



**Hillrom™**

# RESPIRATORY THERAPIES FOR CARE AT HOME





## TRUSTED THERAPIES TO HELP PATIENTS BREATHE EASIER

For patients with chronic respiratory disease, the therapy they receive at home makes a critical difference in their health and quality of life. Their courage and determination is what drives us to provide a full portfolio of best-in-class therapies, from airway clearance to noninvasive ventilation, backed by our signature service to clinicians, patients and their families. It's a privilege to be part of their lives, helping them live their best every day.

### PATIENT POPULATIONS

- Amyotrophic lateral sclerosis (ALS)
- Bronchiectasis (BE)
- Cerebral palsy (CP)
- Chronic obstructive pulmonary disease (COPD)
- Chronic respiratory failure (CRF)
- Cystic fibrosis (CF)
- Duchenne muscular dystrophy (DMD)
- Muscular dystrophy (MD)
- Spinal cord injury (SCI)
- Other chronic pulmonary and neuromuscular conditions

**Opposite page (clockwise from top left):**  
Synclara™ Cough System, Life2000® Ventilation System,  
Volara™ System, The Vest® Airway Clearance System  
and Monarch® Airway Clearance System



# AIRWAY CLEARANCE BASICS

## Clearance is critical.

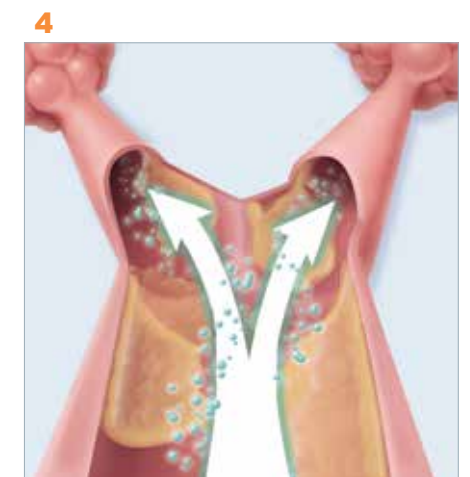
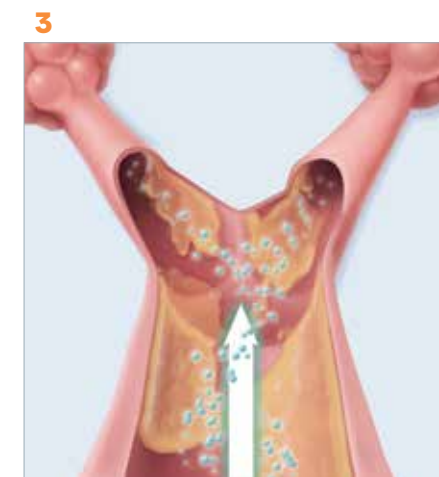
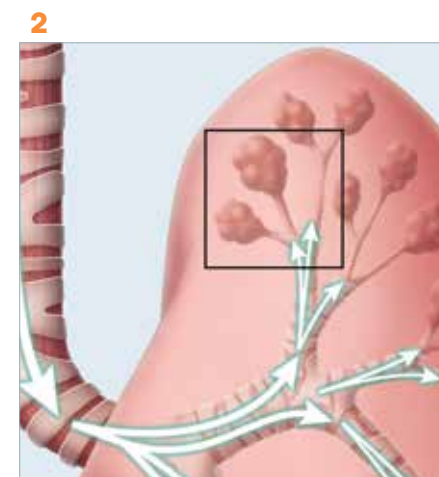
If patients are unable to clear mucus from the lungs, the mucus accumulates, creating an environment where bacteria can grow, causing lung infections and further damage. This cycle can eventually lead to reduced lung function and respiratory failure. Airway clearance therapies interrupt that cycle, helping reduce exacerbations and hospitalizations.

Effective airway clearance may involve expansion of the lungs, mobilization of secretions and evacuation of secretions. Patients with respiratory diseases may need therapies to help with any or all of these.

## EXPANSION

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

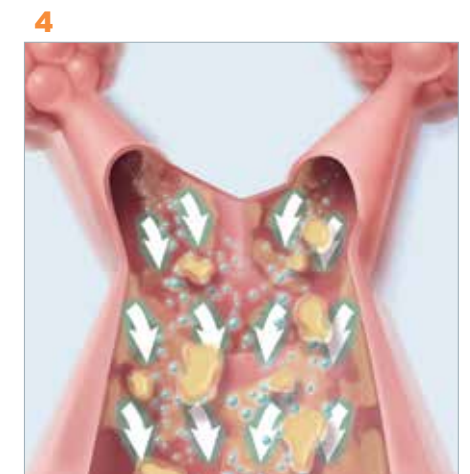
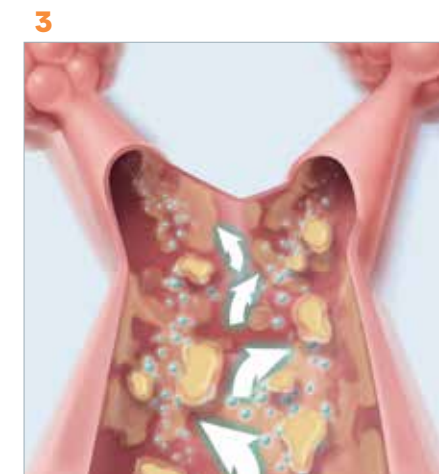
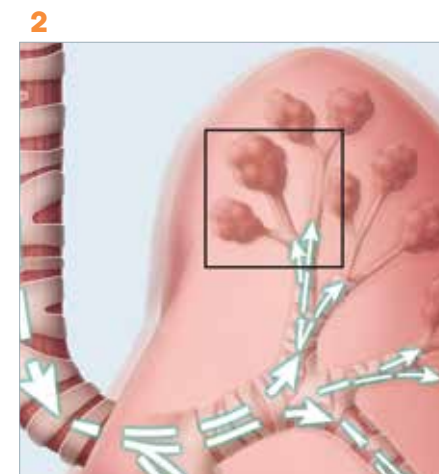
- 1,2 Continuous positive expiratory pressure and increased airflow combined with aerosol open the airways
- 3 Airflow during inspiration and expiration prevents or reverses atelectasis
- 4 Lung expansion allows air to move beyond retained secretions, aiding in mobilization



## MOBILIZATION

High frequency oscillations loosen and mobilize secretions from the small airways to the large airways.

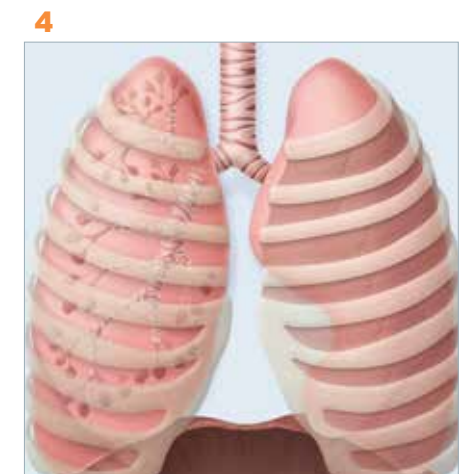
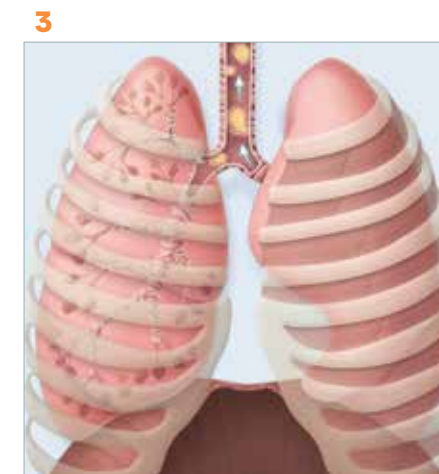
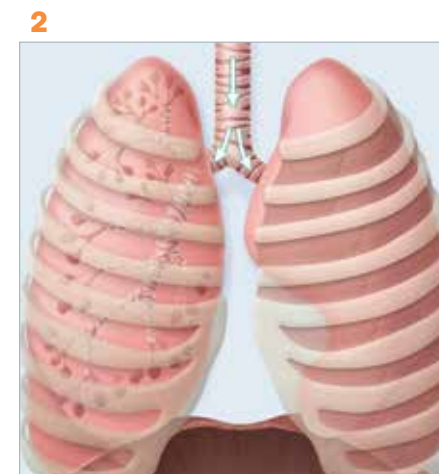
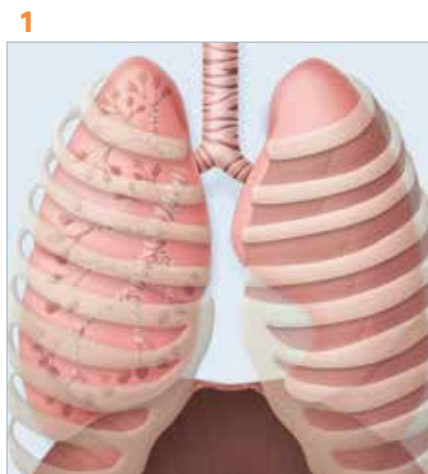
- 1-3 High frequency oscillations, that can be combined with aerosol, are delivered to the airways to loosen secretions
- 4 Accelerated expiratory airflow thins and mobilizes secretions to the larger airways where they can be cleared by coughing or suctioning



## 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



# PROVEN THERAPIES TO FIT YOUR PATIENTS' NEEDS



## 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 Continuous Positive Expiratory Pressure (CPEP), Continuous High Frequency Oscillation (CHFO) and nebulizer in one system
- Pre-set programs for your therapy protocols
- Use with tracheostomy, mask, mouthpiece or inline ventilator

### INDICATIONS

- Lung expansion therapy
- Mobilization of secretions
- Prevention and treatment of pulmonary atelectasis
- Aerosol medication delivery
- Supplemental oxygen delivery



## THE VEST® AIRWAY CLEARANCE SYSTEM

Expansion	Mobilization	Evacuation
	X	

The Vest® Airway Clearance System delivers High Frequency Chest Wall Oscillation (HFCWO) therapy.

- 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
- Presence of atelectasis caused by mucus plugging



## MONARCH® AIRWAY CLEARANCE SYSTEM

Expansion	Mobilization	Evacuation
	X	

The Monarch Airway Clearance System delivers mobile HFCWO therapy, using revolutionary technology that allows patients to move freely during their therapy.

- Multiple programming options for flexible treatment
- Battery powered

### INDICATIONS

Mobilization of secretions when there is:

- Evidence or suggestion of retained secretions
- Difficulty with secretion clearance
- Presence of atelectasis caused by mucus plugging



## 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





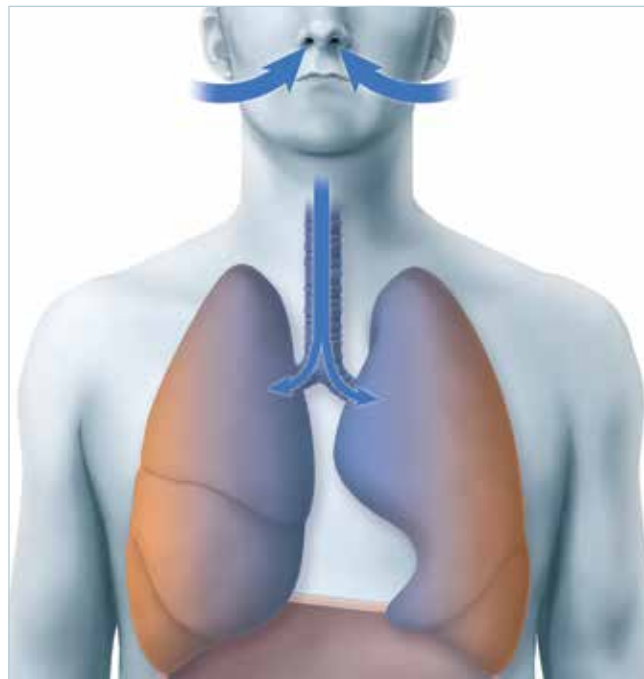
# LIFE2000® SYSTEM: VENTILATION WITH TRUE MOBILITY

The Life2000 Ventilation System is an innovative wearable ventilator designed to enable mobility and activity for pulmonary-compromised adults.

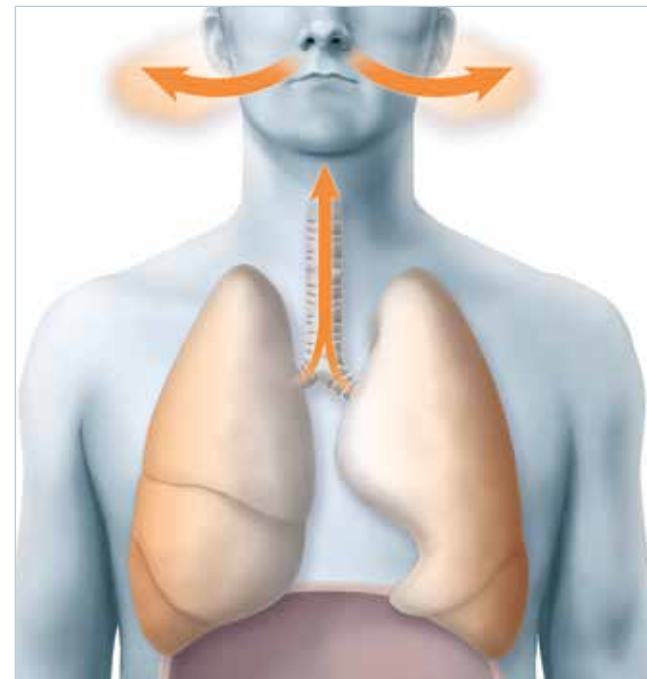
- 1-pound unit, designed for mobility
- Use while sitting, standing and walking
- Mask-free interface enhances patient comfort
- Proprietary Proportional Open Ventilation® (POV®) technology provides needed volume without the drawbacks of a mask
- Three clinician configured, patient selectable activity settings allow the patient to choose the level of support they need



## WITHOUT THERAPY

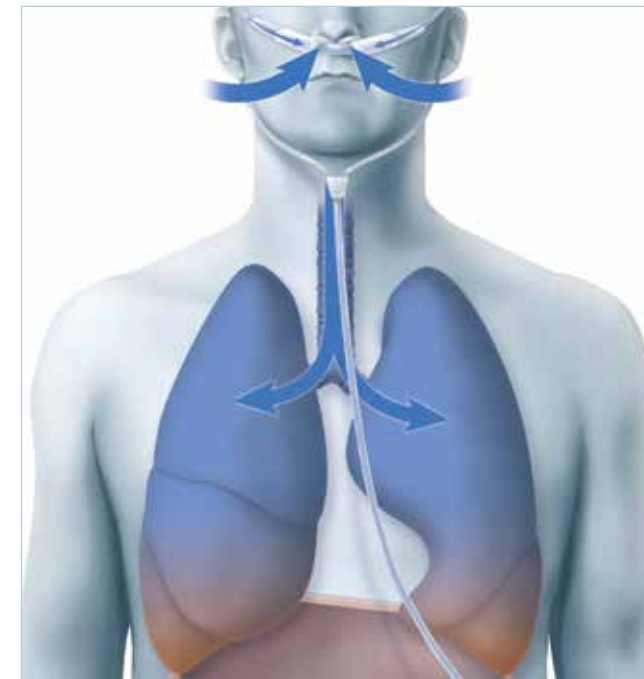


**1** The total tidal volume of each breath and ability to bring in oxygen is a result of the patient's effort alone.

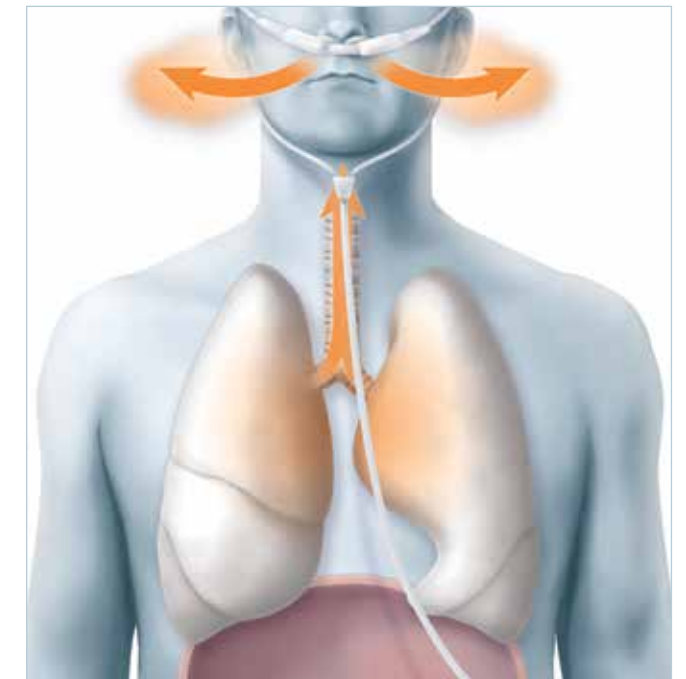


**2** Hyperinflation occurs and air becomes trapped, resulting in retention of CO<sub>2</sub>. Demand on respiratory muscles increases to exhale the breath, often resulting in fatigue, especially during activity.

## WITH THERAPY



**3** The patient's tidal volume is augmented through delivery of positive pressure, and the total tidal volume is a combination of the ventilator's configured volume, air entrainment, and the patient's effort. The amount of air entrained is proportional to the patient's effort.



**4** Work of breathing is decreased, and CO<sub>2</sub> is cleared from the lungs.





## INDUSTRY-LEADING SUPPORT

For the respiratory health needs of the patients we serve, dedicated support makes a critical difference. That's why all our products come with Hillrom's signature service.

### 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.

### OUTCOMES MONITORING

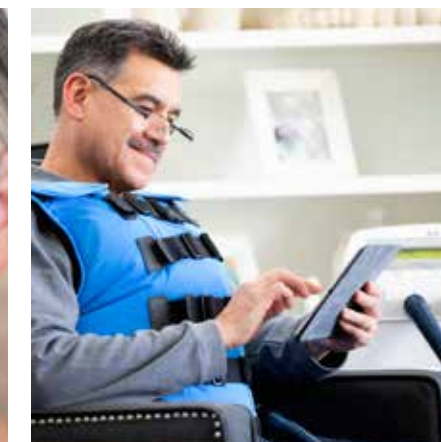
Includes follow ups with patients and caregivers after they've received training on the device.

### 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.





**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](https://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](https://respiratorycare.hill-rom.com)**

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