PediMag™ & CentriMag™

OPS

Pump Settings

Speed: Revolutions per minute (RPM)
Only parameter that can be changed
- 0–5500 RPM

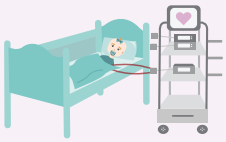
Flow: Liters Per Minute (LPM)
- Pedimag: 0–1.5 LPM
- Centrimag: 0–9.9 LPM

High/Low Flow Alarms: Set within 20% of target flow

Device Assessment

- Look closely at all connection points for thrombus
- Listen to and examine the pump to make sure it's situated correctly on motor
- Document any thrombus formation and follow progression

Types of Defects



Fibrin: white, usually small

Thrombus: dark in color, concerning if:
- Increasing in size >3 mm
- Quick increase in amount of clot
- Becoming darker
- Mobile
- Located near the outflow

Blood Pressure

- This is a continuous flow device, so the patient will have little pulsatility
- Pump is afterload sensitive, must keep blood pressure within parameters

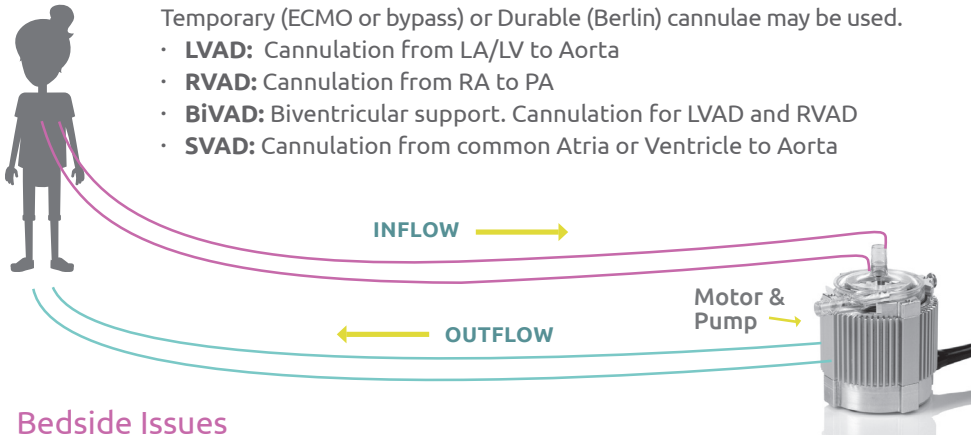
Emergency Care

Motor Failure: Switch to backup console and motor

CPR: Compressions and defibrillation or cardioversion as needed without stopping the pump

Thrombus Necessitating Change: Scan QR code for pump change information

Cannulation Strategies



Temporary (ECMO or bypass) or Durable (Berlin) cannulae may be used.
- **LVAD:** Cannulation from LA/LV to Aorta
- **RVAD:** Cannulation from RA to PA
- **BiVAD:** Biventricular support. Cannulation for LVAD and RVAD
- **SVAD:** Cannulation from common Atria or Ventricle to Aorta

Bedside Issues

Issue	Cause	Treatment
CHATTER/ INTERMITTENT SUCTION	Hypovolemia	Give Fluid
	RPM too High	Adjust Settings
	Intermittent Cannula Obstruction	Evaluate positioning
LOW FLOW	Hypertension	Afterload Reduction/Sedation
	Hypovolemia	Give Fluid
	Cannula Obstruction	Evaluate Positioning
	RPM too low	Adjust Settings

Back Up Equipment

- Console and motor
- Sterile pump and circuit
- Priming kit
- 2 large ECMO clamps per VAD

System Components

Circuit: tubing connecting the cannulae and pump
- PediMag: ¼ inch Tubing
- CentriMag: ⅜ inch Tubing

Pump: Polycarbonate device with a magnetically levitated impeller inside. The pump inflow sits at the top of the pump and connects to the cannula draining blood from the heart. The outflow sits on the side of the pump and connects to the cannula returning blood to the heart.

Motor: The pump is seated inside the motor which spins continuously to move the blood forward.

Console: The console connects to the motor and allows the user to change the motor speed.

Monitor: Connects to the console and displays the settings. Shows the waveforms and allows the user to make settings changes.

Flow Probe: Direct measurement of the blood flow within the circuit.