



Maryland Critical Care Network

Clinical Practice Guideline for the Management of Acute Respiratory Distress Syndrome (ARDS)



Syndrome consistent with ARDS?

- Acute onset (< 1 week)
- No evidence of isolated left heart failure (ECHO)
- Bilateral opacities on chest radiograph

YES

Gas exchange goals met?
 $PaO_2/FiO_2 > 200$
 $SpO_2/FiO_2 > 235$
 $pH > 7.25$

YES

NO

Mild ARDS

• Consider non-invasive positive pressure ventilation
 • Consider high flow nasal cannula
 • Treat the underlying condition

Improved respiratory dynamics?
 Clinically stable?
 $PaO_2/FiO_2 > 200$ or $SpO_2/FiO_2 > 235$?

YES

Continue Current Therapy

NO

• Diagnose and treat underlying cause for ARDS
 • Avoid *volutrauma* (tidal volume **6 mc/kg/PBW**)
 • Avoid *barotrauma* (goal **PPIt < 30** cm H₂O)
 • Avoid *atelectasis* (titrate **PEEP** according to ARDSnet tables)
 • Optimize oxygenation (**PaO₂ goal: 55- 80** mm Hg or **SpO₂ > 88-96** %)
 • Optimize ventilation (**pH > 7.25**)

Moderate - Severe ARDS

★ NO

Achieving goals?
 $PaO_2/FiO_2 > 150$
 $pH > 7.25$

YES

Continue Current Therapy

• Start deep sedation **AND**
 • Prone positioning (refer to institutional protocol)
 • Consider neuromuscular blockade (max 48 hrs)

Severe ARDS

★ NO

Achieving goals?
 $PaO_2/FiO_2 > 80$
 $pH > 7.25$

YES

Continue Current Therapy

UMMC/STC consultation for transfer
 • Extracorporeal membrane oxygenation (ECMO)
 • Advanced lung rescue techniques

Berlin Criteria for ARDS Diagnosis and Staging

Acute Respiratory Distress Syndrome	
Timing	Within 1 week of a known clinical insult or new or worsening respiratory symptoms
Chest imaging ^a	Bilateral opacities—not fully explained by effusions, lobar/lung collapse, or nodules
Origin of edema	Respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (eg, echocardiography) to exclude hydrostatic edema if no risk factor present
Oxygenation ^b	
Mild	200 mm Hg < PaO_2/FiO_2 ≤ 300 mm Hg with PEEP or CPAP ≥5 cm H ₂ O ^c
Moderate	100 mm Hg < PaO_2/FiO_2 ≤ 200 mm Hg with PEEP ≥5 cm H ₂ O
Severe	PaO_2/FiO_2 ≤ 100 mm Hg with PEEP ≥5 cm H ₂ O

Abbreviations: CPAP, continuous positive airway pressure; FiO_2 , fraction of inspired oxygen; PaO_2 , partial pressure of arterial oxygen; PEEP, positive end-expiratory pressure.

^aChest radiograph or computed tomography scan.
^bIf altitude is higher than 1000 m, the correction factor should be calculated as follows: $[PaO_2/FiO_2] \times (\text{barometric pressure} / 760)$.

^cThis may be delivered noninvasively in the mild acute respiratory distress syndrome group.

ARDS Definition Task Force. JAMA 2012.



Consider consultation for transfer to UMMC if unable to implement prone, neuromuscular blockade, etc. or if the patient continues to deteriorate

