

Policy: MP045

Section: Medical Benefit Policy

Subject: High Frequency Chest Percussion Vest

Applicable Lines of Business

Commercial	X	CHIP	X
Medicare	X	ACA	X
Medicaid	X		

I. Policy: High Frequency Chest Percussion Vest

II. Purpose/Objective:

To provide a policy of coverage regarding High Frequency Chest Percussion Vest

III. Responsibility:

- A. Medical Directors
- B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community.
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
- e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

- Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
- Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an

illness, condition, injury or disability.

- Will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for Members of the same age.

DESCRIPTION:

High frequency chest wall percussion is a machine that delivers chest physiotherapy by means of pulsed pressure, helping the patient to mobilize airway secretions. This bronchial drainage system includes a vest connected to a pulse generator and enables patients to self-administer the technique of high frequency chest compression to assist with mucocilliary clearance.

INDICATIONS:

High frequency chest compression systems (HFCWS)

HFCWS will be considered medically necessary when the following criteria are met:

A diagnosis of:

1. Cystic fibrosis; **or**
2. Bronchiectasis, characterized by daily productive cough for at least 6 continuous months, or frequent (more than 2/year) exacerbations requiring antibiotic therapy and confirmed by high resolution, spiral or standard CT scan; **or**
3. One of the following neuromuscular diseases with respiratory function weakness: Post-polio, Acid maltase deficiency, Anterior horn cell diseases, Multiple sclerosis, Quadriplegia, Hereditary muscular dystrophy, Myotonic disorders, other myopathies affecting respiratory clearance, or Paralysis of the diaphragm.
and
4. Well documented failure of standard treatments to adequately mobilize retained secretions; **and**
5. Must be recommended by an Adult or Pediatric Pulmonologist or upon exception, approved by a Medical Director

Oscillating positive expiratory pressure (PEP) devices:

Oscillating PEP device (e.g., the Flutter device, Acapella device and the Positive Expiratory Pressure (PEP) mask) will be considered medically necessary for members with hypersecretory lung disease with documented difficulty clearing secretions which is causing recurrent exacerbations.

EXCLUSION:

It is not medical necessary for an insured individual to use both a high frequency chest wall percussion device and a mechanical in-exsufflation device (E0482).

Requests for coverage for insured individuals with the approved diagnoses and not meeting the above criteria, or requests for insured individuals with ANY other diagnosis must be authorized by a Plan Medical Director or designee.

CONTRAINDICATIONS:

Unstabilized head and/or neck injury
Active hemorrhage with hemodynamic instability
Subcutaneous emphysema
Recent epidural spinal infusion or spinal anesthesia
Recent skin grafts, or flaps, on the thorax
Burns, open wounds, and skin infections of the thorax
Recently placed transvenous pacemaker or subcutaneous pacemaker
Suspected pulmonary tuberculosis
Lung contusion

LIMITATIONS:

Requires pre-certification through the Plan's Medical Management Department. Equipment must be obtained through an approved Durable Medical Equipment vendor(s).

Additional Key Words

Vest™ Airway Clearance System, SmartVest® Airway Clearance System, ABI Vest®, ThAIRapy Vest®, Flutter device, Acapella device

Medicaid Business Segment:

Any requests for services, that do not meet criteria set in the PARP, may be evaluated on a case by case basis

CODING ASSOCIATED WITH: High Frequency Chest Percussion Vest

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

94669 Mechanical chest wall oscillation to facilitate lung function, per session

A7025 High frequency chest wall oscillation system vest, replacement for use with patient owned equipment, each

A7026 High frequency chest wall oscillation system hose, replacement for use with patient owned equipment, each

E0480 Percussor, electric or pneumatic, home model

E0481 Intrapulmonary percussive ventilation system and related accessories

E0483 High frequency chest wall oscillation system, with full anterior and/or posterior thoracic region receiving simultaneous external oscillation, includes all accessories and supplies, each

E0484 Oscillatory positive expiratory pressure device, non-electric, any type, each

Current Procedural Terminology (CPT®) © American Medical Association: Chicago, IL

LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

REFERENCES:

Rubin BK, "Emerging Therapies for Cystic Fibrosis Lung Disease", *Chest*, 115(4):1120-1126, April 1999.

Perry RJ, Man GCW, Jones RL, "Effects of Positive End-Expiratory Pressure on Oscillated Flow Rate During High Frequency Chest Compression", *Chest*, 113(4):1028-1033, April 1998.

Van der Schans C, Prasad A, Main E, "Chest Physiotherapy Compared to No Chest Physiotherapy for Cystic Fibrosis", <http://www.cochranelibrary.com>

Arens R, Gozal D, Omlin KJ, Vega J, Boyd KP, Keens TG, Woo MS, " Comparison of High Frequency Chest Compression and Conventional Chest Physiotherapy in Hospitalized Patients With Cystic Fibrosis", *American Journal of Respiratory and Critical Care Medicine*, 150(4):1154-1157, Oct 1994.

Geisinger Technology Assessment Committee, [ABI ThAirapy Vest](#), January 12, 2000

Warwick WJ, Wielinski CL, Hansen LG. Comparison of expectorated sputum after manual chest physical therapy and high-frequency chest compression. *Biomed Instrum Technol*. 2004; 38(6):470-475.

Goktalay T, Akdemir SE, Alpaydin AO, et al. Does high-frequency chest wall oscillation therapy have any impact on the infective exacerbations of chronic obstructive pulmonary disease? A randomized controlled single-blind study. *Clin Rehabil*. Aug 2013;27(8):710-718.

Lee AL, Burge AT, Holland AE. Airway clearance techniques for bronchiectasis. *Cochrane Database Syst Rev*. 2015;11:CD008351.

Svenningsen S, Paulin GA, Sheikh K, et al. Oscillating positive expiratory pressure therapy in chronic obstructive pulmonary disease and bronchiectasis. *COPD*. Feb 2016;13(1):66-74.

Noridian Healthcare Solutions, DME Jurisdiction A, Local Coverage Determination (LCD): High Frequency Chest Wall Oscillation Devices (L33785)

Auger et al. Use of Mechanical Insufflation-Exsufflation Devices for Airway Clearance in Subjects With Neuromuscular Disease. *Respir Care* 2017.

Nicolini A, Grecchi B, Ferrari-Bravo M, et al. Safety and effectiveness of the high-frequency chest wall oscillation vs intrapulmonary percussive ventilation in patients with severe COPD. *Int J Chron Obstruct Pulmon Dis*. 2018 Feb 16;13:617-625.

Wilson LM, Morrison L, Robinson KA. Airway clearance techniques for cystic fibrosis: an overview of Cochrane systematic reviews. *Cochrane Database Syst Rev*. 2019;(1):CD011231.

Morrison L, Milroy S. Oscillating devices for airway clearance in people with cystic fibrosis. *Cochrane Database Syst Rev*. 2020. CD006842

Leemans G, Belmans D, Van Holsbeke C, Becker B, et al. The effectiveness of a mobile high-frequency chest wall oscillation (HFCWO) device for airway clearance. *Pediatr Pulmonol*. 2020; 55(8): 1984-1992.

Alghamdi SM, Barker RE, Alsulayyim ASS, et al. Use of oscillatory positive expiratory pressure (OPEP) devices to augment sputum clearance in COPD: a systematic review and meta-analysis. *Thorax*. Oct 2020; 75(10): 855-863

Livnat G, Yaari N, Stein N, et al. 4-week daily airway clearance using oscillating positive-end expiratory pressure versus autogenic drainage in bronchiectasis patients: a randomised controlled trial. *ERJ Open Res*. Oct 2021; 7(4).

Nicolini A, Grecchi B, Banfi P. Effectiveness of two high-frequency chest wall oscillation techniques in patients with bronchiectasis: a randomized controlled preliminary study. *Panminerva Med*. 2022; 64(2):235-243.

This policy will be revised as necessary and reviewed no less than annually.

Devised: 3/00

Revised: 01/02; 2/04 (criteria, coding); 2/08 (wording); 5/17, 5/18 (Removed Prior Auth); 5/23 (clarify indications)

Reviewed: 01/03; 2/05; 2/06; 2/07; 2/09; 2/10; 6/11, 6/12, 6/13, 6/14, 6/15, 6/16, 5/19, 5/20, 5/21, 5/22

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at <https://www.geisinger.org/health-plan/providers/ghp-clinical-policies>

Please be advised that the use of the logos, service marks or names of Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company on a marketing, press releases or any communication piece regarding the contents of this medical policy is strictly prohibited without the prior written consent of Geisinger Health Plan. Additionally, the above medical policy does not confer any endorsement by Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company regarding the medical service, medical device or medical lab test described under this medical policy.