



Clinical Review Criteria
Home Pulse Oximetry – Rental for Home Use

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Criteria

For Medicare Members

Source	Policy
CMS Coverage Manuals	None
National Coverage Determinations (NCD)	None
Local Coverage Determinations (LCD)	Oxygen and Oxygen Equipment (L33797) "Oxygen reimbursement is a bundled payment. All options, supplies and accessories are considered included in the monthly rental payment for oxygen equipment."
Local Coverage Article	Oxygen and Oxygen Equipment – Policy Article (A52514) "Oximeters (E0445) and replacement probes (A4606) will be denied as non-covered because they are monitoring devices that provide information to physicians to assist in managing the beneficiary's treatment."

For Non-Medicare Members

Medical necessity review no longer required.

The following information was used in the development of this document and is provided as background only. It is provided for historical purposes and does not necessarily reflect the most current published literature. When significant new articles are published that impact treatment option, Kaiser Permanente will review as needed. This information is not to be used as coverage criteria. Please only refer to the criteria listed above for coverage determinations.

Background

The pulse oximeter is a completely noninvasive device that provides a means of continuous and quick real-time estimates of arterial oxygen saturation (SaO₂). It has been validated relative to transcutaneous oxygen tension, and arterial blood gas measurement. (Fanconi, 1985). The device estimates arterial hemoglobin saturation by measuring the light absorbance of pulsating vascular tissue at two wavelengths. It is easy to use and interpret and does not need any special training or new skills on the part of the user. It also requires a little setup time and adds no risk to the patient.

Pulse oximetry is becoming a standard of practice during general anesthesia in the United States (Eichhorn, 1986). It is also used as an independent monitor in emergency rooms and intensive care units. Other clinical applications of the device include monitoring patients during transport, respiratory monitoring during narcotic administration, and the evaluation of home-oxygen therapy.

The pulse oximeter, however, has some limitations; it does not provide an early warning of decreasing arterial oxygen tension (PaO₂) and may fail to detect an inadvertent endobronchial intubation in the operating room. It also cannot distinguish more than two hemoglobin species in the blood; thus methemoglobin and carboxyhemoglobin will cause errors in the pulse oximeter saturation (SpO₂) if present in large amounts. Artifactual signals created by patient motion or external light may also create a technical problem and interfere with the device in estimating the oxygen saturation. It was also reported that circumstances that reduce the amplitude of finger pulsation e.g. hypothermia, hypotension, or the administration of a vasoconstrictive drug would adversely affect the accuracy of the device (Yelderman,1983).

The home pulse oximeter is being reviewed due to several requests received by Clinical Review for coverage for adult patients with progressive pulmonary disease, pediatric patients with RVS, or patients being discharged home but requiring continued monitoring to ensure stability in the home.

Medical Technology Assessment Committee (MTAC)

Home Pulse Oximetry

10/08/2003: MTAC REVIEW

Evidence Conclusion: There are insufficient published studies to provide evidence on the home use of pulse oximeters among adults or children with respiratory failure or chronic pulmonary disease.

Articles: The search yielded 46 articles. A large number was not related to home monitoring of oxygen saturation, and a few addressed the home use of pulse oximetry for the diagnosis of sleep apnea. The search did not reveal any empirical study conducted among adults with chronic obstructive lung disease using a home pulse oximeter to monitor their oxygen saturation. The search revealed three small case series conducted among either healthy infants to assess their oxygen saturation during the first six months or among infants with bronchopulmonary dysplasia receiving home oxygen therapy. None of the studies was critically appraised.

The use of home pulse oximetry in the management of oxygen levels for adults or children with respiratory failure or chronic pulmonary disease does not meet the *Kaiser Permanente Medical Technology Assessment Criteria*.

Applicable Codes

Medicare: considered not medically necessary

Non-Medicare: medical necessity review no longer required

CPT® or HCPC Codes	Description
E0445	Oximeter device for measuring blood oxygen levels noninvasively
A4606	Oxygen probe for use with oximeter device, replacement

***Note:** Codes may not be all-inclusive. Deleted codes and codes not in effect at the time of service may not be covered.

**To verify authorization requirements for a specific code by plan type, please use the [Pre-authorization Code Check](#).

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Date Created	Date Reviewed	Date Last Revised
10/08/2003	09/07/2010 ^{MDCRPC} , 07/05/2011 ^{MDCRPC} , 05/01/2012 ^{MDCRPC} , 03/05/2013 ^{MDCRPC} , 01/07/2014 ^{MPC} , 11/04/2014 ^{MPC} , 09/01/2015 ^{MPC} , 07/05/2016 ^{MPC} , 05/02/2017 ^{MPC} , 03/06/2018 ^{MPC} , 03/05/2019 ^{MPC} , 03/03/2020 ^{MPC} , 03/02/2021 ^{MPC} , 03/01/2022 ^{MPC}	02/01/2017

^{MDCRPC} Medical Director Clinical Review and Policy Committee

^{MPC} Medical Director Clinical Review and Policy Committee

Revision History	Description
02/01/2017	Medical necessity review no longer required for non-Medicare members.