The intrapulmonary percussive ventilator and flutter device compared to standard chest physiotherapy in patients with cystic fibrosis.

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Stasis of viscid secretions in cystic fibrosis (CF) leads to chronic infection, inflammation, and lung destruction. Chest physiotherapy (CPT) has been used for many years to assist in the removal of these secretions. However, the need for independently administered CPT exists, particularly for adolescents and the older CF patient. Two devices, the intrapulmonary percussive ventilator (IPV) and the Flutter device (Flutter) have been promoted for this purpose. This study compares these devices to standard, manual CPT. There was no difference in sputum quantity produced with any method studied. Transiently lower oxygen saturation was noted with standard CPT compared with the IPV and Flutter. Inconsistent but significant improvements in flow rates were noted with the two devices compared to standard CPT. Important trends to lower lung volumes, probably indicating decreased air trapping, were also noted with all three therapies at 1 and 4 hours after administration. There were no adverse effects with any treatment regimen. Larger and longer studies of these devices compared to standard CPT and with each other are warranted to assess their value for independent administration of CPT in CF patients and to determine long-term effects on maintenance of pulmonary function.

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