



PRODUCT INFORMATION



Acapella® PEP Devices

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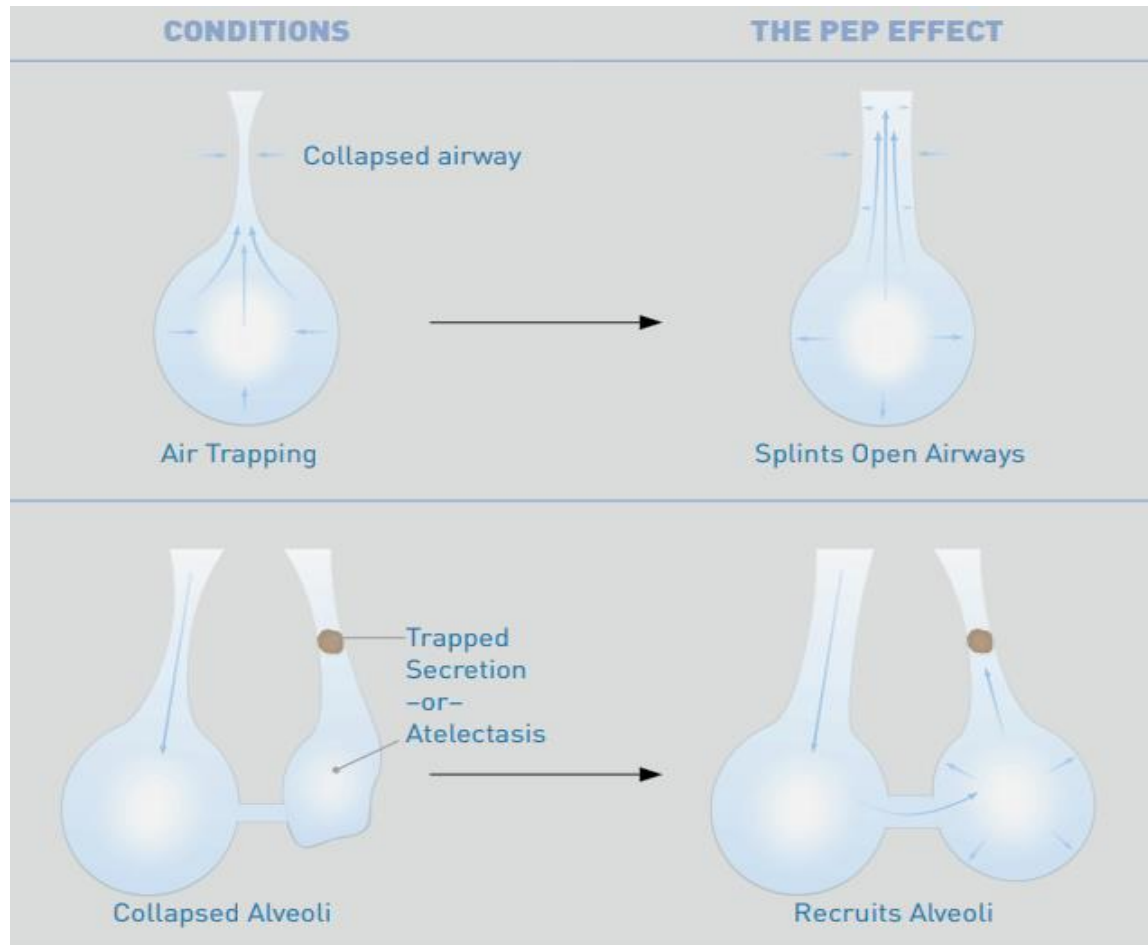
A young child with short brown hair, wearing an orange shirt, is shown in profile, blowing on a dandelion seed head. The background is a soft-focus green field with several dandelion seeds floating in the air. The image is partially overlaid by a white and blue graphic on the right side.

ACAPELLA® VIBRATORY PEP THERAPY SYSTEM

Smiths Medical Portex® Acapella® PEP Devices

Each acapella® vibratory PEP therapy system uniquely provides PEP therapy by producing airflow vibrations that can be delivered in any position to effectively mobilise secretions, open airways and optimise medication delivery.

WHAT IS POSITIVE EXPIRATORY PRESSURE (PEP) THERAPY?



PEP therapy works by breathing through a PEP device (in this case the Portex® acapella® vibratory PEP therapy system) in a specific way.

When you breathe out with moderate force through the device, your breath will meet resistance. This resistance produces ‘positive pressure’, which helps to keep the airways open.

This positive pressure allows airflow to get beneath secretions, forcing them away from airway surfaces and allowing the mucus to move upward toward the larger airways where it can be coughed out through a technique called ‘huff coughing.’

Acapella® devices also use vibrations which further helps to loosen thick, sticky mucus and secretions.

- COPD (Chronic Bronchitis / Emphysema)
- Cystic Fibrosis
- Bronchiectasis
- Atelectasis
- Abdominal / Thoracic Post Operative Atelectasis and Secretion Retention
- Asthma (with Secretion Retention)
- CNS / Neuromuscular Disease
- Mucociliary Clearance Disorders



DID YOU KNOW

Acapella® Vibratory Pep Systems May Be Beneficial In Treating Patients With These Conditions?

POSITIVE EXPIRATORY PRESSURE

Benefits of Airway Pressure Therapy

- Reduces air trapping
- Prevents or reverses atelectasis
- Optimizes delivery of bronchodilators

AND WITH VIBRATIONS ADDED

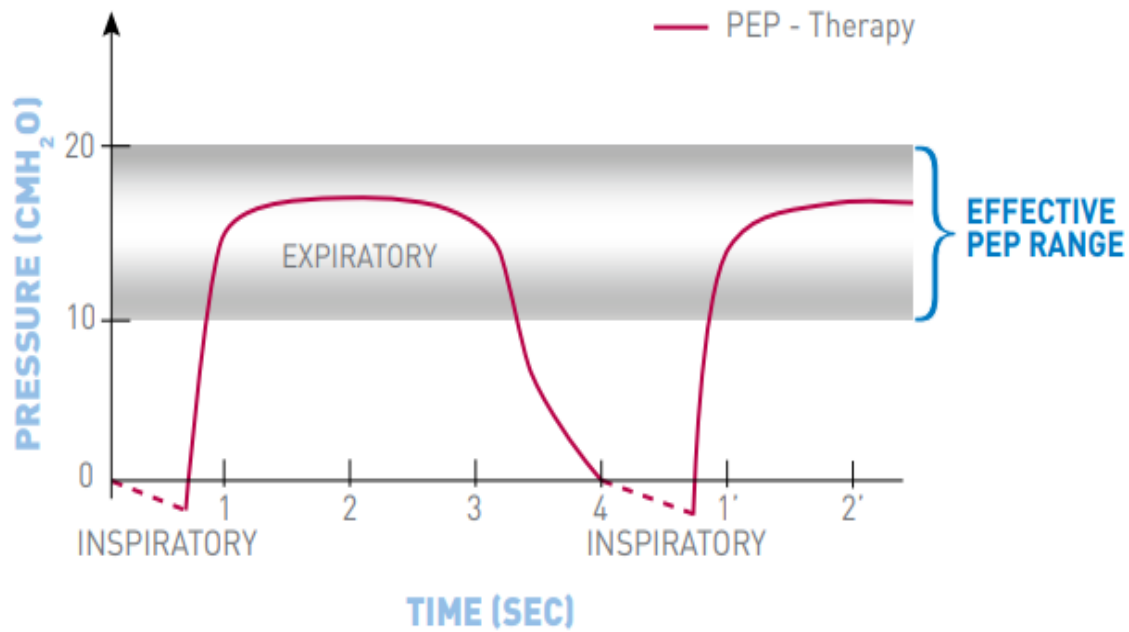
- Reduces mucus viscoelasticity
- Loosens, shears & disengages secretions from airways
- Mobilises secretions from distal to central airways
- Aids in mobilisation of retained secretions

Recommended Technique

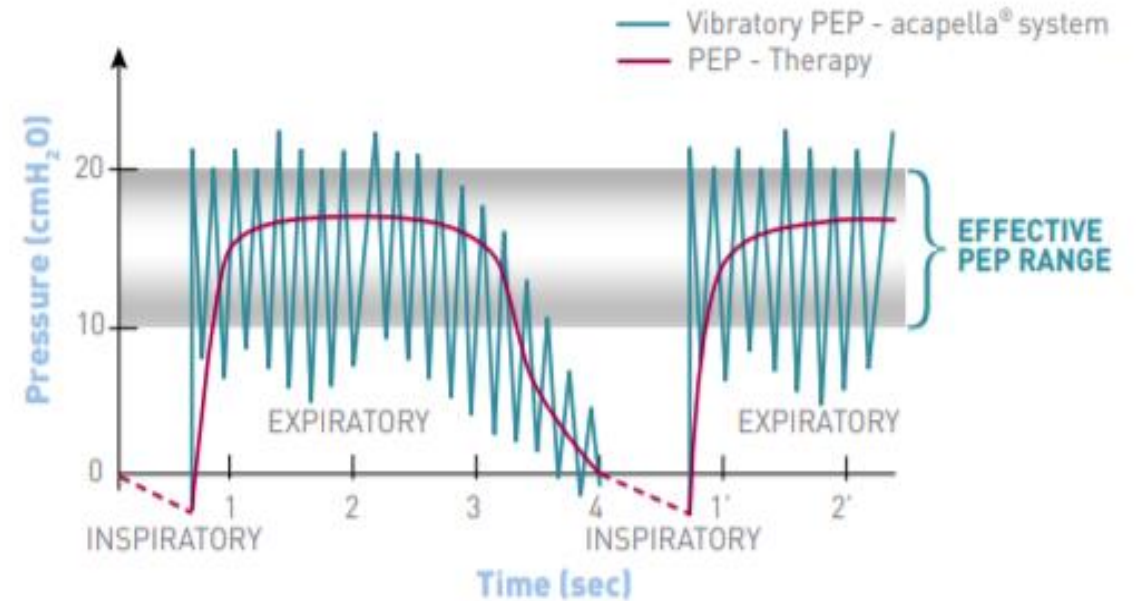
- Inhale slowly and deeply followed by an active but not forced exhalation to Functional Residual Capacity (FRC)
- 10 consecutive breaths with no air leaks between patient and acapella® system. Use nose clips or mask if necessary
- 3 huff cough maneuvers to raise secretions
- 3, 10-breath repetitions, or as prescribed
- 1-4 sessions per day, or as prescribed
- Increase frequency of therapy as opposed to duration of therapy in response to severity of illness

PRESSURE THERAPY CURVE

Standard PEP System



Vibratory PEP System



USE OF PORTEX ACAPELLA VIBRATORY PEP THERAPY SYSTEM

To use the system follow the steps below:

- 1 Wash your hands.



- 2 Ensure the adjustment dial is set correctly [as directed by your healthcare provider].



- 3 Use your belly and diaphragm to take in a larger than normal breath.



- 4 Place the mouthpiece gently into your mouth.



If you are using a mask, place it tightly but comfortably over your nose and mouth.



- 5 Hold your breath for 2-3 seconds if you can.



Breathe out actively but not forcefully, through the device and make the acapella® device vibrate. Exhalation should last 3-4 times longer than inhalation.

Maintain a tight seal on the mouthpiece with your lips when you breathe out (if necessary, a nose clip can be used).

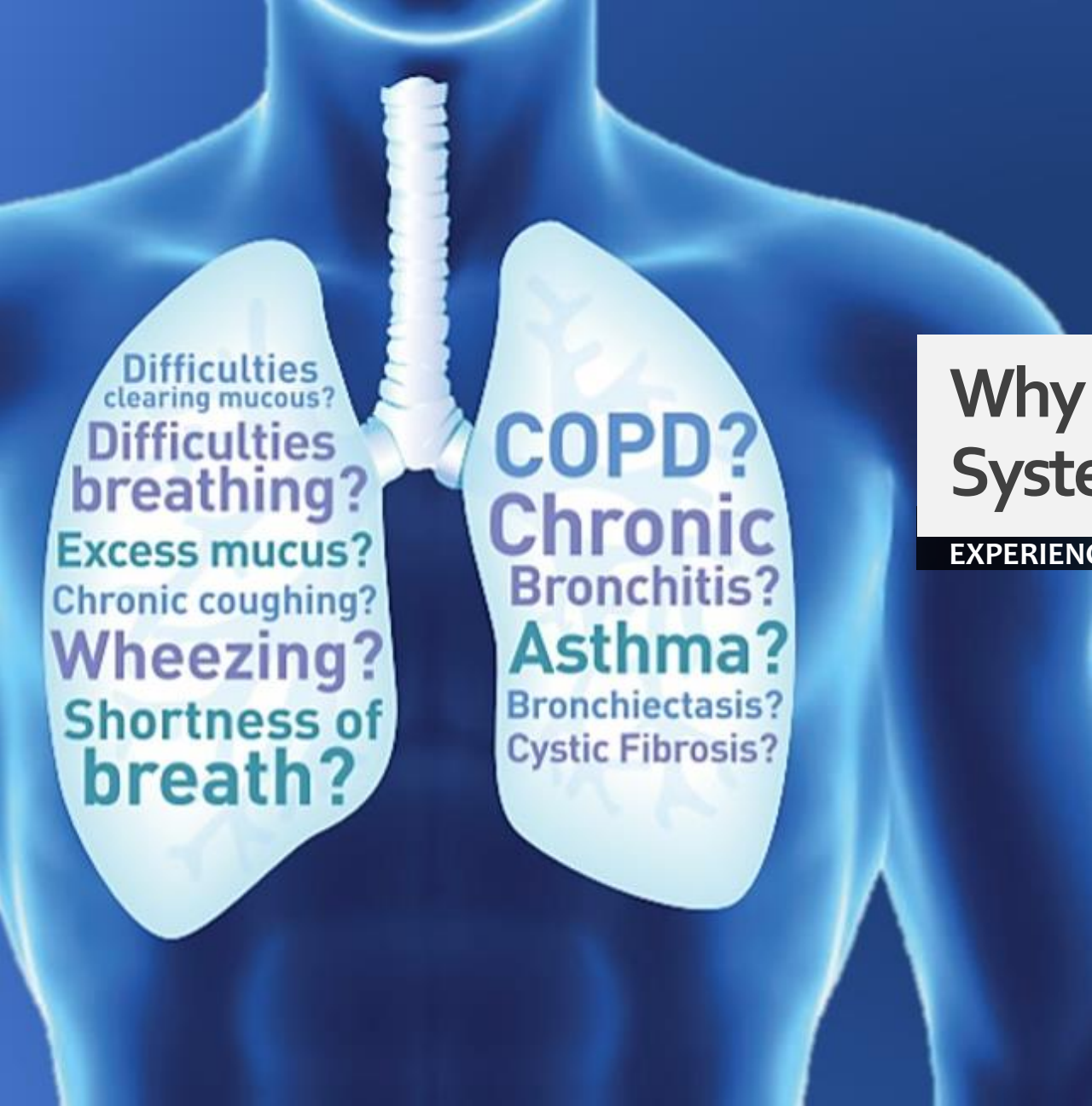
You will feel the effects of your therapy more quickly if you take deeper breaths in and take longer period of time to release your breath back out. Practice: It's like a dance. Breathe in one two, hold three four, blow out five, six, seven, eight.

- 6 Repeat this breathing exercise 10-20 times or as directed by your doctor or your physiotherapist.



- 7 Remove the mouthpiece (or mask if being used) and perform 2-3 'huff' coughs to help you cough up the secretions. If you do not know how to perform a 'huff' cough, ask your healthcare provider.





Difficulties clearing mucous?
Difficulties breathing?
Excess mucus?
Chronic coughing?
Wheezing?
Shortness of breath?

COPD?
Chronic Bronchitis?
Asthma?
Bronchiectasis?
Cystic Fibrosis?

Why Acapella® Vibratory PEP Therapy System?

EXPERIENCE THE SIMPLICITY

The Portex® Acapella® vibratory PEP therapy system is convenient and can be used in the hospital, at home, or wherever you may be when treatment is needed. The device is easy to use and does not require electricity or medical gas to operate. If you are currently prescribed nebulised drugs, you can use the system with your nebuliser to help get more of your medication into your lungs, which will make the drugs work better.

ACCAPELLA SYSTEMS

The Vibratory Quartet for a Variety of PEP Needs



Acapella DH System

- ≥ 15 L/min expiratory flow
- Ideal for most patients
- Can tee-in a small volume nebuliser
- Easy to clean, rinse & flush with warm soapy water
- Best for short-term, hospital use
- Adjustable frequency and flow resistance settings

Acapella DM System

- < 15 L/min expiratory flow
- Geriatric and pediatric patients
- Can tee-in a small volume nebuliser
- Easy to clean, rinse & flush with warm soapy water
- Best for short-term, hospital use
- Adjustable frequency and flow resistance settings

Acapella Choice System

- ≥ 10 L/min expiratory flow
- Ideal for most chronic patients
- Can tee-in a small volume nebuliser
- Easy to clean disassembles to clean and disinfect, extending active working life
- Best for long-term, hospital & home use
- Adjustable frequency and flow resistance settings

Acapella Duet System

- ≥ 10 L/min expiratory flow
- Ideal for most chronic patients
- Accommodates standard small volume nebulizers through connection part
- Easy to clean disassembles to clean and disinfect, extending active working life
- Best for long-term, hospital & home use
- Adjustable frequency and flow resistance settings

vibratory PEP

therapy system

BENEFITS OF ACAPELLA® VIBRATORY PEP THERAPY SYSTEMS

Empowering Patient Compliance

PORTEX®

smiths medical
bringing technology to life

Empowering Patient Compliance

- **EASY TO SUSTAIN EFFECTIVE LENGTH OF PEP THERAPY** One-way inspiratory valve makes it easy to control breathing patterns and perform multiple repetitions without removing it from your mouth
- **EASY TO ACHIEVE PEP IN ANY POSITION** Magnetic rocking resistor allows therapeutic pressure range to be achieved when held in any position while sitting, standing, lying down, reclining... even Trendelenburg
- **EASY TO CLEAN** Choice and duet designed to disassemble to clean for improved hygiene and extended working life – can be washed on top rack of dishwasher, boiled or autoclaved
- **EASY TO MINIMISE THERAPY TIME** 15-20 minutes therapy time versus 30-60 minutes for traditional chest physiotherapy, and it's easy to combine two therapies into one by connecting a SVN, cutting therapy time in half and improving compliance
- **SUSTAINS EFFECTIVE LENGTH OF PEP THERAPY** Utilising a patented magnetic rocking resistor, it's easy to adjust resistance to achieve therapeutic PEP pressures and required expiratory time. Using the adjustable dial, adjust the proximity of the magnet to modify the resistance required to oppose the patients expiratory flow rate during active exhalation
- **VIBRATIONS INCREASE SHEAR FORCE TO BETTER REMOVE AND MOBILISE SECRETIONS** Airway is intermittently occluded by the magnetic resistor plug during exhalation to produce positive expiratory pressure and airflow vibrations from 5-30 Hz
- **OPTIMISES AEROSOLISED MEDICATION DELIVERY** Controlled respiratory rate and opening airways with PEP allows better particle deposition and distribution further into peripheral airways



CLINICAL PUBLICATION DIRECTORY

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Acapella versus “usual airway clearance” during acute exacerbation in bronchiectasis: a randomized crossover trial.

Patterson JE, et al.
Chron Respir Dis. 2007;4(2):67-74.

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Scintigraphic Assessment of Radio-Aerosol Pulmonary Deposition with the Acapella Positive Expiratory Pressure Device and Various Nebulizer Configurations.

Mesquita FO, et al. Respire Care 2014; 59(3):329-33

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Laboratory evaluation of four different devices for secretion mobilizations: acapella choice, Green, Blue versus water bottle

Mueller G et al. Respir Care 2014;59(5):673-677

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Mechanical analysis of an oscillatory positive expiratory pressure device used in respiratory rehabilitation.

Alves CE, Nunes LGMQ, Melo PL. Conf Proc IEEE Eng Med Biol Soc. 2010;2010:2477-80

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Mechanical behaviours of Flutter VRP1, shaker, and acapella devices.

Dos Santos AP, Guimaraes RC, de Carvalho EM, Gastaldi AC. Respir Care 2013 Feb;58(2):298-304

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Improved outcomes with routine respiratory therapist evaluation of non-intensive care unit surgery patients

Harbrecht BG et al. Respir Care 2009;54(7):861-867

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Laboratory evaluation of the acapella device: pressure characteristics under different conditions, and a software tool to optimize its practical use.

Silva CEA, Santos JG, Jansen JM, de Melo PL
Respir Care 2009;54(11):1480-1487

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Performance comparison of two oscillating positive expiratory pressure devices: Acapella versus Flutter

Volsko TA, DiFiore J, Chatburn RL. Respir Care. 2003 Feb;48(2):124-30

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Mechanical evaluation of a respiratory device

Lima L, et al. Med Eng Phys 2005;27(2):181-187

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A comparison of the acapella and a threshold inspiratory muscle trainer for sputum clearance in bronchiectasis-a pilot study.

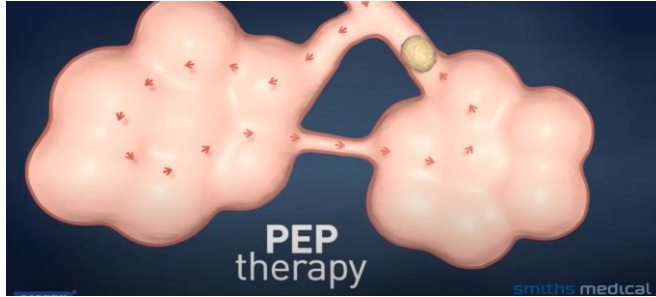
Naraparaju S et al. Physiotherapy Theory and Practice 2010;26(6):353-357

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A randomized controlled trial comparing incentive spirometry with the acapella device for physiotherapy after thoracoscopy lung resection surgery

Cho, YJ et al. Anaesthesia 2014 Aug;69(8):891-8

EDUCATIONAL VIDEOS



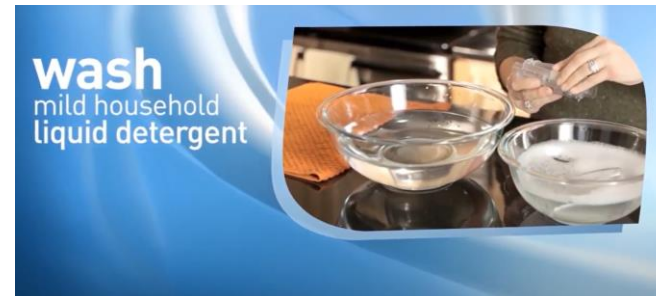
[ACAPELLA CHAPTER 1 - AN INTRODUCTION TO PHYSIOLOGY AND VIBRATORY PEP THERAPY](#)



[ACAPELLA CHAPTER 2 - THE ACAPELLA VIBRATORY PEP THERAPY SYSTEM](#)



[ACAPELLA CHAPTER 3 - USING THE ACAPELLA VIBRATORY PEP THERAPY SYSTEM](#)



[ACAPELLA CHAPTER 4 - CLEANING AND DISINFECTING THE ACAPELLA VIBRATORY PEP THERAPY SYSTEM](#)