

ECMO

Advanced Life Support
for Critical Care



Empowering Lives with
Cutting-Edge Technology
& Compassionate Care



ECMO

AT KIMS-KINGSWAY HOSPITALS.

Extracorporeal Membrane Oxygenation (ECMO) is an advanced life-support therapy for patients that supports heart & lung when they are not sufficient to function on their own. Giving them time to heal & recover.

At KIMS-KINGSWAY Hospitals, we provide ECMO care for newborns, children and adults using cutting-edge technology and a patient-centric approach.

What is ECMO?

ECMO acts as a temporary heart-lung machine, supporting patients whose heart and/or lungs are failing.

A physician places special tubes (cannulas) into blood vessels, allowing the ECMO machine to take over the function of oxygenating blood and removing carbon dioxide. This process helps maintain vital organ function while giving the heart and lungs time to heal.

Our expert team ensures continuous monitoring and personalized care, improving survival chances in critical situations, also in patient with severe heart & / or lung failure ECMO gives time to wait for an organ transplant.



Why is ECMO Needed?

When the heart, lungs or both are unable to function properly despite sufficient mechanical ventilation and medication, ECMO is used to give temporary support to the heart, lungs or both.

When is ECMO Used?

ECMO is used when conventional treatments fail, providing temporary heart and lung support in conditions like:

- **Acute Respiratory Distress Syndrome (ARDS)** – Severe breathing difficulties due to infection or trauma.
- **Poisoning** – Cases where toxic exposure causes heart or lung failure (Pesticides or Drug Reaction).
- **Pulmonary Embolism** – Life-threatening blood clots in the lungs.
- **Severe Lung Infections** – Conditions such as pneumonia or COVID-19 complications.
- **Heart Failure** – Caused by congenital defects, heart attack, or post-surgery complications.
- **Pulmonary Hypertension** – High lung blood pressure.
- **Bridge to Transplant/Assist Devices** – Stabilizing patients awaiting heart or lung transplants.
- **Shock (Cardiogenic/Septic)** - Circulatory failure leading to organ dysfunction.
- **CathLab / E CPR** - Emergency cardiac and respiratory support.
- **Selective Cases** - Trauma, Pregnancy, Oncology.

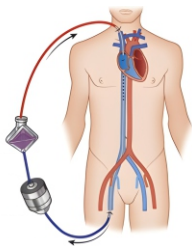
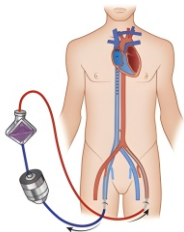
ECMO provides critical support, giving the body time to heal and recover.

Types of ECMO

ECMO is categorized based on the level of support needed:

Veno-Arterial (V-A ECMO) –

Supports both the heart and lungs by taking blood from a vein and returning it to an artery. Used for severe heart and lung failure.

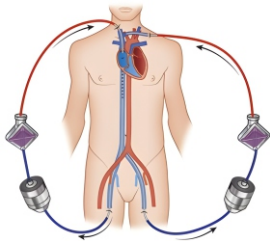


Veno-Venous (V-V ECMO) –

Provides lung support by taking blood from a vein and returning it to a vein. Helps oxygenate blood and remove carbon dioxide.

Specialized Cannulation Variations –

Customized techniques based on patient-specific needs for optimal outcomes.



The choice of ECMO depends on the patient's condition and the organs requiring support.

Patient Journey with ECMO

- **Initial Assessment** : A thorough evaluation by our multidisciplinary team to determine if ECMO therapy is needed, including diagnostic tests and consultations with specialists.
- **ECMO Consultation** : A detailed explanation of the ECMO procedure, risks, and benefits, with clear communication to the patient and family.
- **ECMO Initiation** : The ECMO procedure is carefully performed by our expert team, using advanced technology to support heart and lung functions.
- **Ongoing Monitoring and Care** : Continuous monitoring by our ICU team ensures the patient's safety, with adjustments made to the ECMO settings as needed.
- **Recovery and Rehabilitation** : As the patient stabilizes, ECMO support is gradually reduced, and rehabilitation services help the patient regain strength and mobility.
- **Discharge and Follow-up** : Once stable, the patient is discharged with aftercare instructions, and follow-up appointments ensure continued recovery.



ECMO Team

Our ECMO program is led by a highly skilled, multidisciplinary team dedicated to providing exceptional care:

- **Critical Care Experts:** ICU physicians, nurses, and fellows of critical care available 24/7 to provide intensive care and continuous monitoring for ECMO patients.
- **ECMO Specialists:** Certified ECMO Physicians, Clinical perfusionist, trained nurses and respiratory therapists with expertise in managing ECMO system, ensuring optimal performance and patient safety.
- **Specialist Physicians:** A collaborative team of Cardiologists, Pulmonologists, Nephrologists, CVTS Surgeons, Gastroenterologist, Neurologist, Dietitians and Physical Therapists working together to address all aspects of patient care.
- **Support Staff:** Radiology, Pathology, Blood Bank, Social workers, pharmacists, and chaplains offering holistic support to families, from counseling and emotional care to medication management and spiritual guidance.



OUR COMPREHENSIVE ECMO TEAM

Medications & Procedures During ECMO

Patients on ECMO may receive:

- **Blood Thinners** – To prevent clotting inside the ECMO circuit.
- **Blood Products** – Transfusions needed as per requirement.
- **Antibiotics** – To treat or prevent infections.
- **Sedatives** – To help the patient rest, aiding recovery.
- **Regular Procedures** – May include bronchoscopy to clear lung secretions, catheter placements for fluid drainage, or tracheostomy for better breathing and early mobilization, CRRT.

Each treatment is carefully monitored to ensure the best possible care.

What to Expect on ECMO?

ECMO involves advanced equipment, ECMO Circuit Components and Monitors, which may seem overwhelming. Beeping sounds are normal in the ICU - our team is always here to help.

- **Nutrition Support** – Provided through a feeding tube or IV.
- **Expert Care** – Managed by a skilled ECMO team, including perfusionist, doctors, nurses, and specialists.
- **Emotional Support** – Our team is here for you every step of the way.

You're not alone—we're with you on this journey.

ECMO Facilities

- **Experienced ECMO Specialists:** A team of highly trained doctors and technicians with expertise in ECMO procedures.
- **24/7 Availability:** Round-the-clock ECMO support to ensure immediate intervention when needed.
- **Seamless Integration with Other Medical Services:** Coordination with departments like cardiology, pulmonology, and nephrology for comprehensive patient care.
- **State-of-the-Art Monitoring Systems:** Continuous, real-time monitoring of patients' vital signs and ECMO parameters for optimal care.
- **Post-ECMO Rehabilitation:** Specialized rehabilitation programs to support recovery after ECMO therapy.
- **Family-Friendly Environment:** Private consultation rooms and dedicated staff for family engagement in the patient's care journey.
- **Blood Bank Support:** Immediate access to advanced blood bank services, ensuring critical transfusion needs are met without delay.

These additions can further emphasize the quality and depth of care patients receive at KIMS-Kingsway Hospitals.



Neonatal & Pediatric ECMO

When do we start ECMO?

- In cases of critical heart or lung disease that is unresponsive to conventional treatment.
- Neonatal ECMO has shown a higher global survival rate compared to other age groups.

Indications for Neonatal ECMO

Lung Disease (Usually when Oxygen Index on Ventilator > 40)

- Severe Meconium Aspiration Syndrome
- Severe Persistent Pulmonary Hypertension of the Newborn (PPHN)
- Congenital Diaphragmatic Hernia (CDH)
- Severe Respiratory Distress Syndrome (RDS) (Weight > 2 kg)
- Sepsis

Cardiac Disease

- Congenital Heart Disease • Myocarditis • Refractory Arrhythmia
- Failure to Wean from Cardiopulmonary Bypass (CPB)



Indications for Pediatric ECMO

- Severe Respiratory Failure (Severe Pneumonia, Sepsis, ARDS)
- As a Bridge to Lung Transplant
- Congenital Heart Disease - especially when unable to wean from Cardiopulmonary Bypass (CPB)
- Cardiac Failure, including Myocarditis - allowing the heart to rest and recover
- Cardiogenic Shock, especially when requiring maximum inotropic support

Expert ECMO, Child-Focused Care

- Dedicated Pediatric ECMO Team: Specialists trained specifically in managing neonates and children.
- Advanced NICU & PICU: Round-the-clock intensive care with top-tier monitoring.
- Multidisciplinary Collaboration: Seamless coordination across key specialties.
- Advanced Imaging & Monitoring: Quick, accurate diagnostics to enable timely care.



OUR COMPREHENSIVE PEDIATRIC ECMO TEAM



Dr. Rajan Barokar

MD (Medicine), EDIC, Diploma ECMO (Paris)
Sr. Critical Care Consultant & ECMO Specialist,
Head - Department of Critical Care Medicine
& Chief ECMO Services



Dr. Virendra Belekar

MBBS, MD (Anaesthesiology), IDCC,
Sr. Consultant - Critical Care,
& ECMO Specialist
ELSO Endorsed Certificate Course of ES01



Dr. Rashmi Agrawal

MD, FNB, EDIC,
Consultant Critical Care,
& ECMO Specialist
ELSO Endorsed Certificate Course of ES01



Dr. Harshwardn Bora

MD EDEC,
Consultant Internal Medicine
& Critical Care,
Critical Care Echocardiography
Specialist



Dr. Manish Sonkusale

MBBS, MD, DM (Cardiac Anesthesia),
PDCC, FTEE
Sr. Consultant - Cardiac Anesthesia,
ELSO Endorsed Certificate Course of ES01



Dr. Kuldeep Sukhadeve

MBBS, MD Pediatrics,
Director - Department of
Neonatal, Pediatric
Medicine & Surgery,
ECMO Specialist
ELSO Endorsed Certificate Course of ESOI



Dr. Swapnil Bhisikar

MBBS, MD (Pediatrics), PGIMER Chandigarh,
DM (Neonatology), Mumbai & IBCLC
Neonatologist & Lactation Consultant,
ECMO Specialist
ELSO Endorsed Certificate Course of ESOI



Dr. Vijaya Lanje

Clinical Perfusionist &
ECMO Co-Ordinator,
Certificate Course in Perfusionists
ECMO Technology,
ELSO Endorsed Certificate Course of ESOI



Mr. Ajin Thomas Brother

ECMO Nursing,
Indian Diploma in Critical Care Nursing,
ELSO Endorsed Certificate Course of ESOI

Cost & Insurance Awareness

ECMO is an advanced life-saving respiratory and cardiovascular support modality. While its availability has expanded across modern ICUs, the cost of ECMO care remains high due to the complexity and critical resources involved.

To avoid financial stress during medical emergencies, we strongly recommend being prepared in advance by opting for a comprehensive health insurance policy with a sum insured of ₹25 lakhs to ₹1 crore - especially if you wish to avail cutting-edge treatments at top centres like KIMS-Kingsway.

At KIMS-Kingsway Hospitals, we are committed to making ECMO therapy accessible to all. That's why we have partnered with leading insurance providers and offer full support throughout your financial journey:

- **Securing Proper Insurance Coverage** – We encourage patients and families to plan ahead by choosing robust insurance policies that can cover high-end critical care like ECMO.
- **Maximizing Coverage** – Our experts work to ensure maximum insurance coverage for ECMO treatment, reducing your out-of-pocket expenses.
- **Policy Clarity** – We guide you through the fine print of your insurance plan, addressing queries related to terms, conditions, and benefits.
- **Insurance Claim Assistance** – We help you navigate the claims process, verify eligibility, and complete required documentation.

Our dedicated ECMO team is always available to support and guide you—because at KIMS-Kingsway, we believe everyone deserves world-class care, without financial worry.



**REAL STORIES.
REAL STRENGTH.
REAL RECOVERIES.**





- 80+ bedded critical care facility Largest in central India
- Critical care unit based on JCI & NABH norms
- Advanced mechanical ventilation and lung monitoring tools
- Transplant program with transplant ICU
- Team of reputed qualified critical care physicians
- State of the art 'ARDS' management centre
- First dedicated ECMO (extracorporeal life support) centre
- Dedicated poison detection and treatment centre
- First continuous renal replacement therapy unit of central India

Connect with Us for ECMO Support & Guidance

Dr. Vijaya Lanje

Clinical Perfusionist & ECMO Co-Ordinator
+91 86009 58076

OUR KIMS HOSPITALS NETWORK:

Telangana:

- KIMS Hospitals, Secunderabad • KIMS Hospitals, Kondapur
- KIMS-SUNSHINE, Begumpet • KIMS-SUNSHINE, Gachibowli

Andhra Pradesh:

- KIMS Hospitals, Nellore • KIMS-ICON, Vizag • KIMS Hospitals, Seethammadhara, Vizag
- KIMS Hospitals, Rajahmundry • KIMS Hospitals, Ongole • KIMS Hospitals, Srikakulam
- KIMS-Saveera, Anantapur • KIMS Hospitals, Kurnool • KIMS-SIKHARA Hospitals, Guntur

Maharashtra:

- KIMS-KINGSWAY Hospitals, Nagpur • KIMS Manavata Hospital, Nashik
- KIMS Hospitals, Thane • KIMS - UAIMS Hospital, Sangli

Kerala:

- KIMS-SREECHAND Hospitals, Kannur • KIMS-VALIYATH Hospitals, Kollam

UPCOMING KIMS HOSPITALS:

Karnataka

- KIMS Hospitals, Mahadevpura, Bangalore • KIMS Hospitals, Electronic City, Bangalore

KIMS-Kingsway Hospitals
44, Parwana Bhawan, Kingsway,
Nagpur - 440 001, Maharashtra, India.

☎ +91-0712 6789100

✉ assistance@kimshospitals.com

Toll-free Number
0712 678 9200

