

## **ACAPELLA HAS HELPED A WOMAN WITH LAM WHO DEVELOPED BRONCHITIS**

**A woman with LAM developed bronchitis. She was having trouble breathing because she had so much mucus in her airways. No amount of coughing would clear the mucus and she was becoming very tired. Physiotherapist Dinah Morrison, from Breathing Works, the NZ clinic specialising in breathing conditions, recommended that the patient try a new device called Acapella. Easy to use, Acapella provided immediate relief.**

Breathing Works recommends **Acapella Choice** (see below) as the easiest model to clean, which is vital for preventing re-infection. To reduce violent coughing and improve energy efficiency, physiotherapists specialising in respiratory therapies teach patients breathing techniques.

[www.breathingworks.com](http://www.breathingworks.com)

### **ABOUT ACAPELLA**



**A therapeutic device for managing lung congestion, Acapella administers pressure and vibration, enabling patients to clear their congested lungs and airways.**

When excess mucus accumulates in the lungs, it blocks the airways, impairing the breathing of people suffering from diseases such as chronic bronchitis, emphysema, asthma, and cystic fibrosis. Acapella, a new handheld device, incorporates two therapies: positive expiratory pressure (PEP) and vibration.

Acapella is widely available. Check this website. There is an excellent demonstration film on the product page.

<<http://www.smiths-medical.com/catalog/bronchial-hygiene/acapella-choice/acapella-choice.html>>

#### **Benefits of Acapella**

Because patients range widely in age and size, as well as in the severity of their disease, acapella accommodates differences in breathing flow rate and areas of congestion.

Acapella is easy to use and non-intimidating. As it is simple to use, both patient and clinician can be confident the treatment can be performed correctly. The device is easy for the patient to clean at home.

#### **How does Acapella work?**

Acapella combines PEP and vibration therapy, the respiratory treatment is designed to be self-administered by patients, including those with limited mobility. The patient need not adopt a specific position to use the device as it works independent of gravity.

In PEP therapy, the patient draws air through a device with a one-way valve and exhales into a resistance in that device to create positive pressure in the lung, moving the accumulated mucus to larger airways where it can be coughed out.

With vibration therapy, the mucus is further loosened by various external and internal forms of vibration and then expelled.

The device operates on the principle that by exhaling against resistance we slow down our expiratory phase of breathing. Slower exhalation against resistance or positive pressure generates a back pressure which in turn splints or stents open the more peripheral airways. This opening centralises the equal pressure or choke point, decreasing airway collapse distally. The prolonged exhalation time allows for collateral ventilation to occur as well. In this way mucus is mobilised from the distal or peripheral airways to the larger, more central airways, thereby enhancing the clearance of secretion clearance.

To enable the patient to generate adequate airflow to use the device, exhaled air is directed via a counterweighted plug and magnet through a pivoting cone which generates airflow vibrations between 0 to 30 HZ. A knob at the distal end adjusts the proximity of the magnet and the counterweighted plug and thus, the adjustment of the frequency, amplitude and mean pressure.

The original device consists of a mouthpiece, but a mask is an option. Two models are available. The **green, high flow device** is suitable for most patients. The expiratory flow of the patient must be 15 lpm or greater for 3 seconds. The **blue, low flow device** is for patients who have low expired lung volumes/ less than 15 lpm for 3 seconds.

### Technique

- Patient sits in a relaxed, comfortable position or lies in a postural drainage position
- The acapella is not gravity dependent
- Patient inhales deeply with a 3 to 4 second breath hold, alternating with normal breathing
- Inspiratory to expiratory ratio is 1:3 to 1:4
- After 5-10 exhalations of alternating regular/deep breaths, patient is asked to huff or cough
- This is repeated about 4 to 6 times for a 10 to 20 minute treatment.

### Key points

- The inspiratory phase is followed by a slow prolonged exhalation
- Not gravity dependent, the device can be used in conjunction with postural drainage
- The device can be used in line with aerosol/nebulizer treatments
- No caregiver is needed once technique is mastered and independence promoted
- Young children can use the device.



### Acapella® Vibratory PEP Therapy System

Combining the benefits of both PEP therapy and airway vibrations to mobilise pulmonary secretions, acapella® can be used in virtually any spatial orientation. That means patients may sit, stand or recline.



Acapella improves clearance of secretions, is easier to tolerate than CPT, takes less than half the time of conventional CPT sessions, and facilitates the opening of airways in



patients with lung diseases with secretory problems (COPD, asthma, Cystic Fibrosis). Colour-coded units (green for high-flow, blue for low) help customise treatment based on clinical needs. You can adjust acapella's frequency and flow resistance simply by turning an adjustment dial.



### **Acapella® Choice Vibratory PEP Therapy System**

Like the original version, acapella® choice can be used in any spatial orientation to open airways and mobilise secretions. It disassembles into four, easy-to-clean parts that withstand autoclaving, boiling, and dishwashing. Patients get all the benefits of vibratory PEP therapy, either in home or hospital, with a convenient, easy-to-clean device (single patient use).

#### Product features

- Works independent of orientation (gravity)
- Patient may inhale through device
- 22mm fitting may be used with mouthpiece
- Material can be autoclaved and boiled
- Frequency can be adjusted using numbers on dial.

#### Product benefits

- Versatile for use by virtually all patients
- Ease of use – no need to remove from mouth
- Easy to clean
- Enables reproducible therapies.

Distributor list for all non-US distributors and companies

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