by mouth but may need dietary modifications.

Suggested Settings:

Children with tracheostomies, in most cases, can attend a regular classroom. Some may need to be accompanied by a trained caregiver at all times while in the educational setting or during transport. Many children with tracheostomies participate in regular school activities, with modifications that should be determined by the parents, doctor, school nurse and school staff. **All staff in contact with children with tracheostomies should have specialized CPR training. They should be able to recognize signs of breathing difficulty and should know how to activate the emergency plan for their setting.**

Children with tracheostomies should avoid areas with a lot of dust or other airborne particles such as chalk dust. This is because the air the child breathes enters the lungs directly, without being filtered, humidified and warmed by the nose and mouth.

Regular tracheostomy care prescribed to maintain the child's health and function should be done at home. However, if additional regular care is required, it should be done in a private, clean area, such as the health room. In an emergency, care should be given wherever the child is. Therefore, it is imperative that a complete set of equipment for trach care, as well as a manual resuscitator and a spare trach tube be with the child at all times.

Suggested Personnel and Training:

Tracheal care for children who require daily, in-school care such as suctioning, saline installation, use of a trach collar or other regular care should be provided by a registered nurse or respiratory therapist unless state medical and nursing practice standards specify otherwise. These caregivers should have proven, competency-based

training in appropriate techniques and problem management. After a child with a trach has been in the school setting for a year or two and it is clear that the child's medical condition is stable or improving, it may be appropriate for the health care team and the parent to consider using a non-medical caregiver who has received appropriate training.

Some students need less frequent care or require no routine trach care at all. The decision regarding the placement of the care-giver for this student must be made by the parent, the student's physician and school nurse, based on the student's medical condition, tracheal care needs and adaptation to school. Other considerations should include the varied locations of the student in the school, and the school nurse: pupil ratio. A school nurse should be in the building at all times.

If the trained caregiver and back-up personnel are unable to be available on a given school day, the student should not attend school. However, an optional arrangement could be made between the school and the family where the parent would be available to attend school, to function as the caregiver for the child.

Any school personnel with regular contact with a student with a tracheostomy must receive general training that covers the child's special health care needs and potential problems as well as how to implement the established emergency plan.

Basic skills checklists can be used as a foundation for competency-based training in appropriate techniques and problem management. They outline specific procedures step-by-step. Once the procedures have been mastered, the completed checklists serve as a documentation of training.

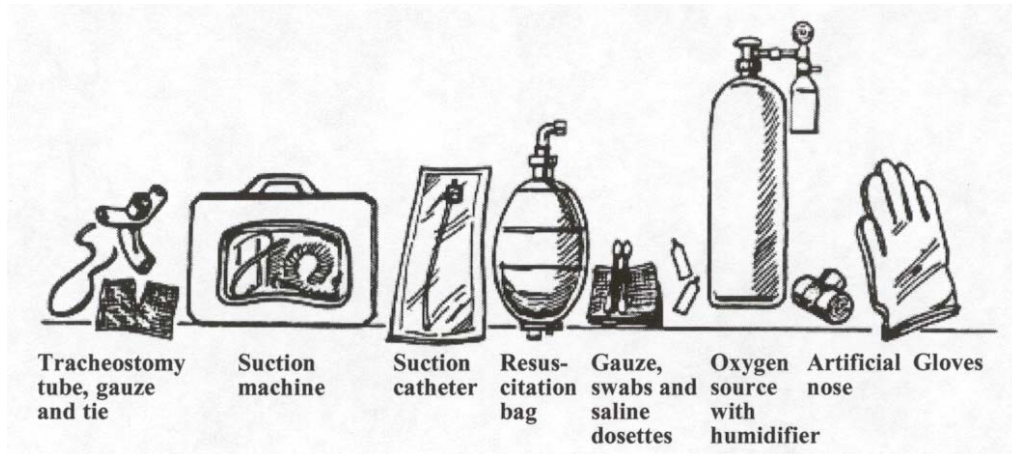
The Health Care Plan: Issues for Special Consideration:

Each student's Health Care Plan must be tailored to individual needs. The following sections cover the procedures for tracheostomy care and possible problems and emergencies that may arise. It is essential that these sections be reviewed before writing the Health Care Plan. For a student who requires tracheal care, the following items should receive particular attention:

- The student's underlying condition and possible problems associated with the condition or treatment
- The student's baseline status (color, respiratory rate, pulse, blood pressure, secretions, etc.)
- The student's care requirements (suctioning, etc.)
- The student's ability to request assistance
- Is this student prone to emergencies?
- Signs and symptoms of respiratory distress shown by this student
- The type of tracheostomy tube used (inner cannula, cuffed).
- Accessibility to equipment and back-up equipment
- An alternate means of warming and moisturizing the air may be necessary at times to prevent the mucus from becoming too thick
- The child may not speak in a normal fashion; other means of communication may be necessary
- Personnel and equipment needed for transportation (travel bag)
- Availability of caregivers
- Staffing needs to provide care for the student (one-on-one, etc.)
- A means of communication between different areas of the school should be present (Walkie-talkies, intercoms or telephones)

DO NOT USE powders, aerosols (like room deodorizers), small particles such as sand, glitter, lint, chalk dust, animal hair, small pieces of food, water, glue or chemicals with strong fumes near a child with a tracheostomy. Children who may have accidental contact with any of these potential hazards should have some kind of protective device covering the tracheostomy.

REQUIRED EQUIPMENT FOR TRACHEOSTOMY CARE⁶



Equipment:

- Spare tracheostomy tube with gauze pads and ties
- Scissors
- Suction machine
- Equipment for suctioning (suction catheters)
- Sterile or clean gauze. Q-tips or swabs, if required
- Saline dosettes if prescribed
- Manual resuscitator with adaptor
- Device to deliver humidity, if prescribed
- Device to deliver oxygen, if prescribed
- Device for protecting tracheostomy from dry or cold air, dust or other particles, such as an artificial nose
- Sterile or clean gloves, per child-specific guidelines
- Obturator

THIS EQUIPMENT MUST ACCOMPANY THE CHILD AT ALL TIMES, including transport and classroom activities. A backpack or other carrying device could serve as a travel bag. This equipment should be checked daily. It is recommended that a manual resuscitator bag be obtained with adaptor if the child does not have one with him/her.

Refer to Universal Precautions.

PROBLEMS THAT REQUIRE IMMEDIATE ATTENTION FOR CHILDREN WITH TRACHEOSTOMIES⁶

*****DO NOT LEAVE CHILD ALONE*****

Observations:

The child shows any of the following signs of respiratory distress:

- Coughing
- Color changes
- Wheezing
- Agitation
- Retraction
- Inability to move air through trach
- Aspiration of foreign material (food, sand, etc.) into tracheostomy.
- Bronchospasm (wheezing) may also occur.

Reason/Action:

This may be due to plugged trach tube from mucus or foreign matter.

Reassure child.

If trach tube is blocked (suction catheter will not pass), change inner cannula if present, or replace entire trach tube.

Give breaths with resuscitation bag

Give oxygen

Initiate emergency plan and begin CPR if necessary.

DO NOT GIVE BREATH WITH RESUSCITATION BAG. This may force aspirate into lungs. SUCTION FIRST.

Respiratory distress or arrest can occur with any aspiration. Be prepared to initiate emergency plan. Begin CPR after suctioning, if needed.

The child may require suctioning or medication. Reposition trach tube, if possible. If unable to reposition tube, insert new (spare) trach tube. Be prepared to initiate emergency procedure.

Other Potential Problems

Observations:

Increased secretions, or thicker than usual mucus

Reason/Action:

May require more frequent suctioning. These changes or yellow or green mucus may indicate infection. This should be documented in the daily log and the parent informed. Thicker mucus may also be a sign of insufficient humidity.

Fever.

May be a sign of respiratory infection. NOTIFY PARENTS.

Redness or crusting at the stoma

May be due to a tracheal infection. The site should be thoroughly cleaned and the problem documented in the daily log and reported to the parent.

GENERAL INFORMATION SHEET⁶

Children with Tracheostomies

Dear (Teacher, Lunch Aide, Bus Driver, etc.):

_____ (Student) has a condition that requires a trach (tracheostomy). This is an opening in the neck into the windpipe, which allows the child to breathe if he or she is unable to breathe well through the nose or mouth. The opening, or stoma, may have a metal or a plastic tracheostomy tube inside to keep it open and to allow air to pass in and out of the windpipe and lungs. The tube is secured by ribbons, which are tied around the child's neck. The student's trach tube may be covered with a device that provides humidity or oxygen. Some children have nothing covering the opening of the tube.

Most children with tracheostomies are able to eat and drink by mouth. If the child cannot eat or drink, the child's doctor will give you specific instructions. Many children are able to speak normally. If the child's condition prevents him or her from speaking, other means of communication will be used. Not all children who have tracheostomies require routine trach care in school. Many children can manage their care, but some who require regular trach care such as suctioning (a procedure to remove mucus from the trach tube) will have a trained caregiver with them.

Most children with tracheostomies are able to participate in regular school activities. A team including the student's parents and educational and health personnel will help develop a specific health care plan. Classroom issues will be addressed in the care plan, such as the accommodation of health care during the school day with minimal interference, the avoidance of activities such as swimming, which could be harmful to the function of the tracheostomy, as well as avoidance of infectious exposure such as colds.

If a child has any problems with his/her tracheostomy, contact:

These staff members have been trained to deal with any problems that may arise with this student.

Specific emergency plans will also be developed for _____ (Student). It is recommended that you participate in CPR training and request specialized training for persons with tracheostomies.

TRACHEAL SUCTIONING⁶

Purpose:

Tracheal suctioning is a means of clearing the airway of secretions or mucus. This is accomplished by using a vacuum-type device through the tracheostomy. Tracheal suctioning is performed when a child cannot adequately clear secretions on his or her own. Indications for suctioning include:

- Noisy, rattling breathing sounds
- Secretions (mucus) visible and filling opening of tracheostomy
- Signs of respiratory distress: difficulty breathing, agitation, paleness, excessive coughing, cyanosis (blueness), nasal flaring, retracting.
- No air moving through tracheostomy (listen for sounds)
- Before eating or drinking if congested
- After respiratory treatments (inhalation therapy, assisted breathing with a self-inflating manual resuscitator), chest percussion and drainage

Depending on the child's age, he or she may be able to request suctioning when needed or assist with the procedure.

Suggested Settings for Non-Emergency Situations:

Designate a clean area for suctioning outside the classroom, if possible. Suctioning can be a noisy procedure and may be distracting and disruptive to the rest of the class.

If an electrically powered suction machine is used, the setting must have an accessible, working grounded electric outlet.

Suggested Personnel and Training:

A registered nurse or a respiratory therapist with proven competency-based training in appropriate techniques and problem management should perform tracheal suctioning unless state medical and nursing practice standards specify otherwise.

If the trained caregiver and back-up personnel are unable to be available on a given school day, the student should not attend school. However, an optional arrangement may be made between the school and the family, where the parent would be available to attend school to function as the caregiver for the child.

Any school personnel with regular contact with a student who requires tracheal suctioning must receive general training, covering the child's special health care needs and potential problems as well as how to implement the established emergency plan.

A basic skills checklist can be used as a foundation for competency-based training in appropriate techniques. It outlines procedures step-by-step. Once the procedures have been mastered, the completed checklist serves as documentation of training.

The Health Care Plan: Issues for Special Consideration

Each student's Health Care Plan must be tailored to individual needs. The following section covers the procedure for tracheal suctioning and possible problems and emergencies that may arise. It is essential that this section be reviewed before writing the Health Care Plan. For a student who requires tracheal suctioning, the following items should receive particular attention:

- The student's underlying condition and possible problems associated with the condition or treatment.
- The student's baseline status (color, respiratory rate, pulse, color and consistency of secretions, usual frequency or suctioning, usual indications for suctioning)
- The child's ability to request suctioning
- Backup equipment (bulb syringe or DeLee® catheter)
- Accessibility of equipment
- Signs and symptoms of respiratory distress shown by the student (cyanosis, agitations, etc.)
- Need for saline installation

PROCEDURE FOR TRACHEAL SUCTIONING⁶

Outcome Standards:

Safe, suctioning of the airway, which removes obstructing secretions or mucus, which a student is unable to expel himself/herself

General Information:

Tracheal suctioning is a means of clearing the airway of secretions or mucus. This is accomplished by using a vacuum-type device through the tracheostomy. Tracheal suctioning is performed when a child cannot adequately clear secretions on his or her own.

Equipment:

- Suctioning device and manual back-up (DeLee®)
- Suction catheter of prescribed size
- Saline to clear catheter
- Container for saline
- Disposable gloves or catheter and sleeve
- Plastic bag for disposal of materials
- Saline dosettes (for instillation) if indicated
- Self-inflating manual resuscitation bag with trach adapter

Implementations:

*****ALL EQUIPMENT FOR SUCTIONING MUST BE ASSEMBLED AND READY FOR IMMEDIATE USE AT ALL TIMES AND CHECKED DAILY BY THE TRAINED CAREGIVER. IF THE EQUIPMENT IS NOT PRESENT, OR IS NONFUNCTIONAL, THE CHILD SHOULD NOT ATTEND SCHOOL*****

1. Wash hands.
2. Assemble the equipment and materials on a small, clean work surface
3. Explain procedure at child's level of understanding
4. Position child as recommended/ordered
5. Encourage child to cough to expel secretions.
6. Open suction catheter or kit.
7. Open saline dosette if instillation is ordered.
8. Fill container with saline.
9. Put gloves on hands.

Special Considerations:

*All children **must** have a means of suctioning (such as a portable suction machine or DeLee® machine or DeLee® catheter) which can accompany them during all school activities as well as transport. A manual means of suctioning (such as a DeLee® catheter) must be available as a backup at all times as well, for those children who use suction machines*

Refer to Universal Precautions.

When at school, most children are suctioned while seated upright.

May eliminate need for suctioning.

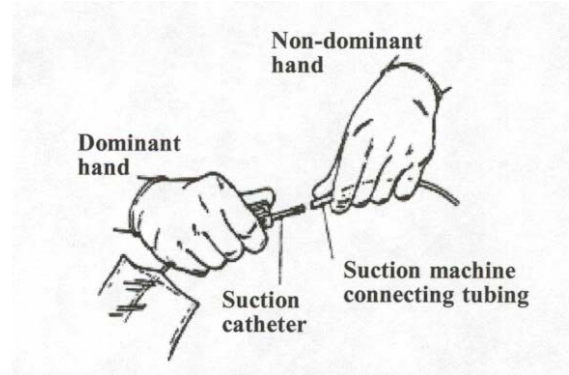
Peel paper back without touching the inside of the package to maintain sterility.

This will be used to moisten the catheter and to clear out secretions in the catheter.

The dominant hand should remain "clean." It should not touch anything but the catheter. The non-dominant hand should be used to turn on switches, touch other objects, etc.

10. Holding the end of the suction catheter in dominant hand, attach it to the suction machine tubing (held in other hand).

Leave the other end of catheter in its covering.



11. Turn machine on to appropriate vacuum setting for child.

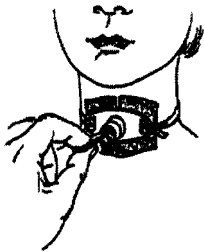
If machine has vacuum setting: this should be ordered by physician.

12. Encourage child to cough and to take a deep breath if possible. If prescribed, manually ventilate with resuscitator bag.

Coughing helps to bring secretions up toward the trach. By taking a deep breath (or manually ventilating), the child will get more oxygen into his/her lungs. This will also help to loosen secretions.

13. If prescribed, insert several drops of saline into trach with non-dominant hand. Manually ventilate with resuscitator bag to disperse saline, if ordered.

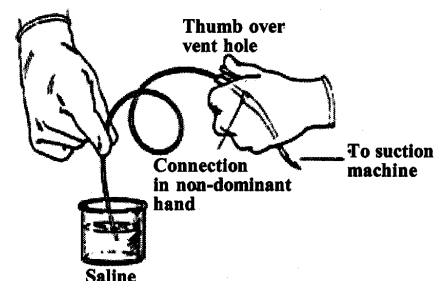
This helps to loosen and thin out thick or dry secretions.



14. Hold suction catheter 2-3 inches from tip with dominant hand and insert tip in saline

This tests that suction is functioning and lubricates the catheter.

15. Grasp catheter connection with other hand; cover vent hole with thumb to suction a small amount of saline through catheter



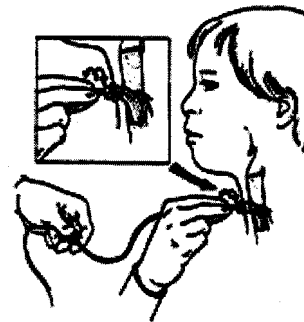
16. With thumb off vent hole, gently and quickly insert catheter into trach 1/2 cm beyond the distal end of the trach tube.



If the catheter is inserted too deeply, this can cause irritation/injury to the trachea, as well as bronchospasm. Coughing indicates that the suction catheter has passed the tracheostomy tube.

17. Cover vent hole with thumb while withdrawing

Rotate catheter gently between thumb and index finger while suctioning withdrawing. This helps to reach all secretions in the trach tube.



*****EACH INSERTION AND WITHDRAWAL OF THE CATHETER MUST BE COMPLETED WITHIN 10 SECONDS. PROLONGED SUCTIONING BLOCKS THE CHILD'S AIRWAY AND CAN CAUSE A DANGEROUS DROP IN THE OXYGEN LEVEL.*****

18. Allow child to breathe or give breaths with resuscitator bag between suctioning passes. Suction saline again through catheter to rinse secretions from catheter and tubing.
19. If moist, gurgling noises or whistling sounds are heard or if mucus is seen at the tracheostomy opening, repeat suctioning procedure (steps 15-17).
20. Suction the nose and back of mouth if indicated.
21. For each suctioning session a new catheter should be used.
22. Remove gloves and wash hands. Discard used suction catheter in appropriate receptacle.
23. Note color, consistency (thin, thick, etc.) and quantity of secretions.

The child needs to clear lungs of CO₂ and get new oxygen/air into lungs.

If appropriate, ask the child if he/she needs repeat suctioning.

If the nose and mouth are suctioned, the catheter cannot be reused to suction the trach

Refer to universal precautions

Report any changes from child's usual pattern to parent

24. Document procedure on child's log sheet.
25. Be sure suction equipment and supplies are restocked and checked daily, and are ready for immediate use.

POSSIBLE PROBLEMS OF TRACH SUCTIONING⁶
***** If any Problems Occur, Do Not Leave Child Alone*****

Observations:

Reason/Action:

The child develops difficulty breathing during suctioning, or is not relieved by suctioning.

Reassure child.

If trach tube is blocked (suction catheter will not pass), change inner cannula, if present, or replace entire trach tube.

*Give breaths with resuscitation bag.
Give oxygen.*

Initiate emergency plan and begin CPR if necessary.

The trach tube or inner cannula becomes dislodged.

Reposition using gentle pressure. If unable to reposition tube, insert new tube. Be prepared to initiate emergency plan.

Bleeding occurs during suctioning:

- If secretions become blood-tinged and the child is not in respiratory distress

Stop suctioning.

Check vacuum pressure setting. Adjust to lower setting, if appropriate.

- If a large amount of blood is suctioned from the tracheostomy or the child develops respiratory distress while being suctioned

Continue suctioning as necessary to clear the airway. Use the manual resuscitation bag and oxygen if needed

Initiate the emergency plan and begin CPR, if necessary.

Reassure child.

Bronchospasm occurs during suctioning.

May be due to excessive suctioning. Allow child to calm. If unable to remove catheter; disconnect from suction tubing and hold oxygen near end of suction catheter. When bronchospasm relaxes, remove catheter.

TRACHEOSTOMY TUBE CHANGES⁶

Purpose:

Tracheostomy tubes are routinely changed to prevent mucus from building up within the tubing, which may block the tube and prevent air from entering the lungs. A tube may need to be changed at any time if blocked, or replaced if accidentally dislodged.

Suggested Settings:

Routine trach tube changes are performed in the home. This is ideally done when the child has an empty stomach, and when the airway is relatively free of mucus.

If a tracheostomy tube plugs or comes out, the tube should be changed or reinserted wherever the child is, even if conditions are not ideal.

Suggested Personnel and Training:

A registered nurse or a respiratory therapist with proven competency-based training in appropriate techniques and problem management should perform tracheal tube changes unless state medical and nursing practice standards specify otherwise.

If the trained caregiver(s) and back-up personnel are unavailable on a given school day, the student should not attend school. However, an optional arrangement may be made between the school and the family, where the parent would be available to attend school to function as the caregiver for the child.

Any school personnel with regular contact with a student who requires a possible emergency tracheostomy tube change must receive general training, covering the child's special health care needs and potential problems as well as how to implement the established emergency plan.

A basic skills checklist can be used as a foundation for competency-based training in appropriate techniques. It outlines specific procedures step-by-step. Once the procedures have been mastered, the completed checklist serves as documentation of training.

The Health Care Plan: Issues for Special Consideration

Each student's Health Care Plan must be tailored to individual needs. The following section covers the procedure for trach tube changes as well as possible problems and emergencies that may arise. It is essential that this section be reviewed before writing the Health Care Plan. For a student who requires tracheostomy tube changes, the following items should receive particular attention:

- The student's underlying condition and possible problems associated with the condition or treatment (tracheal stenosis or laryngospasm, for example)
- The student's baseline status (color, respiratory rate, pulse)
- The type and size of trach tube (inner cannula, cuffed, etc.)
- Signs and symptoms of respiratory distress (cyanosis, agitation, etc.)
- The student's ability to request assistance
- The student's ability to breathe without a trach tube
- Does the child have difficulty with re-insertion of a dislodged trach tube?

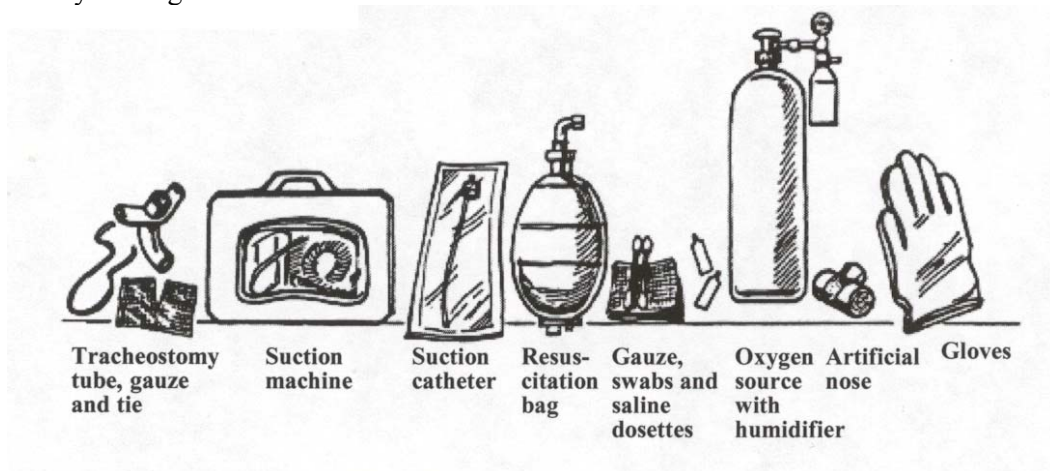
PROCEDURE TO CHANGE TRACH TUBE⁶

Outcome Standards:

Safe, efficient exchange of trach tube to facilitate respirations

General Information:

Tracheostomy tubes are routinely changed to prevent mucus from building up within the tubing, which may block the tube and prevent air from entering the lungs. A tube may need to be changed at any time if blocked, or replaced if accidentally dislodged.



Equipment:

- Prescribed type and size of tracheostomy tube for child
- Twill tape or other ties
- Swivel connector or obturator

The obturator is used as a guide for insertion.



- Resuscitation bag
- Blunt scissors
- Oxygen, if ordered
- Suctioning device and supplies
- Water-soluble lubricant or sterile saline
- One size smaller tracheostomy tube
- Blanket roll, if needed

Never use Vaseline or oil-based lubricants.

To position child's neck.

Implementation:

1. Wash hands. Put on disposable gloves, if indicated.
2. Assemble equipment
3. Explain procedure to the child at his/her level of understanding

Special Considerations:

Should be done in a clean area with good lighting

Usually two people are needed. If an emergency situation occurs, one person may do trach tube change.

*****ALWAYS HAVE A CLEAN TRACHEOSTOMY TUBE AVAILABLE AND READY FOR USE*****

By encouraging the child to assist in the procedure the care-giver is helping the child to achieve maximum self-care skills.

4. Open trach package.
5. Put obturator into clean tracheostomy tube, or connect swivel to tube
6. Attach trach ties to tube.
7. Position the child as ordered.
8. Suction trach and nose and mouth, if needed
9. Give 2-4 breaths with resuscitation bag, if indicated
10. Have the assistant hold old tube in place while cutting the ties
11. When the new tube ready (in your hand), have assistant remove old tube.



12. If the tube does not have an obturator, insert the clean (new) tube at a right angle to the stoma, rotating it downward as it is inserted. If an obturator is present, insert tube straight into stoma.
13. If an obturator is used, immediately remove it after the tube is inserted. Insert inner cannula at this time.
14. Listen and feel for air movement through trach tube
15. While the assistant is holding the new tube in place, listen with stethoscope to assess breath sounds.
16. Secure tube in place with ties or holder.
17. Do skin care, if needed (see child-specific guidelines), and reapply gauze around and under the trach and ties.

*Keep tube clean. **DO NOT** touch curved part of tube*

Some children may have a Velcro holder or other means of securing trach tube around neck.

For small children and infants, have them lie on their back with a blanket roll under the shoulders.

This makes airway as clear as possible

*If tube is being changed by one person -- **DO NOT** cut ties until a clean trach tube is in hand.*

Hold the trach tube in place at all times. A person is unable to breathe when the obturator is in place inside the trach tube.

Observe the child for signs of distress, such as blueness, agitation, shortness of breath

The trach ties should be tied in a double knot. The ties should be loose enough to slip one finger between the ties and the neck.

A small amount of bleeding may occur around stoma or be in secretions after a trach change. If unusual or persistent bleeding is present, notify parent and seek medical attention.

18. Give 2-4 breaths with resuscitation bag and suction if indicated.
19. Discard used equipment according to universal precautions guidelines.
20. Child may resume previous activities
21. Remove gloves and wash hands
22. Document procedure and problems in log
23. Notify parent of any problems

POTENTIAL PROBLEMS WITH TRACHEOSTOMY TUBE CHANGES⁶

Observations:

The trach tube comes out:

- If the child is not showing signs of distress
- If the child shows signs of respiratory distress
- If tube can be inserted and the child is still having difficulty

Reason/Action:

NEVER LEAVE CHILD ALONE. CALL FOR ASSISTANCE.

Follow procedure for trach tube change outlined above.

Attempt to insert trach tube as outlined above.

- Reassure the child
- Assess airway and breathing
- Administer oxygen via the trach
- Suction the trach
- Use bronchodilator, if ordered
- Use manual resuscitator bag, if indicated

If distress persists, initiate emergency plan and begin CPR.

Problems That Require Immediate Attention

Observations:

The tracheostomy tube cannot be reinserted

Reason/Action:

This may be due to a false passage, or bronchospasm:

NEVER LEAVE CHILD ALONE. CALL FOR ASSISTANCE

- Reassure the child.
- Encourage the child to take a deep breath, **be prepared to insert tube if stoma opens**
- Administer flow of oxygen directly to the trach stoma
- Reposition the child

It is still impossible to insert the trach tube

- Attempt to insert the smaller trach tube OR
- Attempt to insert a suction catheter (at least 6 inches long, with vent end cut off) through stoma into trachea as a guide for trach tube (do not let go of catheter -- it may be inhaled).
- Slide trach tube over catheter into stoma and remove catheter without dislodging trach tube.

*****IF INSERTION OF TRACH TUBE IS NOT POSSIBLE, AND THE CHILD HAS RESPIRATORY DISTRESS AND RESPIRATORY ARREST*****

BEGIN CPR WITH MOUTH-TO-MOUTH BREATHS. COVER TRACH STOMA WITH YOUR THUMB IF AN AIR LEAK IS PRESENT. INITIATE THE EMERGENCY PLAN

MANUAL RESUSCITATION BAG⁶

Purpose:

A manual resuscitator or self-inflating bag is used to deliver breaths manually when a child is unable to breathe on his or her own. This device may be used with a mask to cover the nose and mouth or with a special adaptor for a tracheostomy tube.

Situations where a manual resuscitator may need to be used include:

- Child is having difficulty breathing on own.
- Ventilator malfunction
- Routine respiratory care for a child.
- Child stops breathing and needs to be resuscitated.

Children who have tracheostomies or who use ventilators should have a manual resuscitation bag with them at all times.

Suggested Setting:

In optimum circumstances, manual resuscitation (bagging) should be done in an area designated for health care procedures. In an emergency, it must be done wherever needed.

Suggested Personnel and Training:

A registered nurse or a respiratory therapist with proven competency-based training in appropriate techniques and problem management should perform manual resuscitation unless state medical and nursing practice standards specify otherwise.

If the trained caregiver and back-up personnel are unavailable on a given school day, the student should not attend school. However, an optional agreement may be made between the school and the family where the parent would be available to attend school to function as the caregiver for the child.

Any school personnel who have regular contact with a student who may require the use of a manual resuscitator must receive general training, covering the child's special health care needs and potential problems, as well as how to implement the established emergency plan.

PROCEDURE FOR USE OF MANUAL RESUSCITATOR WITH TRACHEOSTOMY⁶

Outcome Standards:

Delivery of artificial breaths in a safe manner

General Information:

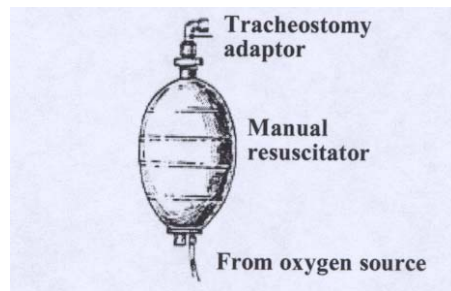
A manual resuscitator or self-inflating bag is used to deliver breaths manually when a child is unable to breathe on his or her own. This device may be used with a mask to cover the nose and mouth or with a special adaptor for a tracheostomy tube.

Equipment:

- Oxygen source with appropriate tubing if needed
- Manual resuscitator
- Adaptor for trach
- Appropriate-sized mask

Procedure:

1. Wash hands
2. Assemble equipment
3. Explain the procedure to the child at his or her level of understanding



4. Check that resuscitator is functioning properly

Place adaptor that is connected to the bag against a gauze or tissue in your hand. Squeeze bag to be sure it is functioning. (If it is functioning you should feel slight resistance.)

5. Position child

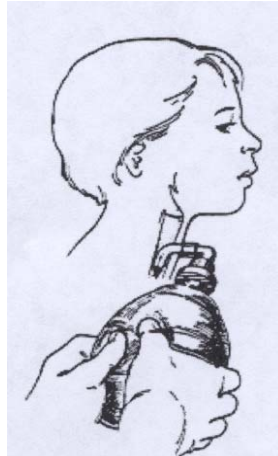
Position may vary, see child-specific guidelines. If oxygen is to be used, make sure tubing is attached and that oxygen is flowing.

6. Attach resuscitator to tracheostomy tube

Hold trach with one hand to prevent accidental dislodgment while attaching adaptor to it.

7. If the child is able to breathe independently, coordinate the manual breaths with his/her own breaths. Give a breath by squeezing the resuscitator bag as the student begins to inhale (chest begins to rise)

*****IF YOU FEEL RESISTANCE AND/OR THE CHILD LOOKS DISTRESSED, BE SURE YOU ARE GIVING BREATHS WITH THE STUDENT'S OWN EFFORT AND THAT THE TUBE IS PATENT.*****



8. If the child is unable to breathe on his/her own, squeeze the resuscitator bag at a regular rate to deliver prescribed breaths per minute.

If the child has no breathing rate prescribed, a standard range of breaths per minute is:

20-24 for infants

16-20 for children

12-16 for adolescents and adults

9. Wash hands.

10. Document procedure and problems in log.

Notify parent of any problems.

NOSE AND MOUTH SUCTIONING

Purpose:

Nasal and/or oral suctioning is performed when the child needs assistance in clearing secretions from the airway.

Indications of this include:

- Noisy, rattling or gurgling breathing sounds.
- Secretions (mucus or saliva) pooling in the back of the throat.
- Respiratory distress: difficulty breathing, agitation, paleness, excessive coughing or choking cyanosis (blueness).

The student may request suctioning and may be able to assist with the procedure.

Suggested Settings:

Routine, non-emergency suctioning can be done in a clean, private area outside of the classroom, such as the health office or in a corner of the classroom. Suctioning can be a noisy procedure and may be distracting and disruptive to the rest of the class.

If a suction machine is used that requires electricity, the setting must have an accessible electric outlet. All children who require routine suctioning must have a portable suction machine and suctioning equipment to accompany them in transport.

Suggested Personnel and Training:

A caregiver with proven competency-based training in appropriate techniques and problem management should perform nose and mouth suctioning. All school personnel who have regular contact with a student who requires nose and mouth suctioning must receive general training, covering the child's special health care needs and potential problems, as well as how to implement the established emergency plan.

A basic skills checklist can be used as a foundation for competency-based training in appropriate techniques. It outlines specific procedures step-by-step. Once the procedures have been mastered, the completed checklist serves as documentation of training.

Health Care Plan: Issues For Special Consideration

Each student's Health Care Plan must be tailored to individual needs. The following section covers the procedures for nose and mouth suctioning, as well as possible problems and emergencies that may arise. It is essential that this entire section be reviewed before writing the Health Care Plan. For a student who needs nose and mouth suctioning, the following items should receive particular attention:

- The child's underlying condition and the possible complications arising from the condition or treatment
- The child's baseline status (color, respiratory rate, pulse, usual amount of secretions and frequency of suctioning)
- Signs and symptoms of respiratory distress (agitation, cyanosis, noisy breathing, etc.)
- The ability of the child to request assistance
- Usual indications for suctioning

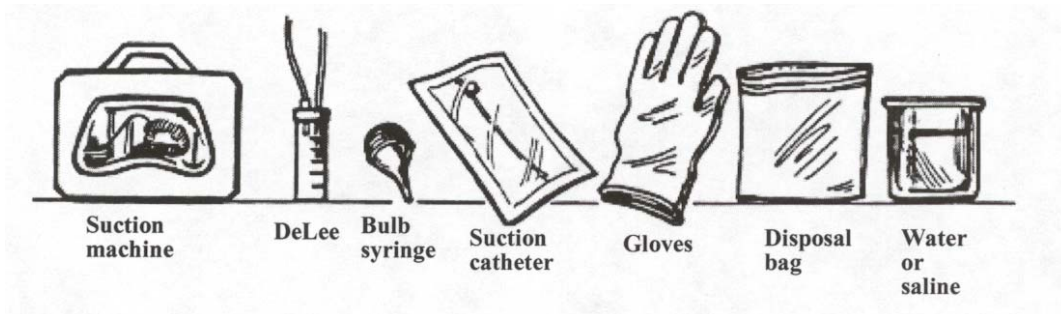
PROCEDURE FOR NOSE AND MOUTH SUCTIONING USING TUBING AND SUCTIONING MACHINE⁶

Outcome Standards:

Quick efficient removal of obstructing secretions to assist respirations

General Information:

Nasal and/or oral suctioning is performed when the child needs assistance in clearing secretions from the airway.



Equipment:

- Suction machine (battery operated or plug-in) and tubing
- Bulb syringe or other manual back-up suction apparatus
- Suction catheter of the appropriate size
- Clean gloves
- Plastic bag for disposal of materials
- Container and water or saline to clean catheter

Implementation:

1. Assemble the equipment and materials on a small, clean work surface.
2. Wash hands (unless in an emergency).
3. Explain the procedure to the child, according to his or her level of understanding. If able, the child should assist.
4. Position child.
5. Encourage the child to cough to expel secretions.
6. Open suction catheter or kit, without touching the inside of package.
7. Fill container with saline or water.

Special Considerations:

*****ALL EQUIPMENT FOR SUCTIONING MUST BE ASSEMBLED AND READY FOR IMMEDIATE USE AT ALL TIMES. IT MUST BE CHECKED DAILY BY DESIGNATED PERSONNEL*****

By encouraging the child to assist in the procedure, the caregiver is helping the child to achieve maximum self-care skills.

Position may vary and should be recommended in child-specific guidelines.

This may eliminate the need for suctioning

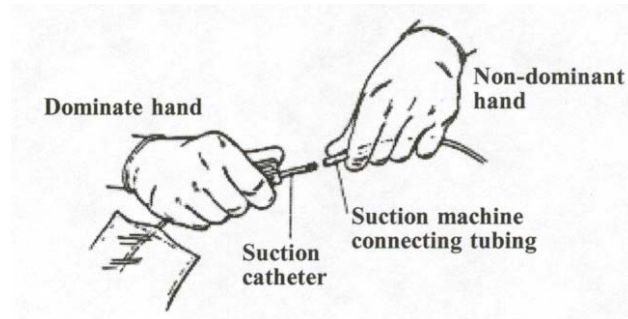
This keeps catheter clean and reduces risk of transmitting infection

This cleans and lubricates the catheter

8. Put on gloves.

Dominant hand, which is used to manipulate catheter, should remain clean

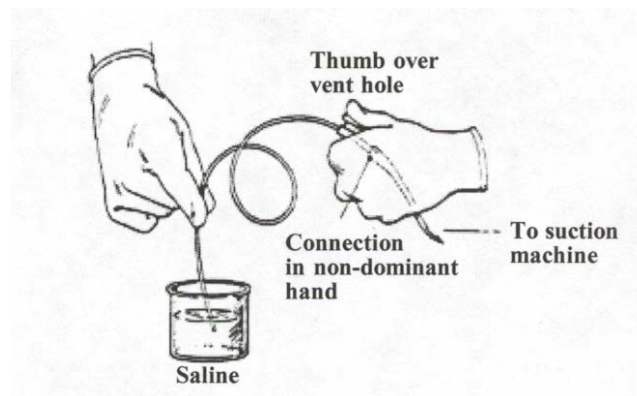
9. In the dominant hand hold the catheter and attach appropriate end to the suction machine. Keep the other end of the catheter in the package.



10. Turn machine on with other hand to prescribed suction pressure

11. Hold suction catheter 2-3 inches from the tip with dominant hand

Portable machines may not have adjustable pressure settings.



12. Grasp catheter connection with other hand; cover vent hole with thumb to suction a small amount of water through the catheter.

13. Remove covering from end of suction catheter with non clean hand while holding catheter in clean hand.

This tests that the suction machine is working and lubricates the catheter.

14. With thumb off vent hole, insert catheter gently into the nose to the prescribed depth suggested in child-specific guidelines.

Always suction the nose first. There are more bacteria in the mouth. Many children may only need to have the anterior part of the nose suctioned. Be gentle; the nose bleeds easily. Make sure catheter tip has been lubricated with saline or water-soluble lubricant.

If the nose secretions are too thick, put a few drops of saline in each nostril.

15. Cover vent hole with non-dominant thumb while suctioning and withdrawing catheter. Gently rotate catheter between thumb and index finger while suctioning and withdrawing.

Rotating the suction catheter diminishes damage to the mucus membrane. If the catheter sticks, remove thumb from vent hole to release suction

16. Suction up some water to rinse secretions out of catheter.

17. If nasal congestion persists, repeat nasal suction.

18. With thumb off vent hole, insert catheter gently into the mouth.

Parts of the mouth to be suctioned include the back of the throat, the cheeks and under the tongue. Be careful when suctioning the back of the throat, as this may cause the child to gag or vomit.

19. Cover vent hole with non-dominant thumb. Gently rotate catheter between thumb and index finger while suctioning and withdrawing.

This helps to minimize trauma to the membranes of the mouth

20. Suction up some water to rinse secretions out of catheter.

21. If gurgling noises persist, repeat mouth suctioning procedure with the same catheter

If after suctioning the mouth, repeat suctioning of the nose is needed, use a clean catheter

22. Discard gloves and catheter in an appropriate receptacle

23. Wash hands

24. Note color, consistency and amount of secretions in daily procedure log

Report to parent any changes from the child's usual pattern

PROCEDURE FOR NOSE AND MOUTH SUCTIONING WITH A BULB SYRINGE⁶

Outcome Standards:

Quick efficient removal of obstructing secretions to assist respirations

General Information:

Nasal and/or oral suctioning is performed when the child needs assistance in clearing secretions from the airway.

Equipment:

- Bulb syringe
- Saline
- Tissues

Implementation:

1. Assemble equipment
2. Wash hands
3. Explain the procedure to the child, according to his or her level of understanding
4. Position child
5. Squeeze the bulb syringe away from student and place the tip gently into the nose or mouth (where secretions are visible or audible) and let the bulb fill up.
6. Remove the bulb syringe from the nose or mouth
7. Holding the bulb syringe over the tissue, squeeze the bulb to push out the secretions, then let it fill with air
8. Repeat step 5-7 as needed until nose and mouth are clear
9. If the nose secretions are too thick, put a few drops of saline in each nostril before suctioning with bulb syringe
10. Clean bulb syringe in hot soapy water, rinse with fresh water, let dry and store
11. Dispose of tissues in appropriate receptacle
12. Wash hands
13. Note color, consistency and amount of secretions in daily procedure log

Special Considerations:

Always suction nose first

Position varies. See child-specific guidelines

When suctioning the mouth, suction under the tongue, in the cheeks and the back of the throat. Be careful when suctioning the back of the throat, as this may cause the child to gag and vomit.

Report to parent any changes from the child's usual pattern.

PROCEDURE FOR NOSE AND MOUTH SUCTIONING WITH A DELEE® CATHETER⁶

Outcome Standards:

Quick efficient removal of obstructing secretions to assist respirations

General Information:

Nasal and/or oral suctioning is performed when the child needs assistance in clearing secretions from the airway.

Equipment:

- DeLee® catheter
- Saline

Implementation:

1. Assemble equipment
2. Wash hands
3. Explain procedure to the child, according to his or her level of understanding
4. Position child
5. Insert the tip of the DeLee® catheter into the nose or mouth.
6. Place the adapter in your mouth and suck on it to pull secretions up into tubing.
7. If the nose secretions are very thick, use a few drops of saline to loosen them before suctioning
8. Clean the DeLee® catheter and trap in hot soapy water, or dispose in appropriate receptacle
9. Wash hands
10. Note the color, consistency and amount of secretions in daily procedure log

Special Considerations:

Position may vary. See child-specific guidelines.

Suction nose first

The secretions will collect in the trap and not go into your mouth. Watch the trap. If the level of the secretions is getting too high (close to the adaptor tubing), stop suctioning and empty trap, or use another catheter.

Report to parent any changes from the child's usual pattern

PROCEDURE FOR SUCTIONING USING YANKAUER®

Outcome Standard:

Oropharyngeal suctioning will be used when person is unable or when able to cough, but is unable to clear secretions effectively by expectorating or swallowing.

General Information:

The oropharynx extends behind the mouth from the soft palate above the level of the hyoid bone and includes the tonsils. The nasopharynx is located behind the nose and extends to the level of the soft palate. Oropharyngeal or nasopharyngeal suctioning is used when the student has pulmonary secretions and is unable to adequately cough or expectorate his or her secretions.

Equipment:

- Stethoscope
- Container for water
- Portable suction machine
- Yankauer® suction handle with control vent
- Water or normal saline
- Gloves
- Disposable wash cloth
- Connecting tubing
- Q-Tips®
- Mouth rinse

Implementation

1. Gather all required equipment.
 - Wash hands
 - Attach tubing to suction machine
 - Connect Yankauer® to tubing
 - Pour approximately 8 oz. of water or normal saline into container
2. Place person in a semi-fowler's position with head turned to one side. Auscultate lungs
3. Place gloves on hands
4. Turn suction machine on
5. Lubricate Yankauer® with water. Then place Yankauer® into one side of mouth. Suction around mouth and under tongue to withdraw secretions.
6. After each withdrawal of secretions, flush with small amount of water
7. Wipe mouth, assess for mucosal integrity. Provide oral care using 1 part mouthwash to 3 parts water. Swab mouth
8. Discard gloves and wash hands.
9. Record amount, consistency, color and odor secretions and response; document pre-suctioning and post-suctioning respiratory status.

Special Considerations:

Keep normal saline at room temperature to prevent bronchial spasms

Lubricate Yankauer® to decrease friction and promote smooth movement in mouth.

Maintain opened tubing, by flushing secretions and lubricating for next suctioning

Suctioning can sometimes cause drying out of mucosa. Provide for personal hygiene

Reduces transmission of microorganisms

All procedures and students response must be accurately documented

- 10. Prepare equipment for next suctioning.
- 11. Observe student for absence of airway secretions restlessness, and oral secretions

Provides ready assess to suction equipment, especially if student is experiencing any respiratory distress.

Indicates that secretions have been removed.

POSSIBLE PROBLEMS WHEN SUCTIONING⁶

Observations:

Reason/Action:

The child develops a nosebleed during suctioning

*Stop suctioning
Gently squeeze bridge of nose with your fingers and hold for 5 minutes. If bleeding has stopped, do not use that side of the nose to suction until parent or doctor gives permission*

The child gags or vomits during suctioning

Catheter is probably down too far. Pull back a short distance and complete suctioning.

If vomiting occurs, stop suctioning, remove catheter, and wait until vomiting has stopped. Make sure that the child is able to breathe easily.

After vomiting, the child may require repeat suctioning. Be careful that catheter is not down too far.

SUCTION MACHINE OPERATION

Assembly & Operating:

1. Plug unit into a 115-volt outlet
2. Connect suction tubing to the lid of the collection jar
3. Turn unit on and check for correct pressure of vacuum while blocking end of suction tubing
4. Attach catheter or Yankauer® suction device
5. **USE SUCTION TECHNIQUE AS INSTRUCTED BY NURSE, THERAPIST, OR PHYSICIAN.**

Infection Control/Care and Maintenance:

1. After each suctioning procedure:
 - a. Rinse the suction tubing with the distilled water
 - b. Discard the disposable suction catheter
2. When collection jar is half full:
 - a. Disconnect tubing from collection jar to suction apparatus.
 - b. Disconnect suction tubing from jar lid.
 - c. Disconnect lid from jar and pour contents into toilet or drain that empties in sanitary sewer.
 - d. Wash jar, lid, and tubing in mild detergent, rinse well.
 - e. Soak 10 minutes in 1 part bleach to 10 parts water.
 - f. Thoroughly rinse with tap water.
 - g. Drain dry on clean towel.

Safety:

1. USE GROUNDED OUTLET ONLY
2. Do not use extension cords
3. Do not use near or around fire source

PROCEDURE FOR MEDICAL ASEPSIS WHEN CLEANING EQUIPMENT

Outcome Standard:

To reduce transmission of microorganisms

General Information:

Medical asepsis (clean technique) is concerned with limiting the spread of microorganisms.

Equipment:

- Tap water
- Hot water
- Mild soap
- Vinegar
- Basin
- Drying rack
- Gloves brush
- Lotion

Implementation:

1. Gather soiled equipment, and cleaning supplies
2. Put gloves on
3. Dismantle tubing, connections, receptacles
4. Rinse with cool tap water
5. Place articles in hot water and soap
6. Use a stiff-bristled brush to clean various types of equipment that have grooves and corners
7. Rinse the article thoroughly with hot water
8. Fill basin with 1 part water and 3 parts vinegar
9. At least once a day, immerse article into solution and let soak for 20 minutes
10. Rinse the article thoroughly with hot water
11. Air dry
12. Wrap tubing and equipment pieces in Ziplock® bags and store until next use

Special Considerations:

Removes organic material. Hot water coagulates the protein of organic material and tends to make it stick to the article

Soap has an emulsifying action and reduces surface tension, which facilitates the removal of dirt and microorganisms

Facilitates removal of dirt and microorganisms

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