LVAD (LEFT VENTRICULAR ASSIST DEVICE)

Clinical Statement: This procedure applies to the management of all patients who have a LVAD (left ventricular assist device) implanted. A ventricular device is a mechanical pump that is used to support heart function and blood flow in people who have weakened hearts. The device takes blood from the lower chamber of the heart and helps pump it to the body and vital organs just as a healthy heart would.

BASIC EMT

1. Establish patent airway
2. Provide supplemental O2 if necessary
3. Listen to patient's chest.
    - If you hear the whirling sound of the LVAD, DO NOT PERFORM CPR. The LVAD device has been surgically placed into the left ventricle and CPR could dislodge the device.
    - HOWEVER, if you cannot hear the device then CPR should be performed per cardiac arrest protocol and AED applied.
4. Record and monitor vital signs
5. If patient is presenting with chest pain, abdominal pain above the umbilicus, nausea, dizziness, chest tightness, shortness of breath, or any other complaint consistent with cardiac presentation, obtain a 12 Lead and transmit to the closest LVAD capable hospital (**Parkview Regional or Lutheran**) for interpretation.
6. Contact the phone number on their device to contact the LVAD coordinator for assistance.

ADVANCED EMT

1. Establish IV/IO access
    - If evidence of dehydration, bolus 250 ml of Normal Saline with a max of 500 ml of Normal Saline until patient is normotensive (equal to or greater than a MAP of 65). If patient shows signs of pulmonary edema, peripheral edema, or JVD, withhold fluid bolus.

PARAMEDIC

1. Provide cardiac monitoring.
2. Obtain 12 Lead and evaluate
3. Treat all dysrhythmias as per standing orders
4. Transport to nearest LVAD capable hospital (**Parkview Regional or Lutheran**).

LVAD (LEFT VENTRICULAR ASSIST DEVICE) cont.

Clinical PEARLS:

- In majority of these patients, a pulse will not be palpable. This occurs because the LVAD unloads the ventricle in a continuous fashion and therefore the aortic valve may not open with each contraction.
- A manual blood pressure may not be obtainable. Your treatment of the patient will be based on the mean arterial pressure, in which it should present between 60-90. You should be able to obtain a pressure that presents with a narrow pulse pressure by utilizing an automated B/P cuff.
- Pulse oximetry may not be accurate due to the continuous flow nature of the LVAD.
- If the patient is unconscious, unresponsive to stimuli, and pulseless:
  - Listen to the patient's chest
  - If you hear the whirling sound of the LVAD, DO NOT PERFORM CPR. The LVAD device has been surgically placed into the left ventricle and CPR could dislodge the device.
  - HOWEVER, if you cannot hear the device then CPR should be performed per cardiac arrest protocol.
- Record blood glucose if any weakness, altered mental status, or history of diabetes.
- Call the number on the device for the LVAD coordinator. They will be a great resource in assisting you while caring for your LVAD patient.
- LVAD patients always carry a "backup bag" which contains 2 extra fully charged batteries and a second controller. Make sure to always bring this emergency backup equipment with the patient to the hospital.
- Transport these patients to the closest LVAD center (**Parkview Regional or Lutheran**). If possible, also bring the significant other/caretaker who is well versed on this device to assist you during transport, especially if the patient is unconscious or an unreliable resource for information.