

Aligning Payer Coverage of High-Frequency Chest Wall Oscillation (HFCWO) for Neuromuscular Disease with Current Medicare Standards

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OVERVIEW

A growing number of commercial payers are narrowing medical necessity criteria for high-frequency chest wall oscillation (HFCWO) devices to cystic fibrosis and chronic diffuse bronchiectasis, excluding neuromuscular disease, a population for which HFCWO has been a covered, clinical guideline-recognized therapy for well over a decade. This narrowing is occurring even as traditional Medicare, through its Durable Medical Equipment Medicare Administrative Contractor (DME MAC) coverage policy, continues to cover HFCWO for nine neuromuscular disease diagnosis categories and has recently expanded that coverage to include additional conditions, including cerebral palsy.

The American Association for Homecare (AAHomecare), the national trade association representing home medical equipment (HME) providers and manufacturers asks that payers revising airway clearance coverage align their neuromuscular disease criteria with the current Medicare standard, rather than adopt criteria more restrictive than industry standards.

THE ISSUE: A PATTERN OF NARROWING AIRWAY CLEARANCE COVERAGE

What Is Changing

AAHomecare members report that some commercial payers are revising airway clearance medical policies to limit HFCWO coverage to cystic fibrosis and bronchiectasis, while designating neuromuscular disease uses as "experimental, investigational, and/or unproven." Where a policy change removes previously covered neuromuscular disease indications, it reverses coverage that patients, families, and clinicians have relied on, in some cases for over a decade. These changes typically leave mechanical insufflation-exsufflation ("cough assist") coverage for neuromuscular disease in place, meaning the effect is a narrowing of the airway clearance toolkit available to these patients, not a wholesale elimination of respiratory support.

Why It Matters

If this pattern spreads across payers, it would establish a commercial coverage standard for neuromuscular disease patients that is narrower than what Medicare itself currently provides for the identical device and HCPCS code. This creates inconsistent access to a well-established therapy based solely on a patient's insurer rather than their clinical need.

CLINICAL RATIONALE FOR HFCWO IN NEUROMUSCULAR DISEASE

Neuromuscular diseases frequently cause progressive weakness of the respiratory muscles, including the diaphragm and expiratory (cough) muscles. This impairment reduces peak cough flow and the ability to mobilize secretions from the airway, leading to mucus plugging, atelectasis, recurrent pneumonia, and — over time — chronic respiratory failure^{1,9}.

Conventional airway clearance techniques such as postural drainage and positive expiratory pressure (PEP) devices are frequently impractical in this population because they depend on the patient's ability to generate adequate expiratory flow, maintain positioning, or form a seal around a mouthpiece, all of which may be compromised by neuromuscular weakness¹. HFCWO instead applies external oscillatory pressure to the chest wall to mobilize secretions from peripheral to central airways, independent of the patient's own inspiratory or expiratory effort, making it a practical, guideline-recognized option for this population.

The 2023 American College of Chest Physicians (CHEST) Clinical Practice Guideline on respiratory management of patients with neuromuscular weakness addresses airway clearance strategies, including HFCWO, as part of a comprehensive respiratory care plan⁹. The 2009 American Academy of Neurology practice parameter on the care of patients with ALS likewise recognizes airway clearance and secretion-management techniques as evidence-based components of respiratory care⁸.

Noninvasive ventilation and airway clearance are complementary, not interchangeable: a landmark randomized trial demonstrated that noninvasive ventilation improves survival and quality of life in ALS patients without severe bulbar dysfunction², but ventilatory support alone does not address the separate, life-threatening problem of impaired secretion clearance. HFCWO and mechanical insufflation-exsufflation (MIE) are also complementary: MIE simulates a cough to clear the central airway, while HFCWO mobilizes secretions from the smaller, peripheral airways toward the center, where MIE, suctioning, or a natural cough can then clear them. Coverage of one does not substitute for the other.

THE MEDICARE COVERAGE STANDARD

Traditional (fee-for-service) Medicare coverage for HFCWO (HCPCS code E0483) is governed by DME MAC Local Coverage Determination L33785¹⁰ and its companion coding article, A52494¹¹. This is a joint policy adopted uniformly across all four DME MAC jurisdictions, which together cover the entire United States, so this standard applies nationally, regardless of which state or states a given payer operates in.

LCD L33785 covers HFCWO for beneficiaries with cystic fibrosis or bronchiectasis meeting specified criteria, and separately covers HFCWO for beneficiaries with one of over 80 different neuromuscular disease diagnoses, provided there is well-documented failure of standard secretion-clearance treatments. Some of the more common neuromuscular disease diagnoses are:

- Post-polio syndrome
- Acid maltase deficiency (Pompe disease)
- Anterior horn cell diseases, including ALS and other motor neuron disease
- Multiple sclerosis
- Quadriplegia
- Hereditary muscular dystrophy (including Duchenne and Becker)
- Myotonic disorders
- Other myopathies
- Paralysis of the diaphragm

Medicare's coverage has been expanding, not narrowing: spastic quadriplegic cerebral palsy (ICD-10 G80.0) was added effective May 4, 2023, and myasthenia gravis was added effective January 23, 2025¹¹. AAHomecare's request is that commercial payers align their neuromuscular disease coverage criteria for HFCWO with this current Medicare standard, or explain the clinical basis for a more restrictive approach.

SUPPORTING EVIDENCE

Health-Economic Outcomes: Reduced Hospitalizations and Cost

The most directly relevant evidence is a peer-reviewed cohort study analyzing commercial insurance claims for 426 patients with neuromuscular disease before and after initiation of HFCWO¹. Diagnoses in the study population included quadriplegia (40%), muscular dystrophy (35%), ALS/motor neuron disease (22% ALS; 15% other motor neuron disease), spinal muscular atrophy (20%), multiple sclerosis (13%), myotonic disorders (6%), diaphragm disorder (7%), polio (1%), and enzyme deficiency disorders (2%). These are the categories that closely mirror Medicare's own covered neuromuscular disease list above.

Key findings, comparing the six months before HFCWO initiation to the period after:

- Total medical costs (excluding pharmacy) decreased 18.6%, or \$1,949 per member per month (PMPM) (P = 0.002).
- Inpatient hospitalization costs decreased 41.7%, or \$2,392 PMPM (P = 0.001); inpatient days per 1,000 members decreased 44.8% (P < 0.001).
- Costs attributable to pneumonia decreased 18.1% (P = 0.015), and costs attributable to pulmonary diagnoses generally decreased 30.7% (P = 0.028).

These reductions held up under sensitivity analyses that accounted for patients lost to follow-up and for patients who were acutely hospitalized at the time HFCWO was prescribed¹.

Supporting Clinical Trial and Observational Evidence

- A randomized trial of 28 pediatric patients with cerebral palsy or neuromuscular disease found no hospitalizations or IV-antibiotic courses in the HFCWO group compared with 4 of 11 (36%) in the standard-therapy group (P = .09), a strong trend that did not reach statistical significance in this small, exploratory sample⁶.
- A randomized, controlled trial of HFCWO in 46 adults with ALS found no statistically significant difference in overall pulmonary function measures between HFCWO and usual care over 12 weeks; however, the HFCWO group reported significantly less breathlessness and night cough than the usual-care group³.
- An observational study of 22 neurologically impaired children found hospitalization rates fell from 45% before HFCWO to 36% after one year and 13% after two years of use⁴.
- A study of 15 patients with familial dysautonomia found statistically significant improvements in hospitalizations, antibiotic courses, antibiotic days, and physician visits after 12 months of HFCWO use⁵.

DIAGNOSES AFFECTED

Based on Medicare's own coverage categories above, the following neuromuscular disease diagnoses are typically affected by this kind of policy narrowing:

- Amyotrophic lateral sclerosis (ALS) and other motor neuron / anterior horn cell disease
- Muscular dystrophies (including Duchenne and Becker muscular dystrophy)
- Post-polio syndrome
- Acid maltase deficiency (Pompe disease)
- Multiple sclerosis
- Quadriplegia / high-level spinal cord injury
- Myotonic disorders (e.g., myotonic dystrophy)
- Diaphragm paralysis/disorders
- Other myopathies (individually coded; the number of affected codes increases substantially when drilled down by specific myopathy diagnosis)

For each of these conditions, impaired cough and secretion clearance is a direct, well-documented consequence of the underlying disease process. Airway clearance therapy addresses that specific impairment regardless of whether the underlying diagnosis is bronchiectasis, cystic fibrosis, or a neuromuscular disease.

CEREBRAL PALSY: A RELATED, DISTINCT ISSUE

Cerebral palsy is classified as a central nervous system/static encephalopathy diagnosis rather than a classic neuromuscular disease, but it presents the identical clinical problem of impaired cough and secretion clearance. A 2023 peer-reviewed study notes that although its focus is neuromuscular disease, most of its content is relevant to the management of patients with central nervous system disorders such as chronic static encephalopathy, the category that includes cerebral palsy⁷.

Cerebral palsy is already a covered Medicare indication for this device: spastic quadriplegic cerebral palsy (ICD-10 G80.0) was added to the Medicare DME MAC coverage list effective May 4, 2023¹¹. It is also not a hypothetical extension of the neuromuscular disease evidence base, the randomized trial discussed above, frequently cited as neuromuscular disease evidence, in fact enrolled a mixed cohort of children with cerebral palsy and neuromuscular disease, with a strong (though not statistically significant, given the small sample) trend toward fewer hospitalizations and antibiotic courses in the HFCWO group⁶.

AAHomecare requests that payers reviewing or revising airway clearance coverage explicitly address cerebral palsy, either by including it within neuromuscular disease coverage criteria or by clarifying separate, equally supportive criteria, rather than leaving its coverage status ambiguous or defaulting to exclusion by omission.

PATIENT IMPACT

For people living with ALS, muscular dystrophy, spinal muscular atrophy, cerebral palsy, and related conditions, HFCWO is frequently a foundational component of a home-based airway clearance regimen used alongside mechanical insufflation-exsufflation, noninvasive ventilation, and suction. Removing HFCWO coverage does not remove the clinical need it addresses; it removes one component of a multi-part airway clearance regimen and shifts patients toward reactive care, emergency visits, hospitalization, and escalation to invasive ventilation or tracheostomy, than can be more costly, more disruptive to patients and families, and associated with a lesser quality of life.

This risk falls hardest on patients who are homebound, medically fragile, and already navigating complex, multidisciplinary care. Many have no practical alternative for peripheral-airway secretion mobilization, given that manual and postural techniques are frequently infeasible in advanced neuromuscular weakness.

Our Ask

AAHomecare requests that payers:

- **Retain, or restore, neuromuscular disease within HFCWO covered-indications criteria, consistent with the peer-reviewed clinical and health-economic evidence summarized above.**
- **Align neuromuscular disease coverage criteria for HFCWO with traditional Medicare's current DME standard (LCD L33785 / Article A52494) — the same device, the same HCPCS code, applied nationally — or explain the clinical basis for a more restrictive commercial approach.**
- **Explicitly address cerebral palsy coverage for this device, given its clinical overlap with neuromuscular disease, its existing Medicare coverage status, and its inclusion in commonly cited trial evidence.**
- **Establish a clearly defined medical-necessity exception or appeals pathway for neuromuscular disease and cerebral palsy patients with documented impaired cough/secretion clearance, at minimum, where broader coverage is not restored.**
- **Engage AAHomecare and its clinical and patient-advocacy partners in a review of the evidence summarized in this paper before finalizing or continuing to apply narrower criteria.**

AAHomecare and its members are available to provide additional information, patient case context (subject to applicable privacy protections), and coordination with neuromuscular disease and cerebral palsy clinical specialty societies and patient advocacy organizations to support this review.

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