Paediatric Home Oxygen Funding Criteria

Background & Scope

The EnableNSW Paediatric Home Oxygen Funding Criteria were developed by a panel of expert clinicians. The Criteria align with current evidence, clinical guidelines and expert consensus.[1-3]

EnableNSW provides oxygen therapy equipment for children aged < 16 years who are deemed clinically stable and can be safely managed in the community (at least four weeks following an acute illness). Transition to adult services should commence between the ages of 16-18, and should be completed by the age of 18. New applicants older than 16 should apply through the Adult Home Oxygen Funding Criteria.

EnableNSW provides home oxygen under two categories: Short-term oxygen therapy (STOT)- Part A, Section 1; and long-term oxygen therapy (LTOT)- Part A, Section 2. All requests must be made by an eligible prescriber (Part A, Section 4). Refer to EnableNSW matrix for home oxygen application process and timelines.

Part A: Funding Criteria

1. Funding Criteria: Short-Term Oxygen Therapy (STOT)

- STOT may be provided for the 5th -12th week following discharge from an acute care facility (the first month's supply of oxygen is funded by the discharging facility), for children who meet criteria 1.1 or 1.2.
- All children who are eligible for STOT will be provided an oxygen concentrator as the primary device.
- Portable cylinder oxygen may be provided for children who meet Portable Oxygen Criteria in Section 3.
- The prescription should include the means of oxygen delivery, duration, and oxygen flow rate for each oxygen device (e.g. concentrator and cylinders).
- The oxygen flow rate prescribed should aim to achieve SpO_2 ≥ 93% at rest.
- Part B, Review Recommendations provides timelines for re-assessment and application for LTOT.
- An **EnableNSW Paediatric STOT** Request Form must be submitted.

STOT may be provided to children who meet criteria i , ii and iii, PLUS either criteria 1.1 or 1.2:

i. The child is in hospital with an acute illness **AND**
ii. The child is in the recovery phase of their illness **AND**
iii. At least the first month's supply of oxygen has been funded by the discharging service

1.1 STOT for children with hypoxaemia on discharge from hospital	i. A continuous oximetry recording while breathing room air demonstrates hypoxaemia with mean SpO_2 ≤ 93% (minimum oximetry recording time of 4 hours) **OR** until persistent desaturation SpO_2 ≤ 90% at rest for >1 minute **OR** SpO_2 < 80% for > 30 seconds **AND** ii. Objective evidence provided demonstrating that improved oxygenation due to oxygen therapy is not associated with significant CO_2 retention ≥ 10mmHg i.e. prolonged transcutaneous CO_2 recording, blood gas (arterialised capillary / arterial / venous) or bicarbonate
1.2 STOT for isolated nocturnal hypoxaemia on discharge from hospital	Either i or ii, PLUS iii i. A continuous nocturnal recording (i.e. polysomnography or oximetry) while breathing room air demonstrates hypoxaemia with mean SpO_2 ≤ 93% (minimum recording period 4 hours) **OR** until persistent desaturation SpO_2 ≤ 90% at rest for >1 minute **OR** SpO_2 < 80% for > 30 seconds **OR** ii. Polysomnography demonstrating ≥ 3 nocturnal desaturations to ≤ 85% associated with central apnoeas and/or central hypopnoeas during artefact-free recording while breathing room air, that responds to oxygen **PLUS** iii. Objective evidence provided demonstrating that improved oxygenation due to oxygen therapy is not associated with significant CO_2 retention ≥ 10mmHg i.e. prolonged transcutaneous CO_2 recording, blood gas (arterialised capillary / arterial / venous) or bicarbonate

2. Funding Criteria: Long-Term Oxygen Therapy (LTOT)

- Children who will require oxygen for > 12 months may apply for LTOT under criteria 2.1, 2.2 or 2.3, whether transitioning from STOT or if prescribed oxygen in an outpatient setting (e.g. clinic rooms).
- All children eligible for LTOT will be provided an oxygen concentrator as the primary device.
- A prescription including the means of oxygen delivery, duration, and oxygen flow rate is required for each oxygen device (e.g. concentrator and cylinders).
- The oxygen flow rate prescribed should aim to achieve $SpO_2 \geq 93\%$ at rest.
- Ongoing LTOT provision is subject to ongoing regular clinical review as outlined in Part B.
- An **EnableNSW Paediatric LTOT** Request Form must be submitted.

2.1 LTOT for Chronic Hypoxaemia

LTOT may be provided to children with chronic hypoxaemia who meet ALL of the following criteria:

i. A continuous oximetry recording while breathing room air demonstrates hypoxaemia with mean $SpO_2 \leq 93\%$ (minimum oximetry recording time of 4 hours) **OR** until persistent desaturation $SpO_2 \leq 90\%$ at rest for >1 minute **OR** $SpO_2 < 80\%$ for >30 seconds **AND**

ii. Continuous oximetry monitoring (minimum recording time of 4 hours) report while clinically stable and on oxygen, demonstrates objective improvement in SpO_2 **AND**

iii. Objective evidence that improved oxygenation due to oxygen therapy is not associated with significant CO_2 retention ≥ 10 mmHg i.e. prolonged transcutaneous CO_2 recording, blood gas (arterialised capillary / arterial / venous) or bicarbonate **AND**

iv. Investigations of oxygenation were carried out during a period of clinical stability i.e. at least four weeks following an acute illness **AND**

2.2 LTOT for Nocturnal Hypoxaemia

LTOT for nocturnal hypoxaemia may be provided for children who meet criteria i, OR ii, plus ALL of criteria iii, iv and v*:

i. A continuous nocturnal recording (i.e. polysomnography or oximetry) while breathing room air demonstrates hypoxaemia with mean $SpO_2 \leq 93\%$ (minimum recording period 4 hours) **OR** until persistent desaturation $SpO_2 \leq 90\%$ at rest for >1 min **OR** $SpO_2 < 80\%$ for >30s

OR

ii. Polysomnography demonstrating ≥ 3 nocturnal desaturations to ≤ 85% associated with central apnoeas and/or central hypopnoea during artefact free recording while breathing room air, that responds to oxygen

PLUS all of the following:

iii. Objective evidence of improvement (e.g. improved mean nocturnal SpO_2 on PSG or pulse oximetry) on oxygen with/without positive airway pressure therapy to confirm the ongoing need for oxygen therapy **AND**

iv. Objective evidence provided demonstrating that improved oxygenation due to oxygen therapy is not associated with significant CO_2 retention ≥ 10mmHg (i.e. prolonged transcutaneous CO_2 recording), blood gas (arterialised capillary / arterial / venous) or bicarbonate **AND**

v. Nocturnal investigations of oxygenation were carried out during a period of clinical stability i.e. at least four weeks following an acute illness

* A full polysomnographic study must be one of the investigations submitted for provision of oxygen, *except for children in palliative care*, where submission of oximetry recordings is sufficient, and measures of CO_2 are not required.

Paediatric Home Oxygen Funding Criteria

3. Funding Criteria: Portable Cylinder Oxygen

Portable cylinder oxygen may be requested for children on STOT or LTOT who:

i. Require oxygen for ≥ 16 hrs/day **OR**

ii. Require oxygen for nocturnal hypoxaemia only and require daytime sleep. For children older than 2 years, a two-week diary documenting portable cylinder oxygen usage (cylinder usage date and time, and reason for use) must accompany the STOT/LTOT Equipment Request Form.

PLUS

iii. The child/carer is aware of and willing to partially fund the therapy including charges for cylinder refills and any delivery charges

4. Eligible Prescribers

4.1 Eligible Prescribers	i. Paediatric sleep physician **OR** ii. Paediatric respiratory physician **OR** iii. Paediatric palliative care physician

5. Inclusions, Exclusions & Supply Information

5.1 Inclusions	• Oxygen concentrator (with standard supply of nasal cannulae and extension tubing) • Rental of one (1) backup (D-size) cylinder as an emergency backup for children on continuous oxygen (24 hours/day) living > 2 hours from their closest hospital, if requested and supported with a letter of justification • Ongoing rental of two (2) portable (C-size) oxygen cylinders with regulator flow meter or conserver device if eligible under portable cylinder oxygen criteria • Cylinder oxygen may be considered when the required flow rate cannot be delivered by an oxygen concentrator
5.2 Exclusions	• Intermittent, episodic oxygen or emergency therapy • The first three (3) months supply of STOT for children requiring palliative care (these need to be managed by the LHD -LHD policies and procedures apply) • Neonatal oxygen therapy (0 – 6 months are to be supplied by neonatal units) • The first four week's supply of STOT for all other children (these need to be managed by the discharging hospital) • Alternate oxygen delivery systems (e.g. face masks) • Cost of refilling portable (C-size) cylinders and delivery charges • STOT (discharge oxygen) for children discharged from private hospital • Portable systems when the prescription is for nocturnal use only • Conserver devices will not be provided except for older children following a trial which confirms appropriate triggering • Provision of additional oxygen equipment specifically for use at school
5.3 Contract in Place	• C313B Home Oxygen (2018), HealthShareNSW

6. Assessment Requirements

Assessment of nocturnal hypoxaemia

- A full oximetry report or PSG is required for assessment of nocturnal hypoxaemia, and demonstration of improvement on oxygen.
- In children using long-term CPAP/bi-level ventilation, a full PSG or partial home study that includes nocturnal oxygen saturation monitoring is required for LTOT application. Assessment for LTOT must be performed on the child's long-term PAP settings.

7. Smoking

- Where a young person/carer/family member continues to smoke in the home, the child will not be eligible for the provision of STOT/LTOT by EnableNSW
- In the event of a young person/carer/family member starting or resuming smoking, the clinician must inform the young person/carers that they will not be eligible for EnableNSW funding while they smoke. If smoking is not able to be ceased on a long-term basis, EnableNSW will cease funding of home oxygen only on written request from the prescriber.

Part B: Additional Information for Prescribers

Review Recommendations

Review of children on STOT

- If the need for home oxygen is expected to be ongoing, eligibility for LTOT should be assessed by the prescriber at least 8 weeks after discharge but also allow sufficient time for the LTOT application process prior to the end of the 12-week STOT provision period.

Review of children on LTOT

- Review of clinical stability, ongoing need for LTOT and compliance with therapy should be performed at least annually. For children on LTOT, an EnableNSW Annual Oxygen Re-application Form must be submitted annually.
- The review should be performed by the original prescriber, or the child should be referred to an appropriately trained and skilled team for review.
- Where a child is unable to access a specialist directly, details of the child's clinical history, blood gases/oximetry, and need for ongoing therapy should be directed to an appropriate specialist by the child's local doctor for approval.
- Compliance with the LTOT prescription should be confirmed, attainable through meter readings from the oxygen supply company.
- **Prescribers must inform EnableNSW in writing of any changes to oxygen therapy prescription, flow rate, or if home oxygen is no longer required**

If delays in access to tests occur (e.g. sleep studies or oximetry for someone transitioning from STOT to LTOT), EnableNSW will take this into consideration if justified in writing.

Transition to Adult Services

- Transition to adult services commences between the ages of 16-18, and should be completed by the age of 18.
- New applicants older than 16 should apply for equipment through the Adult Home Oxygen Funding Criteria.

Paediatric Home Oxygen Funding Criteria

Responsibilities

It is the responsibility of the prescribing physician/clinical teams to submit/organise and ensure the following:

Social/ Care Criteria

- The child and/or family/carers are capable of using the equipment safely and appropriately, including basic equipment care and minor troubleshooting
- The child/primary carer should retain a copy of prescription settings which should be attached as a clearly visible and dated card on the device and updated where indicated by the prescribing team.
- The child/carers must be willing to comply with device usage as prescribed by their physician and must be informed that therapy compliance data will be recorded
- Provide the child/carer with information about their ongoing treatment plan, ongoing clinical review and assessment requirements in relation to oxygen therapy.
- The child and/or carer must be aware of emergency procedures in the event of respiratory equipment failure. Emergency procedures may include presentation to hospital. NB: EnableNSW and contracted equipment suppliers do not provide a 24 hour equipment support contact line.
- The child and other residents in the home do not smoke in close vicinity to the child and/or oxygen equipment and have been educated regarding the risks of using oxygen in the home while using electrical and gas appliances.
- Notify EnableNSW if the equipment is no longer required or the child does not comply with documented prescription. LHDs can contact oxygen suppliers for oxygen concentrator compliance data and oxygen cylinder usage data.

Environmental factors

- Ensure the oxygen equipment prescribed is compatible with all other equipment prescribed or in use.
- Ensure that the child's place of residence has access to a stable electrical power source that is sufficient for oxygen concentrator operation.
- A NSW Government Planning & Environment Electricity Rebate Form is completed.
- The child/carer has received information on the safe use of equipment.

Equipment factors

- At flow rates above 3L/min, an alternate delivery device (e.g. face mask or oximiser) may be more comfortable. However, monitoring of the child is required to ensure rebreathing is not occurring. Alternate devices are not provided by EnableNSW.

References

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8. Aberneth,AP, Mcdonald,CF, Frith,PA et al. Effect of palliative oxygen versus room air in relief of breathlessness in patients with refractory dyspnoea: a double-blind, randomised controlled trial*. The Lancet 2010; 376* (issue 9743):784 - 793*.*
9. Victorian Aids and Equipment Program Guidelines. *Prescriber Manual for the Domiciliary Oxygen Program – A manual devised by the State-wide Equipment Program (SWEP) Clinical Advisory Team to assist SWEP registered prescribers*.