Ventilator Management for ARDS Patients
for University of Michigan Survival Flight Staff

DRAFT, 4/19

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? (4)
Yes

No

Increase PEEP

Oxygenating OK? (4)
Yes

No

At maximum PEEP?

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? (4)
Yes

No

Check for auto-PEEP (6)

Auto-PEEP present?

Yes

No

Maximum I:E?

Back off on inspiratory time

Stop lengthening inspiratory time

Consider inhaled nitric oxide (7)

Continue with current settings

1. 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 0.4 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 (#155) for consultation

Developed by UH Respiratory Care
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