

Medical Policy



Title: Non-invasive Positive Pressure Ventilation for Patients with Chronic Obstructive Pulmonary Disease (COPD)

PRE-DETERMINATION of services is not required, but is highly recommended.

http://www.bcbsks.com/CustomService/Forms/pdf/15-17_predeterm_request_frm.pdf

Professional

Original Effective Date: October 25, 2019
Revision Date(s): October 25, 2019;
May 21, 2021
Current Effective Date: October 25, 2019

Institutional

Original Effective Date: October 25, 2019
Revision Date(s): October 25, 2019;
May 21, 2021
Current Effective Date: October 25, 2019

State and Federal mandates and health plan member contract language, including specific provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage. To verify a member's benefits, contact [Blue Cross and Blue Shield of Kansas Customer Service](#).

The BCBSKS Medical Policies contained herein are for informational purposes and apply only to members who have health insurance through BCBSKS or who are covered by a self-insured group plan administered by BCBSKS. Medical Policy for FEP members is subject to FEP medical policy which may differ from BCBSKS Medical Policy.

The medical policies do not constitute medical advice or medical care. Treating health care providers are independent contractors and are neither employees nor agents of Blue Cross and Blue Shield of Kansas and are solely responsible for diagnosis, treatment and medical advice.

If your patient is covered under a different Blue Cross and Blue Shield plan, please refer to the Medical Policies of that plan.

DESCRIPTION

Chronic Obstructive Pulmonary Disease (COPD) is a heterogeneous group of slowly progressive diseases, including both emphysema and chronic bronchitis. COPD, which is most frequently associated with a history of smoking, may be asymptomatic in its early stages. Once symptoms become apparent, they frequently include chronic cough and dyspnea. It is the fourth leading cause of death in the U.S.

Exacerbations of COPD, mainly the result of viral or bacterial infection, may cause increased sputum production, and marked hypoxemia and hypercapnia with a concurrent need for oxygen supplementation. Exacerbations can progress to acute respiratory failure, requiring hospitalization and respiratory support. As COPD progresses, respiratory failure may become chronic even in the

absence of an acute event, making intermittent respiratory support useful in ameliorating the long-term effects of prolonged hypoxemia and hypercapnia.

Noninvasive Positive Pressure Ventilation is the administration of positive air pressure, using a nasal and/or oral mask interface which creates a seal, avoiding the use of more invasive airway access. It may sometimes be applied to assist insufficient respiratory efforts in the treatment of conditions that may involve sleep-associated hypoventilation. It is distinguished from the invasive ventilation administered via a securely intubated airway, in a patient for whom interruption or failure of respiratory support leads to death.¹

POLICY

A non-invasive positive pressure ventilator may be considered **medically necessary** for patients with Chronic Obstructive Pulmonary Disease (COPD) when the following are met:

1. A certification of medical necessity form from the physician and history and physical documenting need has been received for patients with the following indications:
 - a. Symptoms characteristic of sleep-associated hypoventilation (e.g., fatigue, dyspnea, morning headaches)
 - b. One of the following physiologic criteria at medical baseline:
 - 1) PaCO₂ greater than or equal to 55 millimeters of Mercury (mm Hg)
OR
 - 2) PaCO₂ 50-54mm Hg and nocturnal desaturation (SpO₂) less than or equal to 88% for five continuous minutes while on oxygen therapy greater than or equal to 2 liters/minute
OR
 - 3) PaCO₂ 50-54mm Hg and hospitalization related to recurrent (greater than or equal to 2 in a 12-month period) episodes of hypercapnic respiratory failure
2. The member demonstrates compliance using the device an average of 4 hours per 24 hour period. Continuation of a non-invasive positive pressure ventilator will be considered **not medically necessary** when compliance is not demonstrated.

Policy Guidelines

1. Initial approval may be given for 6 months.

RATIONALE

Noteworthy studies are:

1. Criner et al (1999) evaluated the acute and chronic effects of NPPV on gas exchange, functional status, and respiratory mechanics in patients with chronic respiratory failure related to COPD or restrictive ventilator disorders. NPPV was initiated in a noninvasive respiratory care unit geared toward the evaluation and treatment of NPPV and followed patients after discharge in a comprehensive outpatient program in order to maximize compliance with chronic NPPV therapy. He concluded that "future studies, preferably conducted in a prospective, randomized, and controlled fashion, are required to determine the subgroups of COPD patients who may best benefit from NPPV therapy." As noted earlier, this article does not include comparisons of the use of RADs with and without backup, nor does it offer

criteria, which could be used to determine whether a backup rate is needed by any specific group of COPD patients.

2. Casanova et al (2000) attempted to determine one-year efficacy of NPPV added to long-term oxygen therapy in patients with severe COPD. The authors randomized 52 patients with severe COPD (FEV1 < 45%) to either NPPV plus standard care, or to standard care alone. Outcomes measured included rates of acute COPD exacerbations, hospital admissions, intubations, and mortality at 3, 6, and 12 months. At the conclusion of the study, there were no differences in mortality, number of acute exacerbations, or number of hospital admissions.
3. Hillberg et al (1997) published a review article, finding that patients most likely to benefit from noninvasive ventilation are those with acute or chronic respiratory failure. Noninvasive ventilation can be used as maintenance therapy in patients with intrinsic lung disease and marked hypercapnia (e.g. partial pressure of carbon dioxide greater than 60 mm Hg). Short-term use of this therapy for a few hours per day improves the respiratory pattern and blood gases in patients with stable COPD who have chronic hypercapnia. Long-term use of NPPV has been shown to be beneficial in some hypercapnic patients with COPD but he did not show that NPPV with backup is used for severe COPD patients.
4. Jones et al (1998) stated that there is increasing interest in the use of non-invasive nocturnal intermittent positive pressure ventilation (NIPPV) in the management of patients with chronic hypercapnic respiratory failure. Although this treatment enables patients requiring mechanical ventilatory support to be treated more readily at home, few studies have been done to demonstrate its long term benefits in COPD and the application of NIPPV in these circumstances remains controversial.

CODING

The following codes for treatment and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

CPT/HCPCS

E0466 Home ventilator, any type, used with non-invasive interface, (e.g., mask, chest shell)

ICD-10 Diagnoses

J44.0 Chronic obstructive pulmonary disease with acute lower respiratory infection
J44.1 Chronic obstructive pulmonary disease with (acute) exacerbation
J44.9 Chronic obstructive pulmonary disease, unspecified

REVISIONS

10-25-2019	New policy published to medical policy webpage 09-25-2019. Policy effective 10-25-2019.
05-21-2021	Medical policy reviewed; no revisions made.

REFERENCES

1. Decision Memo for Noninvasive Positive Pressure RADs for COPD (CAG-00052N), CMS Decision Memo, June 29, 2001. Accessed July 2019 at <https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=56&ver=&viewAMA=Y&bc=AAAAAAAAIAAA&>
2. Management of exacerbations of chronic obstructive pulmonary disease. UpToDate, March 22, 2019. Accessed July 2019.