



Hillrom™

AIRWAY CLEARANCE THERAPIES FOR NEUROMUSCULAR PATIENTS



OUR PURPOSE IS CLEAR

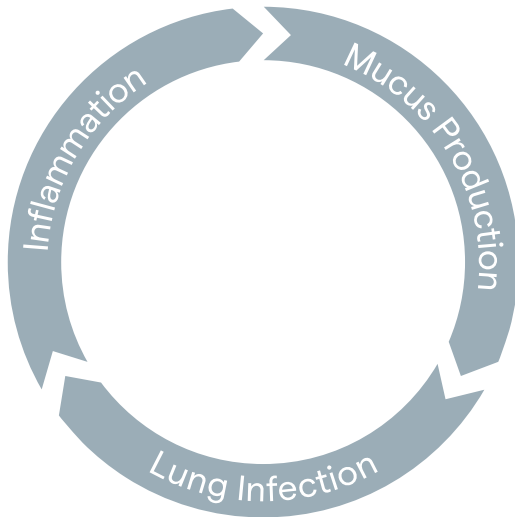
For neuromuscular patients, airway clearance problems can be a serious, even life-limiting issue.

WE'RE HERE TO HELP THESE PATIENTS BREATHE EASIER.

With a full portfolio of industry-leading airway clearance therapies, we can help you help your patients reduce infections, hospitalizations and lung damage, and improve their quality of life.

Airway clearance therapy may benefit patients with:

- Cerebral palsy (CP)
- Amyotrophic lateral sclerosis (ALS)
- Muscular dystrophy (MD)
- Spinal muscular atrophy (SMA)
- Spinal cord injuries (SCI)



THE VICIOUS CYCLE

If patients are unable to clear mucus from their lungs it accumulates, creating an environment where bacteria can grow, causing lung infections and further damage. This cycle can eventually lead to respiratory failure.

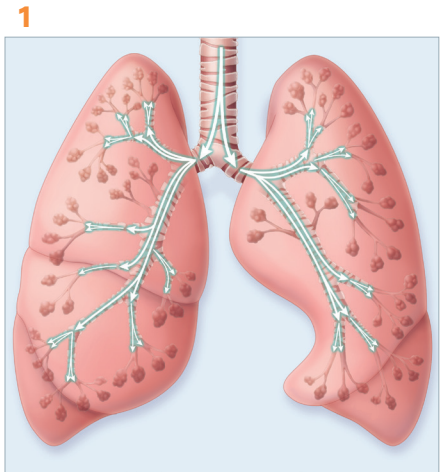
“Respiratory failure is the most common cause of morbidity and mortality in patients with chronic or rapidly progressive neuromuscular disease.¹”

THE 3 ESSENTIALS FOR AIRWAY CLEARANCE

EXPANSION

CPEP (Continuous Positive Expiratory Pressure) therapy expands the lungs to prevent or treat atelectasis, enabling mobilization and evacuation of secretions.

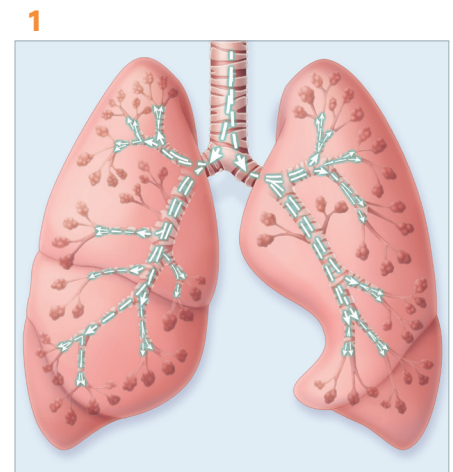
- 1,2 Continuous positive expiratory pressure and increased airflow combined with aerosol, opens the airways
- 3 Airflow during inspiration and expiration prevents or reverses atelectasis
- 4 Lung expansion allows air to move beyond retained secretions, aiding in mobilization



MOBILIZATION

CHFO (Continuous High Frequency Oscillation) therapy uses continuous pulses of positive pressure to loosen and mobilize secretions to the large airways.

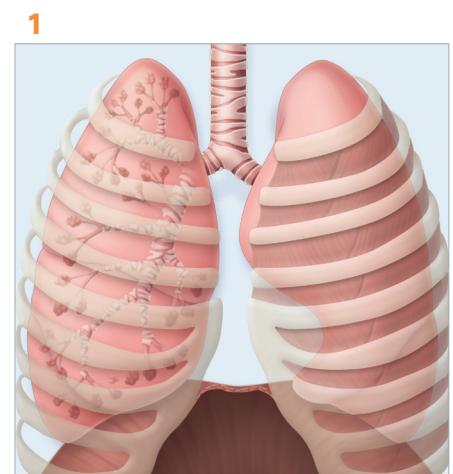
- 1,2 Continuous pulses of positive pressure combined with aerosol, is delivered to the airways to loosen secretions
- 3 Continuous high frequency oscillation during both inspiration and expiration forms a pressure gradient
- 4 Accelerated expiratory airflow mobilizes secretions to the larger airways where they can be cleared by coughing or suctioning



EVACUATION

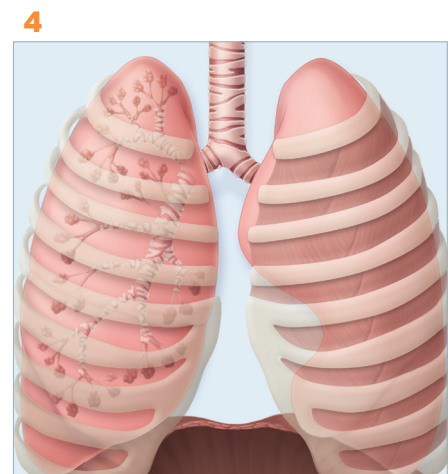
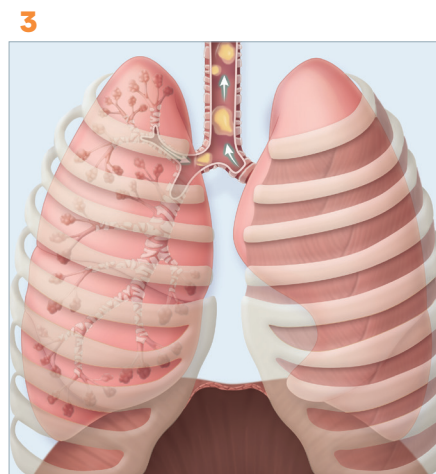
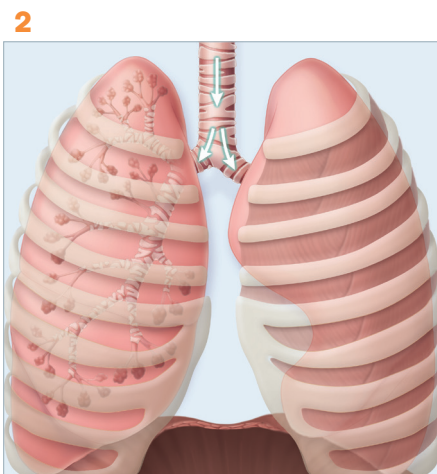
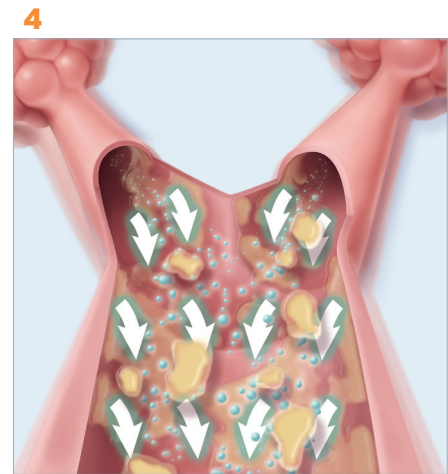
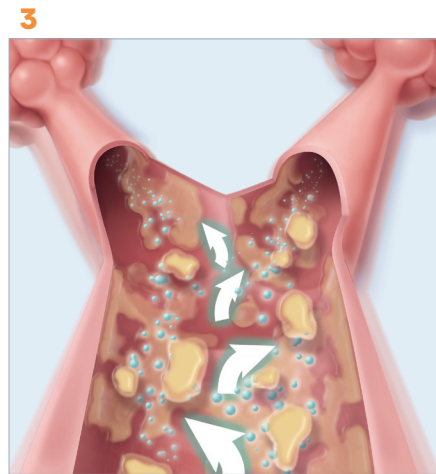
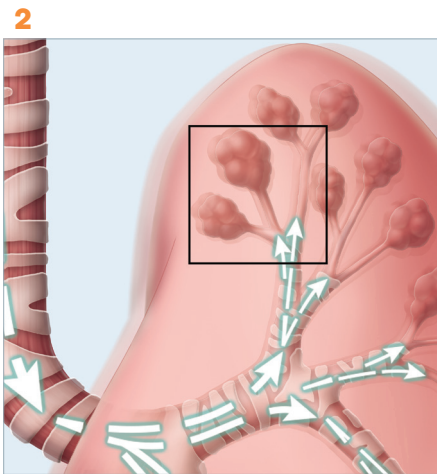
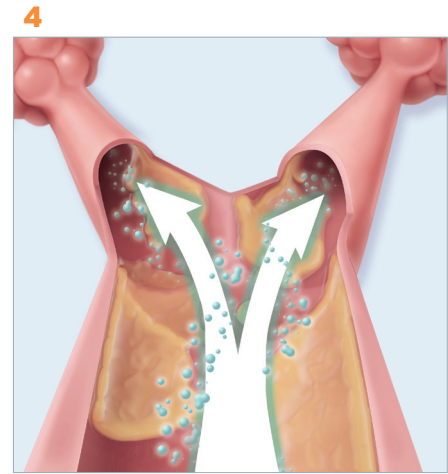
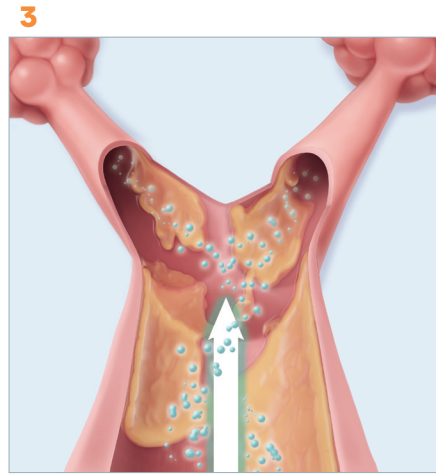
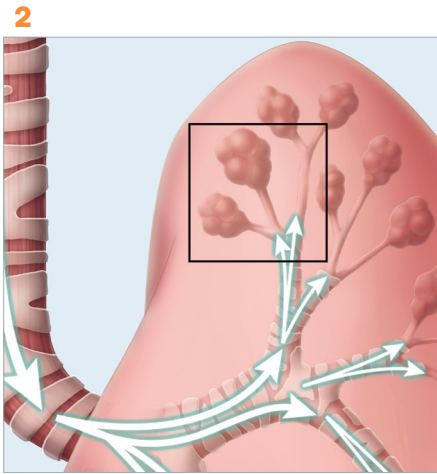
MIE (Mechanical Insufflation-Exsufflation) therapy simulates a cough to evacuate secretions.

- 1 Resting state
- 2 Patient's lungs are inflated with positive insufflation
- 3 Patient receives active negative exsufflation
- 4 PAP phase with "Resting Positive Pressure" setting maintains positive flow to the patient. Full cycle is repeated



Effective airway clearance involves three essential processes: Expansion of the lungs. Mobilization of secretions. Evacuation of secretions.

Patients with neuromuscular conditions may need therapies for any or all of these processes.



PROVEN THERAPIES TO FIT YOUR



THE VOLARA™ SYSTEM

Expansion	Mobilization	Evacuation
X	X	

The Volara System delivers proven, hospital-level Oscillation and Lung Expansion (OLE) therapy.

- 3-in-1 therapy combines CPEP, CHFO and nebulizer in one system
- Pre-set programs for your therapy protocols
- Use with tracheostomy, mask, mouthpiece or inline ventilator
- Aerosol medication delivery

INDICATIONS

- Lung expansion therapy
- Mobilization of secretions
- Prevention and treatment of pulmonary atelectasis
- Supplemental oxygen delivery when used with oxygen supply



THE VEST® AIRWAY CLEARANCE SYSTEM

Expansion	Mobilization	Evacuation
	X	

The Vest System delivers High Frequency Chest Wall Oscillation (HFCWO).

- Home and acute care models available
- Multiple programming options for flexible treatment

INDICATIONS

Mobilization of secretions when there is:

- Evidence or suggestion of retained secretions
- Difficulty with secretion clearance



PATIENTS



THE SYNCLARA™ COUGH SYSTEM

Expansion	Mobilization	Evacuation
		X

The Synclara Cough System simulates a cough, evacuating secretions that could otherwise collect in the upper airways.

- Home and acute care models available
- Use with mask, mouthpiece, or tracheostomy

INDICATIONS

- Secretion evacuation for patients who are unable to cough or clear secretions effectively from upper airways, due to reduced peak cough expiratory flow or respiratory muscle weakness

INDUSTRY-LEADING SUPPORT

For the complex patients we serve, dedicated support makes a critical difference. That’s why our products come with the signature service Hillrom is known for.

REIMBURSEMENT SUPPORT SERVICES

We work directly with insurance providers so patients can have the therapy they need.

TRAINING

In-home training provided by a nationwide network of Hillrom trainers, enables caregivers and patients to get the most from their therapy.

24/7 CUSTOMER SERVICE AND PRODUCT SUPPORT

We’re available around the clock, for peace of mind and better therapy outcomes.

EDUCATION

We offer robust training programs for healthcare providers, as well as opportunities for respiratory schools, educators and students.

OUTCOMES MONITORING

Includes follow ups with patients and caregivers after they’ve received training on the device.





Hillrom™

ABOUT HILLROM

Hillrom is a global medical technology leader whose 10,000 employees have a single purpose: enhancing outcomes for patients and their caregivers by advancing connected care. Around the world, our innovations touch over 7 million patients each day. They help enable earlier diagnosis and treatment, optimize surgical efficiency and accelerate patient recovery while simplifying clinical communication and shifting care closer to home. We make these outcomes possible through connected smart beds, patient lifts, patient assessment and monitoring technologies, caregiver collaboration tools, respiratory care devices, advanced operating room equipment and more, delivering actionable, real-time insights at the point of care. **Learn more at hillrom.com.**

For more information about products or services, please contact your Hillrom sales representative or Hillrom customer service at 1-800-426-4224.

respiratorycare.hill-rom.com

¹ <https://erj.ersjournals.com/content/34/2/444>

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