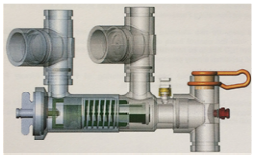

# Use of High-Frequency Percussive Ventilation in Inhalation Injuries.

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Inhalation injury causes significant morbidity and mortality, accounting for nearly 80% of non-fire-related deaths and affecting nearly 25% of all patients hospitalized with thermal injury. High-frequency percussive ventilation (HFPV) has been reported to decrease both the incidence of pulmonary barotrauma and pneumonia in inhalation injury. It has evolved into a ventilatory modality promoted to rapidly remove airway secretions and improve survival of patients with smoke inhalation injury. From 1997 to 2005, a total of 92 patients with inhalation injury were treated with HFPV. This group was compared with 130 patients treated with conventional mechanical ventilation between 1997 and 2005. The diagnosis of inhalation injury was made on admission, based on the following clinical criteria: injury in a closed space, carbonaceous sputum, and/or positive bronchoscopy (presence of carbonaceous deposits, erythema or ulceration). Both modes of ventilation were begun within 24 hours of injury. Both groups were similar with respect to demographics and injury severity. The mean number of ventilator days, days in the intensive care unit, length of stay, and incidence of pneumonia did not differ significantly between groups. Twenty-six of 92 (28%) patients treated with HFPV, and 56 of 130 with conventional mechanical ventilation (43%) died. There was a significant decrease in both overall morbidity and mortality in the subset of patients with </=40% TBSA treated with HFPV. Future randomized, controlled trials are needed to determine the precise role of HFPV in the treatment of inhalation injuries.

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