Respiratory Care and PEP Therapy

Since its inception in 1970, positive expiratory pressure (PEP) therapy continues to be a mainstay in effective respiratory care. Compared to traditional chest physiotherapy (CPT) that addresses symptoms (stasis of secretions), PEP therapy targets the underlying defect by preventing airway collapse, enabling mucus clearance and enhancing collateral ventilation.

Oscillations Enhance Mucus Shearing

Oscillatory PEP Therapy (OPEP) combines traditional positive expiratory pressure with airway oscillations to further promote mucus clearance and bronchial hygiene. The oscillatory action decreases both the viscosity and elasticity of mucus and mobilizes secretions up the airways. Additionally, it promotes short bursts of increased expiratory airflow that assist in mobilizing secretions up the airways. After PEP therapy is administered, secretions are evacuated through deep exhalations or coughing/huffing. Changes in the pressure and flow of the oscillations further improve clinical efficacy.

Effective Medication Delivery

When clinically indicated, medication can be aerosolized and delivered to the peripheral airways in conjunction with OPEP therapy. On exhalation, PEP promotes the opening of the lower airways while mobilizing secretions. Upon inhalation, aerosolized medication is delivered to the lungs more effectively. This dual therapy approach optimizes efficacy and promotes positive patient outcomes.

Airway Patency

Excessive mucus in lower airways can cause significant obstruction, interfering with pulmonary function. Positive expiratory pressure (PEP) improves airway patency during exhalation and increases functional residual capacity.

Collateral Ventilation

Through adjacent pores between alveoli (the Pores of Kohn) and collateral airways between the bronchiolar tree and adjacent alveoli (the Canals of Lambert), PEP promotes airflow behind the areas of mucus, keeping the airways open during exhalation.

References

Respiratory Care and PEP Therapy

Since its inception in 1970, positive expiratory pressure (PEP) therapy continues to be a mainstay in effective respiratory care. Compared to traditional chest physiotherapy (CPT) that addresses symptoms (stasis of secretions), PEP therapy targets the underlying defect by preventing airway collapse, enabling mucus clearance and enhancing collateral ventilation.

Oscillations Enhance Mucus Shearing

Oscillatory PEP Therapy (OPEP) combines traditional positive expiratory pressure with airway oscillations to further promote mucus clearance and bronchial hygiene. The oscillatory action decreases both the viscosity and elasticity of mucus and mobilizes secretions up the airways. Additionally, it promotes short bursts of increased expiratory airflow that assist in mobilizing secretions up the airways. After PEP therapy is administered, secretions are evacuated through deep exhalations or coughing/huffing. Changes in the pressure and flow of the oscillations further improve clinical efficacy.

Effective Medication Delivery

When clinically indicated, medication can be aerosolized and delivered to the peripheral airways in conjunction with OPEP therapy. Oscillations enhance the opening of the lower airways while mobilizing secretions. Upon inhalation, aerosolized medication is delivered to the lungs more effectively. This dual therapy approach optimizes efficacy and promotes positive patient outcomes.

Airway Patency

Excessive mucus in lower airways can cause significant obstruction, interfering with pulmonary function. Positive expiratory pressure (PEP) improves airway patency during exhalation and increases functional residual capacity.

Collateral Ventilation

Through adjacent pores between the alveoli (the Pores of Kohn) and collateral airways between the bronchiolar tree and adjacent alveoli (the Canals of Lambert), PEP promotes airflow behind the areas of mucus, keeping the airways open during exhalation.

References

The RC-Cornet uses the patient’s full expired air volume to produce pressure and oscillatory vibrations. The success of OPEP therapy depends on these vibrations, especially for patients with a low expiratory volume.

- Maximum efficacy for multiple conditions: Combined PEP can be used to treat patients with COPD and emphysema while dynamic PEP can be used to treat patients with tenacious secretions, bronchiectasis and cystic fibrosis.
- Efficient for a wide range of patients: Begin oscillations in a set of five following treatment to adult and pediatric patients with five forced expiratory volume (FEO).
- Dual therapy: Simultaneous, efficient and effective administration of aerosolized medications while patients receive bronchial hygiene therapy.
- Patient comfort: Non-gravity dependent technology allows patient to administer therapy in various positions.
- Single device: A single device with multiple applications reduces multiple stock numbers and overall cost.
- Reusable: The mouthpiece and valve hose can be easily removed from the tube for cleaning in the dishwasher, an autoclave or disinfectant solution (see instructions for use for complete details).

Dialing in a setting
Fine-tune OPEP therapy for maximum efficacy. Twisting the mouthpiece from the starting position to position five changes the pressure and flow characteristics.

Asymmetrical Wave
Unlike symptomatic PEP wave that increases and decreases in exactly the same frequency with no phase difference, the RC-Cornet produces an asymmetrical wave. Viscous mucus cannot follow these fast movements and is shed from the bronchial walls.

Combined PEP
Combined PEP is characterized as continuous positive pressure above baseline with applied pressure changes.

Dynamic PEP
Dynamic PEP is characterized by a pressure increase from zero to maximum with a drop back to zero. The RC-Cornet produces a continuous positive pressure with a step increase from zero to maximum with an abrupt return to zero.

With the RC-Cornet, the clinician or the patient can determine the optimal personal pressure and flow characteristics by turning the mouthpiece.

- Positions 1, 2 and 3 create combined PEP typical in successfully treating patients with COPD and emphysema.
- Positions 4 and 5 create dynamic PEP used in patients with tenacious secretions, bronchiectasis and cystic fibrosis.

OPEP therapy is typically indicated for the following conditions:
- Asthma
- Atelectasis prevention and reversal
- Bronchiectasis
- Chronic obstructive pulmonary disease (COPD)
- Cystic Fibrosis

Always follow local protocols and instructions for use.
The RC-Cornet, by Curaplex, is a reusable single-patient device that provides oscillatory positive expiratory pressure (OPEP) therapy for the detachment and removal of pulmonary secretions. Through variable pressure settings and optional aerosolized medication delivery, patients realize maximum efficacy specific to their unique clinical needs.

The RC-Cornet uses the patient’s full expired air volume to produce pressure and oscillatory vibrations. The success of OPEP therapy depends on these vibrations, especially for patients with a low expiratory volume.

- Maximum efficacy for multiple conditions: Combined PEP can be used to treat patients with COPD and emphysema while dynamic PEP can be used to treat patients with tenacious secretions, bronchiectasis and cystic fibrosis.
- Efficient for a wide range of patients: Begins oscillations as of 5 cm H2O allowing treatment to adult and pediatric patients with low forced expiratory volumes (FEV).
- Dual therapy: Simultaneous, efficient and effective administration of aerosolized medications while patients receive bronchial hygiene therapy.
- Non-gravity dependent technology allows patients to administer therapy in various positions.
- Single device: A single device with multiple applications reduces multiple stock numbers and overall cost.
- Reusable: The mouthpiece and valve hose can be easily removed from the tube for cleaning in the dishwasher or autoclave or disinfectant solution (see instructions for use for complete details).

Dialing in a setting
Fine-tune OPEP therapy for maximum efficacy. Twisting the mouthpiece from the starting position to position five changes the pressure and flow characteristics.

Setting 1 (Start)

<table>
<thead>
<tr>
<th>Setting</th>
<th>Pressure (mbar)</th>
<th>Flow (l/min)</th>
<th>Volume (V)</th>
<th>Frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>45</td>
<td>0.32</td>
<td>25.40</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>45</td>
<td>0.32</td>
<td>25.40</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>45</td>
<td>0.32</td>
<td>25.40</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>45</td>
<td>0.32</td>
<td>25.40</td>
</tr>
</tbody>
</table>

Non-gravity dependent technology allows patient to use device in various positions.

Combined PEP
Combined PEP is characterized as a continuous positive pressure above baseline with applied pressure changes.

Dynamic PEP
Dynamic PEP is characterized by a pressure increase from zero to maximum with a drop back to zero. The RC-Cornet produces a continuous positive pressure with a step increase from zero to maximum with an abrupt return to zero.

With the RC-Cornet, the clinician or the patient can determine the optimal personal pressure and flow characteristics by turning the mouthpiece.

- Positions 1, 2 and 3 create combined PEP typical in successfully treating patients with COPD and emphysema.
- Positions 4 and 5 create dynamic PEP used in patients with tenacious secretions, bronchiectasis and cystic fibrosis.

Asymmetrical Wave
Unlike symmetrical PEP wave that increases and decreases in exactly the same frequency, with a phase difference, the RC-Cornet produces an asymmetrical wave. This produces a more natural flow with these fast movements and is shed from the bronchial walls.

*Always follow local protocols and instructions for use.
The RC-Cornet uses the patient’s full expired air volume to produce pressure and oscillatory vibrations. The success of OPEP therapy depends on these vibrations, especially for patients with a low expiratory volume.

- **Maximum efficacy for multiple conditions:** Combined PEP can be used to treat patients with COPD and emphysema while dynamic PEP can be used to treat patients with tenacious secretions, bronchiectasis, and cystic fibrosis.
- **Efficient for a wide range of patients:** Begins oscillations at 5 cm H2O allowing treatment to adult and pediatric patients with low forced expiratory volumes (FEV).
- **Dual therapy:** Simultaneous, efficient and effective administration of aerosolized medications while patients receive bronchial hygiene therapy.
- **Patient comfort:** Non-gravity dependent technology allows patient to use device in various positions.
- **Single device:** A single device with multiple applications reduces multiple stock numbers and overall cost.
- **Reusable:** The mouthpiece and valve hose can be easily removed from the tube for cleaning in the dishwasher, an autoclave or disinfectant solution (see instructions for use for complete details).

**Dialing in a setting**

Fine-tune OPEP therapy for maximum efficacy. Twisting the mouthpiece from the starting position to position five changes the pressure and flow characteristics.

**Combined PEP**

Combined PEP is characterized as continuous positive pressure above baseline, with applied pressure changes.

**Dynamic PEP**

Dynamic PEP is characterized by a pressure increase from zero to maximum with a slow return to zero. The RC-Cornet produces a continuous positive pressure with a slow increase from zero to maximum with an abrupt return to zero.

**Asymmetrical Wave**

Unlike symmetrical PEP waves that increase and decrease in exactly the same frequency with no phase difference, the RC-Cornet produces an asymmetrical wave. Viscous mucus cannot follow these fast movements and is shed from the bronchial walls.

**Combined PEP**

Combined PEP is characterized as continuous positive pressure above baseline, with applied pressure changes.

**Dynamic PEP**

Dynamic PEP is characterized by a pressure increase from zero to maximum with a slow return to zero. The RC-Cornet produces a continuous positive pressure with a slow increase from zero to maximum with an abrupt return to zero.

**Asymmetrical Wave**

Unlike symmetrical PEP waves that increase and decrease in exactly the same frequency with no phase difference, the RC-Cornet produces an asymmetrical wave. Viscous mucus cannot follow these fast movements and is shed from the bronchial walls.

**Symmetrical PEP Wave**

Symmetrical PEP waves increase and decrease in exactly the same frequency with no phase difference.

**OPEP therapy is typically indicated for the following conditions:**

- Asthma
- Atelectasis prevention and reversal
- Bronchiectasis
- Chronic obstructive pulmonary disease (COPD)
- Cystic Fibrosis

*Always follow local protocols and instructions for use.

**OPEP therapy is typically indicated for the following conditions:**

- Asthma
- Atelectasis prevention and reversal
- Bronchiectasis
- Chronic obstructive pulmonary disease (COPD)
- Cystic Fibrosis

*Always follow local protocols and instructions for use.

**With the RC-Cornet, the clinician or the patient can determine the optimal personal pressure and flow characteristics by turning the mouthpiece.**

- Positions 1, 2 and 3 create combined PEP typical in successfully treating patients with COPD and emphysema.
- Positions 4 and 5 create dynamic PEP used in patients with tenacious secretions, bronchiectasis and cystic fibrosis.
Respiratory Care and PEP Therapy

Since its inception in 1970, positive expiratory pressure (PEP) therapy continues to be a mainstay in effective respiratory care. Compared to traditional chest physiotherapy (CPT) that addresses symptoms (cough, sputum), PEP therapy targets the underlying defect by preventing airway collapse, enabling mucus clearance and enhancing collateral ventilation.

Variable Oscillatory PEP (OPEP) therapy for maximum efficacy

Since its inception in 1970, positive expiratory pressure (PEP) therapy continues to be a mainstay in effective respiratory care. Compared to traditional chest physiotherapy (CPT) that addresses symptoms (stasis of secretions), PEP therapy targets the underlying defect by preventing airway collapse, enabling mucus clearance and enhancing collateral ventilation.1

Oscillations Enhance Mucus Shearing

Oscillatory PEP Therapy (OPEP) combines traditional positive expiratory pressure with airway oscillations to further promote mucus clearance and bronchial hygiene. The oscillatory motion decreases both the viscosity and elasticity of mucus and mobilizes secretions up the airways. Additionally, it promotes short bursts of increased expiratory airflow that assist in mobilizing secretions up the airways.5 After PEP therapy is administered, secretions are evacuated through deep exhalations or coughing/huffing.6 Changes in the pressure and flow of the oscillations further improve clinical efficacy.

Effective Medication Delivery

When clinically indicated, medication can be aerosolized and delivered to the peripheral airways in conjunction with OPEP therapy. On exhalation, PEP promotes the opening of the lower airways while mobilizing secretions. Upon inspiration, aerosolized medication is delivered to the lungs more effectively. This dual therapy approach optimizes efficacy and promotes positive patient outcomes.

Airway Patency

Excessive mucus in lower airways can cause significant obstruction, interfering with pulmonary function. Positive expiratory pressure (PEP) improves airway patency during exhalation and increases functional residual capacity.3

Collateral Ventilation

Through adjacent pores between the air sacs (the Pores of Kohn) and collateral airways between the bronchiolar tree and adjacent air sacs (the Canals of Lambert), PEP promotes airflow behind the areas of mucus, keeping the airways open during exhalation.4

References


For more information, please contact Tri-anim at 855.287.2759 www.curaplex.com

Oscillatory PEP Therapy (OPEP) combines traditional positive expiratory pressure with airway oscillations to further promote mucus clearance and bronchial hygiene. The oscillatory motion decreases both the viscosity and elasticity of mucus and mobilizes secretions up the airways. Additionally, it promotes short bursts of increased expiratory airflow that assist in mobilizing secretions up the airways. After PEP therapy is administered, secretions are evacuated through deep exhalations or coughing/huffing. Changes in the pressure and flow of the oscillations further improve clinical efficacy.

Effective Medication Delivery

When clinically indicated, medication can be aerosolized and delivered to the peripheral airways in conjunction with OPEP therapy. On exhalation, PEP promotes the opening of the lower airways while mobilizing secretions. Upon inspiration, aerosolized medication is delivered to the lungs more effectively. This dual therapy approach optimizes efficacy and promotes positive patient outcomes.