

Respiratory Support

Continue to monitor clinical goals following resolution of shock

- Wean FiO₂ to keep SpO₂ 92-97%
- Continue lung protective strategies
- Consider diuretics or dialysis if fluid overload > 10-15%
- PRBCs if Hgb < 7g/dL
- Wean hydrocortisone when vasoactive infusions no longer required
- Monitor culture results and reassess antibiotic coverage
- Consult ID if culture negative sepsis to determine antibiotic duration PT/OT consult, consider PM&R consult

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	Goals:				Consider: <ul style="list-style-type: none"> • High Flow Nasal Cannula • Noninvasive positive pressure ventilation
Pulse oximetry	Normal for age		SpO ₂ < 92%		
Work of breathing (WOB)	SpO ₂ 92-97%	-->	Increased WOB	-->	
Breath sounds	Minimal, normal		Inadequate gas exchange		
Gas exchange:	Normal				
Monitor ABG or noninvasive TcPCO ₂					

Respiratory reassessment

Monitor all assessment items in Initial Respiratory Assessment <i>plus</i> : Venous S _{CV} O ₂ Lactate	Goals: > 70% < 4 mmol/L	SpO ₂ < 92% Increased WOB Arterial pH < 7.25 S _{CV} O ₂ < 70%	Consider: • Intubation • Invasive mechanical ventilation
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Reassess mechanical ventilation goals					
Pulse oximetry	SpO ₂ 92-98%	-->	Meets Goals?	Yes	Lung-Protective Strategy
Arterial pH	> 7.25				Tidal volume ≤ 7 mL/kg
S _{CV} O ₂	> 70%				PIP < 35 cm H ₂ O
Lactate	< 4 mmol/L				FiO ₂ ≤ 60%
Follow:	Oxygenation Index (OI) PaO ₂ / FiO ₂		No		Wean FiO ₂ if SpO ₂ > 98%
					Alternative Ventilator Strategies Airway Pressure Release Ventilation (APRV) High Frequency Oscillator Ventilation (HFOV)

Oxygenation Index (OI)	PaO ₂ /FiO ₂ Ratio
Assesses the intensity of ventilator support required to maintain oxygenation (lower is better).	Indicates severity of arterial blood hypoxemia given FiO ₂ only, used in defining ARDS.
$OI = \frac{FiO_2 \times MAP}{PaO_2}$	Interpretation of PaO₂/FiO₂ Ratio:
Interpretation of OI:	Normal 452
Very good < 5	Mild ARDS 201-300
Medium 10-20	Moderate ARDS 101 - 200
Poor > 25	Severe ARDS < 100
OI calculator: http://www.medcalc.com/oxygen.html	

Reconceptualized from: <http://www.chop.edu/clinical-pathway/severe-sepsisseptic-shock-icu-clinical-pathway-infants-28-days-and-children-7#lung>

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.

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