Where Therapy is Moving
Monarch™ Airway Clearance System
The Monarch™ Airway Clearance System is a high frequency chest wall oscillation (HFCWO) therapeutic device with revolutionary new technology. The therapy combines mobility with targeted kinetic energy and airflow to thin and mobilize secretions from the airways. By allowing patients to move about freely during therapy, it empowers them to take control of their therapy—and lives.

Connected in care to you, their health care team via the VisiView® Health Portal, patients can collaborate in their treatment planning. A game-changer in HFCWO.

Mobile therapy that works.¹
Handy rolling case with retractable handle and backpack straps looks like ordinary luggage, and makes it easy for patients to travel with their device.

Sportswear-inspired design is made for freedom of mobility. Its quiet operation enables easy conversation. Fun colors and patterns let patients personalize their device.

VisiView® Health Portal – Easy, automatic therapy tracking to enhance collaboration in care.

Rechargeable battery powers therapy on the move.

Pendant controls are intuitive and simple to use.

Mobile app, used with Bluetooth® connectivity, streamlines device operation for patients.

Handy rolling case with retractable handle and backpack straps looks like ordinary luggage, and makes it easy for patients to travel with their device.

Patient-friendly features.
The Monarch™ System is used to aid mobilization of secretions from the airways to help improve airway health.* This is achieved by anatomically-specific placement of the eight pulmonary oscillating discs (PODs) on the upper and lower lobes of the lungs. The PODs oscillate and provide a targeted kinetic energy to the lungs. This therapy helps to thin mucus and generates airflow to move the mucus from the small airways to the large airways, where it can be coughed out or suctioned.

Oscillating PODs deliver targeted kinetic energy and generate airflow in the lungs to loosen mucus.

Airflow gets behind the mucus to move it to the large airways.

Mobile and connected.

The Monarch System helps motivate and empower patients to collaborate in their therapy by offering key attributes:

- Enabled with either LTE or WiFi connectivity.
- Connects patients wirelessly to their care team via the VisiView® Health Portal.
- Enriches patient coaching with therapy session feedback.
- Encourages adherence through collaboration.

* The Monarch System is intended for patients 15 years and older. Patients with the following conditions present must be stabilized in order to use the Monarch System: Head and/or neck injury or active hemorrhage with hemodynamic instability. See the Monarch System User Manual for other important instructions, safeguards, warnings and precautions.
Understanding the mechanism of action.

Airway clearance therapy relies upon mechanisms of action to move secretions. Expiratory airflow bias is important, and kinetic energy transferred through the chest wall to the lungs is believed to help loosen secretions adhering to lung tissue.\(^2\)\(^-\)\(^9\) The Monarch™ System uses PODs to generate oscillations. This creates targeted kinetic energy and generates increased airflow, mobilizing secretions from the airways.\(^2\)\(^,\)\(^9\)\(^,\)\(^10\)

### Kinetic energy to thin and loosen secretions

Impulse force was used to evaluate the kinetic energy delivered by an airway clearance system to a chest wall. Measuring this force applied over an acute period of time provides insight to the energy transfer through a chest wall to lung tissue.

**Comparing mobile systems:** the Monarch System delivers **2x the impulse force**.\(^1\)

### Airflow to mobilize secretions

Pulse airflow was used to evaluate the airflow created by different airway clearance systems. Each “pulse,” or mini-cough of air created during treatment was measured via software customized to measure oscillating airflow.

**Comparing mobile systems:** the Monarch System results in **5x the airflow**.\(^1\)

### The Monarch System: Mobile therapy that works\(^1\)

The Monarch System PODs oscillate to deliver kinetic energy to the lungs and generate airflow—offering an effective new mobile option for patients.
Hill-Rom is a leading global medical technology company with more than 10,000 employees worldwide. We partner with health care providers in more than 100 countries, across all care settings, by focusing on patient care solutions that improve clinical and economic outcomes in five core areas: Advancing Mobility, Wound Care and Prevention, Patient Monitoring and Diagnostics, Surgical Safety and Efficiency and Respiratory Health. Hill-Rom's people, products and programs work towards one mission: Every day, around the world, we enhance outcomes for patients and their caregivers.

References:
1. Airflow data: Independent lab testing analyzed and compared average airflows at the mouth generated by high frequency chest wall oscillation (HFCWO) therapy in 10 human subjects using home care garments. Airflows were measured via pneumotachometer at settings of maximum intensity at multiple therapy frequencies (5, 10, 15 and 20 Hz for Monarch and The Vest™ Systems, and Soft, Medium and Intense for AffloVest System). Impulse force data: Bench testing conducted at maximum intensity at multiple therapy frequencies (5, 14, and 20 Hz). Testing consisted of measuring impulse force, or applied force over a timeframe of 30 seconds, via 4 force sensors placed on a mannequin in upper and lower chest locations. Sound testing per International Standard IEC 60601-1, 3rd Edition at a distance of 30 cm. Sound testing results found the Monarch System operates at a level at or below that considered as a "Quiet Office"; reference https://www.nidcd.nih.gov/health/l-i-love-what-i-hear-common-sounds. Test data and reports on file at Hill-Rom, Inc.

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