EVIDENCE-INFORMED PRACTICE FOR SECRETION CLEARANCE TECHNIQUES

The term ‘chest physiotherapy’ is often mistakenly used to denote techniques that assist patients with removal of respiratory secretions. The preferable term is ‘secretion clearance techniques’ as ‘chest physiotherapy’ is a more global term that includes techniques that enhance ventilation in addition to those which are primarily targeting secretion clearance.

Secretion clearance techniques include: percussion, vibration, Active Cycle of Breathing Technique, rib springing, autogenic drainage, postural drainage, assisted cough, suction and use of mechanical devices such as Positive Expiratory Pressure (PEP) and Oscillating PEP devices.

The following is a summary of the evidence for the contraindications and indications for secretion clearance techniques:

<table>
<thead>
<tr>
<th>Contraindicated</th>
<th>Ineffective</th>
<th>Effective</th>
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<tbody>
<tr>
<td>Different secretion clearance techniques may be contraindicated in certain situations.</td>
<td>Atelectasis without mucus plugging</td>
<td>Mucus plugging with resulting collapse of alveoli</td>
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<td>Acute stage of pneumonia (during consolidation phase)</td>
<td>Resolving pneumonia in the presence of secretions that the patient cannot clear independently</td>
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<td>Pulmonary edema</td>
<td>Acute exacerbation of COPD with the presence of secretions that the patient cannot clear independently</td>
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<td>Pleural effusion</td>
<td>Cystic fibrosis with secretions that the patient cannot clear independently</td>
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<td>Neuromuscular conditions associated with a weak cough and secretions that the patient cannot clear independently</td>
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<td>Conditions / situations in which there are increased secretions that the patient cannot clear independently</td>
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The physiotherapist will conduct a thorough assessment of each patient and will select the best method, considering patient’s level of cognition, possible contraindications, stability, and other comorbid conditions.

See NIH reference for further discussion on cautions and contraindications for different secretion clearance techniques.

It is important to note that secretion clearance techniques are only one component of effective management of patients with respiratory conditions involving retained secretions. Indeed, there is strong evidence to support the early and progressive mobilization of patient activity to assist in respiratory care.
References

- Jones AYM, Hutchinson RC, Oh TE. Effects of bagging and percussion on total static compliance of the respiratory system. Physiotherapy. 1992; 78: 661-666.