

QUEENSLAND ADULT ECMO RETRIEVAL SERVICE (QAERS)

INFORMATION FOR PATIENT'S FAMILIES

What is ECMO?

Extra Corporeal Membrane Oxygenation or ECMO uses a heart-lung bypass machine, similar to those used in open-heart surgery, to provide support for patients whose hearts and or lungs are failing despite all other treatments. The ECMO equipment functions as a heart (pump) and lung (providing oxygen) providing support and allowing time for the failing organs to rest and heal.

The doctors caring for your relative will only recommend ECMO if the chances of survival with ECMO are higher than if ECMO is not used.

Types of ECMO

There are 2 types of ECMO support:

Veno-Arterial (VA) ECMO – provides support for the heart as well as the lungs. Lines are inserted into a large vein and artery

Veno-Venous (VV) ECMO – provides support for the lungs only. Lines are inserted into 2 separate large veins

ECMO LINES



One line takes the blood out of the body and into a blood pump, it is then pumped through a membrane oxygenator (artificial lung)

where oxygen is added, and carbon-dioxide is removed prior to the blood being returned to the patient via the second line.

Why is ECMO not available in all hospitals?

The numbers of patients who need ECMO are small. It requires specially trained staff and equipment which are only available in a limited number of hospitals.

What are the risks of ECMO and ECMO Retrieval?

ECMO is only used for very ill patients who are likely to die without ECMO support. The medical staff will discuss these risks with you. The risks related to ECMO include:

- Bleeding
- Blood clots
- Stroke
- ECMO machine complications
- Deterioration during transport to the ECMO hospital

Despite treatment with ECMO there is still a risk of death but if your loved one requires ECMO the risk of dying is usually higher without it.

What is the ECMO Retrieval Service?

The ECMO retrieval service is a team of doctors and nurses who are specially trained and have the skills to place the lines, commence ECMO and transfer the patient to an ICU that can look after a patient who needs ECMO support. There are currently 3 teams in Queensland who travel to hospitals that are unable to offer ECMO support. These teams are based in the intensive care units (ICUs) of the Gold Coast University Hospital, The Prince Charles Hospital and the Princess Alexandra Hospital. Usually the team who retrieves your relative will transport them back to their own ICU unless there is a requirement for a specialist service that their hospital does not have – e.g. obstetric service for pregnant women

The ECMO Retrieval Team

The ECMO retrieval team will be made up of some or all of the following staff:

ECMO Nurse: a specially trained intensive care nurse who provides assistance during the insertion of the lines, bedside management of the patient and ongoing monitoring of the ECMO system.

ECMO Consultant: an intensive care specialist who is responsible for the medical management and safe running of the ECMO along with the perfusionist. They may also be involved in the insertion of the ECMO lines

Cardiac Surgeon: are usually involved in the insertion of the ECMO lines and will also provide advice and support in cases where the patient's heart is the main reason that ECMO is being considered

Perfusionists: specially trained to oversee the day-to-day running and maintenance of the ECMO system.

What happens once the retrieval team arrives?

The retrieval team will get a handover from the medical staff caring for your relative. They will then assess the patient, possibly ask for some further tests to be done, make adjustments to the current treatment and a decision will be made to either proceed to ECMO or not. Consent for the procedure may have been requested prior to the team's arrival or the retrieval team will discuss this with you once they have done their assessments. Once the decision is made to proceed to ECMO the lines will be inserted by the specially trained ICU consultant or surgeon. Once ECMO has been commenced the team will take time to do some further assessment and adjustment of medications, prior to transferring your relative to the appropriate hospital. You will need to travel to the ECMO hospital separately as there will not be room in the transport because the available space will be needed for the ECMO retrieval team who will care for your relative on the way.

How long will ECMO be needed?

This will depend on; the type of lung or heart disease, the amount of damage incurred before ECMO and if there are other complications. ECMO support continues until the lungs/heart recover or until treatment is not effective. This could take a days or weeks.

ECMO Retrieval Hospital Details

Gold Coast University Hospital

Intensive Care Unit
Level 4
Block D
1 Hospital Boulevard
SOUTHPORT 4215
Ph: 1300 744 284

The Prince Charles Hospital

Intensive Care Unit
Building 10
Level 2
Rode Road
CHERMSIDE 4032
Ph: 07 3139 4000

Princess Alexandra Hospital

Intensive Care Unit
Building 1
Level 3, via Blue Lifts
Ipswich Road
WOOLLOONGABBA 4102
Ph: 07 3176 2111