

Evidence Based Guideline

Nebulizers and Humidifiers

File Name: nebulizers_and_humidifiers
Guideline Number: EBG.DME0190
Origination: 2/1998
Last Review: 5/2003

Active guideline, no longer scheduled for routine literature review.

Description of Procedure or Service

A Nebulizer is an electronic or ultrasonic device that converts liquid (usually medication) to a fine spray for aerosol or inhalation therapy.

A humidifier is a device that converts water to aerosol or steam for inhalation. Water vapor has an antitussive effect by soothing inflamed respiratory tract and decreasing [viscosity](#) of bronchial secretions by adding moisture to the air breathed.

Chronic pulmonary (lung) diseases are commonly treated with aerosol type medications. Bronchodilators, mucolytics, anti-inflammatories, and antimicrobial agents are frequently prescribed medications. Some of these medications may be administered by a metered-dose inhaler (MDI), which is often the treatment modality of choice. A MDI is a disposable device that lacks medical “durability” and is not covered under the [Durable Medical Equipment \(DME\)](#) benefit, but as a prescription medication. Another means of delivering medication is via a dry powder inhaler (DPI). This too is disposable and is not considered DME.

There are some indications where the metered dose inhaler (MDI) would not be the treatment of choice. In these cases, a small volume nebulizer (SVN) would be used.

Evidence Based Guideline for Nebulizers and Humidifiers

Nebulizers: Small Volume Nebulizers (SVN) may be appropriate for use for **ANY** of the following clinical indications:

1. Patient requires nebulizer treatment, (meets **all** of the following criteria).
 - a. The patient has severe impairment of breathing as demonstrated by:
 1. [vital capacity](#) < 1 1/2 predicted tidal volume **or**
 2. inspired flow < 30L/min **or**
 3. breath holding < 4 seconds
 - b. Patient has tried more conservative treatment and has failed or the patient is unable to properly administer MDI (e.g. physical limitations, inability to comprehend instructions, behavioral issues.)
 - c. A qualified provider writes a prescription for the SVN and associated medications.
 2. The patient experiences recurrent acute episodes of respiratory distress despite adequate use of MDI administered medications, meeting **all** of the following:
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- a. Recurrent episodes of respiratory distress are documented in the medical record by history or physical.
 - b. MDI dosage and compliance cannot be further enhanced and the addition of other medications is likely to be ineffective or cause significant complications.
 - c. A qualified provider writes a prescription for an SVN and associated medications:
 - Dual use of MDI and SVN may be desirable
 - The effectiveness of SVN administration of medication should be evaluated within three weeks, and the SVN continued only if the patient demonstrates significant improvement.
3. Nebulizers may also be required when the medication required to treat a member's condition requires aerosolized administration, and cannot be administered in the MDI.

Humidifiers: Humidifiers may be appropriate when used in conjunction with oxygen therapy.

Medical Evidence regarding Nebulizers and Humidifiers indicates it is not recommended in the following situations:

Nebulizers and Humidifiers are not recommended for any purpose other than those listed above.

Aerosol therapies, other than those listed above, are not recommended for treatment of respiratory disease.

Benefits Application

Please refer to certificate for availability of benefit. This guideline relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the policy.

Please also refer to the medical policy titled, "Durable Medical Equipment (DME)."

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes:

Nebulizer - E0570, E0571, E0572, E0574, E0575, E0580, E0585, E1372.

Humidifier - E0550, E0555, E0560

Medical Term Definitions

Durable Medical Equipment

any equipment that is primarily and sutomarily used to serve a medical purpose; is not useful to the member in the absence of illness or injury; is ordered or prescribed by a physician; is reusable and can stand repeated use; and is appropriate for use in the home.

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Viscosity

a physical property of a fluid that determines its internal resistance to forces applied to it; may appear thick or gummy.

Vital capacity

the volume of gas that can be expelled from the lungs after a deep breath.

Scientific Background and Reference Sources

Home Medical Equipment Answer Book, 1995 Edition, published by United Communications Group.

Guidelines for the Use of Nebulizers in the Home and at Domiciliary Sites, Report of a Consensus Conference Chaired by Walter J. O'Donohue, Jr, MD, FCCP and NAMDRC, Reprinted from CHEST Vol. 109, p. 814-820, March 1996 issue.

MEDLINE search January 1996 through July 1997.

Consultant Review: Vice President, Medical Affairs BCBSNC - 8/97

Medical Policy Advisory Group - 10/98

Medical Policy Advisory Group - 12/99

Specialty Matched Consultant Advisory Panel - 5/2001

Specialty Matched Consultant Advisory Panel - 5/2003

Policy Implementation/Update Information

- 2/98 Original policy issued. Reviewed by Plan Medical Director.
- 10/98 Medical policy Advisory Group
- 8/99 Reformatted, Medical Term Definitions added.
- 12/99 Medical Policy Advisory Group
- 4/01 System changes.
- 5/01 Specialty Matched Consultant Advisory Panel review (5/2001). Changed measurement of vital capacity which demonstrates severe impairment of breathing to " $< 1 \frac{1}{2}$ predicted tidal volume.", Coding format change.
- 4/02 Format changes.
- 5/03 Specialty Matched Consultant Advisory Panel review - 5/2003. Policy status changed to: "Active policy, no longer scheduled for routine literature review." Removed codes E1375 and K0270 from the policy. Added code K0531 to the policy.
- 5/04 Benefits Application and Billing/Coding section updated for consistency.
- 9/18/06 Updated Billing/Coding section. Medical Policy changed to Evidence Based Guideline. (adn)

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Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.