acapella® vibratory PEP Therapy System
Maximizing Therapy Effectiveness, Empowering Patient Compliance
Investigating Questions

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

**POSITIVE EXPIRATORY PRESSURE (PEP) THERAPY TO IMPROVE OUTCOMES FOR CHRONIC RESPIRATORY DISEASE?**

- What types of patients are prescribed Chest Physiotherapy (CPT) or secretion clearance therapies?
- What outcomes are desired with the current therapies being offered?
- How would you, your staff and your patients benefit if your patients were more compliant?
- What are your thoughts on adding PEP therapy to make CPT more effective or replace it all together?

**DID YOU KNOW**

**ACAPELLA® VIBRATORY PEP SYSTEMS MAY BE BENEFICIAL IN TREATING PATIENTS WITH THESE CONDITIONS?**

- 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
**Positive Expiratory Pressure**

**THERAPEUTIC GOAL OF PEP**
- Achieve Positive *Expiratory* Pressure in the range of 10 - 20 cmH2O
- Maintain an inspiratory/expiratory ratio of 1:3 to 4\(^1,2\)

*Expiratory time should be 4 times longer than inspiratory*

**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\(^\circ\) 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

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**PEP Principles**
**BENEFITS OF AIRWAY PRESSURE THERAPY³**
- Reduces air trapping
- Prevents or reverses atelectasis
- Optimizes delivery of bronchodilators

**AND WITH VIBRATIONS ADDED⁴**
- Reduces mucus viscoelasticity
- Loosens, shears & disengages secretions from airways
- Mobilizes secretions from distal to central airways
- Aids in mobilization of retained secretions³

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**Pressure Therapy Curve**

- Intended as a representation, not drawn to scale
Positive Expiratory Pressure Theory

Positive Expiratory Pressure throughout exhalation equalizes bronchiole & alveolar pressure to prevent airway collapse and keep airways open. Positive Expiratory Pressure recruits alveoli through collateral ventilation – moving air behind trapped secretions, improving gas exchange and reversing atelectasis.

BENEFITS OF AIRWAY PRESSURE THERAPY

- Reduces air trapping
- Aids in mobilization of retained secretions
- Prevents or reverses atelectasis

CONDITIONS

Air Trapping

THE PEP EFFECT

Collapsed airway

Splints Open Airways

Collapsed Alveoli

Recruits Alveoli

Trapped Secretion

-or-

Atelectasis
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 MINIMIZE 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.

EXPERIENCE THE SIMPLICITY*

*For Licensed Prescribers and Respiratory Therapists
SUSTAINS EFFECTIVE LENGTH OF PEP THERAPY

Utilizing 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 MOBILIZE SECRETIONS

Airway is intermittently occluded by the magnetic resistor plug during exhalation to produce positive expiratory pressure and airflow vibrations from 5-30 Hz.

OPTIMIZES AEROSOLIZED MEDICATION DELIVERY®

Controlled respiratory rate and opening airways with PEP allows better particle deposition and distribution further into peripheral airways.

“For Licensed Prescribers and Respiratory Therapists
**acapella® Vibratory PEP Therapy Systems – Review of Benefits**

### Maximizing Therapy Effectiveness

**Optimizing PEP Therapy**
Delivers an effective PEP range of 10–20 cmH2O to effectively open airways, recruit alveoli and get air behind blocked passage ways

**Optimizing Secretion Clearance**
5–30 Hz vibrations thins, shears and disengages mucus from tissue walls to better mobilize and expel secretions

**Optimizing Delivery of Bronchodilator Therapy**
Controlled respiratory rate, airway splinting and alveolar recruitment optimizes delivery of bronchodilator therapy

### Empowering Patient Compliance

**Easy to Perform**
Patients can perform independently – works in any position, can be used anywhere

**Easy to Teach and Learn**
Techniques are intuitive, do not depend on others and are time-efficient

**Adaptable**
Devices can accommodate changes in severity of illness, optional SVN use combines two therapies into one

**Cost-Effective**
Reusable over active lifespan – options to disassemble for cleaning and disinfecting. Less costly equipment required
### acapella® Systems – The Vibratory Quartet for a Variety of PEP Needs

<table>
<thead>
<tr>
<th>acapella® DH System</th>
<th>acapella® DM System</th>
<th>acapella® choice System</th>
<th>acapella® duet System</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥15 L/min expiratory flow</td>
<td>&lt; 15 L/min expiratory flow</td>
<td>≥10 L/min expiratory flow</td>
<td>≥10 L/min expiratory flow</td>
</tr>
<tr>
<td>Ideal for most patients</td>
<td>Geriatric and pediatric patients</td>
<td>Ideal for most chronic patients</td>
<td>Ideal for most chronic patients</td>
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<tr>
<td>Can tee-in a small volume nebulizer</td>
<td>Can tee-in a small volume nebulizer</td>
<td>Can tee-in a small volume nebulizer</td>
<td>Accommodates standard small volume nebulizers through connection part</td>
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<tr>
<td>Easy to clean, rinse &amp; flush with warm soapy water</td>
<td>Easy to clean, rinse &amp; flush with warm soapy water</td>
<td>Easy to clean – disassembles to clean and disinfect, extending active working life</td>
<td>Easy to clean – disassembles to clean and disinfect, extending active working life</td>
</tr>
<tr>
<td>Best for short-term, hospital use</td>
<td>Best for short-term, hospital use</td>
<td>Best for long-term, hospital &amp; home use</td>
<td>Best for long-term, hospital &amp; home use</td>
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# acapella® Vibratory PEP Therapy Systems – Ordering

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>21-1530</td>
<td>acapella® DH System with mouthpiece</td>
<td>10</td>
</tr>
<tr>
<td>21-1531</td>
<td>acapella® DH System with mouthpiece - individually boxed devices</td>
<td>10</td>
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<tr>
<td>21-1015</td>
<td>acapella® DM System with mouthpiece</td>
<td>10</td>
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<tr>
<td>21-1016</td>
<td>acapella® DM System with mouthpiece - individually boxed devices</td>
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<tr>
<td>27-7000</td>
<td>acapella® choice vibratory PEP therapy system</td>
<td>10</td>
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<tr>
<td>27-7001</td>
<td>acapella® choice vibratory PEP therapy system - individually boxed devices</td>
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<tr>
<td>27-9000</td>
<td>acapella® duet kit: includes acapella® duet, mouthpiece, Portex® SVN, oxygen tubing, collapsible flex tubing</td>
<td>10</td>
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<tr>
<td>27-9001</td>
<td>acapella® duet System and mouthpiece</td>
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<tr>
<td>27-9002</td>
<td>acapella® duet System and mouthpiece - individually boxed devices</td>
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6. Anderson et al. Recruiting collapsed lung through collateral channels with positive end-expiratory pressure. Scan J Respir Dis 1979; 60(5): 260-266
9. Mesquita et al. Scintigraphic assessment of radio-aerosol pulmonary deposition with Acapella positive expiratory pressure device and various nebulizer configurations. Respir Care 2014; 59(3): 328-333