Extracorporeal membrane oxygenation (ECMO) is a tool that has been utilized by physicians for decades to provide cardiac and/or respiratory support oxygen to patients whose heart and/or lungs are failing. But physicians at Allegheny General Hospital have successfully taken ECMO to the next level. Through extensive research, training and years of experience, we have advanced the application of ECMO and dramatically improved the survival rates of critically ill patients with cardiogenic shock or profound respiratory failure.

Allegheny General Hospital has become one of the preeminent ECMO facilities in the region and country.

Our patient survival rate is higher than the national average.
Program highlights

• Our survival rate for patients with the virus H1N1 is well above the national average.

• We have dramatically improved survival rates for patients with cardiogenic shock, whereas in the past, almost no patient survived the condition.

• Our ECMO specialists are available to patients 24/7 with a team ready to determine candidacy and receive transport.

• We have a multidisciplinary team from Cardiac Thoracic Surgery, Cardiology, Critical Care and Perfusion to ensure all-encompassing care for every patient.

• All patients on ECMO receive around-the-clock medical attention by a team of specialized ECMO critical care nurses and physicians.

Advanced lifesaving device

How does ECMO work?
ECMO is a device that provides cardiac and/or pulmonary support for days to weeks. Similar to a heart/lung bypass machine used during open heart surgery, ECMO delivers hemodynamic and pulmonary support when advanced medical care has reached their limits. It also gives cardiopulmonary or sole pulmonary support while physicians treat the underlying disease process.

Are there different types of ECMO?
There are two types of ECMO:

Veno-Venous (VV) provides respiratory support by resting damaged lungs while oxygenating and removing carbon dioxide from the venous blood. This reduces further damage to the lungs while they heal.

Veno-Arterial (VA) gives cardiac and respiratory support to patients in cardiogenic shock or complete pulmonary failure. It is utilized as a bridge to recovery or as a bridge to implantable mechanical assist device or a heart transplant.
Which patient conditions could benefit from ECMO?

- Refractory cardiogenic shock to advanced medical treatment
- Acute respiratory distress syndrome (ARDS) that does not respond to or cannot tolerate preferred lung-protective ventilation strategies
- Life-threatening respiratory failure with profound gas exchange abnormalities, including H1N1
- Severe chronic pulmonary diseases with hypoxia or hypercarbic respiratory failure

What happens after a patient is removed from ECMO?

Typically, when a patient’s heart and/or lungs recover, we remove the ECMO cannulas and a surgeon repairs the vessels where the cannulas were inserted. We continue treating the patient with a multidisciplinary approach to ensure a complete recovery and rehabilitation.

Contact

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