Airway Clearance Devices

Policy Number: 2021T0052X
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Instructions for Use

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Related Commercial Policy

- Durable Medical Equipment, Orthotics, Ostomy Supplies, Medical Supplies and Repairs/ Replacements

Community Plan Policy

- Airway Clearance Devices

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 pulmonary conditions 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® Client Defined 2020, CP: Durable Medical Equipment, Secretion Clearance Devices (Custom) – UHG.

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 medical necessity clinical coverage criteria, refer to the InterQual® Client Defined 2020, CP: Durable Medical Equipment, Secretion Clearance Devices (Custom) – UHG.

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 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.

Documentation Requirements

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 documentation requirements outlined below are used to assess whether the member meets the clinical criteria for coverage but do not guarantee coverage of the service requested.

HCPCS Codes*	Required Clinical Information
Airway Clearance Devices	
A7025 A7026 E0483	Medical notes documenting the following, when applicable: • Diagnosis • Current prescription from physician • Failed standard treatments to adequately mobilize retained secretions • CT scan report confirming diagnosis of bronchiectasis, if applicable • Frequency of exacerbations requiring antibiotic therapy • Duration and frequency of productive cough For continuation beyond the two-month trial, medical notes documenting: • Patient tolerance of the device • Efficacy in using the device (member's response to therapy)

**For code descriptions, see the Applicable Codes section.*

Definitions

Medically Necessary: Health care services that are all of the following as determined by UnitedHealthcare or our designee:

- In accordance with Generally Accepted Standards of Medical Practice.
- Clinically appropriate, in terms of type, frequency, extent, service site and duration, and considered effective for your Sickness, Injury, Mental Illness, substance-related and addictive disorders, disease or its symptoms.
- Not mainly for the member's convenience or that of the member's doctor or other health care provider.
- Not more costly than an alternative drug, service(s), service site or supply that is at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of the member's Sickness, Injury, disease or symptoms.

Generally Accepted Standards of Medical Practice are standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, relying primarily on controlled clinical trials, or, if not available, observational studies from more than one institution that suggest a causal relationship between the service or treatment and health outcomes.

If no credible scientific evidence is available, then standards that are based on Physician specialty society recommendations or professional standards of care may be considered. UnitedHealthcare has the right to consult expert opinion in determining whether health care services are Medically Necessary. The decision to apply Physician specialty society recommendations, the choice of expert and the determination of when to use any such expert opinion, shall be determined by UnitedHealthcare.

UnitedHealthcare develops and maintains clinical policies that describe the Generally Accepted Standards of Medical Practice scientific evidence, prevailing medical standards and clinical guidelines supporting UnitedHealthcare's determinations regarding specific services. These clinical policies (as developed by UnitedHealthcare and revised from time to time), are available to Covered Persons through www.myuhc.com or the telephone number on the member's ID card. They are also available to Physicians and other health care professionals on UHCprovider.com.

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
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, unspecifed
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

Diagnosis Code	Description
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 6 continuous months or exacerbations requiring antibiotic therapy more than 2 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, please 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, 1 study evaluated patients with bronchiectasis (n=22), 4 studies evaluated patients with cystic fibrosis (n=78), and 6 studies (1 study included phase I and 2 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, 2 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 1 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

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

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

Centers for Medicare and Medicaid Services (CMS)

Medicare may cover high frequency chest wall oscillation systems when criteria are met. Refer to the National Coverage Determination (NCD) for Durable Medical Equipment Reference List (280.1). Local Coverage Determinations (LCDs)/Local Coverage Articles (LCAs) exist; see the LCDs/LCAs for High Frequency Chest Wall Oscillation Device.

Medicare does not have an NCD specifically for acoustical or mechanical percussor devices. LCD's/LCA's do not exist at this time.

Also see the Medicare Benefit Policy Manual, Chapter 15, §110 – Durable Medical Equipment – General.

Medicare does not cover intrapulmonary percussive ventilation (IPV) systems. See the NCD for Intrapulmonary Percussive Ventilator (IPV) (240.5). LCDs/LCAs exist; refer to the LCDs/LCAs for Intrapulmonary Percussive Ventilation System. (Accessed October 2, 2020)

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

01/01/2021	**Title Change**
	• Previously titled *High Frequency Chest Wall Compression Devices*
	Coverage Rationale
	• Revised language to indicate:
	  ○ A two-month rental trial of a high-frequency chest wall oscillation system is proven and Medically Necessary in the management of pulmonary conditions characterized by the production of excessive airway secretions, infection and inadequate airway clearance; for medical necessity clinical coverage criteria, see the InterQual® United Health Group Criteria, Client Defined 2020, CP: Durable Medical Equipment, Secretion Clearance Devices (Custom)
	  ○ 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 medical necessity clinical coverage criteria, see the InterQual® United Health Group Criteria, Client Defined 2020, CP: Durable Medical Equipment, Secretion Clearance Devices (Custom)
	  ○ An intrapulmonary percussive ventilation (IPV) device for home use is considered unproven and not Medically Necessary
	  ▪ An IPV 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
	Documentation Requirements
	• Added documentation requirements for continuation of an airway clearance device beyond the two-month trial
	Definition
	• Added definition of "Medically Necessary"
	Applicable Codes
	• Added HCPCS codes E0481 and E1399
	• Added ICD-10 diagnosis codes A80.0, A80.1, A80.2, A80.30, A80.39, A80.4, A80.9, B91, E74.02, E74.4, G12.0, G12.1, G12.9, G12.21, G12.22, G12.25, G12.8, G12.9, G14, G35, G71.00, G71.11, G71.20, G71.21, G71.220, G71.228, G71.29, G71.3, G80.0, G82.50, G82.51, G82.52, G82.53, G82.54, R53.2, and Z99.11
	Supporting Information
	• Updated *Clinical Evidence*, *FDA*, *CMS*, and *References* sections to reflect the most current information

Date	Summary of Changes
	• Archived previous policy version 2019T0052W

Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the member specific benefit plan document must be referenced as the terms of the member specific benefit plan may differ from the standard plan. In the event of a conflict, the member specific benefit plan document governs. Before using this policy, please check the member specific benefit plan document and any applicable federal or state mandates. 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.

This Medical Policy may also be applied to Medicare Advantage plans in certain instances. In the absence of a Medicare National Coverage Determination (NCD), Local Coverage Determination (LCD), or other Medicare coverage guidance, CMS allows a Medicare Advantage Organization (MAO) to create its own coverage determinations, using objective evidence-based rationale relying on authoritative evidence (Medicare IOM Pub. No. 100-16, Ch. 4, §90.5).

UnitedHealthcare may also use tools developed by third parties, such as the MCG™ Care Guidelines, to assist us in administering health benefits. UnitedHealthcare Medical Policies 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.

Archived Policy Versions

Effective Date	Policy Number	Policy Title
11/01/2019 – 12/31/2020	2019T0052W	High Frequency Chest Wall Compression Devices
01/01/2019 – 10/31/2019	2019T0052V	High Frequency Chest Wall Compression Devices
12/01/2018 – 12/31/2018	2018T0052U	High Frequency Chest Wall Compression Devices
10/01/2018 – 11/30/2018	2018T0052T	High Frequency Chest Wall Compression Devices
09/01/2017 – 09/30/2018	2017T0052S	High Frequency Chest Wall Compression Devices
10/01/2016 – 08/31/2017	2016T0052R	High Frequency Chest Wall Compression Devices
11/01/2015 – 09/30/2016	2015T0052Q	High Frequency Chest Wall Compression Devices
10/01/2015 – 10/31/2015	2015T0052P	High Frequency Chest Wall Compression Devices
09/01/2014 – 09/30/2015	2014T0052O	High Frequency Chest Wall Compression Devices
06/01/2014 – 08/31/2014	2014T0052N	High Frequency Chest Wall Compression Devices
01/01/2014 – 05/31/2014	2014T0052M	High Frequency Chest Wall Compression Devices
09/15/2013 – 12/31/2013	2013T0052L	High Frequency Chest Wall Compression Devices
04/01/2013 – 09/14/2013	2013T0052K	High Frequency Chest Wall Compression Devices
08/01/2012 – 03/31/2013	2012T0052J	High Frequency Chest Wall Compression Devices
08/01/2011 – 07/31/2012	2011T0052I	High Frequency Chest Wall Compression Devices
07/23/2010 – 07/31/2011	2010T0052H	High Frequency Chest Wall Compression Devices
10/30/2009 – 07/22/2010	2009T0052G	High Frequency Chest Wall Compression Devices
03/19/2009 – 10/29/2009	2009T0052F	High Frequency Chest Wall Compression Devices