

Pulse Oximeter for Home Use

Description

Pulse oximetry is based on the principle that oxygen is carried in the bloodstream, bound primarily to hemoglobin. Hemoglobin absorbs light differently at various wavelengths. This absorption pattern differs depending upon the degree of oxygenation. The level of oxygenation is determined by measuring the absorption at two specific wavelengths. As the light passes through tissues, it has a pulsatile component. The oximeter measures the oxygen saturation of hemoglobin in arterial blood as well as the pulse rate in beats per minute. Pulse oximeters provide a rapid indication of an individual's level of oxygenation.

The pulse oximeter is noninvasive consisting of a sensor attached to an individual's finger, nose, ear or toe. It is linked to a processing unit which delivers a read-out indicating an individual's oxygen saturation.

Policy

Pulse oximetry is considered reasonable and necessary for members meeting the coverage criteria below.

Policy Guidelines

Coverage Criteria:

- 1. Must be ordered by the Member's treating practitioner.
- 2. Pulse oximetry is covered for members for short-term (intermittent) home use in any of the following conditions:
 - a) When weaning the member from home oxygen; or
 - b) When a change in the member's physical condition requires an adjustment in the liter flow of their home oxygen needs; or
 - c) To determine appropriate home oxygen liter flow for ambulation, exercise, or sleep; or
 - d) Infant (less than one year old) on home oxygen therapy.
- 3. Pulse oximetry for long-term home (continuous) use is reasonable and necessary for members with any of the following:
 - a) Mechanical ventilation
 - b) Infant with chronic lung disease (bronchopulmonary dysplasia)
 - c) Premature infant on active therapy for apnea



Pulse Oximeter for Home Use

- 4. It may be considered an established option for newborns and children up to one year of age if one of the following criteria is met and a trained caregiver is available to respond to changes in the oxygen saturation:
 - a) Diagnosed with a chronic respiratory or cardiovascular disease requiring continuous oxygen supplementation
 - b) Oxygen need varies from day to day or per activity (e.g., feeding, sleeping, movement)
 - c) Medical need exists to maintain oxygen saturation within a narrow range
 - d) Infants who have experienced an apparent life-threatening event (ALTE)
 - e) Infants with tracheostomies or anatomical abnormalities that make them vulnerable to airway compromise
 - f) Infants with neurologic or metabolic disorders affecting respiratory control
 - g) Infants with chronic lung disease (bronchopulmonary dysplasia), especially those requiring supplemental oxygen, continuous airway pressure or mechanical ventilation
 - h) Infant with a craniofacial anomaly or a neuromuscular disorder which results in upper airway obstruction
 - i) Infant at high risk for hypoxic events

Coverage of home pulse oximetry for indications other than those listed above will be directed to the case review department for individual consideration.

Exclusions

The use of home pulse oximetry is considered experimental and investigational for all other indications, including the following because its effectiveness for these indications has not been established:

- 1. Prevention of sudden infant death syndrome (SIDS)
- 2. There is insufficient clinical evidence to support the use of pulse oximeters in the home for the following indications, therefore it is not reasonable and necessary for:
 - a. Asthma management
 - b. Diagnosing nocturnal hypoventilation associated with neuromuscular disorders
 - c. Evaluating and teaching continuous positive airway pressure (CPAP)
 - d. Evaluation of exertional desaturation in individual with COVID-19
 - e. Screening or diagnostic testing for obstructive sleep apnea or other sleep disturbance
 - f. Maintenance or continuous monitoring of Members (other than for persons on a ventilator)
 - g. Predicting the need of adenotonsillectomy in children



Pulse Oximeter for Home Use

HCPCS Level II Codes and Description

E0445 Oximeter device for measuring blood oxygen levels non-invasivelyA4606 Oxygen probe for use with oximeter device, replacement

Important Note:

Northwood's Medical Policies are developed to assist Northwood in administering plan benefits and determining whether a particular DMEPOS product or service is reasonable and necessary. Equipment that is used primarily and customarily for a non-medical purpose is not considered durable medical equipment.

Coverage determinations are made on a case-by-case basis and are subject to all of the terms, conditions, limitations, and exclusions of the member's contract including medical necessity requirements.

The conclusion that a DMEPOS product or service is reasonable and necessary does not constitute coverage. The member's contract defines which DMEPOS product or service is covered, excluded or limited. The policies provide for clearly written, reasonable and current criteria that have been approved by Northwood's Medical Director.

The clinical criteria and medical policies provide guidelines for determining the medical necessity for specific DMEPOS products or services. In all cases, final benefit determinations are based on the applicable contract language. To the extent there are any conflicts between medical policy guidelines and applicable contract language, the contract language prevails. Medical policy is not intended to override the policy that defines the member's benefits, nor is it intended to dictate to providers how to direct care. Northwood Medical policies shall not be interpreted to limit the benefits afforded to Medicare or Medicaid members by law and regulation and Northwood will use the applicable state requirements to determine required quantity limit guidelines.

Northwood's policies do not constitute medical advice. Northwood does not provide or recommend treatment to members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Northwood follows all CMS National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), as applicable.

References



Pulse Oximeter for Home Use

- 1. Aetna: Pulse Oximetry for Home Use. http://www.aetna.com/cpb/medical/data/300_399/0339.html Last accessed and reviewed December 3, 2024.
- 2. American Association for Respiratory Care (AARC). AARC clinical practice guideline. Oxygen therapy in the home or extended care facility. Respir Care. 1992;37(8):918-922.
- National Heart, Lung and Blood Institute (NHLBI) and World Health Organization (WHO). Global Strategy for Asthma Management and Prevention NHLBI/WHO Workshop (based on a March 1993 meeting). Publication Number 95-3659. Bethesda, MD: National Institutes of Health; January 1995.
- 4. Series F, Marc I, Cormier Y, et al. Utility of nocturnal home oximetry for case finding in patients with suspected sleep apnea hypopnea syndrome. Ann Int Med. 1993;119:449-453.
- 5. Farney RJ, Walker LE, Jensen RL, et al. Ear oximetry to detect apnea and differentiate rapid eye movement (REM) and non-REM sleep. Screening for the sleep apnea syndrome. Chest. 1986;89:533-539.
- 6. Ferber R, Millman R, Coppola M, et al. Portable recording in the assessment of obstructive sleep apnea. ASDA Standards of Practice. Sleep. 1994;17:378-392.
- 7. American Association for Respiratory Care (AARC). AARC clinical practice guideline. Pulse oximetry. Respir Care. 1991;36(12):1406-1409.
- 8. National Institutes of Health. Infantile apnea and home monitoring. Natl Inst Health Consens Dev Conf Consens Statement. 1986;6(6):1-10.
- 9. Ringbaek TJ, Lange P, Viskum K. Are patients on long-term oxygen therapy followed up properly? Data from the Danish Oxygen Register. J Intern Med. 2001;250(2):131-136.
- Golpe R, Jimenez A, Carpizo R, et al. Utility of home oximetry as a screening test for patients with moderate to severe symptoms of obstructive sleep apnea. Sleep. 1999;22(7):932-937.
- 11. Evans SE, Scanlon PD. Current practice in pulmonary function testing. Mayo Clin Proc. 2003;78(6):758-763.



Pulse Oximeter for Home Use

- 12. Lewis CA, Eaton TE, Fergusson W, et al. Home overnight pulse oximetry in patients with COPD: More than one recording may be needed. Chest. 2003;123(4):1127-1133.
- 13. Gay PC. Chronic obstructive pulmonary disease and sleep. Respir Care. 2004;49(1):39-51; discussion 51-52.
- Valentine VG, Taylor DE, Dhillon GS, et al. Success of lung transplantation without surveillance bronchoscopy. J Heart Lung Transplant. 2002;21(3):319-326.
- 15. Whitelaw WA, Brant RF, Flemons WW. Clinical usefulness of home oximetry compared with polysomnography for assessment of sleep apnea. Am J Respir Crit Care Med. 2005;171(2):188-193.
- 16. Series F, Kimoff RJ, Morrison D, et al. Prospective evaluation of nocturnal oximetry for detection of sleep-related breathing disturbances in patients with chronic heart failure. Chest. 2005;127(5):1507-1514.
- 17. Foo JY, Lim CS. Development of a home screening system for pediatric respiratory sleep studies. Telemed J E Health. 2006;12(6):698-701.
- Gélinas JF, Davis GM, Arlegui C, Côté A. Prolonged, documented homemonitoring of oxygenation in infants and children. Pediatr Pulmonol. 2008;43(3):288-296.
- 19. Nassi N, Piumelli R, Lombardi E, et al. Comparison between pulse oximetry and transthoracic impedance alarm traces during home monitoring. Arch Dis Child. 2008;93(2):126-132.

Revision Number	Date	Description of Change	Prepared / Reviewed by	Approved by	Review Date:	Effective Date:
А	11- 20- 06	Initial Release	Rosanne Brugnoni	Ken Fasse	n/a	
01		Annual Review- no changes	Susan Glomb	Ken Fasse	Dec.2008	
02	12- 22- 09	Annual Review/ no changes	Susan Glomb	Ken Fasse	Dec.2009	

Change/Authorization History



Pulse Oximeter for Home Use

03	12- 03- 10	Annual Review – No changes	Susan Glomb	Ken Fasse	Dec.2010	
04	04- 27- 11	Updated to current policy	Susan Glomb	Dr.Almasri		
05	07- 20- 11	Added Important Note to all Medical Policies	Susan Glomb	Dr.Almasri		
06	12- 13- 11	Annual Review. Added References to Policy	Susan Glomb	Dr. Almasri	Dec. 2011	
07	12- 03- 12	Annual review – no changes.	Susan Glomb	Dr. B. Almasri	Dec. 2012	
08	12- 18- 13	Annual review. No changes.	Susan Glomb	Dr. B. Almasri		
09	12-1- 14	Annual Review. No changes	Susan Glomb	Dr. B. Almasri		
10	12- 03- 15	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	December 2015	
11	12- 02- 16	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	December 2016	
12	12- 11- 17	Annual review. Revised to state use of home pulse oximetry considered experimental and investigational for predicting the need of adenotonsillectomy in children.	Carol Dimech	Dr. C. Lerchin	December 2017	
13	12- 17- 18	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	December 2018	
14	12- 11-	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	December 2019	December 2019



Pulse Oximeter for Home Use

	19					
15	12- 03- 20	Annual Review. No Changes.	Lisa Wojno	Dr. C. Lerchin	December 2020	December 2020
16	12-9- 21	Annual review. Changed physician to treating practitioner. Added NCD, LCD verbiage to "Important Note".	Carol Dimech	Dr. C. Lerchin	December 9, 2021	December 9, 2021
17	12-5-22	Annual review. Updated list of Exclusions to indicate they are considered E/I and added that the use of home pulse oximetry is considered experimental and investigational for evaluation of exertional desaturation (i.e., a fall of 3 % or more in pulse oximetry reading on exercise) in individuals with COVID-19.	Lisa Wojno	Dr. C. Lerchin	December 5, 2022	December 2022
18	12-7- 23	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	December 7, 2023	December 7, 2023
19	12-3- 24	Annual review. No changes	Susan Glomb	Dr. C. Lerchin	December 3, 2024	December 3, 2024