



# Maintenance of ECMO

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Your patient is on ECMO... Now what?



# Start with the Basics

- How do we know we are adequately supporting the patient?
  - Patient Assessment
  - Labs
  - ABG's

# Patient Assessment

- Is the patient pink/warm/dry?
- Are you seeing the patients saturations and vital signs improve?
  - Wean Ventilator
  - Wean Vasopressors
- Are you experiencing any complications such as bleeding?

# LABS

- Lactic Acid
- LDH and Free Hemoglobin
- Liver and Kidney Enzymes
- H&H, platelets, Coagulation Studies

# Patient ABG's

- Should be taken from the Right Radial A-line for fem-fem VA cannulation.
  - Wean Ventilator to Rest Settings
  - Titrate sweep for desired PaCO<sub>2</sub> (normally 35-45)

## Ventilator

- Low-level pressure control.
  - Peak Pressure < 25
  - Reduce VILI
- Extubate if possible

## Sweep

- Similar to Minute Ventilation
  - ↑ Sweep    ↑ CO<sub>2</sub> Removal
  - ↓ Sweep    ↓ CO<sub>2</sub> Removal

- ABG's Hourly until stable.
- Q4-6 hours and PRN
- ETCO<sub>2</sub> monitoring for trends.



# Circuit ABG's

- Pre-Membrane
  - VBG
  - ScvO<sub>2</sub>
- Post-Membrane
  - Oxygenator ABG
  - Checks for efficiency
- Daily and PRN



# Anticoagulation

- VV
  - No Anticoagulation at my Institution
    - Exception example: Pulmonary Embolism
- VA
  - Monitor for bleeding complications
    - If able, start weight based Heparin gtt.
    - Ptt goal 50-70.

# SIRS

- Patients often have a SIRS response from exposure to the circuit.
- They may look worse before they look better.
  - Watch for Volume shifts
  - The Pump is Pre-load dependent and Afterload sensitive:
    - Blood Products
    - Colloids
    - Crystalloids

# Pump Management

- VA
  - Increasing Flows = Increased CO
  - Wean Vasopressors
  - Wean Ventilator
- VV
  - Increasing Flows = Increased O<sub>2</sub> delivery
  - Wean Ventilator

# Awake ECMO

- Our Goal is to extubate all ECMO patients and ambulate them.



# Questions:

