Ventricular Assist Devices (VADs)

This protocol is intended for LVAD patients with a respiratory or cardiac complaint. Patients with a functioning VAD and a non-cardiopulmonary complaint should be managed be the appropriate **Medical**, **Trauma**, and/or **HAZMAT** protocol. See **Cardiac Preambles** for further guidance on ventricular assist devices.

Flow through many VADs is continuous, not pulsatile.

Patient may not have a palpable pulse or accurate pulse oximetry

Look for the VAD model name on their controller (usually in the patient's pouch or pocket)

Routine Medical Care including $EtCO_2$

Assess oxygenation ventilation

Treat any respiratory complaint(s) per appropriate medical protocol

Clinically assess circulation/perfusion

- e.g. mental status, skin color, capillary refill
- Do not rely on blood pressure readings unless a Doppler BP is able to be obtained[1]

Transport patient to an LVAD facility – preferably their own

Always transport patient's backup equipment bag with fully charged batteries and bring a caregiver when available

Is patient adequately perfused?

Yes

Adequate Perfusion (i.e. patient is stable)

Assess/treat complaint according to appropriate protocol(s)

Obtain 12 lead EKG[2]

Contact patient's VAD Coordinator – especially prior to treating any stable dysrhythmia[3]

No

Assess LVAD

- Is the controller alarming?
- Auscultate chest for humming or whirling sound of the pump

OCHSNER MAIN is Region 1 LVAD Center contact the VAD Coordinator for All Patient Contacts 504-842-3000

Is LVAD functioning?

Yes

Treat hypoperfusion[1] with **Crystalloid fluid bolus** 250ml IV/IO

Monitor $EtCO_2$ (≤20 mmHg is consistent with hypoperfusion)

If patient remains hypoperfused after IVF, start CPR with manual chest compressions and treat as per **Cardiac Arrest**[3] protocol

Okay to pace, cardiovert, or defibrillate the hypoperfused/unstable patient[2]

Contact patient's VAD coordinator

No

Address display warnings on controller

Ensure driveline is firmly attached to controller and controller is connected to a working power source

Press battery charge indicator button to assess charge level

Replace battery or controller if needed

If LVAD does not restart, start CPR with manual chest compressions and treat as per **Cardiac Arrest**[3] protocol

Contact patient's VAD coordinator

Contact **Medical Control** for additional orders or consultation

[1] Although automatic non-invasive BP cuffs are often ineffective in measuring systolic and diastolic pressures, if they do obtain a MAP it is usually accurate. A doppler BP measures the MAP. Avoid futile repeat attempts to obtain a blood pressure, pulse, or SpO_2.

[2] VAD patients still have underlying heart function and rhythms that should be assessed. Do not disconnect the LVAD to pace, cardiovert, or defibrillate. Apply defibrillator pads in the anterior/posterior position.

[3] The decision whether to cardiovert and perform CPR should be made based upon best clinical judgment. Early consultation with the patient's VAD coordinator and/or Medical Control is advised. Patients with a total artificial heart (TAH) will not respond to CPR.