ECMO

ECMO is a treatment that brings oxygen into the body when the heart and lungs are not working well. ECMO means Extra
corporeal Membrane Oxygenation. This means that oxygen gets into the blood through a machine outside the body. You may also hear the term ECLS as this is a machine provides life support. ECMO is a temporary treatment that allows the body organs to rest and heal.

This treatment may be needed when there is:

- Respiratory failure caused by trauma, pneumonia or other infection
- Heart failure that could occur after a heart attack or surgery, or before the person gets a device implant or heart transplant

About ECMO

ECMO is like a heart and lung bypass machine that is used for open heart surgery, but can be used for days or weeks at a time. Many patients are on ECMO for 5 to 14 days at a time. The ECMO machine has two parts:

- A pump that works like the heart

The heart pump takes blood with little oxygen out of the body through small tubes, called catheters. Tubes may be placed in the neck, chest or top of the leg called the groin.

- An oxygenator that works like an artificial lung

The blood is pumped through the oxygenator where carbon dioxide is removed and oxygen is added into the blood.

More on next page ➔
The blood is warmed to normal body temperature and returned to the body through another small tube. It is a gentle process as blood leaves and returns to the body at your normal heart rate.

**Types of ECMO**

There are two types of ECMO, based on the treatment needed:

- **Veno Arterial ECMO**, also called VA ECMO that may be used if the person needs both heart and lung support.

- **Veno Venous ECMO**, also called VV ECMO that may be used if the person’s heart is working but lung support is needed.

The health care team will talk with you about the type of ECMO needed. Please share any questions you have with the team.

**ECMO Care**

When a patient has ECMO, the family contact person will be updated daily about their loved one’s condition and the plan for treatment.

- Medicines are given for comfort, and to help with rest and sleep. You may hear the term sedation or chemical paralysis. This long term restful state increases the amount of oxygen the body has for healing.

- Medicines are given to thin the blood. This reduces the chance of a blood clot while on ECMO.

- Antibiotics are given to treat or prevent infections.

- A ventilator, also called a vent, is used to push air in and out of the lungs. It works with the ECMO machine.

- The patient may have a tracheostomy. Also called a trach tube, it is a small tube that is placed into the neck to help direct air in and out of the lungs.

- A feeding tube is often used to give nutrition. This is a small tube placed through the nose or mouth and down into the stomach.

- If there are kidney problems, an artificial kidney can be added to the ECMO machine for dialysis. This removes toxins from the body.
There are regular checks of vital signs, such as temperature, heart rate and breathing.

Tests will be used to check the placement of tubes, such as a chest x-ray or a Computerized Tomography (CT) scan. Other tests, such as daily blood tests, are used to see how the patient is responding to treatment.

**When to Stop Using ECMO**

If a person improves with treatment, the health care team will talk with you about when to stop ECMO. When ECMO is stopped, surgery is scheduled to safely remove the tubes from the body. The person often stays on the ventilator, and different medicines may be used to support heart or lung function. The ventilator will be removed when the patient is able to breathe well on his or her own.

ECMO works well most of the time, but sometimes a person does not respond to the treatment. Information will be shared with the family contact person and other medical treatments may be used. Comfort care may also be given to support the patient and family.

Talk with your health care team about any questions or concerns you have about care and treatment using ECMO.

Talk to your doctor or others on your health care team if you have any questions. You may request more written information from the Library for Health Information at (614) 293-3707 or email: health-info@osu.edu.