Medical Policy



Airway Clearance Devices - Positive Expiratory Pressure Device, Oscillating Positive Expiratory Pressure Device and Percussor

Description

Airway clearance devices assist Members with respiratory disorders characterized by excessive respiratory secretions and impaired airway clearance by loosening thick, sticky lung mucus so it can be cleared from the airway. Two types of airway clearance devices are the positive expiratory pressure device (PEP) and the oscillating positive pressure device.

A PEP device increases resistance to expiratory airflow to promote mucus clearance by preventing airway closure and increasing collateral ventilation. Examples of this type of device include the TheraPEP[®], Resistex PEP Mask, and the Pari RC Cornet Mucus Clearing DeviceTM.

An oscillating (or vibratory) positive expiratory pressure device is a form of PEP that combines high-frequency air flow oscillations with positive expiratory pressure via a small hand-held device. Examples of this device include the Flutter[®] and the Acapella[®].

A percussor is a device used for a diagnosis requiring percussion, consisting of a hammer with a rubber or metal head.

Policy

Positive expiratory pressure device, oscillating positive expiratory pressure device and percussor are considered **medically necessary** for Members with excessive respiratory secretions and impaired airway clearance

Policy Guidelines

Coverage Criteria:

- 1. Must be ordered by the Member's treating physician.
- 2. A positive expiratory pressure device, an oscillating positive expiratory pressure device or a percussor will be covered for Members with a

diagnosis that is characterized by excessive mucus production and difficulty in clearing secretions.

Examples of diagnoses creating excessive mucus production include, but are not limited to:

- Cystic fibrosis
- Motor neuron disease
- Muscular dystrophies
- Bronchiectasis
- Chronic obstructive asthma
- Obstructive chronic bronchitis
- Myoneural disorders (ALS)
- Disorders of the diaphragm

Limitations:

- 1. The powered Percussor is provided only when the Member or operator has received appropriate training by a physician or therapist, and no one is available to administer manual therapy.
- 2. Repair of a Percussor will be covered for restoration to a serviceable condition which is not the result from misuse, non-intentional or intentional when Member owned.
- 3. The replacement of a Percussor is covered if any of the following criteria are met:
 - a. When necessitated by irreparable damage not due to misuse, intentional or non-intentional.
 - b. An irreparable change in the condition of the Percussor.
 - c. The cost of repairs to the Percussor would exceed the purchase price.

HCPCS Level II Codes and Description

- E0480 Percussor, electric or pneumatic, home model
- E0484 Oscillatory positive expiratory pressure device, nonelectric, any type, each
- S8185 Flutter device

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

References

- Aldrich TK, Rochester DF. The lungs and neuromuscular diseases. In: Murray JF, Nadel JA, Mason RJ, Boushey HA Jr, editors. Textbook of respiratory medicine. 3rd ed. Philadelphia, PA: W.B. Saunders Company; 2000. p. 2329-49.
- Boat TF. Cystic fibrosis. In: Behrman RE, Kliegman RM, Jenson HB, editors. Nelson textbook of pediatrics. 17th ed. Philadelphia, PA: W.B. Saunders Company; 2004. p. 1437-50.
- 3. Boucher RC, Knowles MR, Yankaskas JR. Cystic fibrosis. In: Murray JF, Nadel JA, Mason RJ, Boushey HA Jr, editors. Textbook of respiratory

medicine. 3rd ed. Philadelphia, PA: W.B. Saunders Company; 2000. p. 308-9.

- 4. Bradley JM, Moran FM, Elborn JS. Evidence for physical therapies (airway clearance and physical training) in cystic fibrosis: an overview of five Cochrane systematic reviews. Respir Med. 2006 Feb;100(2):191-201.
- California Thoracic Society. Position paper. Airway clearance devices: limited evidence for what is 'the best method'. May 25, 2006. Accessed Apr 14, 2010. Available at URL address: http://www.thoracic.org/sections/chapters/thoracic-societychapters/ca/publications/resources/respiratory-diseaseadults/AirwayClearanceDevices.pdf
- 6. Cystic Fibrosis Foundation. Airway clearance techniques. 2004. Accessed Apr 14, 2010. Available at URL address: http://www.cff.org/treatments/Therapies/Respiratory/AirwayClearance/
- 7. Darbee JC, Ohtake PJ, Grant BJ, Cerny FJ. Physiologic evidence for the efficacy of positive expiratory pressure as an airway clearance technique in patients with cystic fibrosis. Phys Ther. 2004;84:524-37.
- Eaton T, Young P, Zeng I, Kolbe J. A randomized evaluation of the acute efficacy, acceptability and tolerability of flutter and active cycle of breathing with and without postural drainage in non-cystic fibrosis bronchiectasis. Chron Respir Dis. 2007;4(1):23-30.
- Elkins M, Jones A, Schans C. Positive expiratory pressure physiotherapy for airway clearance in people with cystic fibrosis. Cochrane Database Syst Rev. 2004;(1):CD003147. In: The Cochrane Library, Issue 1. Chichester, UK: John Wiley & Sons, Ltd. Update: 2005;2. Updated Dec 15, 2005.
- 10. Finder JD, Birnkrant D, Carl J, Farber HJ, Gozal D, Iannaccone ST, Kovesi T, Kravitz RM, Panitch H, Schramm C, Schroth M, Sharma G, Sievers L, Silvestri JM, Sterni L; American Thoracic Society. Respiratory care of the patient with Duchenne muscular dystrophy: ATS consensus statement. Am J Respir Crit Care Med. 2004 Aug 15;170(4):456-65.
- Hristara-Papadopoulou A, Tsanakas J, Diomou G, Papadopoulou O. Current devices of respiratory physiotherapy. Hippokratia. 2008;12(4):211-20.
- 12. Homnick DN. Making airway clearance successful. Paediatr Respir Rev. 2007 Mar;8(1):40-5. Epub 2007 Mar 26.

- Karlson KH. Cystic fibrosis. In: Rakel RE, Bope ET, editors. CONN'S current therapy 2005. 57th ed. St. Louis, MO: W.B. Saunders Co.; 2005. p. 260-2.
- 14. Lagerkvist AL, Sten GM, Redfors SB, Lindblad AG, Hjalmarson O. Immediate changes in blood-gas tensions during chest physiotherapy with positive expiratory pressure and oscillating positive expiratory pressure in patients with cystic fibrosis. Respir Care. 2006 Oct;51(10):1154-61.
- 15. Main E, Prasad A, Schans C. Conventional chest physiotherapy compared to other airway clearance techniques for cystic fibrosis. Cochrane Database Syst Rev. 2005 Jan 25;(1):CD002011.
- 16. Marks JH, Hare KL, Saunders RA, Homnick DN. Pulmonary function and sputum production in patients with cystic fibrosis: a pilot study comparing the PercussiveTech HF Device and standard chest physiotherapy. Chest. 2004 Apr;125(4).
- 17. McCarren B, Alison JA. Physiological effects of vibration in subjects with cystic fibrosis. Eur Respir J. 2006 Jun;27(6):1204-9.
- McCool FD, Rosen MJ. Nonpharmacologic airway clearance therapies: ACCP evidence-based clinical practice guidelines. Chest. 2006 Jan;129(1 Suppl):250S-259S.
- 19. Miller RG, Jackson CE, Kasarskis EJ, England JD, Forshew D, Johnston W, Kalra S, Katz JS, Mitsumoto H, Rosenfeld J, Shoesmith C, Strong MJ, Woolley SC; Quality Standards Subcommittee of the American Academy of Neurology. Practice parameter update: The care of the patient with amyotrophic lateral sclerosis: drug, nutritional, and respiratory therapies (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. 13;73(15):1218-26.
- 20. Morrison L, Agnew J. Oscillating devices for airway clearance in people with cystic fibrosis. Cochrane Database of Systematic Reviews 2009, Issue 1. Art. No.: CD006842. DOI: 10.1002/14651858.CD006842.pub2.
- 21. Morrissey BM, Harper RW. Bronchiectasis: sex and gender considerations. Clin Chest Med. 2004 Jun;25(2).
- 22. Ontario Health Technology Advisory Committee. Airway clearance devices for cystic fibrosis. Nov 2009. Accessed Apr 15, 2010. Available at URL

address:

http://www.health.gov.on.ca/english/providers/program/ohtac/tech/recomm end/rec_mn.html

- 23. Patterson JE, Bradley JM, Hewitt O, Bradbury I, Elborn JS. Airway clearance in bronchiectasis: a randomized crossover trial of active cycle of breathing techniques versus Acapella.Respiration. 2005 May-Jun;72(3):239-42.
- 24. Patterson JE, Hewitt O, Kent L, Bradbury I, Elborn JS, Bradley JM. Acapella versus 'usual airway clearance' during acute exacerbation in bronchiectasis: a randomized crossover trial. Chron Respir Dis. 2007;4(2):67-74.
- 25. Shelton K. Airway clearance: something for everyone. The Cystic Fibrosis Center at Stanford. Cystic Fibrosis News. Accessed Apr 14, 2010. Available at URL address: http://cfcenter.stanford.edu/CFnews1.html#AirClear
- 26. Su CL, Chiang LL, Chiang TY, et al. Domiciliary positive expiratory pressure improves pulmonary function and exercise capacity in patients with chronic obstructive pulmonary disease. J Formos Med Assoc. 2007;106(3):204-211.
- 27. Thompson CS, Harrison S, Ashley J, Day K, Smith DL. Randomised crossover study of the Flutter device and the active cycle of breathing technique in non-cystic fibrosis bronchiectasis. Thorax. 2002;57:446-8.
- 28. Wagener JS, Headley AA. Cystic fibrosis: current trends in respiratory care. Respir Care. 2003;48(3):234-47.
- 29. Yankaskas JR, Marshall BC, Sufian B, Simon RH, Rodman D. Cystic fibrosis adult care consensus conference report. Chest. 2004 Jan;125(1 Suppl):1S-39S.
- Yeates DB, Mortensen J. Deposition and clearance. In: Murray JF, Nadel JA, Mason RJ, Boushey HA Jr, editors. Textbook of respiratory medicine.
 3rd ed. Philadelphia, PA: W.B. Saunders Company; 2000. p. 370.

Applicable URAC Standard

Core 8	Staff operational tools and support
	I

Revision Number	Date	Description of Change	Prepared/Reviewed by	Approved by	Review 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
03	12-03-10	Annual Review – no changes	Susan Glomb	Ken Fasse	Dec.2010
04	07-20-11	Added Important Note to all Medical Policies	Susan Glomb	Dr. B. Almasri	
05	11-16-11	Annual Review. Added References to Policy	Susan Glomb	Dr. B. Almasri	Nov. 2011
06	11-26-12	Annual review. No changes.	Susan Glomb	Dr. B. Almasri	Nov. 2012
07	12-18-13	Annual review. No changes	Susan Glomb	Dr. B. Almasri	
08	11-20-14	Annual Review. No changes	Susan Glomb	Dr. B. Almasri	
09	11-23-15	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	November 2015
10	11-21-16	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	November 2016
11	11-14-17	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	November 2017
12	11-14-18	Annual Review. No Changes.	Lisa Wojno	Dr. C. Lerchin	November 2018

Change/Authorization History