Providence HEALTH CARE	**RESPIRATORY SERVICES**	DATE CREATED: January 1996 DATE REVIEWED/REVISED: **August 2017**
PROCEDURE	TITLE: MEDICAL/SURGICAL – Walking Oximetry for Home Oxygen Assessment (Respiratory Therapy) NUMBER: B-00-12-12039	RELATED DOCUMENTS: B-00-12-12004

SITE APPLICABILITY:

ST. PAUL'S HOSPITAL
MOUNT SAINT JOSEPH HOSPITAL

GENERAL INFORMATION:

Ambulatory home oxygen assessment using pulse oximetry may be performed to determine the degree of oxygen desaturation and/or hypoxemia that occurs on exertion, as per the short term Home Oxygen Program criteria. To optimize patient safety during the walking oximetry study, a wheeled mobility aid with seat can be used to provide the patient with a readily available place to sit if required.

INDICATIONS:

Respiratory Therapists will assess pulse oximetry on ambulation to determine whether patients meet the BC Home Oxygen Program medical criteria on ambulation.

CONTRAINDICATIONS:

- Patient is unable to walk 1 minute or longer (based on guidelines from the Home Oxygen Program - funding will not be provided for ambulatory O_2 in these circumstances)
- Acute ECG changes suggesting myocardial ischemia or serious cardiac dysrhythmias, including bradydysrhythmias, tachydysrhytmias, sick sinus syndrome, and multifocal PVCs causing symptoms or hemodynamic compromise (occasional PVCs are not a contraindication)
- Unstable angina
- Recent myocardial infarction or myocarditis (within last four weeks)
- Aortic or cardiac aneurysm
- Uncontrolled systemic hypertension
- Acute thrombophlebitis or deep venous thrombosis
- Second or third degree heart block
- Recent systemic or pulmonary embolus
- Acute pericarditis
- Symptomatic severe aortic stenosis
- Uncontrolled heart failure
- Uncontrolled or untreated asthma
- Pulmonary edema

- Respiratory failure
- Acute non-cardiopulmonary disorders affected by exercise

RELATIVE CONTRAINDICATIONS:

- Situations in which pulse oximetry may provide invalid data (i.e. elevated HbCO, HbMet)
- Non-compliant patient or not capable of performing test (i.e. weakness, pain, fever, dyspnea, psychosis)
- Severe pulmonary hypertension
- Known electrolyte disturbances (i.e. hypokalemia, hypomagnesemia)
- Neuromuscular, musculoskeletal, or rheumatoid disorders that are exacerbated by exercise
- Uncontrolled metabolic disease (i.e. diabetes, thyrotoxicosis, myxedema)
- SpO_2 less than 85% on room air
- Resting diastolic blood pressure greater than 110 mmHg or resting systolic blood pressure greater than 200 mmHg
- Complicated or advanced pregnancy
- Hypertrophic cardiomyopathy or other forms of outflow obstruction

SPECIAL CONSIDERATIONS:

If a patient uses a mobility device to ambulate, this device should be used during the walk test. If a patient is unable to ambulate independently and does not use a mobility device or is at risk of falling, consult physiotherapy to assess fitness for ambulation. The availability of the RT walker does not negate the need to refer to physiotherapy for patients that require assistance when ambulating.

REQUIRED SUPPLIES & EQUIPMENT:

- Walker with attached E-sized cylinder
- Clipboard with timer
- Radical 7 Pulse Oximeter
- Oxygen Saturation Study Form (from Chartscan)

PROCEDURE:

1. Verify physician order for home O_2 assessment.

   NOTE: If Respirology orders a 6 minute walk test, refer to Pulmonary Function Lab.

2. Review patient chart for contraindications/relative contraindications and mobility concerns or limitations.

3. Explain procedure to patient. Perform resting physical assessment including: skin colour, dyspnea, perceived exertion, leg cramps, chest pain, respiratory rate, cooperation, effort level, blood pressure.

4. Record baseline SpO_2 and pulse rate (patient should be on room air and seated for at least 10 min prior to starting exercise oximetry).

5. Walk with patient down the hall and around the ward for a maximum of 6 minutes, assessing SpO_2 and patient condition continuously. **Record SpO_2 and pulse rate every 30sec** on the ***Oxygen Saturation Study*** form (available in Chartscan).

6. In the **Comments** section of the form, record the approximate distance the patient walked as well as any adverse events. If the patient needed to stop at any time during the test, document the reason. Also, document the maximum level of shortness of breath experienced by the patient as per the BORG scale.

   APPROXIMATE DISTANCES (refers to Providence Building nursing units):

Around elevators = 60 meters
Long hallway = 34 meters
Short hallway = 17 meters

7. If the SpO_2 is less than 88% sustained continuously for greater than 1 minute, initiate O_2 to maintain SpO_2 greater than 90%. Complete the walking oximetry on oxygen.

   NOTE: Documentation must clearly demonstrate that the patient's SpO_2 was less than 88% for greater than one minute before starting oxygen – this would be 3 consecutive measurements at 30 seconds apart.

8. Stop test immediately if:

   - Severe desaturation (SpO_2 less than or equal to 83%)
   - Angina
   - Hypotensive response
   - Dysrhythmias (change in pulse rate and/or irregular pulse)
   - Light-headedness
   - Request by patient to terminate test
   - Mental confusion or headache
   - Cyanosis
   - Nausea or vomiting
   - Muscle cramping
   - Weakness or leg pain

DOCUMENTATION, COMMUNICATION, EDUCATION:

The data from the Radical 7 pulse oximeter can be downloaded using Profox software if desired.

Document all pertinent data in the Progress/Interdisciplinary Notes of the patient chart. Include whether the patient met Home Oxygen criteria and the reason if criteria was not met.

Complete Home Oxygen Program Application form and fax completed form as well as any supporting documentation (i.e. walking oximetry form) with cover letter to the appropriate home oxygen vendor. Place the original copy of the walking oximetry form under the Diagnostics tab of the patient chart.

REFERENCES:

1. AARC Clinical Practice Guideline - Exercise Testing for Evaluation of Hypoxemia and/or Desaturation: 2001 Revision and Update. Resp Care May 2001. 46(5): 514-522.
2. Vancouver Coastal Health Home Oxygen Program Application (Rev May 2012)

REVIEWED BY:

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