

HELPFUL TERMS ECMO/ICU

FOR PATIENTS AND FAMILIES

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A

Assist Control (AC) Mode

Volume Control

One of the most common modes of mechanical ventilation for the treatment of lung failure; ventilator delivers a fully supported breath at a specific tidal volume at timed intervals or when the patient triggers or initiates a breath; allows for rest and recovery of the respiratory muscles. This is not the most common mode of ventilation while a person is on ECMO but usually used pre-cannulation.

Arterial Blood Gas (ABG)

Blood Gas, Gases

Blood sample taken from the artery that gives information regarding blood pH, oxygen, and carbon dioxide levels. Typically used to guide any changes regarding a patient's oxygen and carbon dioxide levels.

Arterial Line

Art line, A-line

This is catheter placed in an artery used to measure blood pressure continuously. Also allows for easy sampling of blood gases.

B

Biphasic positive airway pressure (BIPAP) and Continuous positive airway pressure (CPAP)

Non-invasive positive pressure ventilation (NiPPV)

Modes of ventilation that assists breathing by applying positive pressure to the airways via a mask over the nose and mouth or just the nose.

Bolus

A one time administration of a medication or IV fluids in a shorter period of time to achieve a desired outcome faster.

C

Capping Trial

Weaning Trial

For a person with a tracheostomy or trach (hole in the neck): once their lung function recovers and they're able to breathe on their own, the size of the trach is first downsized, and if this is well tolerated, a capping trial covers the hole in the neck for 24 hours. If the person is able to breathe well on their own despite capping, the trach can be removed.

Central Venous Catheter (CVC)

Central Line

Catheter placed in a large vein allowing for safer access of medications, lab draws, and pressure monitoring.

Chest Tube

A tube placed in the space surrounding the lungs to drain blood, fluid, or air from that space.

Comfort Care

Care plan focused on pain and anxiety control with the simultaneous discontinuation of aggressive treatments and interventions.

D

Deep Vein Thrombosis (DVT)

Blood Clot

Condition in which blood clots form in the deep veins of the body, typically in the legs. Usually brought on during longer periods of immobility. typically prevented with heparin injections. The danger of DVTs is the clot may mobilize and move into the lungs, a severe condition known as a pulmonary embolism.

Diuretics

Medications given to stimulate the kidneys to produce more urine thus decreasing excess fluid in the body and may reduce swelling.

Do Not Intubate (DNI)

Medical order that directs a healthcare professional to NOT insert a tube into a patient's airway with the purpose of providing support with a mechanical ventilator. It does not mean the patient may not benefit from or choose non-invasive forms of oxygen therapy like BIPAP.

Do Not Resuscitate (DNR)

Medical order that instructs healthcare professionals to NOT perform CPR or deliver electricity to restart the heart when a patient's heart stops or a patient stops breathing. This is NOT a "do not treat" order and it does not include instructions related to oxygen therapy, antibiotics, pain medication, nutrition, etc.

ECMO Cannula

Getting Cannulated, Cannulation

A tube that is inserted into a person's large blood vessel or vessels that will connect to the ECMO circuit to either remove or return blood.

Endotracheal Intubation (ETT)

ET Tube, Breathing Tube

Tube that sits in the throat that allows connection to the mechanical ventilator. This tube needs to be secured on the face and neck with tape and the exact position is important for access to the lungs.

Extracorporeal Life Support Organization (ELSO)

"Extracorporeal Life Support Organization" international nonprofit organization that provides guidelines, research, publications, and mass registry to healthcare providers taking care of ECMO patients.

Extracorporeal Membrane Oxygenation (ECMO)

ECLS

Advanced form of life support when the lungs and/or heart do not work; blood is pumped outside of the body through an artificial lung that removes carbon dioxide and delivers oxygen. The blood is returned back to the tissues in the body. ECMO can support the heart AND lungs or support the lungs only.

F

Flow Rate

Flows, ECMO Flow

In ECMO terms, the flow rate is how fast the blood is moving through the circuit in liters per minute.

H

Heparin

A blood thinner commonly used to prevent blood clots from forming in the ECMO circuit. Also used to treat or prevent blood clots in the body in some patients that are not on ECMO support.

High Flow Nasal Cannula (HFNC)

A device to deliver supplemental oxygen, thicker than a standard nasal cannula but it is still applied to the nose. There is air being blown into the nostrils which allows for much higher oxygen supplementation, up to 100% oxygen.

N

Nasal Cannula

NC

Thin tubing and prongs applied to the nose to deliver supplemental oxygen. The simplest and easiest mode of delivery available in the hospital.

O

Occupational Therapy (OT)

A team trained to focus on helping patients regain independence through addressing physical, sensory, or cognitive barriers. Examples include eating without help from others, bathing and dressing, and leisure activities.

Oxygen Saturation

SAT, SPO2

Noninvasive way of measuring blood oxygen levels. The unit of measurement is percent saturation of hemoglobin in the blood.

Oxygenator

The device that functions as artificial lungs for the ECMO circuit. It oxygenates the blood and removes carbon dioxide.

P

Palliative Care

Specialized team focused on providing relief of symptoms and stress from illness; appropriate at any age and at any stage of illness; goal is aimed at quality of life.

PEG Tube

Feeding Tube

A flexible feeding tube placed into a patient's stomach through the abdominal wall allowing nutrition, fluids, and/or medications to be placed directly into the stomach. Typically done further into medical treatment when supplemental feeding is indicated on a longer term basis.

Peripherally Inserted Central Catheter (PICC)

A thin long catheter that is placed peripherally in a small vein in the arm then passed along until the tip lies near the heart. These are placed when central access will be required on a more long term basis.

Physical Therapy (PT)

A team trained to develop and carry-out exercise treatments for patients who have trouble with movement, flexibility, balance, or strength.

Positive end expiratory pressure (PEEP)

Setting on the ventilator; the positive pressure maintained at the end of expiration.

Post Intensive Care Syndrome (PICS)

ICU Delirium, ICU Syndrome

A severe state of confusion common in ICU patients which can include losing a sense of time, place, and reality. It is brought on by a combination of disturbances and stressors on the body and mind of a critically ill patient including medications, lack of sleep, illness, and the disorienting environment of an ICU.

Pressure Control (PC)

A mode of ventilation where pressure is controlled instead of inhaled volumes. Commonly used for patients while on ECMO support.

Pressure Support (PS)

Pressure Support Trial

A spontaneous mode of ventilation in which each breath is initiated by the patient; used commonly for patients who are stuck on the ventilator for long term or for weaning purposes in preparation for extubation.

Pulmonary Artery Catheters

Swan-Ganz Catheter, Swan

A thin catheter that is placed typically in the neck and fed through the superior vena cava, the right atrium and right ventricle where the tip ends in one of the two pulmonary arteries. This catheter is used to measure the pressures of the heart and can be used to calculate cardiac output, diagnose pulmonary hypertension, and help determine causes of shock.

R

Respiratory Therapist (RT)

A specially trained healthcare team member that manages all the therapies that help with breathing including oxygen delivery, invasive and non-invasive mechanical ventilation, and nebulizer treatments.

Rounds

Interdisciplinary team discussion that involves reviewing clinical data and developing a plan of care for the patient.

S

Sedation

The use of medications to increase general comfort and reduce agitation. There are different degrees of sedation, from very light sedation where the patient is awake and calm, to heavy sedation where the patient is completely asleep. Generally used during medical procedures, mechanical ventilator support, and ECMO support.

Sepsis/Septicemia

The body's extreme reaction to bacteria in the blood.

Speaking Valve

A valve that connects to the trach that allows for the patient to speak.

Speech and Language Therapy (SLT)

SLP

A specially trained team that provides treatment and support for patients with trouble communicating, eating, drinking, and swallowing. Cause can be either physical or psychological.

Sweep

The control of airflow through the ECMO oxygenator that controls carbon dioxide elimination from the blood.

T

Tidal Volume

The amount of air delivered to the lungs with each breath by the mechanical ventilator.

Titrate

To adjust a medication or intervention until desired effects are achieved.

Total Enteral Nutrition (TEN)

Tube Feed

Nutrition given directly into the stomach or small intestine.

Total Parenteral Nutrition (TPN)

Total nutrition given through an IV.

Trach Collar

A respiratory device placed over the tracheostomy that provides humidified oxygen.

Tracheostomy

Trach

A tube that is inserted through an incision in the windpipe to more easily and safely deliver oxygen to the lungs. Typically done further into medical treatment when long term ventilation is indicated. Endotracheal tube will typically be removed after a trach has been placed.

Tracheotomy

The actual incision made into the windpipe in order to place a tracheostomy tube.

V

Vasoactive Medications

Vasopressors, Pressors, Heart Medication, Blood Pressure Medication

A group of continual IV medicines that raise blood pressure and improve heart function in critically ill patients.

Veno-Arterial ECMO

VA ECMO

Used to support both lung and cardiac function.

Veno-Venous ECMO

VV ECMO

Used to support lung function only.

Ventilator

Vent, Breathing Machine, Life Support Machine

Sometimes called "life support"; A device that allows for the delivery or movement of air and oxygen into the lungs.

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