Ventilator Management for ARDS Patients

for University of Michigan Survival Flight Staff



Developed by

UH Respiratory Care

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Consider inhaled nitric

oxide (7)

Patient with ARDS and primarily an oxygenation problem. It is assumed that other non-respiratory medical management issues (1) are being addressed Mimic current ventilator settings at OSH (2) Try to establish Lung Protective Settings (3) Oxygenating OK? (4) Yes No Do a Recruitment Maneuver (5) Oxygenating OK? Νo Increase PEEP Oxygenating OK? Yes No No At maximum PEEP? Yes Put on Pressure Control, if not already Lengthen inspiration from I:E of: 1:2 to 1:1 to 1.5:1 to 2:1 Oxygenating OK? No Check for auto-PEEP (6) Auto-PEEP present? Yes Νo Back off on Maximum I:E? insp time Yes Stop lengthening inspiratory time Continue with current settings

- Medical Management Pearls
 Check ionized calcium, if <1.3
 and patient hypotensive
 administer calcium gluconate
- or chloride

 Check arterial pH, if <7.3 and PaCO2 <60, administer IV sodium bicarbonate
- If mean arterial BP <60, initiate levophed infusion and consider vasopressin infusion at fixed dose 0.04 U/min
- Assess adequacy of sedation and neuromuscular blockade (fentanyl, midazolam, cisatracurium)
- 2. Mimic Settings
 If on VCV, target expired, not set VT

3. Lung Protective Ventilator Settings:

- Pplat <30-35 cm H2O
- VT ~6 mL/kg IBW
- PEEP >12-15 cm H2O

4. Oxygen Target SpO2 >88%, if possible

- 5. Recruitment Maneuver
- Use a manual ventilator with a manometer
- Apply a moderate pressure (~40 cm H2O) for an extended (~40 sec) time while monitoring the patient's response

6. Auto-PEEP Procedure

- Press the 'Insp/Exp Hold' button until it displays 'Exp Hold'
- Press it again and hold it until the auto-PEEP value is displayed, then release the button
- If patient effort is detected or the high pressure alarm activated the procedure is aborted
- It can not do the procedure on any spontaneous breath

7. Inhaled Nitric Oxide

- Use the iNO-Vent delivery system
- Administer 80 ppm, as a test dose.
- If the patient does not have a positive response (ie >10% in PaO2/FiO2), stop iNO
- If a positive response, reduce to 60, 40, 20 ppm. If P/F deteriorates, increase to previous level. Leave on 20 ppm for transport or lowest level tolerable, which ever is highest.

Contact Respiratory Care Supervisor (#1550) for consultation