



Advice on ECMO support for COVID-19

University Hospitals of Leicester ECMO Service

Currently the need for ECMO support in COVID-19 infection appears to be rare with most patients who need ICU admission responding to conventional therapy. ECMO has been utilised across the globe for management of severe respiratory failure secondary to COVID-19 with some documented survivors. The latest recommendation provided by the Extracorporeal Life Support Organisation (ELSO) supports the use of ECMO for select patients only and should be provided only in specialist centres. The following document is intended as guidance as to whom to refer to Leicester in the hope that a time of heightened demand we offer support to those patients at greatest benefit whilst minimising the burden of inappropriate referrals. **This is an emerging situation and these guidelines may change as and when global information on use of ECMO in COVID-19 becomes available.**

We recommend that testing for COVID-19 in intubated patients involves paired nasal swabs and a non-directed tracheal lavage; there are reports of false negative results from patients tested with nasal swabs alone, especially in the ICU population.

Discussion with an ECMO centre would be indicated for patients with $\text{PaO}_2 \leq 8$ KPa, requiring PIP of >30 cm H_2O and $\text{FiO}_2 > 80\%$. In addition there may be a group of patients with elevated PaCO_2 and pH of ≤ 7.2 .

In the context of COVID-19 Infection ECMO will only be offered to those who have exhausted full conventional management, including prone positioning.

ECMO criteria

Relative contra-indications

Age > 65 years
Prolonged ventilation >5 days
Significant multi-organ involvement
Acute myocardial dysfunction
Significant pre-existing cardiovascular co-morbidities

Absolute contra-indications

Age > 70 or Frailty score >3
Confirmed moderate to severe COPD
Immunosuppressive illness
Immunosuppressive therapy (especially monoclonal antibody therapy or multiple immune modulating drugs)
Co-morbidities that impair activities of normal daily living

To discuss a patient for possible ECMO/Severe Acute Respiratory Failure support call 0300 300 3200