Gac Med Mex. 2015;151:69-77.

# Ventilatory strategies against child with acute respiratory distress syndrome and severe hypoxemia.

Alejandro Donoso, Daniela Arriagada, Franco Diaz y Pablo Cruces.

**Abstract**

In this review, we assemble the fundamental concepts of the use of mechanical ventilation (MV) in children with acute respiratory failure (ARDS) and refractory hypoxemia. We also discusses topics of protective ventilation and recruitment potential, and specifically examine the options of ventilation and/or maneuvers designed to optimize the non-aerated lung tissue: alveolar recruitment maneuvers, positive end-expiratory pressure (PEEP) titulation, high frequency oscillatory ventilation (HFOV), airway pressure release ventilation (APRV), aimed at correcting the mismatch ventilation/perfusion (V/Q): use of prone position. The only pharmacological intervention analyzed is the use of neuromuscular blockers. In clinical practice, the protective MV concept involves using an individual adjustment of the PEEP and volume tidal (V-T). Use of recruitment maneuvers and PEEP downward titration can improve lung function in patients with ARDS and severe hypoxemia. We must keep in mind HFOV instauration as early as possible in response to failure of MV. The use of early and prolonged prone can improve gas exchange in hopes of a better control of what caused the use of MV.