I. ACTION

<table>
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II. POLICY DISCLAIMER

Johns Hopkins HealthCare LLC (JHHC) provides a full spectrum of health care products and services for Employer Health Programs, Priority Partners, Advantage MD, and US Family Health Plan. Each line of business possesses its own unique contract and guidelines which, for benefit and payment purposes, should be consulted first to know what benefits are available for coverage.

Specific contract benefits, guidelines or policies supersede the information outlined in this policy.

III. POLICY

For Advantage MD, see Medicare Coverage Database:

- Local Coverage Determination (LCD) L33785, High Frequency Chest Wall Oscillation Devices
- Local Coverage Determination (LCD) L33795, Mechanical In-exsufflation Devices
- Medicare does not have a National Coverage Determination (NCD) for Airway Clearance Devices
IV. POLICY CRITERIA

A. When benefits are provided under the member’s contract, JHHC considers the use of high-frequency chest compression systems medically necessary for documented failure of standard treatment to adequately mobilize retained secretions for the following indications:

1. Bronchiectasis which has been confirmed by CT scan and is characterized by:
   a. Daily productive cough for at least 6 continuous months, OR;
   b. More than two exacerbations in a 12 month period requiring antibiotic treatment, OR;
2. Cystic fibrosis or immotile cilia syndrome, OR;
3. The member has one of the following neuromuscular, pulmonary, or respiratory disease diagnoses:
   a. Acid maltase deficiency
   b. Anterior horn cell diseases, including amyotrophic lateral sclerosis
   c. Hereditary muscular dystrophy
   d. Multiple sclerosis
   e. Myotonic disorders
   f. Other myopathies
   g. Paralysis of the diaphragm
   h. Post-polio
   i. Quadriplegia
   j. Chronic Obstructive Pulmonary Disease (COPD)
   k. Lung transplant recipient

B. The following are examples of systems that may be used if medical necessity requirements are met and ordered by provider. This list is not all-inclusive:

1. SmartVest®
2. MedPulse® Respiratory Vest System
3. The Vest® Airway Clearance System
4. ABI Vest
5. Incourage™ Vest/System

C. Unless specific benefits are provided under the member’s contract, JHHC considers the use of high-frequency chest compression systems experimental and investigational for all other indications, as they do not meet Technology Evaluation Criteria (TEC).

D. When benefits are provided under the member’s contract, JHHC considers the use of mechanical insufflation-exsufflation devices, (e.g., VitalCough™) medically necessary for patients with neuromuscular disease (e.g., spinal cord injury, quadriplegia, amyotrophic lateral sclerosis) that is causing a significant impairment of chest wall and/or diaphragmatic movement and for whom standard treatments (e.g., chest percussion and postural drainage, etc.) have not been successful in adequately mobilizing retained secretions.

E. Unless specific benefits are provided under the member's contract, JHHC considers the use of mechanical insufflation-exsufflation devices experimental and investigational for all other indications, as they do not meet Technology Evaluation Criteria (TEC).

V. DEFINITIONS

Bronchiectasis: is a condition in which damage to the airways causes them to widen and become flabby and scarred. The airways are tubes that carry air in and out of the lungs. It is usually the result of an infection or other condition that injures
the walls of the airways or prevents the airways from clearing mucus. Mucus is a slimy substance that the airways produce to help remove inhaled dust, bacteria, and other small particles. In bronchiectasis, the airways slowly lose their ability to clear out mucus. When mucus can’t be cleared, it builds up and creates an environment in which bacteria can grow. This leads to repeated, serious lung infections. Each infection causes more damage to the airways. Over time, the airways lose their ability to move air in and out. This can prevent enough oxygen from reaching your vital organs. Bronchiectasis can lead to serious health problems, such as respiratory failure, atelectasis and heart failure. It can effect one section of a person’s lungs or many sections of both lungs. (National Heart, Lung and Blood Institute, 2018).

Chest Physical Therapy (CPT or Chest PT): is an airway clearance technique (ACT) to drain the lungs, and may include percussion (clapping), vibration, deep breathing, and huffing or coughing. (Cystic Fibrosis Foundation, 2018).

Cystic Fibrosis (CF): is an inherited disease caused by mutations in a gene called the cystic fibrosis transmembrane conductance regulator (CFTR) gene. The CFTR gene provides instructions for the CFTR protein. The CFTR protein is located in every organ of the body that makes mucus, including the lungs, liver, pancreas, and intestines, as well as sweat glands. The CFTR protein has also been found in other cells in the body, such as cells of the heart and the immune system. The mutations in the CFTR gene cause the CFTR protein to not work properly. This causes thick, sticky mucus and blockages in the lungs and digestive system. Normally, mucus coats tiny hair-like structures called cilia in the airways of your lungs, which sweep the mucus particles up to the nose and mouth where your body can get rid of them. In people who have cystic fibrosis, this process does not work properly. (National Heart, Lung, and Blood Institute, 2018).

High-frequency Chest Wall Compression Systems (HFCWC): is a mechanical form of chest physiotherapy (CPT) used as an alternative to conventional chest physical therapy in patients with impaired ability to clear pulmonary secretions. The purpose of HFCWC is to promote effective airway clearance and pulmonary function by adjusting airflow patterns and reducing sputum viscosity, which aids in mucociliary clearance. The HFCWC may also be called High Frequency Chest Wall Oscillation (HFCWO). (Hayes, 2019)

VI. BACKGROUND
The administration and utilization of airway clearance devices has increased over the years, particularly in patients diagnosed with respiratory diseases such as cystic fibrosis. Respiratory physiotherapy devices are designed to help improve pulmonary function through techniques such as mucus removal. Patients with neuromuscular disorders (NMDs) may have weak respiratory (breathing) muscles which makes it difficult for them to effectively cough and clear mucus from the lungs. This places them at risk of recurrent chest infections and chronic lung disease. Mechanical insufflation-exsufflation (MI-E) is one of a number of techniques available to improve cough efficacy and mucus clearance. MI-E is given through a mask, mouthpiece, or via a tracheostomy (an opening in the neck into the windpipe). MI-E acts like a cough first pushing air into the lungs when the person breathes in (insufflation), then sucking it out again (exsufflation). (Morrow, 2013)

VII. CODING DISCLAIMER
CPT Copyright 2018 American Medical Association. All rights reserved. CPT is a registered trademark of the American Medical Association.

Note: The following CPT/HCPCS codes are included below for informational purposes and may not be all inclusive. Inclusion or exclusion of a CPT/HCPCS code(s) below does not signify or imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member’s specific benefit plan document and applicable laws that require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee of payment. Other policies and coverage determination guidelines may apply.

Note: All inpatient admissions require pre-authorization.
Compliance with the provision in this policy may be monitored and addressed through post payment data analysis and/or medical review audits.

Employer Health Programs (EHP) refer to specific Summary Plan Description (SPD). If there is no criteria in the SPD, apply the Medical Policy criteria.

Priority Partners (PPMCO) refer to COMAR guidelines then apply the Medical Policy criteria.

US Family Health Plan (USFHP), TRICARE Medical Policy supersedes JHHC Medical Policy. If there is no Policy in TRICARE, apply the Medical Policy Criteria.

Advantage MD, LCD and NCD Medical Policy supersedes JHHC Medical Policy. If there is no LCD or NCD, apply the Medical Policy Criteria.

VIII. CODING INFORMATION

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<th>HCPCS CODES</th>
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<tr>
<td>A7020</td>
<td>Interface for cough stimulating device, includes all components, replacement only</td>
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<tr>
<td>A7025</td>
<td>High frequency chest wall oscillation system vest, replacement for use with patient owned equipment, each</td>
</tr>
<tr>
<td>A7026</td>
<td>High frequency chest wall oscillation system hose, replacement for use with patient owned equipment, each</td>
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<tr>
<td>E0482</td>
<td>Cough stimulating device, alternating positive and negative airway pressure</td>
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<tr>
<td>E0483</td>
<td>High frequency chest wall oscillation system, includes all accessories and supplies, each</td>
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<tr>
<td>E0484</td>
<td>Oscillatory positive expiratory pressure device, nonelectric, any type, each</td>
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IX. REFERENCE STATEMENT
Analyses of the scientific and clinical references cited below were conducted and utilized by the Johns Hopkins HealthCare LLC (JHHC) Medical Policy Team during the development and implementation of this medical policy. The Medical Policy Team will continue to monitor and review any newly published clinical evidence and revise the policy and adjust the references below accordingly if deemed necessary.

X. REFERENCES


COMAR. Regulations Online, Table of Rare and Expensive Disease List: Cystic Fibrosis Pulmonary Manifestations. Retrieved: http://www.dsd.state.md.us


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XI. APPROVALS