Airway Clearance Devices (for Kentucky Only)

Policy Number: CS300KY.05
Effective Date: October 1, 2021

Instructions for Use

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Related Policy

- Durable Medical Equipment, Orthotics, Medical Supplies and Repairs/Replacements (for Kentucky Only)

Application

This Medical Policy only applies to the state of Kentucky.

Coverage Rationale

See Benefit Considerations

A two-month rental trial of a high-frequency chest wall oscillation system is proven and Medically Necessary in the management of bronchiectasis, cystic fibrosis, and neuromuscular diseases characterized by the production of excessive airway secretions, infection and inadequate airway clearance when criteria have been met. For medical necessity clinical coverage criteria, refer to the InterQual® 2021, Apr. 2021 Release, CP: Durable Medical Equipment, Secretion Clearance Devices.

Click here to view the InterQual® criteria.

An initial two-month rental trial must confirm individual tolerance and efficacy in using the device.

An acoustical or mechanical percussor, positive expiratory pressure and aerosol drug delivery system combination device (e.g., Vibralung®) is considered Medically Necessary in the management of airway clearance for bronchiectasis, cystic fibrosis, and neuromuscular diseases. For medical necessity clinical coverage criteria, refer to the InterQual® 2021, Apr. 2021 Release, CP: Durable Medical Equipment, Secretion Clearance Devices.

Click here to view the InterQual® criteria.

An intrapulmonary percussive ventilation (IPV) device for home use is considered unproven and not Medically Necessary. An IPV (E0481) is a mechanized form of chest physical therapy, which delivers mini-bursts (more than 200 per minute) of respiratory gases to the lungs via a mouthpiece. Its purpose is to mobilize endobronchial secretions and diffuse patchy atelectasis. The patient controls variables such as inspiratory time, delivery rates, and peak pressure. Alternatively a therapist will do a slapping or clapping of the patient's chest wall.

Definitions

Medically Necessary: The determination of whether a covered benefit or service is medically necessary shall:

- Be based on an individualized assessment of the recipient's medical needs; and
- Comply with the requirements established in this paragraph. To be medically necessary or a medical necessity, a covered benefit shall be:
  - Reasonable and required to identify, diagnose, treat, correct, cure, palliate, or prevent a disease, illness, injury, disability, or other medical condition, including pregnancy;
  - Appropriate in terms of the service, amount, scope, and duration based on generally-accepted standards of good medical practice;
  - Provided for medical reasons rather than primarily for the convenience of the individual, the individual's caregiver, or the health care provider, or for cosmetic reasons;
  - Provided in the most appropriate location, with regard to generally-accepted standards of good medical practice, where the service may, for practical purposes, be safely and effectively provided;
  - Needed, if used in reference to an emergency medical service, to exist using the prudent layperson standard.
  - Provided in accordance with early and periodic screening, diagnosis, and treatment (EPSDT) requirements established in 42 U.S.C. 1396d(r) and 42 C.F.R. Part 441 Subpart B for individuals under twenty-one (21) years of age; and
  - Provided in accordance with 42 C.F.R. 440.230. (907 KAR 3:30)

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not 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 specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

HCPCS Code	Description
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
E0481	Intrapulmonary percussive ventilation system and related accessories
E0483	High frequency chest wall oscillation system, includes all accessories and supplies, each
E1399	Durable medical equipment, miscellaneous

Diagnosis Code	Description
A80.0	Acute paralytic poliomyelitis, vaccine-associated
A80.1	Acute paralytic poliomyelitis, wild virus, imported
A80.2	Acute paralytic poliomyelitis, wild virus, indigenous
A80.30	Acute paralytic poliomyelitis, unspecified
A80.39	Other acute paralytic poliomyelitis
A80.4	Acute nonparalytic poliomyelitis
A80.9	Acute poliomyelitis, unspecified
B91	Sequelae of poliomyelitis
E74.02	Pompe disease
E74.4	Disorders of pyruvate metabolism and gluconeogenesis
E84.0	Cystic fibrosis with pulmonary manifestations
E84.9	Cystic fibrosis, unspecified

Diagnosis Code	Description
G12.0	Infantile spinal muscular atrophy, type I [Werdnig-Hoffman]
G12.1	Other inherited spinal muscular atrophy
G12.9	Spinal muscular atrophy, unspecified
G12.21	Amyotrophic lateral sclerosis
G12.22	Progressive bulbar palsy
G12.25	Progressive spinal muscle atrophy
G12.8	Other spinal muscular atrophies and related syndromes
G12.9	Spinal muscular atrophy, unspecified
G14	Postpolio syndrome
G35	Multiple sclerosis
G71.00	Muscular dystrophy, unspecified
G71.11	Myotonic muscular dystrophy
G71.20	Congenital myopathy, unspecified
G71.21	Nemaline myopathy
G71.220	X-linked myotubular myopathy
G71.228	Other centronuclear myopathy
G71.29	Other congenital myopathy
G71.3	Mitochondrial myopathy, not elsewhere classified
G80.0	Spastic quadriplegic cerebral palsy
G82.50	Quadriplegia, unspecified
G82.51	Quadriplegia, C1-C4 complete
G82.52	Quadriplegia, C1-C4 incomplete
G82.53	Quadriplegia, C5-C7 complete
G82.54	Quadriplegia, C5-C7 incomplete
J47.0	Bronchiectasis with acute lower respiratory infection
J47.1	Bronchiectasis with (acute) exacerbation
J47.9	Bronchiectasis, uncomplicated
Q33.4	Congenital bronchiectasis
R53.2	Functional quadriplegia
Z99.11	Dependence on respirator [ventilator] status

Description of Services

In healthy individuals, clearance of secretions from the respiratory tract is accomplished primarily through ciliary action. Increased production of airway secretions is usually cleared by coughing. However, a number of conditions, including asthma, chronic obstructive pulmonary disease (COPD), cystic fibrosis (CF), mucociliary disorders, neuromuscular disease (NMD) and metabolic disorders can result in inadequate airway clearance, either because of increased volume of secretions or increased viscosity of secretions. These secretions accumulate in the bronchial tree, occluding small passages and interfering with adequate gas exchange in the lungs. They also serve as a culture medium for pathogens, leading to a higher risk for chronic infection and deterioration of lung function. The blockage of mucus can result in bronchiectasis, the abnormal stretching and enlarging of the respiratory passages. Bronchiectasis may complicate chronic bronchitis, one of the groups of respiratory illnesses referred to as COPD and it can occur as a complication of CF.

When coughing alone cannot adequately clear secretions, other therapies are used. Conventional chest physical therapy (CPT) has been shown to result in improved respiratory function and has traditionally been accomplished through the use of percussion and postural drainage. Postural drainage and percussion are usually taught to family members so that the therapy

may be continued at home when needed in chronic disease. This highly labor-intensive activity requires the daily intervention of a trained caregiver which may lead to poor compliance with the recommended treatment plan.

To improve compliance and allow patients to independently manage their disease, HFCWC/high-frequency chest wall oscillation (HFCWO) devices have been developed to improve mucociliary clearance and lung function. HFCWC is a mechanical form of CPT that consists of an inflatable vest connected by tubes to a small air-pulse generator. The air-pulse generator rapidly inflates and deflates the vest, compressing and releasing the chest wall up to 20 times per second. The vibratory forces of these devices are thought to lower mucus viscosity.

Additional Information

Bronchiectasis is defined as a daily productive cough for at least six continuous months or exacerbations requiring antibiotic therapy more than two times per year, and confirmed by high resolution, spiral, or standard computed tomography (CT) scan, and well-documented failure of standard treatments to adequately mobilize retained secretions.

Benefit Considerations

Some of the disorders for which high frequency chest wall compression is unproven are serious, rare diseases. Benefit coverage for an otherwise unproven service for the treatment of serious, rare diseases may occur when certain conditions are met. The member specific benefit plan document must be consulted to make coverage decisions in these circumstances. Before using this policy, check the member specific benefit plan document and any federal or state mandates, if applicable.

Clinical Evidence

Intrapulmonary Percussive Ventilation (IPV)

Reychler et al. (2018) conducted a systematic review to summarize the physiological and clinical effects related to the use of intrapulmonary percussive ventilation (IPV) as an airway clearance technique in chronic obstructive airway diseases. Using predetermined criteria, a search was conducted in PubMed, PEDro, and Scopus online databases. Outcomes of interest included immediate or prolonged physiological effects (e.g., gas exchange, cardiorespiratory parameters, lung function, and mechanics) and clinical effects (e.g., symptoms, adverse effects, and length of hospital stay). A total of 109 studies were identified and after further evaluation, 12 studies were included in the review. Of those, one study evaluated patients with bronchiectasis (n=22), four studies evaluated patients with cystic fibrosis (n=78), and six studies (one study included phase I and two results) evaluated patients with chronic obstructive pulmonary disease (COPD, n=178). In patients with COPD, IPV improved gas exchange during exacerbation and reduced the hospital length of stay however, IPV was no more beneficial than other airway clearance techniques when subjects were stable. Two studies reported complications or discomfort with IPV and in another study, two patients did not tolerate settings with a higher frequency of percussions (1.220 cm H2O-350 c/min and 1.840 cm H2O-350 c/min). In patients with cystic fibrosis, cardiorespiratory parameters and lung function did not improve with IPV. One study reported mild hemoptysis, which was associated with a respiratory infection. In patients with bronchiectasis, dyspnea and respiratory frequency improved after one session of IPV; however, there was no difference in sputum dry weight and in patients with productive bronchiectasis, immediate efficacy of IPV vs. other airway clearance techniques did not differ. Minor adverse events (dry throat, nausea, and/or fatigue) were reported in 27% of patients treated with both IVP and chest physical therapy. The authors concluded that use of IPV as an airway clearance technique in chronic obstructive airway diseases is not supported by sufficiently strong evidence to recommend routine use in this patient population.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

High-frequency chest wall compression devices are designed to promote airway clearance and improve bronchial drainage. They are indicated when external chest manipulation is the physician's treatment of choice to enhance mucus transport. Refer to the following website for more information (use product code BYI):
http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm. (Accessed October 7, 2020)

Additional Product Information

- The Vest® Airway Clearance System
- SmartVest® Airway Clearance System
- inCourage® System
- Monarch® Airway Clearance System

Acoustical percussor devices are designed to provide airway clearance therapy and promote bronchial drainage by inducing vibrations in the chest walls. They are indicated for patients who have respiratory ailments which involve defective mucociliary clearance. Refer to the following website for more information (use product code BYI): https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm (Accessed October 7, 2020).

Additional Product Information

- Vibralung® Acoustical Percussor

References

Reychler G, Debier E, Contal O, et al. Intrapulmonary percussive ventilation as an airway clearance technique in subjects with chronic obstructive airway diseases. Respir Care. 2018 May;63(5):620-631.

Policy History/Revision Information

Date	Summary of Changes
10/01/2021	**Applicable Codes** • Updated list of applicable ICD-10 diagnosis codes to reflect annual edits; revised description for G71.20 **Supporting Information** • Archived previous policy version CS300KY.04

Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the federal, state, or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state, or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state, or contractual requirements for benefit plan coverage govern. Before using this policy, please check the federal, state, or contractual requirements for benefit plan coverage. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

UnitedHealthcare uses InterQual® for the primary medical/surgical criteria, and the American Society of Addiction Medicine (ASAM) for substance use, in administering health benefits. If InterQual® does not have applicable criteria, UnitedHealthcare may also use UnitedHealthcare Medical Policies, Coverage Determination Guidelines, and/or Utilization Review Guidelines that have been approved by the Kentucky Department for Medicaid Services. The UnitedHealthcare Medical Policies, Coverage Determination Guidelines, and Utilization Review Guidelines are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.