Oxygen Use in Palliative Care Guideline and Flowchart

Reviewed: October 2013

Gippsland Region Palliative Care Consortium Clinical Practice Group

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<thead>
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<th>Policy No.</th>
<th>GRPCC-CPG004_1.0_2011</th>
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<tbody>
<tr>
<td>Title</td>
<td>Oxygen Use in Palliative Care Guideline and Flowchart</td>
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<tr>
<td>Keywords</td>
<td>Oxygen, Guideline, Palliative, Care, Clinical, Practice</td>
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<tr>
<td>Ratified</td>
<td>GRPCC Clinical Practice Group</td>
</tr>
<tr>
<td>Effective Date</td>
<td>October 2011</td>
</tr>
<tr>
<td>Review Date</td>
<td>Every two years from effective date.</td>
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<td>Purpose</td>
<td>This policy has been endorsed by the GRPCC Clinical Practice Group and is based on current evidence based practice and should be used to inform clinical practice, policies and procedures in health services. The intent of the policy is to promote region wide adoption of best practice. Enquiries can be directed to GRPCC by email <a href="mailto:enquiries@grpcc.com.au">enquiries@grpcc.com.au</a> or phone 03 5623 0684</td>
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<tr>
<td>Pages</td>
<td>5</td>
</tr>
</tbody>
</table>
**Policy Statement**

The use of supplemental oxygen therapy in people with advanced cancer should be reserved for those with evidence of hypoxemia, and symptoms not responsive to opioids and other pharmacological and non-pharmacological measures.

Supplemental oxygen therapy for non-cancer palliative clients including Chronic Obstructive Pulmonary Disease (COPD) needs to in accordance with Thoracic Society of Australia and New Zealand Guidelines.

Oxygen therapy should not be initiated without adequate assessment of possible aetiology, as it is not without adverse effects and social consequences.

If oxygen is introduced, an initial limitation of two to four weeks supply subject to assessment review before ongoing supply to a maximum of three to four months is approved.

**Definitions**

**Dyspnoea:** shortness of breath

**Breathlessness:** subjective sensation of difficult or uncomfortable breathing

**Hypoxemia:** reduced oxygen concentration in the blood with arterial partial pressure of oxygen less than 60mmHg or oxygen saturation of ≤ 90%.

Often presents without recognisable signs. Signs of hypoxemia, if present, can include neurological signs such as anxiety, agitation leading to confusion and ultimately loss of consciousness. Other signs include tachypnoea, nasal flaring, use of accessory breathing muscles, changes in vital signs and cyanosis.

**Guideline**

**Supplemental oxygen therapy**

In patients with oxygen saturation at rest of ≤ 90%, a therapeutic trial of oxygen therapy may be reasonable but continued use can only be justified if there is therapeutic benefit.

While there is no evidence of symptomatic benefit of oxygen use in non-hypoxic clients, oxygen may be given to mildly hypoxic patients (SaO2 90-93%) once other pharmacological and non-pharmacological measures have been exhausted, and if it provides symptomatic relief.

**Indications for oxygen therapy**

1. **Respiratory Disorders**

   PaO2 = consistently 55mmHg or less on room air
   
   or
   
   PaO2 56-59mmHg with evidence of significant co-morbid conditions (right heart failure, pulmonary hypertension, chronic anaemia or polycythemia)

   This group will generally require blood gases to meet the requirements of Thoracic Society of Australia and New Zealand Guidelines.

2. **Exertional Hypoxaemia**

   Evidence of exercise induced oxygen de-saturation on either walk or step test to SaO2 ≤
88% on room air and demonstrated improvement on supplemental oxygen.

3. **Cardiac Disorders**

As for respiratory disorder indications noted above.

Oxygen may be prescribed without blood gas measurement in the following circumstances which are primarily considered as palliative:

- severe intractable angina on maximal drug therapy where nothing further can be offered surgically; and
- recurrent episodic pulmonary oedema, severe pulmonary hypertension or severe chronic cardiac failure where no other drug therapy or interventional procedures are possible.

4. **Terminal Malignancy**

Primary or secondary lung cancer with evidence of hypoxemia and a life expectancy of less than six months.

Caution needs to be exercised in clients with underlying COPD as they may be dependent on hypoxia for respiratory drive.

**Contra Indication to Oxygen Therapy**

- Current smoker including non-legal substances.
- Patient without cognitive capacity or a carer to appropriately manage oxygen therapy presenting a risk to health and safety of patient and others.

**Adverse effects of oxygen therapy include:**

1. Promote anxiety – dependency on equipment can lead to anxiety regarding equipment failure with both client and family;
2. Drying of airways – nasal dryness, crusting and bleeding upper airway irritation; increased cough;
3. Trauma due to tubing – Pressure ulcers around ears/ nasal trauma; Trips/ falls from entanglement in tubing;
4. Noisy apparatus – Contributes to insomnia; and

**Oxygen Prescription**

Optimal management of reversible causes using both non-pharmacological and pharmacological measures to manage dyspnoea or associated perception need to be addressed in the first instance. (refer also to Breathlessness Management Guidelines)

A home oxygen medical prescription detailing oxygen therapy parameters and planned review need to be in place prior to commencement of therapy.

**Equipment**

Equipment supply should be limited to an oxygen concentrator and back-up cylinder for use
Depending on the model, oxygen concentrators deliver 92% ±3% oxygen when operated at flow rates ≤4L/min. The percentage falls with increasing flow rate to 90% ± 3% oxygen at ≥ 5L/min.

**Client Safety**

Document the provision of verbal and written information regarding use of oxygen concentrator including oxygen therapy prescription and safety issues.

Compliance with adherence with safety requirements and prescribed therapy should be monitored regularly.

**Key Performance Indicators**

Oxygen use in palliative care is limited to those with hypoxemia, or where all other therapeutic measures have been unsuccessful in managing symptoms, and where there is demonstrated evidence of improved symptom control.

**Attachment**

Oxygen Use in Palliative Care Flowchart.

**References**


Oxygen Use in Palliative Care – Flowchart

Dyspnoea / Breathlessness

Have possible contributing factors been identified and optimal treatment measure instituted?

Yes

Have symptoms proven to be responsive to opioids and other pharmacological and non pharmacological measures?

Yes

Contributing Factors:
- Anxiety
- Pain
- Anemia
- Lung pathology
- Cardiac pathology
- Other

Is the client a non smoker or has quit and the home environment non smoking?

Yes

Review contributing factors and ensure optimal management

No

Does the client have cognitive capacity to safely and appropriately manage oxygen therapy?

Yes

Are symptoms associated with a non cancer end stage chronic disease (COPD, heart failure etc.)?

Yes

Determine eligibility in accordance with Thoracic Society of Australia and New Zealand Guidelines

AGBs on room air minimum 20 minutes 6 minute walk test Spirometer

No

Not eligible for oxygen therapy

PaO² ≤ 55mmHg

Eligible for oxygen with review in 1-2 months and then annually or more often if indicated

PaO² 56-59mmHg

Eligible for oxygen if medical evidence of specific conditions:
- Right heart failure
- Pulmonary
- Hypertension
- Polycythemia
Need to determine flow rate which maintains PaO² ≥ 60mmHg

PaO² ≥ 60mmHg

Demonstrated exercise induce oxygen desaturation on room air = SaO² 88% and improvement in exercise performance on supplemental oxygen

Yes

Eligible for portable O²

No

Ongoing monitoring as indicated

Not eligible for oxygen therapy

No

Review contributing factors and ensure optimal management

No

Does the client have advanced cancer with evidence of hypoxemia or mild hypoxemia?

Yes

Physician Prescription: Trial oxygen 2-4 weeks subject to re assessment of response before ongoing supply of 3-4 months.

No

Not eligible for oxygen therapy

No

Is the client a non smoker or has quit and the home environment non smoking?

Yes

PaO² 56-59mmHg

Eligible for oxygen with review in 1-2 months and then annually or more often if indicated

PaO² ≥ 60mmHg

Demonstrated exercise induce oxygen desaturation on room air = SaO² 88% and improvement in exercise performance on supplemental oxygen

Yes

Eligible for portable O²

Ongoing monitoring as indicated

Not eligible for oxygen therapy