

HFCWO: Airway Clearance Made Easy

Patients with a wide range of health conditions need help keeping their airways clear, and the advent of high frequency chest wall oscillation (HFCWO) has helped sufferers breathe more easily while offering the freedom to undergo treatment when and where users want.

The SmartVest® System consists of an inflatable vest connected to an air pulse generator. Essentially:

- The vest inflates around the user's chest.
- The air pulses rapidly like a series of "mini-coughs," shearing mucus and thinning secretions.
- Secretions are propelled to the larger airways, where they can be expectorated or suctioned more easily.

HFCWO is:

- **Proven:** HFCWO is reported to be clinically effective and has been a preferred form of airway clearance for more than a decade.^{1,2,3,4}
- **Well-tolerated:** Compared with manual chest physiotherapy, HFCWO's predecessor, HFCWO is consistent, simple and better tolerated.
- **Cost-saving:** The use of HFCWO has reduced health care costs associated with recurrent pneumonias, antibiotic use and hospital stays.¹

➔ Conditions

HFCWO has been demonstrated to reduce lung infections. Following is a list of diseases that have benefitted from HFCWO therapy. Go to smartvest.com for a full list of diseases and conditions.

➤ Obstructive Pulmonary Conditions

- Bronchiectasis
- Chronic obstructive pulmonary disease (COPD)
 - Chronic bronchitis
 - Emphysema

➤ Neuromotor/Neuromuscular Diseases

- Acid maltase deficiency
- Post-polio syndrome
- Anterior horn cell diseases
 - Amyotrophic lateral sclerosis (ALS)
 - Spinal muscular atrophy
- Multiple sclerosis
- Quadriplegia
- Muscular dystrophy
- Duchenne's muscular dystrophy
- Paralysis of diaphragm
- Cerebral palsy

➤ Mucociliary System Disorders

- Cystic fibrosis
- Primary ciliary dyskinesia



The best HFCWO therapy is the one patients use.

HFCWO designed for ease of use and better therapy adherence.



smartvest
SQL

SMALLER ➤ QUIETER ➤ LIGHTER

smartvest.com

ELECTROMED, INC.

Making life's important moments possible — one breath at a time®

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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 more than 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. Pliophly 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.



Accredited by
The Joint Commission

Additional Reading

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

Specifications

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

Regulatory Approvals

FDA 510(k) Cleared
ISO 13485 / ISO 9001 Certified
EEC/CE Marked
Licensed in Canada
Patented and Patents Pending

Made in U.S.A.

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Making life's important moments possible — one breath at a time®

Therapy Adherence

It's a simple idea, but engineering superior therapy adherence into a high frequency chest wall oscillation (HFCWO) system is anything but simple. It requires combining precision engineering and advanced physics to a basic understanding of patients as human beings.

We designed the SmartVest System to stand apart from the competition. We've innovated many features that provide users with maximum comfort and the freedom to live their lives to the fullest — features only SmartVest has. When we help patients incorporate HFCWO therapy into their routines in a way that supports a high quality of life, they are more likely to use it and enjoy the benefits of improved lung function.

Introducing SmartVest SQL: Smaller, Quieter, Lighter*

It starts with listening to our users. They said they wanted a device that is easier to take along and easier to use while doing the things they love. So we reengineered our easy-to-use and effective system, making it smaller, quieter and lighter than ever.

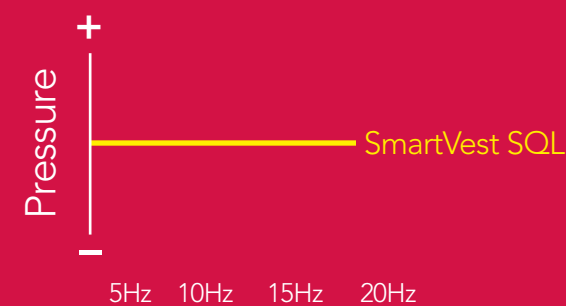
* In comparison to the SmartVest SV2100.

We stand behind every SmartVest System.

- ▶ Lifetime warranty
- ▶ In-home training
- ▶ Reimbursement support
- ▶ Made in USA

SmartVest SQL's pressure remains constant

An engineering breakthrough: Constant Bias Pressure
Constant Bias Pressure means the pressure of the vest remains the same and the user is more comfortable as the frequency changes up and down (5–20Hz).



Comfort and Ease of Use Promote Therapy Adherence

Not all HFCWO systems are created equal. In addition to making the SmartVest SQL smaller, quieter and lighter, we have engineered our garment with an array of unique features that make it easier to use and more lifestyle-friendly, meaning patients are more likely to adhere to their treatment:

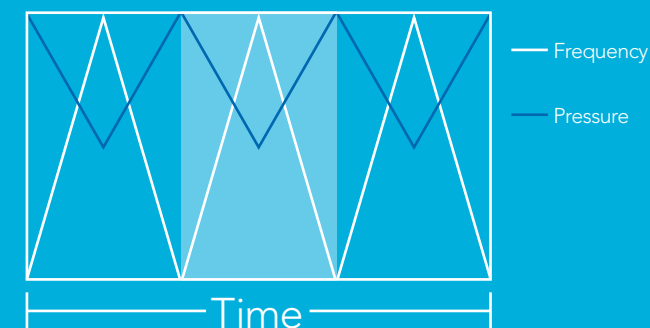


Don't take our word for it.

When selecting the right HFCWO treatment for a patient, we suggest you let patients experience and compare alternative systems for themselves. We're confident that users will recognize the value of the SmartVest SQL. After all, this is a decision for a lifetime.

Pre-set programs including RAMP

The SmartVest SQL integrates fully featured programmable and adjustable RAMP, which allows the protocol to start at a low frequency, ramp up, and bring the frequency back down during treatment. This offers flexibility in selecting protocols, including the ability to mimic the Minnesota Protocol, if desired.



What People Say About SmartVest

Patients

"I have COPD, emphysema, congestive heart failure and diabetes. Before I got the SmartVest device, I couldn't budge the mucus. When I got the device, things changed. I breathe easier, walk better, sweep the floor, do dishes." — **Georgia S.**

"When Brayden was seven months old his doctors introduced us to SmartVest. He can do normal activities during treatment: Play board games. Read books. It's absolutely been a blessing." — **Keri W. speaking for her son, Brayden.**

Medical Professionals

"When I developed pneumonia I used the [HFCWO] device. That's when I started to look at HFCWO not only for acute situations, but also for people who suffer the symptoms I had every day of their lives." — **Carla Rotering, M.D.**

"I've worked with patients who have cystic fibrosis, bronchiectasis, muscular dystrophy, even patients who were quadriplegic. I've seen how beneficial SmartVest is to just about anybody who needs airway clearance." — **Leslie Carpenter, CRT**

The SmartVest Wrap®

For patients with limited mobility, we make the SmartVest Wrap.



- ▶ **360-degree coverage:** Covers the patient's front, sides and back for effective therapy.
- ▶ **Convenient:** Place the SmartVest Wrap under the patient, then simply wrap and unwrap as needed.
- ▶ **Durable:** Tough material designed for long-term use.
- ▶ **Reversible:** Single-hose connection can fasten on left or right, providing flexibility of placement of the air pulse generator.

Learn more at smartvest.com