

TOWN OF FAIRFIELD HEALTH DEPARTMENT

Program: School Health Approved By: Board of Health
School Medical Advisor

Policy: Oxygen Administration
Continuous or Intermittent Date: 5-8-95, 9-12-11

Procedure: a) Oxygen Administration By Mask
b) Oxygen Administration By Nasal Cannula
c) Oxygen Administration By Tracheostomy

DEFINITION:

Mask is usually a clear plastic device that fits snugly over the student's nose and mouth or tracheostomy for the delivery of oxygen at high percentages and to administer inhaled medication.

Nasal Cannula is a clear plastic tube which fits around the head with two protruding outlets used to deliver oxygen via the nostrils.

Tracheostomy Collar - is the 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 track.

Pressure gauge/flow meter is a unit that regulates gas pressure to ensure that oxygen is delivered at a manageable pressure to the student.

PURPOSE:

To assist the student's respirations by relieving hypoxemia (reduced oxygen tension in arterial blood) and hypoxia (reduced oxygen availability to tissue cells.)

SCHOOL PERSONNEL WHO MAY APPROPRIATELY PROVIDE CARE OR ASSIST THE STUDENT:

Initiation of Oxygen Administration - School Nurse R.N. or L.P.N.

Monitoring of Oxygen Administration - School Nurse, R.N., L.P.N., Physical Therapist, Occupational Therapist, teacher, teacher aide, school health aide, and other certified personnel.

CONSULTATION:

Those responsible for providing care, training, and supervision may need to obtain consultation from their clinical supervisor or from other health care providers in the community.

TRAINING AND SUPERVISION:

To be determined/provided by the School Nurse.

CIRCUMSTANCES WHICH REQUIRE SCHOOL NURSE ACTION:

Problems with oxygen delivery, change in student's health or respiratory status, or change in environment.

PHYSICIAN'S ORDER REQUIRED:

Yes.

PARENT/GUARDIAN PERMISSION REQUIRED:

Yes.

2. Oxygen Administration,

Continuous or Intermittent

SPECIAL CONSIDERATIONS;

1. Physicians order should include: oxygen flow rate, administration method (i.e., nasal cannula, mask, tracheostomy collar), frequency of administration, indications for use, and whether or not humidification is to be used.

2. Possible problems that require immediate attention for children needing oxygen:

<u>Observations</u>	<u>Reason/Action</u>
The child shows any of the following signs of respiratory distress:	Stay calm Reassure student
• Increased shortness of breath or rapid breathing rate	Check Child: Position child to open airway.
• Agitation or restlessness	Make sure mouth, nose, or trach tube are not obstructed by food or mucus.
• Blueness or pallor of the lips, nails or ear lobes.	Check trach tube placement. Make sure collar is not out of position or obstructing trach.
• Retractions – suprasternal, substernal, intercostal, or at the base of the neck.	Check Equipment: Check oxygen flow: if weak or inadequate flow – make sure valve, regulator and flowmeters are on proper settings. Check gauge to be sure there is oxygen in the tank.
• Pulling back of the muscles at the back of the neck or chest.	Make sure tubing is not blocked or kinked.
• Confusion, dizziness or headache.	Check all connections from oxygen source to child.
• Nasal flaring.	Make sure tubing, mask, cannula or collar are not blocked by water condensation.
• Rapid or pounding pulse.	Make sure humidifier bottle is properly attached.
• The child remains in respiratory distress despite receiving adequate oxygen flow, has a respiratory arrest or becomes unconscious.	Initiate emergency procedure and notify parents. Begin CPR if needed.

Other Potential Problems

Redness, dryness, or bleeding of the skin. May be due to irritation from insufficient humidity.
Notify parent to discuss problem with doctor.
NEVER USE POWDERS ON THE FACE.

Oxygen Administration.

Continuous or Intermittent

3.

3. The Student's Individual Health Care Plan should include:

- The student's medical diagnosis and possible complications arising from the condition or treatment.
- The student's baseline respiratory status and parameters for use of oxygen, i.e., the specific conditions for initiating and discontinuing oxygen for the individual student, and the student's ability to request oxygen or assistance.
- A teaching plan to promote the student's independence and self-care according to his or her abilities.
- The name of the oxygen supply company, contact person, and procedure for obtaining replacement oxygen supply.
- Schedule for routinely changing oxygen tubing and humidifier jar (consult student's oxygen company for recommended frequency).
- Plans for safe storage of equipment, including spare oxygen source and other backup equipment.
- Plans for use of equipment during travel and/or on field trips.
- Oxygen safety precautions should be followed and communicated to all appropriate school personnel.
 - Do not smoke or allow open flames near oxygen. Keep oxygen away from heaters, radiators, hot sun, or sparks.
 - Never permit oil, grease, alcohol, or other 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.
 - Equipment must be maintained regularly and checked at least daily in school.
 - 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.
 - Extra tubing and tank equipment (wrenches, etc.) must be kept 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.
 - The local fire department should be notified 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.

* "Oxygen In Use" warnings should be posted when the child is using oxygen.

Oxygen Administration

PROCEDURE

- a) **Oxygen Administration By Mask**
- b) **Oxygen Administration By Nasal Cannula**

EQUIPMENT:

Provided by parent (unless special arrangements are made):

- a) Oxygen source (gas cylinder, liquid oxygen reservoir, oxygen concentrator).
- b) Pressure gauge/flow meter.
- c) Nasal cannula or mask and tubing (plus extra connecting tubing if needed to increase student's mobility).
- d) Humidity source (if ordered).
- e) Adapter to connect tubing.
- f) Mobile stand for oxygen source.
- g) Backup oxygen source and equipment.
- h) Gloves - to be worn when draining condensation from oxygen tubing.

STEPS:

- a) Wash hands and assemble equipment.
- b) Attach mask and tubing or cannula tubing to oxygen source. Check that tank has enough oxygen. Make sure proper adapter 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.
- c) Set liter flow on the flowmeter as prescribed by the doctor. Never change this setting without first contacting the doctor. Too high an oxygen flow may irritate the nose. If you are concerned that the flow is inappropriate, contact the doctor.
- d) Check mask or cannula prongs to make sure the air is coming out. Hold them up to your hand or check to feel for air coming up.
- e) For nasal cannula - gently insert prongs into child's nostrils. Make sure one prong is in each nostril. 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.

For mask method - place the mask over the child's nose and mouth. (Child may be more comfortable with his/her face up to meet the mask.) 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 mask is the appropriate size and that the child is comfortable with the mask.

Continuous or Intermittent

5.

- f) Periodically check to see if there is condensation in the oxygen tubing, if so, drain it out. (Wear gloves.)
- g) Assess student's response to oxygen administration.
- h) Wash hands.

c) Oxygen Administration Via Tracheostomy Collar

EQUIPMENT:

Provided by parent (unless special arrangements are made).

- a) Nebulizer/humidifier
- b) Heating device if indicated
- c) Wide bore tubing
- d) Trach collar
- e) Oxygen tubing
- f) Nipple adaptor
- g) Oxygen source and mobile stand
- h) Pressure gauge/flow meter
- i) Backup oxygen source and equipment
- j) Gloves - to be worn when draining condensation from oxygen tubing.

STEPS:

- a) Set up humidifier device according to manufacturer's instructions.
- b) Dial percent of oxygen as ordered. (Some children may only require compressed air.)
- c) Connect humidifier to compressed air/oxygen source if required.
- d) Connect heater if required. Some children may use cool mist.
- e) Take wide bore tubing and place one end on the collar and the other on the humidifier or heater.
- f) With compressed air/oxygen source on, look at mist at the end of the tubing. You should see a fine mist when held up to the light. If this is not present, check that all connections are on securely and compressed air/oxygen is flowing. Turn on higher flow, then return to flow ordered to see if mist is present.
- g) Place collar on child's neck over tracheostomy tube in the midline.
- h) Assess student's response to oxygen administration.

DOCUMENTATION:

Document administration of oxygen on the student's health record or treatment log. Document administration of continuous oxygen daily. Document administration of intermittent oxygen whenever applied and document student's response to intervention. Any alteration in the student's status or health care plan should be documented by the school nurse on the student's health record. Notification of the parent or physician of any problems should be documented. Document daily check of condition of equipment. Documentation may be facilitated by use of a flow sheet.

Oxygen Administration,

Continuous or Intermittent
6.

References:

Serving Students With Special Health Care Needs
- State Department of Education 1992

Project School Care: Children Assisted By Medical Technology In Educational Settings

SHM, Vol. II, Sec. 4, Spec. Hlth. Care Needs