See also: VCH Acute Care Oxygen Therapy Education Manual

Oxygen Therapy: Initiation and Maintenance

Site Applicability

VGH, UBCH, GFS

Practice Level

- **RN**
- **LPNs** may provide care and maintenance for patient's receiving low flow oxygen therapy as per CPD and as ordered by a physician or as directed by a RN or RRT via nasal prongs or a simple mask, including administration of aerosol medications and titration of oxygen as per physician orders.
- **PT**
- **RT**

Policy Statement

1. A physician's order is required for maintenance of SpO2 with oxygen therapy, except in an emergency situation. In an emergency situation (e.g. cyanosis, dyspnea, angina, SpO2 < 93%), an RN, RT, or PT may initiate oxygen therapy. The physician must then be contacted immediately to order a continuance of the oxygen therapy & SpO2 target or range to be maintained.
2. Consult a Respiratory Therapist to assess any patient with the following:
    a. an order for FiO2 > 0.40
    b. oxygen saturation < 93% and FiO2 > 0.40 despite interventions such as deep breathing and coughing, arousing patient, suctioning, etc.
    c. in acute respiratory distress (e.g. sudden dyspnea, tachypnea)
    d. transport with FiO2 > 0.40
    e. artificial airway or tracheal stoma
3. All orders must include SpO2 target or range unless oxygen delivery system (and l/min or FiO2) is specified by the physician.
4. Oxygen delivery by nasal cannula 1-5 l/min will not be routinely humidified.
5. All ICU patients must be accompanied by an RT or RN during off-unit transports

Practice Guideline

Oxygen Titration Guidelines:

1. Patient should be at rest and not have received bronchodilators for 20 minutes prior to titration.
2. Perform chest clearance techniques, incentive spirometry or postural drainage prior to oxygen titration.
3. Perform respiratory assessment before titration. Check level of consciousness, vital signs, respiratory rate, depth and pattern, observe for signs of respiratory distress, ask patient about dyspnea, and check for cyanosis. Auscultate lung fields and check SpO2.
4. Follow titration guidelines recommended in VCH Acute Care Oxygen Therapy Education Manual. Changes in oxygen percentage should be in 5%-10% increments. Changes in litre flow should be in 1 l/min - 2 l/min increments. Each change should be followed by assessing the SpO2 5 minutes following the change.
5. Aim to use the lowest FiO2 necessary to achieve the desired SpO2.
6. Follow physician orders if a specific SpO2 level or range has been ordered for a patient.
7. Simple nasal cannula should not have a litre flow of > 6 l/min (to avoid nasal irritation), and a simple mask should not have a litre flow < 6 l/min (to provide enough flow to clear carbon dioxide from mask).
8. Repeat respiratory assessment (step 3) after titration to assess for effect.

Equipment Disposal

1. At the UBC and GFS Site, all respiratory equipment is discarded when the patient is discharged.
2. At the VGH Site, all respiratory equipment is placed in soiled utility room for pick-up.

Transport with Grab N' Go tanks

Videos

- Grab n' Go Advanced Respiratory System
- To view specific sections of the video click on the following topics:
  - Product Description
  - How to Set-Up & Use
  - Proper Handling & Storage
  - Safety Precautions

1. **Leaving on transport:**
    a. Consult with Respiratory Therapist if required (see policy statement criteria above).
    b. Estimate length of transport and ensure adequate pressure in the tank (see table 1).
    c. Connect patient interface to tank output as per procedure below.
    d. Turn on tank by rotating dial clockwise.
    e. Stabilize patient on transport oxygen setup to ensure SpO2 > 93% for 5 minutes prior to leaving on transport.
    f. Secure tank to stretcher, bed, walker or wheelchair as applicable. Ensure all oxygen delivery connections are secure.
    g. If transporting an ICU patient, assess, monitor patient and document respiratory assessment after patient has stabilized (continuously monitor patient while on transport).
2. **On return:**
    a. Reconnect patient to wall oxygen and ensure SpO2 > 93% or as ordered. If patient is on humidified nebulizer, remove and discard the Tubing Adaptor, reconnect corrugated tubing to aerosol face mask or tracheostomy mask, fill nebulizer if necessary, check FiO2 setting and turn on flowmeter. If patient is on FiO2 > 0.40, call RT to reassess.
    b. Turn off Grab N' Go tank by rotating dial counter-clockwise until red OFF flag shows in window.
    c. If returning a patient to ICU, monitor and assess patient after the patient has stabilized (suggested assessment time is 5 min after the patient has been
    d. reconnected to wall based oxygen therapy source).
    e. Return Grab N' Go tank to cylinder storage area.
    f. When tank is empty or < 500 psig, tear off the bottom portion of the green tag to indicate tank needs replacement.

Table 1

Oxygen Cylinder Duration Chart (*Time in Minutes)

E SIZE									
Cylinder Pressure (PSIG)	2000	1800	1400	1200	1000	800	600	500	250
Flow (L/min)									
0.5	1098*	972	721	596	470	345	220	157	0
1	549	486	361	298	235	172	110	78	0
1.5	366	324	240	199	157	115	73	52	0
2	274	243	180	149	118	86	55	39	0
3	183	162	120	99	78	57	37	26	0
4	137	122	90	74	59	43	27	20	0
6	91	81	60	50	39	29	18	13	0
8	69	61	45	37	29	22	14	10	0
15	37	32	24	20	16	11	7	5	0
25	22	19	14	12	9	7	4	3	0

*NOTE: It is recommended that when a cylinder falls into the shaded area it is not to be used to transport patients. At minimum, ensure a second full cylinder is transported with the patient.

Procedure

Step 1

Check pressure in tank

Step 2

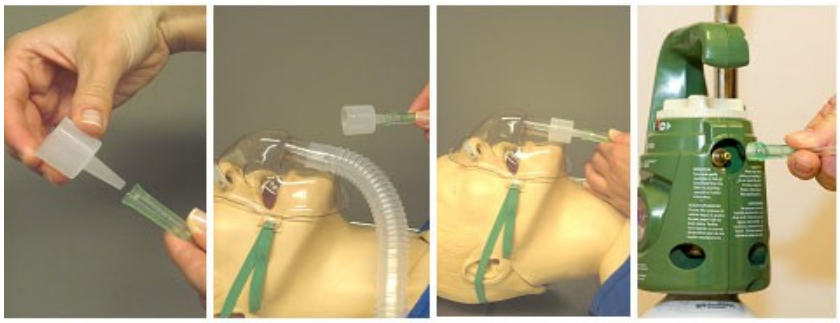
Turn on tank to desired flowrate

Step 2A (for nasal prongs)

- Connect oxygen tubing from nasal prongs directly to tank.
- Set oxygen flowrate ≤ 6 l/min.

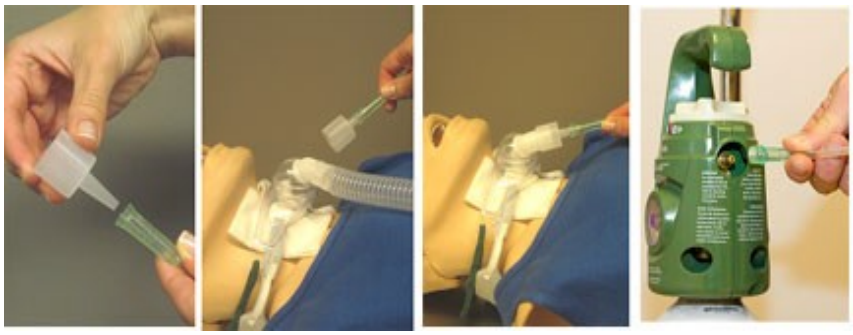
Step 2B (for simple face mask)

- Connect oxygen tubing from simple face mask directly to tank.
- Set oxygen flowrate 8 l/min.



Step 2C (for aerosol face mask)

- Connect ***Tubing Adaptor*** to oxygen tubing
- Remove corrugated tubing and connect ***Tubing Adaptor*** to face mask outlet
- Connect oxygen tubing from ***Tubing Adaptor*** to tank. Set oxygen flowrate to 8 or 15 l/min as necessary to keep SpO2 > 93% or as ordered.
- **NOTE:** Patient will not receive humidity for duration of transport.



Step 2D (for tracheostomy mask)

NOTE: Patients on T-piece set-up are to be changed to tracheostomy mask for transport.

- Connect ***Tubing Adaptor*** to oxygen tubing
- Remove corrugated tubing and connect ***Tubing Adaptor*** to tracheostomy mask outlet
- Connect oxygen tubing to tank. Set oxygen flowrate to 8 or 15 l/min as necessary to keep SpO2 > 93% or as ordered.
- **NOTE:** Patient will not receive humidity for duration of transport.

Equipment and Supplies

For transport:

If using tracheostomy mask or aerosol face mask with Grab N' Go tank, you will need the following additional supplies:

1. Hudson Tubing Adaptor, 22mm I.D (see photo below)

2. Oxygen Tubing

Documentation

Transport from ICU:

- Document HR, RR, Sp02 and auscultation after patient has stabilized (continuously monitor patient while on transport)

On Return to ICU:

- Document HR, RR, Sp02 and auscultation after patient has stabilized (continuously monitor patient while on transport)

References

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Alternate Search Terms

grabngo

grab n go

grab n go tanks

oxygen tanks

grab and go tanks