High Frequency Chest Compression Devices

LOB(s):	State(s):
☒ *Commercial* ☒ *Medicare*	☒ *Idaho* ☒ *Montana* ☒ *Oregon* ☒ *Washington* ☐ *Other:*
☒ *Medicaid*	☒ *Oregon* ☐ *Washington*

Enterprise Policy

PacificSource is committed to assessing and applying current regulatory standards, widely-used treatment guidelines, and evidenced-based clinical literature when developing clinical criteria for coverage determination. Each policy contains a list of sources (references) that serves as the summary of evidence used in the development and adoption of the criteria. The evidence was considered to ensure the criteria provide clinical benefits that promote patient safety and/or access to appropriate care. Each clinical policy is reviewed, updated as needed, and readopted, at least annually, to reflect changes in regulation, new evidence, and advancements in healthcare.

Clinical Guidelines are written when necessary to provide guidance to providers and members in order to outline and clarify coverage criteria in accordance with the terms of the Member's policy. This Clinical Guideline only applies to PacificSource Health Plans, PacificSource Community Health Plans, and PacificSource Community Solutions in Idaho, Montana, Oregon, and Washington. Because of the changing nature of medicine, this list is subject to revision and update without notice. This document is designed for informational purposes only and is not an authorization or contract. Coverage determinations are made on a case-by-case basis and subject to the terms, conditions, limitations, and exclusions of the Member's policy. Member policies differ in benefits and to the extent a conflict exists between the Clinical Guideline and the Member's policy, the Member's policy language shall control. Clinical Guidelines do not constitute medical advice nor guarantee coverage.

Background

Bronchial hygiene therapy (BHT) is a broad term used to describe various airway clearance techniques that are indicated for patients with compromised airway clearance. The purpose of BHT is to improve ventilation and gas exchange by clearing secretions, thus reducing airway obstruction. This therapy is useful in diseases such as cystic fibrosis and bronchiectasis, and may include the following techniques:

1. Chest physiotherapy, which consists of postural drainage, percussion, vibration, coughing, and suctioning
2. Breathing exercises, such as huffing and diaphragmatic breathing used in spontaneously breathing patients
3. Manual hyperventilation, used for intubated patients

High frequency chest compression (HFCC) devices, also known as high frequency chest wall oscillation (HFCWO) devices are indicated as alternatives to conventional chest physiotherapy in patients with impaired ability to clear secretions from the respiratory tract. Oscillatory devices be used by patients with respiratory disorders in the home to promote bronchial secretion drainage and clearance. Additionally, they could benefit patients with neuromuscular disease who have impaired secretion management and cough clearance.

HFCC devices consist of an air-pulse generator, a connector hose, and an inflatable vest which is worn by the patient over the thorax. Pressure pulses created by the generator cause the vest to alternately

inflate and deflate which creates high frequency chest wall oscillation. The oscillation loosens the sputum so it can be more easily expectorated by the patient.

Examples of available HFCC devices include but are not limited to the following:

- ABI Vest Airway Clearance System (Entela, Inc.)
- Frequencer TM v2x Airway Clearance Device (DYMESO, Inc.)
- MedPulse® Respiratory Vest System Model 2000ez (Electromed, Inc.)
- RespIn 11 Bronchial Airway Clearance System (RespInnovation SAS)
- SmartVest Airway Clearance System (Electromed Inc.)
- The inCourage system (Respirtech Inc.)
- The Vest Airway Clearance System (Hill-Rom)

Criteria

Commercial

Prior authorization is required for rental or purchase

I. PacificSource may consider high frequency chest compression (HFCC) devices medically necessary for treatment of cystic fibrosis when **ALL** of the following criteria are met:

1. The member has a diagnosis of cystic fibrosis
2. The member has failed standard chest physiotherapy or standard chest physiotherapy is unavailable or contraindicated

II. PacificSource may consider high frequency chest compression (HFCC) devices medically necessary for treatment of chronic bronchiectasis when **ALL** of the following criteria are met:

1. Bronchiectasis has been confirmed by CT scan
2. The member has had daily productive cough for at least 6 continuous months, or the member has had more than two exacerbations of bronchiectasis requiring antibiotic therapy in the past twelve months

III. PacificSource may consider high frequency chest compression (HFCC) devices medically necessary for lung transplant recipients when **ALL** of the following criteria are met:

1. Member is within the first 6 months post-operatively
2. When member is unable to tolerate standard chest physiotherapy

IV. PacificSource may consider high frequency chest compression (HFCC) devices medically necessary for treatment of neuromuscular diseases when the following criteria is met:

1. When the member has failed standard chest physiotherapy **OR** standard chest physiotherapy is unavailable or contraindicated.

Medicaid

PacificSource Community Solutions follows Guideline Note 229 of the Oregon Health Plan (OHP) Prioritized List of Health Services and per Oregon Administrative Rules OAR(s) 410-141-3820 through 3830 for coverage of High Frequency Chest Compression Devices.

Medicare

PacificSource Medicare uses Local Coverage Determination L33785 for High Frequency Chest Wall Oscillation Devices.

Experimental/Investigation/Unproven

PacificSource considers high frequency chest compression systems to be experimental, investigational, or unproven for other indications including, but not limited to the following:

- alpha 1-antitrypsin deficiency
- cerebral palsy
- childhood atelectasis
- chronic inflammatory demyelinating polyneuropathy
- Cri-du-Chat syndrome
- individuals with acute pneumonic respiratory failure receiving mechanical ventilation
- individuals in a chronic vegetative state or in a coma
- individuals with Rett syndrome
- interstitial lung disease
- kyphosis
- leukodystrophy
- protein alveolar proteinosis
- scoliosis
- stiff-person (stiff-man) syndrome
- Zellweger syndrome

Coding Information

The following list of codes are for informational purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

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

E0483 High frequency chest wall oscillation air-pulse generator system, (includes hoses and vest), each.

*HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare and Medicaid Services (CMS)

References

Chakravorty, I., Chahal, K., & Austin, G. (2011). A pilot study of the impact of high-frequency chest wall oscillation in chronic obstructive pulmonary disease patients with mucus hypersecretion. International journal of chronic obstructive pulmonary disease, 6, 693–699. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3257955/pdf/copd-6-693.pdf

Fainardi, V., Longo, F., Faverzani, S., Tripodi, M. C., Chetta, A., & Pisi, G. (2011). Short-term effects of high-frequency chest compression and positive expiratory pressure in patients with cystic fibrosis. Journal of clinical medicine research, 3(6), 279–284. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3279471/pdf/jocmr-03-279.pdf

Keating, J. M., Collins, N., Bush, A., & Chatwin, M. (2011). High-frequency chest-wall oscillation in a noninvasive-ventilation-dependent patient with type 1 spinal muscular atrophy. *Respiratory care*, *56*(11), 1840–1843. https://doi.org/10.4187/respcare.01155

Lechtzin, N., Wolfe, L. F., & Frick, K. D. (2016). The Impact of High-Frequency Chest Wall Oscillation on Healthcare Use in Patients with Neuromuscular Diseases. Annals of the American Thoracic Society, 13(6), 904–909. https://doi.org/10.1513/AnnalsATS.201509-597OC

Nicolini, A., Cardini, F., Landucci, N., Lanata, S., Ferrari-Bravo, M., & Barlascini, C. (2013). Effectiveness of treatment with high-frequency chest wall oscillation in patients with bronchiectasis. BMC pulmonary medicine, 13, 21. https://doi.org/10.23736/S0031-0808.20.03735-0

Oregon Health Authority. Health Evidence Review Commission (HERC). (8/11/2022). Coverage Guidance: High Frequency Chest Wall Oscillation Devices. https://www.oregon.gov/oha/HPA/DSI-HERC/EvidenceBasedReports/High-frequency-chest-wall-oscillation-devices-Coverage-Guidance-APPROVED_8-11-22.pdf

Washington State Health Care Authority, Health Technology Reviews, 2023. https://www.hca.wa.gov/about-hca/programs-and-initiatives/health-technology-assessment/health-technology-reviews

Wilson, L. M., Morrison, L., & Robinson, K. A. (2019). Airway clearance techniques for cystic fibrosis: an overview of Cochrane systematic reviews. The Cochrane database of systematic reviews, 1(1), CD011231 https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011231.pub2/full

Appendix

Policy Number:

Policy Type: Enterprise

Effective: 10/1/2020 **Next review:** 4/1/2025

Author(s):

Depts.: Health Services

Applicable regulation(s): OARs 410-141-3820 through 410-141-3830, 410-151-0000 through 410-151-0003, Guideline Note 229 OHP Prioritized List of Health Services.

Commercial OPs: 4/2024

Government OPs: 4/2024