



Airway clearance applications in the elderly and in patients with neurologic or neuromuscular compromise.

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Respiratory compromise is the leading cause of morbidity and mortality in patients with neuromuscular and neurologic disease, and in elderly patients, who have a reduced pulmonary reserve from deterioration of the respiratory system associated with the normal aging process. Although the otherwise healthy older patient is normally asymptomatic, their pulmonary reserve is further compromised during stressful situations such as surgery, pneumonia, or exacerbation of a comorbid condition. The inability to effectively remove retained secretions and prevent aspiration contribute to this compromise. Although no secretion-management therapies are identified as having specific application to the elderly, clinicians must be attentive and understand the needs of the elderly to prevent the development of respiratory compromise. Patients with neuromuscular disease often can not generate an effective cough to mobilize and evacuate secretions. Respiratory muscle training, manual cough assistance, mechanical cough assistance, high-frequency chest wall compression, and intrapulmonary percussive ventilation have each been suggested as having potential benefit in this population. Although strong evidence supporting the benefit of these therapies is lacking, clinicians must be guided as to whether there is a pathophysiologic rationale for applying the therapy, whether adverse effects are associated with the therapy, the cost of therapy, and whether the patient prefers a given therapy.

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