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Oxygen Therapy and Respiratory Equipment (POC 9)

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Purpose

This policy provides direction on the provision of home oxygen therapy and oxygen / respiratory equipment for eligible Veterans.

Policy

General

1. For the purpose of this policy, a reference to the term “Veteran” is interpreted to include all individuals eligible for home oxygen therapy and/or respiratory equipment.

Eligibility

2. Veteran eligibility for treatment benefits, including home oxygen therapy, is outlined in Eligibility for Health Care Programs – Eligible Client Groups. Home oxygen therapy may be approved to those eligible Veterans:
    a. who have been diagnosed by a health professional with one of the following medical conditions:
        i. chronic hypoxemia;
        ii. cor pulmonale;
        iii. secondary polycythemia; or
        iv. pulmonary hypertension.
    b. for whom it is medically necessary; and
    c. who are in stable condition on optimal non-oxygen therapy.

    See Annex A to this policy – Approval Criteria / Authorities.

3. In exceptional circumstances Veterans, other than those listed above in paragraph 2, may be eligible to receive oxygen therapy. See paragraphs 9-11 of this policy.

Approval

4. Home oxygen therapy may be approved if there is:
    a. evidence (clinical criteria) that the treatment is needed; and
    b. evidence that the potential for benefit outweighs the potential for harm.
5. First-time approval of home oxygen therapy must be based on a physician's diagnosis, prescription, and a Registered Respiratory Therapist's report. The approval is for an initial period of four months, in order to permit a review of the three month follow-up of Arterial Blood Gas (See Annex A to this policy – Approval Criteria / Authorities) to determine if the Veteran continues to meet the approval criteria.
6. If the three month follow-up indicates that the Veteran continues to meet the approval criteria, home oxygen therapy may be approved for up to an additional 12 months, the maximum frequency period indicated on the benefit grids.
7. If the three month follow-up indicates that the Veteran does not meet the approval criteria noted in Annex A, the delegated decision-maker will make a determination as to whether the benefits are to be continued or cancelled.
8. The delegated decision-maker reviews the Registered Respiratory Therapist's report, which must be submitted annually, and makes a decision in accordance with the information provided.

Oxygen Therapy in Exceptional Circumstances

9. When oxygen is required on a short term basis, it is considered acute care. Short term home oxygen therapy (less than three months in duration) is not covered by Veterans Affairs Canada, with the exception of palliative care cases as a support measure for terminally ill Veterans who do not otherwise meet the approval criteria. Any short-term home oxygen therapy, which continues to be needed beyond the three-month mark, may be reconsidered for approval home oxygen therapy.
10. Nocturnal oxygen desaturation and exercise-induced oxygen desaturation are not recognized for home oxygen therapy except under exceptional circumstances. Where it is requested, evidence would need to include a significant, repetitively-measured decrease in oxygen saturation well

below minimal acceptable levels (See Annex A to this policy – Approval Criteria / Authorities). Cases will be assessed on an individual basis.

11. Home oxygen therapy is not indicated in the treatment of patients with primary heart disease. The recommendation for the use of home oxygen therapy for cardiac patients, who present with other complicating pulmonary factors, should be made only by a cardiologist or, when no cardiologist is available, an internist. A report from the family physician is acceptable only when there is no internist available.

Use of Medical Oxygen While Travelling by Air

12. Veterans approved for home oxygen therapy who plan to travel by airplane, need to make special plans ahead of time. Only certain models of personal oxygen concentrators (contact the airline for a comprehensive list) are accepted sources of medical oxygen for individuals requiring supplemental oxygen during flight. The Veteran must either:
    a. bring an approved personal oxygen concentrator on board, along with enough battery power for 1.5 times the total travel time. The Veteran may buy or rent the equipment in advance (see paragraphs 16 and 19); or
    b. rent oxygen equipment directly from the airline provider.

    Veterans Affairs Canada will reimburse expenses to the Veteran for medically needed oxygen when travelling by air. Regardless of which option is chosen, airlines typically require that the Veteran provide advance notice regarding the need for oxygen and that the Veteran obtain medical approval from his or her treating physician for the airline’s consideration prior to the date of travel.

13. Some types of medical oxygen equipment are considered prohibited items with airlines, in either carry-on or checked baggage, including personal oxygen cylinders (tanks). In recognition of this, Veterans Affairs Canada will reimburse the additional costs for rental or use of oxygen while the Veteran is at the temporary location (i.e. vacation, family visit).

Prescribers

14. Approved prescribers may be found in the benefit grids and Health Professionals policy. In the majority of cases, the opinion of the attending physician is sufficient to recommend oxygen therapy. In exceptional circumstances, such as a patient with primary heart disease, the opinion of a cardiologist or an internist is recommended. The opinion of a specialist is required to recommend respiratory equipment for sleep apnea (see paragraphs 11-13 of Annex A to this policy).

Respiratory Equipment for Sleep Apnea and Upper Airways Resistance Syndrome

15. Continuous Positive Airways Pressure (CPAP)/Automatic Positive Airway Pressure (APAP) and Bi-Level Positive Airways Pressure (BiPAP) devices, full-face masks, nasal masks or nasal pillows and tubing are approved respiratory equipment within the benefit grids in the treatment of:
    a. sleep apnea including;
        i. obstructive sleep apnea,
        ii. central sleep apnea, or
        iii. complex (a combination of obstructive and central) sleep apnea, or
    b. Upper Airways Resistance Syndrome.
16. Removable, custom-fit, titratable oral appliances, referred to as Mandibular Advancement splints, may be an approved equipment for the treatment of obstructive sleep apnea for patients who are intolerant of CPAP/APAP.
17. Dental Orthotics for full-mouth rehabilitation or reconstructive dentistry, will not be approved for treatment of obstructive sleep apnea.

See Annex A to this policy – Approval Criteria / Authorities.

Oxygen Equipment

18. An oxygen equipment system, which includes a backup system, must respond to the oxygen needs of the Veteran. An oxygen system will take into consideration:
    a. cost effectiveness
    b. appropriateness

c. prescribed flow rate
d. hours of usage per day
e. safety for Veteran
f. ease of use
g. mobility
h. type of backup required (e.g. portable oxygen or a back-up concentrator)

19. The types of equipment that may be approved for use in conjunction with home oxygen therapy are identified in the benefit grids. Examples of equipment for eligible Veterans include: oxygen concentrators, compressed oxygen cylinders, liquid oxygen, oxygen conserving devices, Homefill system, and respiratory supplies.
20. Since first-time oxygen approvals are on a provisional basis only, oxygen equipment should initially be rented, with the option to cancel, as a decision may be taken to cancel the long term home oxygen usage after the three-month assessment.
21. The policy entitled Equipment (POC 13) provides general guidance on determining the most appropriate, cost-effective method of obtaining treatment benefits items. With respect to long term home oxygen equipment, the following factors need to be considered in making this determination:
    a. age and prognosis of Veteran (e.g. it would be cost effective to purchase rather than rent an oxygen concentrator, if the Veteran is expected to require the equipment for a minimum of one year, as concentrators cost approximately $3,500 to purchase or approximately $250 per month to rent);
    b. ability and willingness of the Veteran or caregiver to assume responsibility for the operation and routine maintenance of the purchased equipment (responsibilities that would normally be covered under the terms of a rental agreement);
    c. inclusion of, or requirement to buy, service contracts to cover costs such as equipment delivery and set up; refilling/replacing tanks; replacing expendable items and supplies; conducting regular maintenance checks and assessments; providing an emergency back-up system, emergency service and warranty;

d. variations that may exist in the coverage provided by a service contract that is included as part of a rental agreement versus one that is purchased;
e. penalties associated with breaking a service contract or rental agreement should the equipment no longer be needed;
f. availability of a supplier to overhaul the purchased equipment for recycling, and the cost of doing so;
g. the logic of renting low-cost items with minimum maintenance requirements and a high recycle potential (e.g. oxygen strollers or cart that rent for approximately $7 per month but cost only approximately $125 to purchase).

Responsibility of Suppliers / Veterans Affairs Canada

22. Suppliers are expected to be responsible for the following (these requirements must be included as a condition of the purchase, rental or lease-to-buy agreement):
    a. obtaining approval from Veterans Affairs Canada for the provision of long term home oxygen therapy;
    b. installing the oxygen equipment by a person duly certified to do so;
    c. instructing the Veteran or caregiver on equipment operation, safety and maintenance requirements;
    d. maintaining the equipment in good working order;
    e. providing emergency service when needed; and
    f. providing a follow-up Registered Respiratory Therapist’s assessment to the delegated decision-maker at three months following installation and every 12 months thereafter.
23. As a minimum, the Registered Respiratory Therapist’s assessments must:
    a. describe the system(s) in place;
    b. identify whether actual usage complies with the prescription;
    c. provide an assessment of the Veteran’s respiratory condition, including smoking status, education and safety aspects;
    d. indicate if the oxygen system is still appropriate to the Veteran's needs; and
    e. provide an oximetry reading.
24. The delegated decision-maker reviews the Registered Respiratory Therapist’s reports, which must be submitted on a yearly basis, and

renews approval in accordance with the information provided in the reports.

Safe Use of Oxygen

25. Veterans Affairs Canada will not be held responsible for any injury or damages resulting from home oxygen use and smoking. For Veterans who smoke, the delegated decision-maker should ensure that the prescriber and recommender are aware of the Veteran's smoking status, and that the Veteran has been advised of the health and safety hazards associated with smoking and long term home oxygen use.
26. Minimum safety standards in the use of oxygen near open flame are:
    a. Veterans on oxygen must stay at least five feet away from a wood stove or open flame and for longer periods of time should remain ten feet away from a wood stove or open flame.
    b. Ideally, Veterans with oxygen would not be in the same room as a wood stove or open flame.
    c. Veterans should be off their oxygen for at least thirty minutes before stoking a wood stove or being near an open flame.
    d. Concentrators must be at least ten feet away from a wood stove or open flame.
    e. Oxygen tanks must be kept in another room away from a wood stove or open flame.

ANNEX A

Approval Criteria / Authorities

Physiological

1. Home oxygen therapy may be approved for Veterans when the following physiological criteria are demonstrated:
    a. The Veteran is in a stable condition on optimal non-oxygen therapy; and
    b. The Veteran has chronic hypoxemia, with a partial pressure of oxygen in arterial blood reading of 55 or less at rest; or

c. The Veteran has cor pulmonale, secondary polycythemia, or pulmonary hypertension with an arterial blood gas partial pressure of oxygen in arterial blood reading of 60 or less.
    I. Cor pulmonale:
        i. P-pulmonale electrocardiogram pattern;
        ii. increase in P-wave amplitude (>2mm) in leads II, III, and augmented electrocardiographic leads from the foot;
        iii. jugular venous distension;
        iv. hepatomegaly or tender liver; and
        v. peripheral edema.
    II. Secondary polycythemia:
        i. erythrocytosis with a hematocrit > 55 (hard copy must be provided)
    III. Pulmonary hypertension:
        i. documentation of pulmonary hypertension with evidence of pulmonary artery pressure or ultrasound indicating elevated pulmonary artery pressure.

Arterial Blood Gases

2. For home oxygen therapy, two independent Arterial Blood Gases are required. The Veteran is expected to be stabilized and to have these readings taken in a hospital or Arterial Blood Gas lab setting. If a Veteran is bedridden and within a 30 minute radius of such a facility, the Arterial Blood Gases may be done at home by a registered health professional, who has been accredited in the performance of this procedure.
3. The first Arterial Blood Gas should be obtained when the Veteran's condition has stabilized (i.e. no longer in acute distress). The second Arterial Blood Gas should be obtained three months later. The timing of the Arterial Blood Gases permits a determination of the therapeutic benefit to the Veteran whose condition has been stabilized.

Oximetry

4. The Arterial Blood Gas requirement is necessary. Exceptions (i.e. the use of oximetry) should be considered only in exceptional circumstances. Oximetry could be used for:

a. Veterans who have been on oxygen therapy for over a year,
b. bedridden Veterans who are more than 30 minutes from a collection site (and travel to the centre is not feasible), or
c. nocturnal and exertional studies.

In all cases, the rationale for oximetry must be provided.

5. The criterion to be considered for home oxygen therapy is an oximetry result of 88% or less oxygen saturation. The procedure must be performed while the Veteran is awake and has been at rest for a minimum of five minutes (the Veteran should not be in the recovery stage following exertion). A copy of the reports should be forwarded to the delegated decision-maker for review.

Oxygen Desaturation

6. To qualify for home oxygen therapy with nocturnal oxygen desaturations, the medical condition must be confirmed by a full sleep study (polysonography) or overnight trending oximetry (completed in a sleep laboratory), or by a sleep screening study. If a sleep screening study is used, it must include:
   a. continuous recording of oxygen saturation,
   b. heart rate, and
   c. direct measurement of air flow.

The most frequently used measurement from a polysonogram, taken during a formal sleep study, is an apnea-hypopnea index (AHI). An AHI is the number of respiratory events (apnoeic episodes and hypopneic episodes) per hour.

7. For nocturnal oximetry, an oxygen desaturation index (ODI) can be generated, which is the number of desaturations greater than 3%, per hour of study. There is no single cut-off of ODI that can be used on its own to decide treatment (the ODI alone should not be used to decide treatment). When the ODI parameter is satisfied, it can be taken into the clinical context to decide whether therapy is appropriate. Although an AHI of greater than or equal to 10 is commonly associated with symptoms, again no single cut-off of AHI should be used exclusively to decide therapy. There is an increasing likelihood ratio for the development of hypertension

with AHI’s greater than or equal to five.

8. For those who desaturate for another reason (e.g. COPD), then often the percentage of time below a certain saturation is used to decide if oxygen is prescribed (e.g. at least 5% of sleep time with an oxygen saturation at or below 85% without nocturnal oxygen therapy). Respiratory vendors may administer the testing in an individual’s home, if absolutely necessary.
9. Nocturnal desaturations that are usually shorter than two minutes in duration, but occur repetitively throughout the sleep period, may indicate a sleep-related breathing disorder such as sleep apnea. Supplemental oxygen may be required in particular cases, when treatment with CPAP/APAP or BiPAP still results in an oxygen desaturation below 85%.
10. In the case of exercise-induced oxygen desaturation, the evaluations should be performed at a time of stability when the Veteran is considered optimized. To qualify for oxygen therapy based on exercise-induced oxygen desaturation:
    a. the Veteran must first be pre-screened and show a pulse oximeter oxygen saturation less than 90% persistently for at least one minute during exercise (i.e. activities of daily living such as getting dressed, brushing teeth, etc);
    b. the pre-screening must be done prior to but within one month of a walking test;
    c. the walking test must be performed (at a reasonable pace, for the Veteran, for a minimum of five minutes); failure to complete the time, or a drop in pulse oximeter oxygen saturation during that time would be significant; and
    d. the Veteran has measured improvement in walking performance on oxygen compared to air so that the distance walked increases by 25% (at least 30 metres), or desaturation to less than 80%, regardless of dyspnea or distance walked. The Veteran does not qualify for oxygen therapy when the differences between air and oxygen walking are less than the specified values (above).

If the Veteran is unable to walk for a medical condition or infirmity unrelated to dyspnea or arterial desaturation, then the Veteran does not qualify for oxygen for exercise.

Approval Authority for CPAPs/APAPs and BiPAPs

CPAP/APAP

11. Use of a CPAP/APAP may be approved by the delegated decision-maker when supported by the following documentation:
    a. polysonography diagnostic of obstructive, central or complex sleep apnea or Upper Airways Resistance Syndrome, interpreted by a specialist; or
    b. home study diagnostic of obstructive sleep apnea interpreted by a specialist. This home study preferably should be a Level III type study, however, when not available, oximetry could be an acceptable substitute.
12. Specialists who would generally be knowledgeable of sleep disordered breathing include:
    a. respirologists,
    b. ear, nose and throat specialists,
    c. neurologists,
    d. psychiatrists with special interest training or a fellowship in sleep medicine, or
    e. in certain circumstances, general internists with specialized knowledge in sleep medicine would be acceptable where no one else is available.

BiPAP

13. A specialist, i.e. respirologist, sleep specialist, or general internist with specialized knowledge in sleep should be involved and make the recommendation for the use of BiPAP. The requirement for BiPAP would indicate increased disease severity or in particular a type of problem that requires specialized investigations and therapy.

Oral Appliances

14. Use of a removable, custom-fit, titratable oral appliance may be approved by the delegated decision-maker when:

a. prescribed for diagnosed obstructive sleep apnea by a specialist as defined in section 12,
b. supported, at a minimum, by a Level III type home study diagnostic of obstructive sleep apnea, and
c. the oral appliance be considered, rather than no treatment for patients with obstructive sleep apnea who are intolerant of CPAP/APAP.

15. When oral appliances are prescribed by a physician with specialty training in sleep medicine for a patient with obstructive sleep apnea, the qualified dentist may use a removable, custom-fit, titratable oral appliance.

References

Veterans Health Care Regulations, paragraph 4(b)

Eligibility for Health Care Programs – Eligible Client Groups

Oxygen Therapy (POC 9) – Benefit Grids

Health Professionals

Equipment (POC 13)

Guide to Treatment Benefits, Health-related Travel and VIP (Blue Cross)