



## High-frequency percussive ventilation in patients with inhalation injury.

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Inhalation injury complicated by bacterial pneumonia is now one of the primary causes of morbidity and mortality in patients with thermal injury. We have investigated the use of high-frequency percussive ventilation (HFPV) as a means of ventilatory support for these patients. We propose that high-frequency ventilation may decrease the incidence of pulmonary infection following inhalation injury and decrease the incidence of iatrogenic barotrauma caused by conventional ventilation. High-frequency ventilation was instituted initially as salvage therapy in a group of five patients. In each case, normocapnia or arterial  $pO_2$  saturation of greater than 90% on a  $FiO_2$  of 60% or less was achieved with high-frequency ventilation but not with conventional ventilation. A second group of ten patients was prospectively entered into a study on the use of HFPV in patients with inhalation injury. One patient was removed from the study, and one patient was unable to be ventilated because of severely noncompliant lungs. Eight patients with a mean age of 29 years and a mean burn size of 38% of the total body surface completed the protocol. All patients survived, two developed pneumonia, and one developed subcutaneous emphysema. These results suggest that HFPV is effective in the treatment of patients with severe inhalation injury.

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