ICU
MANAGEMENT & PRACTICE

# Cochrane: High-Frequency Oscillatory Ventilation Not Supported for ARDS

High-frequency oscillation ventilation does not reduce hospital and 30-day mortality in acute respiratory distress patients, compared to conventional mechanical ventilation. These are the findings of the 2016 updated Cochrane Systematic Review.

The systematic review, by Sachin Sud, Trillium Health Center, University of Toronto, Division of Critical Care, Department of Medicine, Canada, and colleauges, included 10 randomised controlled trials (RCTs) (1850 patients) that compared children and adults with moderate or severe ARDS who were treated using HFO compared with conventional mechanical ventilation. One trial was stopped early because of increased mortality among participants who were randomised to HFO compared to mechanical ventilation with low tidal volume and high positive end expiratory pressure, with HFO reserved only as a rescue therapy. Four trials reported ventilator industry funding. The reviewers highlighted the low quality of the evidence due to imprecision, inconsistency, indirectness and methodological limitations, with substantial between-trial statistical heterogeneity for clinical outcomes, including mortality.

Based on 8 trials (1779 patients) the review found no significant difference in hospital or 30-day mortality  compared with conventional ventilation. The reviewers also found that the ability of the lungs to oxygenate blood, measured at 24 to 72 hours of ventilation after randomisation, was 18% to 26% better in participants receiving HFO. HFO had no effect on the length of time an artificial breathing machine was required. The risk of unwanted side effects, including low blood pressure or further injury to the lung due to high airway pressure, was not increased.

The review of HFO was first published in 2004 and was first updated in 2013. The cut-off point for published studies was December 2015.

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