



**Alternatives to percussion and postural drainage. A review of mucus clearance therapies: percussion and postural drainage, autogenic drainage, positive expiratory pressure, flutter valve, intrapulmonary percussive ventilation, and high-frequency chest compression with the ThAIRapy Vest.**

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The purpose of this article is to review published studies on the efficacy of old and new mucus clearance techniques and to develop recommendations for different groups of patients. Mucus clearance is a problem in cystic fibrosis, bronchiectasis, and many other pulmonary conditions. Percussion and postural drainage (P & PD) was the traditional method of facilitating mucus clearance, but the many hazards and contraindications along with the onerous nature and resultant poor patient compliance of this procedure have led to the development of alternative therapies. Research studies with cystic fibrosis patients support the efficacy of P & PD in patients who can tolerate it. However, equivalent sputum production can be accomplished with autogenic drainage, positive expiratory pressure, and Flutter valve therapy without the assistance of another caregiver, as long as the patient has the motivation, breath control, and neuromuscular function to perform these modalities. The Intrapulmonary Percussive Ventilation device and high-frequency chest compression with the ThAIRapy vest involve more elaborate and expensive equipment, yet these devices provide mucus clearance assistance to patients who lack the ability to perform the simpler techniques. Both mechanized modalities promote independence and self-care in the patient, and the effectiveness of both has been supported by the limited research published to date. Which alternative to recommend depends on the ability, motivation, preference, needs, and resources of each patient.

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