

Veno-venous (VV) extracorporeal membrane oxygenation (ECMO)

The aim of this leaflet is to help answer some of the questions you may have about your relative requiring ECMO. It explains the benefits, risks and alternatives to the therapy. If you have any questions or concerns, please do not hesitate to speak to the doctors or nurses caring for your relative.

What is ECMO?

ECMO is a temporary life support system used for people whose lungs have stopped working properly. The lungs can stop working as a result of a number of things, including very severe infections that damage the lungs and result in acute respiratory distress syndrome (ARDS).

The ECMO machine temporarily does the work of the lungs, allowing them time to heal. To start ECMO, two cannulas (large tubes) are inserted into two large veins and placed up near the heart. The blood is then pumped from one tube, through an artificial lung where it picks up oxygen and drops off carbon dioxide. This oxygen-rich blood is then passed back into the blood stream through the other tube.

What are the benefits – why should my relative have ECMO?

ECMO may be recommended if your relative is seriously ill with lung failure and has not responded to other methods of breathing assistance, such as ventilators. ECMO will only be used if doctors believe that your relative's lung failure is potentially reversible and that they are likely to die without it. A recent trial of ECMO published in the Lancet (the CESAR trial) demonstrated that 57 out of 90 (63%) patients with severe ARDS survived if they were treated with ECMO.

What are the risks?

In order to begin ECMO, very large tubes need to be placed near the heart, and the blood needs to be thinned to stop it from clotting. Some of the risks associated with this are bleeding (including bleeding into the brain), clotting in large blood vessels, infection, stroke, brain damage, and damage to the blood vessels. Anyone who is sick enough to need ECMO is at a greater risk of dying.

Are there any alternatives?

There are no alternatives to ECMO. By the time your relative needs ECMO, all alternative forms of breathing support have been tried and have not worked.

What happens during ECMO?

Two or three large tubes are inserted into your relative, usually in the groin or the neck. The blood is then taken out of their body, passed through an artificial lung and then returned to their body. Blood thinning medicines are given to prevent the blood from clotting in the tubing.

ECMO is a continuous process. The average time patients spend on ECMO is two weeks, but this can be much longer (months).

How do we stop ECMO?

Once your relative's lungs have recovered enough for a normal ventilator to be used alone, the ECMO will be stopped and the tubes removed. Your relative will usually need considerable time in the intensive care unit, and will need to stay in hospital to continue their recovery. This may take weeks, or even months. If there is no hope of your relative making a recovery, the doctors will talk to you about stopping ECMO and allowing a peaceful death.

Will your relative feel any pain?

Your relative will be given powerful pain relief and sedatives while they are on ECMO. Any procedures will be performed with local anaesthetic.

Asking for your consent

Although you are not able to provide consent on behalf of your relative, the intensive care doctors will talk to you about your relative's treatment, and discuss the risks and benefits of ECMO with you. Your relative will be kept unconscious at this stage because they are too sick to be awake.

You should receive the leaflet, **Helping you decide: our consent policy**, which gives you more information. If you do not receive this leaflet, please ask us for one.

Who can I contact for more information?

If you have any questions or concerns about ECMO, please speak with the intensive care consultant looking after your relative.

Contact us

If you have any questions or concerns about anything you have read in this leaflet or the care your relative is receiving, please contact the ECMO nurse in charge.

For anything else, please contact the Intensive Care Team on 020 7188 3038, Monday to Friday, 9am to 5pm.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk
t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language and accessible support services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Get involved and have your say: become a member of the Trust

Members of Guy's and St Thomas' NHS Foundation Trust contribute to the organisation on a voluntary basis. We count on them for feedback, local knowledge and support. Membership is free and it is up to you how much you get involved. To find out more, and to become a member:

t: 0800 731 0319 **e:** members@gstt.nhs.uk **w:** www.guysandstthomas.nhs.uk/membership

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