

PORTABLE



PROGRAMMABLE



PATIENT-FRIENDLY



PATENTED SINGLE-HOSE

ELECTROMED, INC.

THE INNOVATIVE LEADER IN
AIRWAY CLEARANCE



SmartVest[®]
AIRWAY CLEARANCE SYSTEM

SmartVest
AIRWAY CLEARANCE SYSTEM **Wrap**[®]



Accredited by
The Joint Commission

*Effective, Convenient,
and Comfortable™*

www.SmartVest.com

SmartVest®

AIRWAY CLEARANCE SYSTEM

Effective, Convenient, and Comfortable™



For years, patients with impaired airway clearance had to rely on manual Chest Physiotherapy (CPT) — a rigorous, time-consuming, and often inconsistent treatment technique.

Today, **High Frequency Chest Wall Oscillation (HFCWO)**, also known as **High Frequency Chest Compression (HFCC)**, is commonly prescribed and widely practiced. This method is technique-independent, better tolerated than CPT, and can be administered by either the patient or caregiver.

The use of HFCWO has reduced health care costs associated with recurrent pneumonias, antibiotic use, and hospital stays.¹ Thus, HFCWO via the **SmartVest® Airway Clearance System** is a highly cost-effective airway clearance choice for home care patients and for application by medical caregivers in clinic and hospital settings.



SmartVest® Wrap®

AIRWAY CLEARANCE SYSTEM



Reversibility of the **SmartVest Wrap®** allows patients greater flexibility.

Effective

Soft Start® technology delivers HFCWO with a calmer, gentler, more relaxed treatment experience.

Full coverage pulsation of the front, back, and sides of the torso simultaneously.

SmartVest® and SmartVest Wrap® sizes fit small children to large adults.



Convenient

Patented single-hose design provides more freedom of movement, allowing the patient to perform other tasks during treatment.

Machine-washable fabric simplifies cleaning (**SmartVest Wrap®** must be spot cleaned).

Dual position controls adjust to operate the air pulse generator upright or horizontally.

Generator is **programmable** to assure treatments are consistent each day.



Wheeled **SmartVest® Carrier** travels easily — fits inside airplane as carry-on.

Comfortable

Port-A-Cath and G-tube discomfort is reduced by **eliminating direct pounding** to the sternum or abdomen.

Soft Start® technology reduces “squeeze effect” and “vest creep” on start-up.



Soft, breathable fabric reduces perspiration and itching. Alternative fabric colors are available in select sizes.



How does HFCWO work?

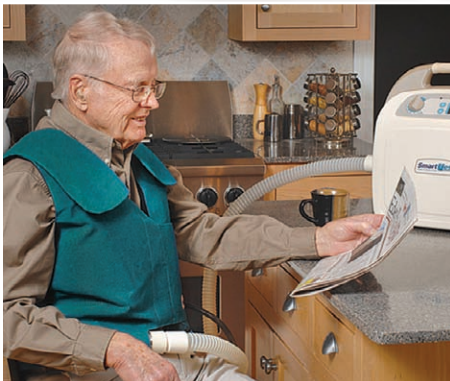
HFCWO creates a revolutionary “squeeze and release” action around the chest and torso from 5-20 times per second.

The patented **SmartVest**® inflates and delivers vigorous, yet comfortable, air pulses to the body through a single-hose powered by a programmable generator, providing the patient with greater maneuverability during treatment. The action of rapidly squeezing and releasing the chest creates air pulses, or airflows, within the lung airways, which simulate repetitive “mini-coughs.”

The simulated “mini-coughs” produced with **SmartVest**® HFCWO treatments

- Shear the mucus away from the walls of a lung’s airways. ²
- Reduce the viscosity of the secretions. ³
- Propel the mucus toward the larger airways where it can be expectorated or suctioned more easily. ^{2,3}

High Frequency Chest Wall Oscillation (HFCWO) has been a very effective form of airway clearance therapy for over a decade. ^{1,2,3}



Dozens of studies demonstrate the effectiveness and safety of HFCWO for a variety of patients.

HFCWO is proven to be an effective means of enabling patients to maintain an active and independent lifestyle.



Quotes from SmartVest® Users

“Thank you from the bottom of Drake’s lungs. The SmartVest is a life saver! It has extended our son’s life for the last three years. Thank you for such prompt and professional service.”

— Parent of a 17-year-old with Cerebral Palsy

“As caregiver this will relieve my anxiety when business trips require me to leave Bill home for several days. Thanks for excellent service and considerate staff from start to finish.”

— Caregiver of 68-year-old with COPD/Emphysema

“We are thrilled by the service we have received from Electromed. Our three children have had no major lung infections since using your system. We are truly grateful for you and your constant improvements in your product. It affects our life each day.”

— Parent of three children with Cystic Fibrosis

“Thank you so much. Now my daughter has a life of her own. She can go where she’d like (sleep overs). She feels so independent. Thank you!!”

— Parent of a 12-year-old with Cystic Fibrosis

“What an excellent experience! The ease of obtaining it, along with the quick delivery was surprising. The personal trainer came out to show us how everything worked and answered all of my questions. Thank you for making this such a pleasant experience.”

— Parent of a 13-year-old with Cerebral Palsy



Effective, Convenient, and Comfortable™

How is HFCWO easier for the patient?

HFCWO-induced airflows move secretions upward to be cleared without requiring burdensome repositioning.² Repetitive airflows shear secretions from the airway walls, thin their viscosity, and mobilize them mouthward.³ HFCWO is the only airway clearance method that is technique-independent and can be administered by either the patient or caregiver, with no expertise required. Patients are able to receive high-quality airway clearance treatment while in any comfortable position.

HFCWO has been demonstrated to reduce the incidence of pneumonia and other lung infections commonly caused by the following:⁴

Mucociliary System Disorders

Cystic Fibrosis, Primary Ciliary Dyskinesia

Obstructive Pulmonary Conditions

COPD (Chronic Obstructive Pulmonary Disease), Bronchiectasis, Asthma

Neuromuscular Disease

Muscular Dystrophy, Spinal Muscular Atrophy, ALS (Amyotrophic Lateral Sclerosis)

Neuromotor Disorders

Cerebral Palsy, Multiple Sclerosis, Spinal Cord Injuries

Restrictive Airway Disorders

Scoliosis, Kyphoscoliosis

Additional features and services

- Multiple sizes available as patient grows
- Patient Services staffed by Respiratory Therapists
- Comprehensive and confidential turnkey reimbursement services
- Toll-free support HELPLINE (888-966-2525)
- Single Patient Use **SmartVest®** and **SmartVest Wrap®** available in multiple sizes for in-patient use

ELECTROMED, INC.

Creating superior care through innovation®

Corporate Headquarters
500 Sixth Avenue NW
New Prague, MN 56071
Phone: 800-462-1045 or 952-758-9299
Fax: 888-901-7373 or 866-758-5077

www.Electromed.com | www.SmartVest.com
NASDAQ: ELMD

Made in USA

Electromed, Inc. is committed to a strong and continuing program of innovation for the benefit of patients and their caregivers.

Electromed, Inc. has been awarded twenty patents related to HFCWO technology.

References

- 1 Ohnsorg F. A Cost Analysis of High-Frequency Chest Wall Oscillation in Cystic Fibrosis. *AM J Respir and Crit Care Med* 1994; 149(4): A669.
- 2 Chang HK, Weber ME, King M. Mucus transport by high-frequency nonsymmetrical oscillatory airflow. *J Appl Physiol* 1988; 65(3): 1203-1209.
- 3 Majaesic C, Montgomery M, Jones R, King M. Reduction in sputum viscosity using high frequency chest compressions compared to conventional chest physiotherapy. *Pediatr Pulmonol* 1996; Suppl 13: A358.
- 4 Plioplys AV, Lewis S, Kasnicka I. Pulmonary vest therapy in pediatric long-term care. *Journal of the American Medical Director's Association* 2002 Sep-Oct; 3 (5): 318-321.

Additional references available upon request.

Additional Readings

AARC Clinical Practice Guidelines: Postural Drainage Therapy. *Resp Care* 1991; 36(12): 1418-1426.

Arens R, Gozal D, Omlin K, Vega J, Boyd K, Keens T, Woo M. Comparison of high-frequency chest compression and conventional chest physiotherapy in hospitalized patients with cystic fibrosis. *Am J Respir and Crit Care Med* 1994; 150: 1154-1157.

Chahal K, Austin G, Chakravorty I. High Frequency Chest Wall Oscillation (HFCWO) in patients with Chronic Obstructive Pulmonary Disease (COPD) and Mucus Hypersecretion. *Proceedings of the American Thoracic Society* May 2008.

Castignino M, Vojtova J, Kaminski S, Fink R. Safety of high-frequency chest wall oscillation in patients with respiratory muscle weakness. *Chest* 1996; 110: S65.

Warwick W, Hansen L. The long-term effect of high-frequency chest compression therapy on pulmonary complications of cystic fibrosis. *Pediatr Pulmonol* 1991; 11:265-271.

Specifications

USA and International voltage compatibility
Compatible **SmartVest®** and **SmartVest Wrap®**
sizes: small children to large adults

Regulatory Approvals

Multiple FDA 510(k) clearances
ISO 13485 / ISO 9001 Certified
EEC/CE marked
Licensed in Canada
Patented and Patents Pending

All warranty information is available at
www.SmartVest.com



Accredited by
The Joint Commission