

Continue Lung Protective Strategies

Respiratory support

Begin age-appropriate oxygen therapy regardless of SpO₂

Indications for intubation:

- Hypoxemia or inadequate oxygen delivery
- Left heart failure or refractory shock
- To facilitate safety during invasive catheter placement

Initial Respiratory Assessment					
Respiratory rate Pulse oximetry Work of breathing (WOB) Breath sounds	Goals: Normal for age SpO ₂ 92-97% Minimal, normal Normal	→	SpO ₂ < 92% Increased WOB Inadequate gas exchange	→	Consider: • High Flow Nasal Cannula • Noninvasive positive pressure ventilation
Gas exchange: Monitor ABG or noninvasive TcPCO ₂					

Respiratory Reassessment					
Monitor all assessment items in Initial Respiratory Assessment <i>plus</i> : Venous ScvO ₂ Lactate	Goals: > 70% < 4 mmol/L	→	SpO ₂ < 92% Increased WOB Arterial pH < 7.25 ScvO ₂ < 70%	→	Consider: • Intubation • Invasive mechanical ventilation

Reassess Mechanical Ventilation Goals					
Pulse oximetry Arterial pH ScvO ₂ Lactate	Goals: SpO ₂ 92-98% > 7.25 > 70% < 4 mmol/L	→	Meets Goals?	Yes	Lung-Protective Strategy Tidal volume ≤ 7 mL/kg PIP < 35 cm H ₂ O FiO ₂ ≤ 60% Wean FiO ₂ if SpO ₂ > 98%

Follow:	Oxygenation Index (OI) PaO ₂ / FiO ₂		No	Alternative Ventilator Strategies Airway Pressure Release Ventilation (APRV) High Frequency Oscillator Ventilation (HFOV)
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Oxygenation Index (OI)

Assesses the intensity of ventilator support required to maintain oxygenation (lower is better).

$$OI = \frac{FiO_2 \times MAP}{PaO_2}$$

Interpretation of OI:
 Very good < 5
 Medium 10-20
 Poor > 25

OI calculator:
<http://www.medcalc.com/oxygen.html>

PaO₂/FiO₂ Ratio

Indicates severity of arterial blood hypoxemia given FiO₂ only, used in defining ARDS.

Interpretation of PaO₂/FiO₂ Ratio:
 Normal 452
 Mild ARDS 201-300
 Moderate ARDS 101 - 200
 Severe ARDS < 100

These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly these guidelines should guide care with the understanding that departures from them may be required at times.