

## Indications for Veno-Venous Extracorporeal Life Support

This is a rescue therapy for patients with refractory hypoxaemia (or hypercarbia) who have failed to respond to conventional or alternative (e.g. APRV, HFOV, iNO, proning) strategies to achieve lung protective ventilation and/or an oxygenation goal. ***Realistic benefit is only reliably seen with a reversible condition and the physiological reserve to tolerate and meaningfully recover from the major burden of ECLS therapy.***

### Standard Indications for VV ECLS:

1. Hypoxaemia: P/F ratio < 10kPa on FiO<sub>2</sub> 1.0 or Murray score ≥ 3
2. Hypercapnoea: PaCO<sub>2</sub> > 11kPa or pH < 7.20 (H<sup>+</sup> > 63nmols/L)
3. Compliance: < 20 mls/cmH<sub>2</sub>O or P<sub>plat</sub> > 30 cm H<sub>2</sub>O
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 FiO<sub>2</sub> 1.0)

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

**P<sub>plat</sub> > 30 cm H<sub>2</sub>O** 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 <sub>2</sub> O	>80	60-80	40-60	20-40	<20
PEEP (cmH <sub>2</sub> O)	<5	6-8	9-11	12-14	>15
CXR infiltrates quadrants	none	1	2	3	4

Compliance = Vt(mls) ÷ (P<sub>plat</sub>-PEEP)

### **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

<b>Title:</b> Indications for Veno-venous ECLS	
<b>ID</b>	<b>Author:</b> G Price
<b>Category:</b> ECLS	<b>Version:</b> 1.9
<b>Status Draft/Final:</b> Final	<b>Review Date:</b> July 2019
<b>Authoriser;</b> e.g. ECLS Group	<b>Date Authorisation:</b> July 17