

Indications for VV ECLS

VV ECLS

This is a rescue therapy for patients with refractory hypoxaemia (or hypercarbia) who have failed to respond to conventional or alternative (e.g. APRV, iNO, proning) strategies to achieve lung protective ventilation and/or an oxygenation goal.

Standard Indications for VV ECLS:

1. Hypoxaemia: P/F ratio < 10kPa on FiO₂ 1.0 or Murray score ≥ 3
2. Hypercapnoea: PaCO₂ > 11kPa or pH < 7.20 (H⁺ > 63nmols/L)
3. Compliance: < 20 mls/cmH₂O or P_{plat} > 30 cm H₂O
4. Less than 7 days high pressure mechanical ventilation

Although the definition of ARDS is well accepted, 'severe' ARDS may be recognised by the some of the following features:

Murray score > 3.0 or >2.5 with rapidly progressive deterioration

Severe hypoxaemia (P/F < 10kPa for > 1 hr on FiO₂ 1.0)

Respiratory acidosis (pH < 7.20 (H⁺ > 63nmols/L for > 1 hr)

P_{plat} > 30 cm H₂O in absence of high pleural pressure (e.g. abdominal distension)

Murray Lung Injury Score:

Score	0	1	2	3	4
P/F ratio (kPa)	>40	30-40	20-30	10-20	<10
Compliance mls/cmH ₂ O	>80	60-80	40-60	20-40	<20
PEEP (cmH ₂ O)	<5	6-8	9-11	12-14	>15
CXR infiltrates quadrants	none	1	2	3	4

Compliance (mls/cmH₂O) = tidal volume/P_{plat} - PEEP

Total score/4 = **Murray Lung Injury Score**

Pathologic conditions that may require VV ECLS include but are not limited to:

Severe ARDS from any cause

Uncontrolled Air Leak Syndromes

Pulmonary contusion

Inhalation Injuries (gastric contents, near drowning, smoke)

Refractory Status Asthmaticus

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