

Contraindications to ECLS therapy

As ECLS can cause life-threatening events, patient selection is an important factor in minimising these. Bleeding complications remain the commonest cause of morbidity in ECLS patients.

Absolute contraindications to all forms of ECLS

1. Inadequate vascular access
2. Progressive and non-recoverable heart disease (and not suitable for transplant)
3. Progressive and non-recoverable respiratory disease (irrespective of transplant status) unless accepted for transfer to a lung transplant centre **prior** to starting ECLS in Edinburgh
4. Advanced malignancy (irrespective of potential curative status)
5. Graft versus host disease
6. Frailty due to an underlying progressive chronic disease
7. History of variceal disease, liver cirrhosis or other bleeding diathesis
8. Previously documented poor functional status eg not independent of ADLs
9. Refusal of blood products

Specific absolute contraindications to veno-venous ECLS

1. Severe (medically unsupportable) heart failure
2. Severe chronic pulmonary hypertension and right ventricular failure (mPAP \geq 50mmHg)
3. Cardiac arrest (ongoing)
4. Severe immunosuppression (transplant recipients >30 days, advanced HIV, recent diagnosis of haematological malignancy, bone marrow transplant recipients). The outcomes for these patients have been uniformly poor
5. Pulmonary Fibrosis exacerbation.

Specific absolute contraindications to Veno-Arterial ECLS

1. Severe aortic regurgitation (e.g Pressure Half time <250ms)
2. Aortic dissection.

Relative contraindications to all forms of ECLS

1. Age >70
2. Inability to receive anticoagulation
3. Duration of conventional mechanical ventilation >7 days, with high inspiratory pressures (Pplat >30cmH₂O), high FiO₂ (FiO₂ >0.8) or evidence of significant ventilator induced lung injury
4. Trauma with multiple bleeding sites
5. CPR duration >60 min
6. Severe multiple organ failure
7. CNS injury
8. BMI <18 or >40

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