

Caring for Children that require Pre-Set Oxygen in a Community Program

**Unified Referral and Intake System (URIS)
2nd edition
2015**



PRE-SET OXYGEN

This manual was developed in consultation with health care professionals in the areas of respirology and community health. The Unified Referral and Intake System (URIS) wishes to acknowledge the contribution of the following individuals.

Tareq Alabdoulsalam MBBCh, FRCPC, FAAP, FCCP, DABP
Assistant Professor - Section of Respirology
Department of Pediatrics and Child Care
University of Manitoba
Winnipeg, Manitoba, Canada

Anna Thibert RN
Nurse Clinician
Respiratory Clinic
Children's Hospital

Robin Orteza RN
Respiratory Therapist
Respiratory Clinic
Children's Hospital

Alison Bonneteau BPE
Manager
Manitoba Home Oxygen Program
RANA Respiratory Care Group

Aaron Ladd RRT
Manitoba Home Oxygen Program
RANA Respiratory Care Group

Sandra Dalke RN BN
URIS Provincial Coordinator
Winnipeg Regional Health Authority

Sandra Goritz RN BN
URIS Nurse
Interlake Eastern Regional Health Authority

Jacqueline Thompson RN
URIS Direct Service Nurse
Winnipeg Regional Health Authority

TABLE OF CONTENTS

Introduction	4
Clinical Information	5
Health Care Plan	17
Training	20
Monitoring	22
References	23
Resources	24
Supplements	
Pre-Set Oxygen Health Care Plan	
Pre-Set Oxygen Training & Monitoring	

INTRODUCTION

The Unified Referral and Intake System (URIS) is a collaboration among various government departments, health service organizations, school divisions and child caring organizations. URIS supports community programs in the care of children with specific health care needs. Community programs that are eligible for URIS support include schools, licensed child care facilities and agencies providing respite service.

URIS provides a standard means of classifying the complexity of health care needs and establishes the level of qualification required by personnel to support children with these health care needs. Health care needs that are classified as 'Group B' can be delegated to non-health care personnel who receive training and monitoring by a registered nurse. For children with 'Group B' health needs (e.g. pre-set oxygen), the nurse provides the following support:

- develops and maintains a written health care plan;
- provides training to community program personnel that are responsible for the child; and
- monitors community program personnel that receive training.

This document provides standard clinical information that is relevant to the care of children that require administration of pre-set oxygen during attendance in a community program setting. Supplemental documents are also provided to assist the nurse in the development of health care plans and training and monitoring of community program personnel.

CLINICAL INFORMATION

The following information is considered 'best practice' in community program settings and is the basis for all pre-set oxygen information contained in this document and its supplements.

Anatomy of the respiratory system

The primary function of the respiratory system is the exchange of gases in the air with gases dissolved in the blood. Oxygen from the air is transferred to the blood and carbon dioxide from the blood is removed to the air. The airways in the respiratory system can be divided into the *upper* and *lower airways*.

The *upper airway* consists of the nose, mouth, pharynx and larynx. As air enters the nose, hairs in the nostrils filter out larger dust particles. The large area of moist mucus membrane in the nose adds moisture and warms the air to body temperature. Air then passes through the larynx (i.e. voice box) and down into the trachea (i.e. windpipe). The pharynx (i.e. throat) conducts the air from the nose and mouth to the larynx and serves as a passageway for food entering the esophagus. The *epiglottis* is a flap that closes over the larynx when food is swallowed, to prevent food from entering the lungs. Mucus comes from the tissues that line both the upper and lower airways. If mucus is not warmed and humidified, it can dry and thicken or harden, causing a blockage in the airway.

In the *lower airway*, the trachea divides into the two main *bronchi*. Each bronchus then subdivides into smaller bronchi, which in turn divide. This division continues many times until the *bronchioles* (i.e. small bronchi) end in the *alveoli*, where the main exchange of oxygen and carbon dioxide takes place. The bronchi are lined with mucus and are covered with *cilia* (i.e. tiny hairs) that help remove particles of dust. All airways are also surrounded by smooth muscle and can tighten and narrow if irritated.

Gas exchange takes place in the alveoli. The alveoli are only one cell thick and are in contact with a blood capillary through which the diffusion of oxygen (into the blood) and carbon dioxide (from the blood) occurs.

The *diaphragm* and *intercostal* muscles are the main muscles for . The diaphragm is located below the lungs and is attached to the lower ribs and spine. The diaphragm tightens during inhalation while the chest muscles expand. During exhalation, the diaphragm relaxes and the respiratory muscles contract, pulling the ribs downward. The intercostal muscles connect nearby ribs and help to expand the lungs so air can enter the lungs.

The *heart* pumps blood to the lungs and to the body. If there is heart disease or disease of the blood vessels in the lungs, the exchanges of gases may not be adequate and the child may require extra oxygen.

Diseases may affect any part(s) of the respiratory system and lead to ineffective gas exchange. Disorders that may chronically impair the respiratory system can be divided into several major categories. A child may be affected by one or more of these disorders such as:

- Disorders that affect the stimulus to breathe (e.g. brain damage, certain progressive neurological diseases);
- Disorders that affect the strength of respiratory muscles (e.g. muscular dystrophy, spinal cord injuries);
- Structural abnormalities or disorders that affect the upper airway (e.g. cleft palate, blockage or narrowing of airways); or
- Chronic lung conditions (e.g. hypoplasia).

Pre-set oxygen

Oxygen is necessary for bodily functions. When the amount of oxygen in the blood falls below normal levels, the body will not receive the amount of oxygen it requires to function optimally.

Oxygen is a medication and is supplied in concentration and delivered according to “flow rate” which is measured in litres per minute (L/min). The flow rate, mode of delivery and number of hours per day that oxygen is administered is prescribed by a physician. The flow rate should not be adjusted without consultation and direction from the child’s physician.

Oxygen delivery systems

There are two types of oxygen delivery systems including the oxygen concentrator and oxygen cylinder (tank).

Oxygen concentrator

The oxygen concentrator is an electrically powered device that draws in room air, removes the nitrogen from the other gases, concentrates the oxygen and stores it. Oxygen cylinders are required as a backup source of oxygen in the event of a power outage or machine failure. The oxygen concentrator has alarms that will sound for power failure, kinked tubing and if the system has a leak.



Photo courtesy of RANA

Oxygen cylinder

The oxygen cylinder stores pure oxygen gas under pressure. There are different cylinder sizes including large (K, H type) and small cylinders (E, D, M9, M6, M4 s). The large cylinder is about 1.5 meters high and is not portable. Large cylinders are supplied as a backup oxygen source in case of power outage or oxygen concentrator failure. The small cylinders are portable and used when a person is away from home.

The oxygen cylinder requires a regulator which has a gauge for cylinder pressure measurement and oxygen flow rate control. The length of time a cylinder lasts depends on the amount of oxygen used and the flow rate required. As the oxygen is used, the pressure reading will decrease. A full cylinder contains approximately 2200 pounds per square inch (p.s.i.) pressure. The cylinder is almost empty when the pressure regulator reads 500 p.s.i. or nears the red line.



Photo courtesy of RANA

Equipment

Nasal prongs

Nasal prongs are made of latex free tubing which deliver oxygen through the nose. It delivers a low to moderate concentration of oxygen and can be used as long as the nasal passages are open. Nasal prongs should not be used with oxygen flow rates greater than 6 L/min. They are easy to use and allow for eating, talking and coughing. They must be worn correctly in order to receive the required flow of oxygen. The curved part of the prongs should follow the curve of the upper lip and nostrils.

OxyMask

The OxyMask delivers oxygen through the nose and mouth. It is used to deliver higher concentrations of oxygen or if the child is a mouth breather. The OxyMask can be used for oxygen flow rates between 1 – 15 L/min. The Oxykid™ pediatric mask may be used for children.



Photo courtesy of RANA

OxyArm

The OxyArm is a device used to deliver oxygen which resembles a headset with an “arm” of oxygen tubing that comes around the head in front of the mouth or nose. It requires a higher flow of oxygen to deliver lower concentrations. The OxyArm is rarely used in the community.



Photo courtesy of RANA

Humidifier

A humidifier may be used to add moisture to the oxygen being delivered which is beneficial if the lining of the nose becomes dry or irritated. However, use of a humidifier is not recommended in community program settings as it increases the risk of infection due to build up of bacteria in a warm moist environment.

Care of oxygen equipment

Oxygen concentrator

The oxygen concentrator requires a standard ground three pronged outlet.

- Place the oxygen concentrator at least 5 inches from the wall to allow air to easily enter the machine.
- Operating noise will be reduced if the oxygen concentrator is placed on a carpeted surface.
- Extension cords must never be used. Other appliances must not be used on the same circuit.
- Keep a flashlight and extra batteries available in case of an electrical power failure.

Check the foam filter daily and clean at least once a week as described below or by placing it in the dishwasher.

1. Wash the filter in warm tap water with mild dish soap.
2. Rinse the filter and pat it dry.

Oxygen cylinder

Store cylinders in an area where they will not be knocked over. Store all cylinders in an upright position in a cool dry well ventilated area. Large back-up cylinders will be provided with cylinder stands.

Oxygen tubing

- Replace the oxygen tubing if it becomes spotted, cloudy or cracked.
- Contact the parent/guardian when equipment needs to be replaced.
- It is recommended to have additional lengths of oxygen tubing on hand.
- The maximum length of oxygen tubing that can be used to is 50 feet as the percentage of oxygenated air decreases with longer tubing.

Check the tubing connections daily for leaks.

1. Pinch the oxygen tubing for 30 seconds to obstruct air flow. The ball on the concentrator should drop down to zero and the alarm sounds.
2. If a leak is present, the alarm does not sound. If this occurs, contact RANA for assistance.

Oxygen tubing does not require cleaning unless the child is using humidity. In such situations, it should be cleaned weekly.

1. Wash the oxygen tubing in warm tap water with mild dish soap .
2. Rinse the oxygen tubing with tap water and soak for 15 minutes in a vinegar and water solution (1 cup vinegar to 3 cups warm tap water). Soap solution is not recommended for long lengths of oxygen tubing as incomplete rinsing may leave a soap residue inside it.
3. Force the vinegar solution through the oxygen tubing with a large syringe (30 or 60 cc).
4. Rinse the oxygen tubing with clean water, forcing water through it with a syringe.
5. Drain the oxygen tubing well and hang to air dry.

Nasal prongs

Replace nasal prongs at least every 2-3 weeks OR if they become soiled or hard. Contact the parent/guardian to replace supplies.

Nasal prongs should be cleaned weekly.

1. Wipe nasal prongs with a moist cloth or paper towel.
2. If the nasal prongs are soiled with mucous, cleanse in warm tap water with mild soap. Rinse them well and hang to air dry.

Oxygen safety precautions

Oxygen does not cause fire but burning occurs more rapidly in the presence of oxygen.

- Keep an all-purpose fire extinguisher readily available and visible.
- Do not smoke or allow open flames near oxygen. It is recommended to post 'NO SMOKING' signs within 3 at least metres of the oxygen source.

- Store oxygen at least 3 metres from open flames, fireplaces, candles, gas stoves, barbeques and pilot lights.
- Keep the oxygen concentrator in a dry, well-ventilated area away from heat sources or drapes.
- Keep the oxygen cylinder away from hot pipes, radiators and other sources of heat.
- Do not use equipment with frayed cords or electrical shorts. Do not use extension cords.
- Do not permit oil, grease or highly flammable material to come into contact with oxygen cylinder, liquid oxygen, valves, regulators or fittings.
- Do not handle equipment with greasy hands or rags.
- Do not use cosmetic and cleaning products in aerosol form (pressurized cans) where oxygen is used or stored.
- Caution should be taken when using hand sanitizers with an alcohol base.
- Petroleum products (e.g. Vaseline, Chapstick) should not be used on a child that receives oxygen.

Administration of pre-set oxygen

1. Wash your hands.
2. Gather the supplies.
 - Nasal prongs, OxyMask or OxyArm
 - Oxygen source
3. For the oxygen cylinder only, check that there is enough oxygen. *The amount of pressure on the pressure gauge should not go below 500 p.s.i.*
4. Explain the procedure to the child.
5. Put on the gloves.
6. Attach the nasal prongs (or OxyMask, OxyArm) to the oxygen source.
7. Check that all parts are secured tightly.
8. Turn on the oxygen source.

For the oxygen cylinder, open the valve by turning it counter clockwise as far as it will go and then turn back ½ rotation.

9. Check that the oxygen flow on the flow meter is at the prescribed rate.
10. Check the nasal prongs (or OxyMask, OxyArm) for airflow by placing end to your cheek.
11. Apply the nasal prongs (or OxyMask, OxyArm) to the child.

Nasal prongs - Gently insert both prongs into the child's nostrils, one on each side. Make sure the holes in the prongs are not obstructed. The curved part of the prongs should follow the curve of the upper lip and nostrils. Position the tubing over each ear with one hand while the other hand adjusts the clasp under the chin to secure tubing.

Oxymask - Place the mask over the child's nose and mouth with one hand while your other hand holds the elastic band over the head. Adjust the elastic band over the head and pinch the mask over the nasal bridge. Ensure the mask fits comfortably.

Oxyarm - Place the head piece on the child's head and carefully swing the arm to a position of comfort which directs oxygen into the nose or mouth.

12. Remove the gloves and wash your hands.

To stop oxygen flow (for oxygen cylinder only)

1. Wash your hands and put on gloves.
2. Close the valve by turning it clockwise and wait until the pressure gauge returns to zero.
3. Remove the nasal prongs (or OxyMask, OxyArm).
4. Remove the gloves and wash your hands.

Installing the regulator

1. Put the oxygen cylinder in a safe upright position .
2. Remove the protective plastic dustcover.
3. Point the valve opening away from you.
4. To remove dust, open the main cylinder valve with an oxygen wrench slightly by turning it counter-clockwise and then turning it clockwise to close it. You will hear air escaping as the valve is opened.
5. Place the regulator on the oxygen cylinder and hand tighten. The gauges should be in an upright position.
6. Slowly open the main cylinder valve with the wrench, turning it counter clockwise as far as it will go and then turning back ½ rotation. The pressure gauge should read approximately 2,200 p.s.i. when it is full.
7. Attached the oxygen tubing.
8. Adjust the control to the prescribed flow rate.

Removing the regulator

1. Turn off the main cylinder valve (clockwise).
2. Turn on the flow control until the needles on both gauges reach zero.
3. Turn off the flow control.
4. Remove the tags from the oxygen cylinder to indicate that it is empty.

Emergency situations

Respiratory distress

Signs of respiratory distress may include increased breathing rate, bluish/grey lips or nails, pulling in of chest or neck muscles, flaring nostrils, agitation, confusion, dizziness, headache.

1. Call 911/EMS.
2. Notify the parent/guardian.
3. Position the child to keep the airway open.

Potential problems

Child is not receiving enough oxygen

Signs may include changes in breathing rate, skin color and unusual reaction to oxygen administration (child's baseline information should be included in health care plan)

1. Check the oxygen equipment.
 - Confirm that the flow meter is at the proper setting
 - If an oxygen cylinder is being used, confirm that the pressure gauge is not below 500 p.s.i.
 - Check the child's mouth or nose for obstructions
 - Feel for air flow by placing the nasal prongs (or OxyMask, OxyArm) to your cheek
 - Check the nasal prongs (or OxyMask, OxyArm) for tears or obstructions
 - Check the oxygen tubing for blocks or kinks
 - Check connections to ensure they are tight
2. If there is still no oxygen flowing, place the child on another source of oxygen, if available.
3. Contact RANA for technical support.
4. If the child does not have another source of oxygen available, contact the parent/guardian.
5. If unable to contact the parent/guardian and the child's breathing does not improve, call 911/EMS.

Alarm sounds for power failure

The alarm may sound if there is a power outage, failure in the electrical outlet or equipment failure.

1. Confirm that the oxygen concentrator is receiving electrical power.
2. If the oxygen concentrator is receiving electrical power and the alarm continues, turn the oxygen concentrator off and switch to the backup oxygen cylinder.
3. Inform the parent/guardian.
4. Contact RANA for technical support.
5. Remain on the backup cylinder until the issue is resolved.

Alarm sounds for obstruction in tubing

1. Check the oxygen tubing for kinks.
2. If no kinks are found and the alarm continues, contact RANA for technical support.

Change in secretions (e.g. amount, color, consistency), fever, cough, sore throat and/or tiredness may be signs of respiratory infection.

- Inform the parent/guardian.

Redness or dryness of the skin around the mouth or nose, bleeding nose may be due to irritation from the nasal prongs or from an insufficient amount of humidity.

1. Check the placement of the nasal prongs and adjust them if they are too tight.
2. A water soluble product (e.g. Secaris) may be applied to dry lips.
3. Inform the parent/guardian.

Infection Control Guidelines

Infection control is important for the health of the child being cared for as well as for the health of the community program personnel who are providing care to the child. The following practices are intended to prevent transmission of infection when caring for children. These practices are to be used when caring for all children, not just those who pose a risk.

Hand washing

Hand washing is the single most important method in preventing the spread of infection and illness. Proper hand washing includes the use of soap and warm water, rubbing hands together to create some friction for at least 30 seconds, rinsing under running water, drying of hands and turning off the faucet using a paper towel to avoid germs from the tap. When soap and water are unavailable, an alcohol-based hand rub may be used if hands are not visibly soiled.

Hand washing should occur:

- before and after contact with body fluids, even if gloves are worn;
- immediately if in contact with blood or body fluids;
- before and after removal of gloves;
- before and after contact with the child; and
- before and after taking breaks.

Gloves and other personal protective equipment

Gloves, masks and protective eyewear are intended to reduce the spread of infection to and from the caregiver and from child to child.

Powder free latex or vinyl gloves are to be worn in the following situations:

- direct care with a child that involves possible contact with blood or body fluids (e.g. mucous, sputum, urine, feces, saliva, vomit, nasal secretions);

- cleaning up spills of blood or body fluids;
- handling items soiled with blood or body fluids;
- contact with open wounds or sores;
- performing mouth care;
- assisting the child with toileting/diapering; and
- the caregiver has broken skin on the hands.

Removing gloves

1. Grasp the outer cuff of one glove using the other gloved hand.
2. Pull the glove off your hand, allowing it to turn inside out.
3. Grasp and hold the removed glove inside the palm of the gloved hand.
4. Place the thumb of the ungloved hand underneath the cuff of the gloved hand, and remove it by pulling it inside out, over the first removed glove.

Disposal of contaminated items

Disposable items (e.g. gloves, medical supplies) that may be contaminated with blood or body fluids should be double bagged before discarding. A separate waste container should be designated for this purpose.

Needles, lancets, syringes and other sharp objects should be placed into a puncture-proof container immediately after use.

Cleaning of contaminated surfaces

Areas that have been contaminated with blood or bodily fluids should be promptly cleaned with absorbent disposable paper towelling which is then disposed of into plastic garbage disposal. The area should then be cleaned with water and detergent followed by disinfection the surface with household bleach (one part bleach to nine parts water) and allowed to air dry.

Self care

It is important to encourage the child's participation in their own health care and to foster their independence, as appropriate. The ability of the child to provide their own health care can give them greater freedom during their participation in the community program.

The amount of assistance a child requires with their health care procedures will vary depending on the complexity of the procedure and the developmental and functional level of the child. Each child must be individually assessed as to their physical and psychosocial abilities to determine their ability to assist in or perform health care procedures. Many children with physical disabilities can learn to direct the care provider and/or assist during aspects of the health care procedure. Some children may be capable of learning to self perform health care procedures.

In addition to the child's developmental/functional stage, other factors that may be relevant in their ability to assist in or self perform health care procedures:

- ability to tolerate required position and/or procedure;
- fine motor and self help skills;
- ability to imitate others;
- ability for independence;
- acquisition of self-recognition and self-identity;
- emotional development to feel comfortable with the procedure; and
- ability to problem solve in familiar and unfamiliar settings.

Methods used to teach self care might include simulation or demonstration. Using an anatomically correct doll to teach children how to self perform health care procedures can be useful, as dolls are associated with play, which may enhance the child's participation. Because simulation on a doll is non-invasive, there is more opportunity for teaching and any possible embarrassment to the child is minimized. The process also lessens the child's anxiety and desensitizes the child so that he or she may successfully perform the procedure on themselves. Finally, the use of a doll allows potential errors to be detected before performing the actual procedure. The use of anatomical illustrations, videotapes or other visual aids also provide opportunities to demonstrate health care procedures to the child.

HEALTH CARE PLAN

When a community program receives URIS Group B support for children with URIS 'Group B' health care needs, a written health care plan is developed and maintained by a registered nurse minimally on an annual basis. The development and implementation of the health care plan should reflect the principles of inclusion and independence.

- A child that requires pre-set oxygen is foremost a child within a family, child-care facility, classroom or other community program.
- The environment should be changed to support the child, not the child changed to suit the environment.
- Interventions should be as non-intrusive as possible and be delivered in a manner that respects the child's dignity and privacy as well as the normal routines and patterns of the community program.
- The parent/guardian and child have rights and obligations and should be encouraged to actively participate in decisions affecting them.

Consultation with the parent/guardian and community program is required to develop a health care plan that is relevant to the child's needs and appropriate within the community program setting. For some children, the management of their health care need(s) within the community program may be complex and require consultation with health care professionals who are involved with the child.

When a child has multiple health care needs, all relevant information should be integrated into one comprehensive health care plan. The format should be user friendly and include information that is required to administer oxygen in a safe and appropriately manner during attendance at the community program

The health care plan should be kept in a location that is secure and accessible. Community program personnel that are responsible for the child should be aware of its location. The health care plan must accompany the child on excursions outside the facility.

Content

The following information is included in the pre-set oxygen health care plan. The *Pre-set Oxygen Health Care Plan* contains this information and is included as a supplement to this document.

Demographic information

- Child's name
- Birth date
- Community program name
- Parent(s)/guardian(s) name and phone number(s)
- Alternate emergency contact name and phone number(s)
- Physician(s)
 - Respiriologist and phone number
 - Family physician/pediatrician and phone number
- RANA contact name & phone number

Medical information

- Medical diagnoses and other relevant conditions
- Known allergies
- Availability of Medic-Alert® identification
- Prescribed medications
 - If medication is administered at home only, the name of medication is required
 - If medication is administered at the community program, drug name, dose, route, time and location is required
- Other child-specific information that is relevant for attendance in the community program

Pre-set oxygen information

- Reason for oxygen
- Prescribed flow rate
- Baseline information (e.g. breathing rate, skin color, usual reaction to oxygen administration)
- Oxygen source(s) used in the community program
- Oxygen equipment used in the community program (e.g. nasal prongs, OxyMask, OxyArm)
- Oxygen safety precautions
- Care of oxygen equipment
- Procedure for administering pre-set oxygen

- Procedure for installing and removing a regulator, if relevant to the child
- Plan for transportation, if relevant to the child
- Plan for excursions, if relevant to the child

Emergency situations and how to respond

- Respiratory distress

Potential problems and how to respond

- Child is not receiving enough oxygen
- Alarm sounds for power failure
- Alarm sounds for obstruction in tubing
- Respiratory infection
- Irritation of skin

Documentation

- Written record of oxygen administration
 - Date/time
 - Signature of community program personnel
- Template for recording observations and interventions performed by nurse and/or community program personnel
- Signatures & dates
 - Nurse signature, professional designation and date(s) of health care plan development/review
 - Parent/guardian signature & date

TRAINING

When a community program receives URIS 'Group B' support, training is provided to community program personnel by a registered nurse. Training is provided minimally on an annual basis. The training of community program personnel should reflect the principles of adult learning.

- The learning needs of participants should be identified and integrated into the training session.
- Information should be applicable to the participants' responsibilities and focus on what is most useful to them.
- Adults have accumulated a foundation of life experiences and knowledge and need to connect learning to this knowledge base.
- An organized training session with clearly defined elements assists participants in identifying and attaining learning goals.

It is the responsibility of the community program to designate community program personnel to receive training. An adequate number of community program personnel should receive training to ensure there is trained personnel available throughout the child's attendance at the community program. Community program personnel that receive training should have adequate opportunity to perform the task of administering oxygen so their knowledge and skill is retained.

It is recommended that the child who requires pre-set oxygen does not attend the community program if trained community program personnel are not available. In such situations, alternate arrangements should be made (e.g. parent/guardian administers oxygen at the community program).

The amount of time required to train community program personnel will vary depending on factors such as the existing knowledge of community program personnel and number of personnel trained. It is recommended to keep a written record of training provided to community program personnel. *Pre-set Oxygen Training & Monitoring* document may be used for this purpose and is included as a supplement to this document.

It is recommended that a representative from RANA provides training to community program personnel on the use of oxygen equipment. The nurse is responsible to arrange for such training. RANA can be contacted at 1-855-672-6262.

Content

The following standard clinical information and child specific information is included in the training session.

Clinical information

- Anatomy of the respiratory system
- Pre-set oxygen
- Oxygen sources
- Care of the oxygen equipment
- Oxygen safety precautions
- Administration of pre-set oxygen
- Installing and removing a regulator
- Emergency situation and how to respond
- Potential problems and how to respond
- Infection control guidelines

Child specific information

- Reason for oxygen administration
- Prescribed flow rate
- Baseline status (e.g. breathing rate, skin color, usual reaction to oxygen administration)
- Other information specific to child

Training Resources

Pre-set Oxygen Training & Monitoring is included as a supplement to this document and may be used to record training that has been provided to community program personnel.

MONITORING

Monitoring of trained community program personnel by a registered nurse is required to ensure that the knowledge and skill necessary to safely care for children with cardiac conditions has been retained. Monitoring is required minimally on an annual basis. The frequency and timing of monitoring is based on the professional decision of the nurse as well as the complexity of information taught, maturational issues and the skill demonstrated by community program personnel. Some monitoring strategies are listed below.

- Community program personnel complete questions about their knowledge and skill. The *Pre-set Oxygen Training & Monitoring* includes such questions and is included as a supplement to this document.
- After training is complete, the nurse observes the community program personnel administering pre-set oxygen to the child at a later date.

REFERENCES

Your Home Oxygen Therapy with RANA. RANA Home Oxygen Respiratory Care Group.

Oxygen Therapy. Hospital for Sick Kids website

Balfour-Lynn I.M., Primhak, R.A. & Shaw B.N. (2005). **Home oxygen for children: who, how and when?** *Thorax.* 60(1), 76-81.

Balfour-Lynn, I.M., Field, D.J., Gringras, P. Hicks, B., Jardine, E., Jones, R.C. Magee, A.G., Primhak, R.A., Samuels, M.P., Shaw, N.J., Stevens, S., Sullivan, C., Taylor, J.A. & Wallis, C. (2009). **BTS guidelines for home oxygen in children.** *Thorax.*, 64 (Suppl 2), 1-26ii.

College of Respiratory Therapists of Ontario (2013). **Oxygen Therapy Clinical Best Practice Guideline.**

World Health Organization (2009). **WHO Guidelines on Hand Hygiene in Health Care.**

RESOURCES

The following list includes resources that may be relevant to community programs in the care of children with pre-set oxygen. The purpose of these agencies/organizations may not be consistent with the purpose and content of this document.

RANA Home Oxygen Respiratory Care Group. *www.ranacaregroup.com*

Hospital for Sick Kids. *www.sickkids.ca*

Canadian Thoracic Society - Canadian Lung Association. *www.lung.ca/cts*