

All Mechanically Ventilated Patients



Measure:

- Height and document in electronic medical record (EMR)
- Obtain Predicted Body Weight (PBW)

Predicted Body Weight (PBW):

- Based on patient sex and height
- Automatically calculated once height is documented in EMR

Hypoxemic Respiratory Failure (HRF)

Screening:

- Conduct ABG at steady state (00:00h – 08:00h)
- $HRF = PF \leq 300$
- Minimum PEEP for ABG: ≥ 5 cm H₂O

PF Ratio:

- PF ratio = $\frac{PaO_2 \text{ (found on ABG)}}{FiO_2 \text{ (set on ventilator)}}$
- Example: $100 \text{ mm Hg} \div 0.6 \text{ FiO}_2 = 167$

ARDS Screening:

- Meet HRF criteria PLUS
- Bilateral infiltrates on chest x-ray
- Absence of heart failure as primary diagnosis

ARDS severity by PF ratio:

- Mild 300-201
- Moderate 200 - 101
- Severe ≤ 100



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Guidance for Intervention by PF Ratio

Interventions are additive as PF Ratio decreases

PF ratio ≤ 300	<ul style="list-style-type: none"> • Recent chest x-ray • Controlled mode of ventilation • Lung protective ventilation goals: <ul style="list-style-type: none"> Tidal volume 6-8 ml/kg PBW Plateau pressure ≤ 30 cm H₂O Driving pressure ≤ 18 cm H₂O (Driving pressure=Plateau Pressure - PEEP) • Sedation (RASS ≤ -3) to meet lung protective goals • Consider recruitment maneuvers • Consider esophageal balloon • Fluid balance neutral or negative
PF ratio ≤ 200	<ul style="list-style-type: none"> • Optimal PEEP study
PF ratio ≤ 150	<ul style="list-style-type: none"> • Consider neuromuscular blockade (NMB)
PF ratio $\leq 150 + FiO_2 \geq 0.6$	<ul style="list-style-type: none"> • Consider prone positioning
PF ratio ≤ 100	<ul style="list-style-type: none"> • Strongly recommend NMB
PF ratio $\leq 100 + FiO_2 \geq 0.6$	<ul style="list-style-type: none"> • Strongly recommend prone positioning
PF ratio ≤ 100 despite other interventions	<ul style="list-style-type: none"> • Consider ECLS referral

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2021.03.30

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