

## 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<sup>®</sup>, Resistex PEP Mask, and the Pari RC Cornet Mucus Clearing Device<sup>™</sup>.

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<sup>®</sup> and the Acapella<sup>®</sup>.

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 practitioner.
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:

## Medical Policy



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

- Asthma
- Bronchiectasis
- Chronic bronchitis
- Chronic lower respiratory diseases
- Chronic obstructive asthma
- Chronic obstructive lung disease
- Congenital bronchiectasis
- Cystic fibrosis
- Disorders of the diaphragm
- Emphysema
- Lung transplant status
- Motor neuron disease
- Muscular dystrophies
- Myoneural disorders (ALS)
- Obstructive chronic bronchitis
- Situs inversus (immotile cilia syndrome)

#### Limitations:

1. The powered Percussor is provided only when the member or operator has received appropriate training by a physician, treating practitioner 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:

## Medical Policy



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

- 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.
4. The following devices are considered experimental and investigational:
- a. The Simeox Airway Clearance Technology bronchial drainage device for the treatment of cystic fibrosis.
  - b. High-frequency chest compression systems for the treatment of anoxic brain injury, CFTR-related metabolic syndrome, dyspnea in chronic obstructive pulmonary disease, and plastic bronchitis.
  - c. The Volara System Oscillation & Lung Expansion (OLE) therapy device for the treatment of asthma and middle lobe syndrome.

### **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 (non-Medicare code)

### **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

## Medical Policy



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

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 practitioner in connection with diagnosis and treatment decisions.

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

#### **References**

1. Aldrich TK, Rochester DF. The lungs and neuromuscular diseases. In: Murray JF, Nadel JA, Mason RJ, Boushey HA Jr, editors. Textbook of respiratory medicine. 3<sup>rd</sup> ed. Philadelphia, PA: W.B. Saunders Company; 2000. p. 2329-49.
2. National Coverage Determination, <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=190> Last accessed 11-1-23.
3. Aetna, Chest Physiotherapy and Airway Clearance Devices CPB 0067; [http://www.aetna.com/cpb/medical/data/1\\_99/0067.html](http://www.aetna.com/cpb/medical/data/1_99/0067.html) Last accessed 11-1-23.
4. Boat TF. Cystic fibrosis. In: Behrman RE, Kliegman RM, Jenson HB, editors. Nelson textbook of pediatrics. 17<sup>th</sup> ed. Philadelphia, PA: W.B. Saunders Company; 2004. p. 1437-50.

## Medical Policy



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

5. Boucher RC, Knowles MR, Yankaskas JR. Cystic fibrosis. In: Murray JF, Nadel JA, Mason RJ, Boushey HA Jr, editors. Textbook of respiratory medicine. 3<sup>rd</sup> ed. Philadelphia, PA: W.B. Saunders Company; 2000. p. 308-9.
6. 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.
7. 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-society-chapters/ca/publications/resources/respiratory-disease-adults/AirwayClearanceDevices.pdf>
8. Cystic Fibrosis Foundation. Airway clearance techniques. 2004. Accessed Apr 14, 2010. Available at URL address: <http://www.cff.org/treatments/Therapies/Respiratory/AirwayClearance/>
9. 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.
10. 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.
11. 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.
12. 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.

## Medical Policy



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

13. Hristara-Papadopoulou A, Tsanakas J, Diomou G, Papadopoulou O. Current devices of respiratory physiotherapy. *Hippokratia*. 2008;12(4):211-20.
14. Homnick DN. Making airway clearance successful. *Paediatr Respir Rev*. 2007 Mar;8(1):40-5. Epub 2007 Mar 26.
15. Karlson KH. Cystic fibrosis. In: Rakel RE, Bope ET, editors. *CONN'S current therapy 2005*. 57<sup>th</sup> ed. St. Louis, MO: W.B. Saunders Co.; 2005. p. 260-2.
16. 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.
17. 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.
18. 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).
19. McCarren B, Alison JA. Physiological effects of vibration in subjects with cystic fibrosis. *Eur Respir J*. 2006 Jun;27(6):1204-9.
20. McCool FD, Rosen MJ. Nonpharmacologic airway clearance therapies: ACCP evidence-based clinical practice guidelines. *Chest*. 2006 Jan;129(1 Suppl):250S-259S.
21. Miller RG, Jackson CE, Kasarskis EJ, England JD, Forsheew 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. *Neurology*. 2009 Oct 13;73(15):1218-26.



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

22. 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.
23. Morrissey BM, Harper RW. Bronchiectasis: sex and gender considerations. *Clin Chest Med.* 2004 Jun;25(2).
24. 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/recommend/recommendation.html>
25. 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.
26. 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.
27. 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>
28. 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.
29. 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.
30. Wagener JS, Headley AA. Cystic fibrosis: current trends in respiratory care. *Respir Care.* 2003;48(3):234-47.

## Medical Policy



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

31. 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.
32. Yeates DB, Mortensen J. Deposition and clearance. In: Murray JF, Nadel JA, Mason RJ, Boushey HA Jr, editors. Textbook of respiratory medicine. 3<sup>rd</sup> ed. Philadelphia, PA: W.B. Saunders Company; 2000. p. 370.

#### **Change/Authorization History**

<b>Revision Number</b>	<b>Date</b>	<b>Description of Change</b>	<b>Prepared/Reviewed by</b>	<b>Approved by</b>	<b>Review Date:</b>	<b>Effective Date:</b>
A	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	04-03-12	Added reference to NH Medicaid	Susan Glomb	Dr. B. Almasri		
07	11-26-12	Annual review. No changes.	Susan Glomb	Dr. B. Almasri	Nov. 2012	
08	12-18-13	Annual review. No changes	Susan Glomb	Dr. B. Almasri	Dec 2013	
09	11-24-14	Annual Review. No change	Susan Glomb	Dr. B. Almasri		
10	11-23-15	Annual Review. Updated policy to reflect that S8185 is a non-Medicare code.	Lisa Wojno	Dr. B. Almasri	November 2015	



## Medical Policy



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

11	11-21-16	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	November 2016	
12	11-14-17	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	November 2017	
13	11-14-18	Annual Review. No Changes.	Lisa Wojno	Dr. C. Lerchin	November 2018	
14	11-05-19	Annual Review. No Changes.	Lisa Wojno	Dr. C. Lerchin	November 2019	11-2019
15	11-04-20	Annual review. Added Aetna to the references list.	Carol Dimech	Dr. C. Lerchin	November 4, 2020	November 4, 2020
16	11-1-21	Annual review. Added NCD to reference list. Added asthma to diagnosis examples list. Removed URAC reference.	Carol Dimech	Dr. C. Lerchin	November 1, 2021	November 1, 2021
17	11-8-21	Added NCD, LCD verbiage to "Important Note".	Carol Dimech	Dr. C. Lerchin	November 8, 2021	
18	11-2-22	Annual review. Added to diagnosis example list for clarification. Changed physician to treating practitioner.	Carol Dimech	Dr. C. Lerchin	11-2-22	11-2-22
19	11-1-23	Annual review. Per national benchmark guidelines (Aetna), added under Limitations 4. a, b, c, devices considered experimental and investigational.	Carol Dimech	Dr. C. Lerchin	11-1-23	11-1-23