About Extracorporeal Membrane Oxygenation (ECMO)
Why is ECMO needed?

Sometimes, a person is so sick that their heart and lungs need help. In a healthy person, the heart pumps blood through the lungs, where it picks up oxygen. Then the bloodstream carries that oxygen to the body’s other organs.

When this system is weak, doctors may give medicines to help the heart. Or they may put the sick person on oxygen or a ventilator. But sometimes even these are not enough. ECMO can help in this situation.

Conditions where someone might need ECMO include:

- **Heart failure**, such as from a heart attack or surgery
- **Lung failure**, such as from an injury or infection

Is ECMO a cure?

No. ECMO is life support, like oxygen or a ventilator. It does the work of the heart and lungs so they can rest, but it does not treat a specific problem.

How does ECMO work?

ECMO uses a machine to get oxygen into the blood. The person on ECMO needs their blood pumped through this machine.

To do this, the ECMO team places tubes in some of the largest blood vessels in the body in the neck, chest, or leg. One tube allows blood to flow into the ECMO machine, where it picks up oxygen. Another tube sends the blood back into the body.

Does ECMO hurt?

No. The ECMO tubes are placed while the person is under anesthesia. They will also receive pain medicines and sedatives while on ECMO, to help them relax or even sleep. If they are awake, they may still be comfortable. Some patients are able to take walks around the hospital with their ECMO machine.

If your loved one is on ECMO and seems uncomfortable, please tell us right away. Our nurses and ECMO specialists will watch your loved one closely while they are in the ICU, but you know them best. Our team is available 24-7.
What is ECMO?

ECMO is a form of advanced life support. The letters stand for “extracorporeal membrane oxygenation.”

An ECMO machine is a form of heart-lung machine. It can do the job of the heart and lungs when they are not working well.
**What to expect when someone is on ECMO**

ECMO involves a lot of equipment. It may look strange or even scary at first. You will see tubes, machines, and monitors at the person's bedside, plus the main tubes that are processing blood. You will probably hear beeping, alarms and other sounds. This is normal in the ICU, but please talk to a nurse if you are concerned. Our team can tell you what each item is for and how it helps.

The person who is on ECMO may look puffy if we are giving them extra fluids. Their body cannot get rid of the fluid as quickly as when they are healthy. You may also notice marks, swelling, or other changes that are reactions to the treatment.

Someone on ECMO usually cannot eat or drink. You will probably see a feeding tube, or an IV for liquid nutrition.

**How you can help**

You can sit with the person on ECMO, talk with them and hold their hand or touch them if the nurse says it is OK. (If the risk of giving them an infection is too high, you might not be able to visit or touch them temporarily.)

You can also:
- Play favorite music or sing softly
- Listen to a podcast or audio book
- Watch TV, movies or videos together
- Talk to them, or with them – Even if they cannot answer, hearing your voice can help.
How will we know what is going on?

A person on ECMO is in the ICU (critical care unit) of the hospital. In this area, nurses and other health care team members are constantly with each patient. You can ask questions at any time, by phone or in person. We will also give you daily updates on how your loved one is doing.

The ECMO team will check your family member every morning. This is called “making rounds.” They visit each person and talk about their care. You are welcome to be there, share information and ask questions, if you would like. You will still receive daily updates.

Medicines given during ECMO

A person on ECMO may need:
- Medicines to lower the risk of blood clots
- Blood products, such as a transfusion
- Antibiotics if they get an infection
- Sedatives, to help them rest and sleep – This also helps the body use less oxygen, which is helpful when someone is on ECMO.

How long will ECMO last?

Some people stay on ECMO just a few days. Others need it for several days or weeks. The time depends on your loved one’s condition. Doctors will take them off ECMO when their heart and lungs are well enough to work without it. They may still need other support, such as a ventilator, or they may not.

If ECMO does not help

ECMO does not work for everyone. Some people have bleeding, infections, or other problems. Sometimes, the heart and lungs do not recover completely. The person’s condition may get worse or they may get another illness. In this case, ECMO may be keeping someone alive who would die naturally without it. The doctor will let you know if this happens and your loved one needs to stop ECMO.
Questions


Important contact information

Doctor ________________________________

Nurse or physical assistant ________________________________

Number to call with questions ________________________________

Other contact information ________________________________