San Mateo County Emergency Medical Services

Ventricular Assist Devices

Because there may be no palpable pulse, utilize other parameters for patient assessment (e.g., LOC, skin signs, capillary refill and EtCO₂).

Assess the patient

Assess the device

If the patient’s condition appears to be related to their VAD, and it is safe and reasonable, it is preferred to transport the patient to their Bay Area VAD Center unless the patient has any of the following conditions, which warrant transport to a closer hospital:

- Minor medical or trauma with adequate perfusion
- Stroke patients (e.g., AMS, acute severe headache, seizure, vomiting, hemiparesis, etc.)
- STEMI patients
- Trauma patients
- Cardiac arrest or critical patients with unstable perfusion

Exit to appropriate protocol and transport to any approved receiving facility

Stroke

Chest Pain: STEMI

Trauma

Exit to appropriate protocol

Device information, implant center, and VAD Coordinator contact number may be located on the device itself, on the refrigerator, or medical alert bracelet

If a caregiver is present, yield to their advice.

You are authorized to take orders from professionals at the LVAD Center, as long as they are within your scope of practice.

For continuous flow devices (no palpable pulse), auscultate the left upper quadrant of abdomen or over the heart and listen for the “hum” of the device

Determine if the device has power
  - If the device has power, it does not necessarily mean it is working properly
  - If the device has power, you will see lights or pump giving you information
  - The display will tell you the liters per minute of blood flow

Check the device for secure connections and properly charged batteries

A malfunctioning pump should beep. If the pump is functioning with good flow, CPR is not indicated.

Notify receiving facility. Consider Base Hospital for medical direction

Bay Area VAD Centers
  - Stanford – Palo Alto
  - Lucile Packard – Palo Alto
  - California Pacific Med. Ctr. – SF
  - UC San Francisco – SF
  - UC San Francisco – Mission Bay
  - Kaiser Santa Clara – Santa Clara
Pearls

- Patients may be cardioverted or defibrillated if symptomatic, but asymptomatic dysrhythmias do not require treatment.
- Chest compressions can be performed, but only if you are certain the pump is not working and/or no flow through the VAD.
- Treatment should otherwise follow appropriate treatment guidelines.
- Contact the Base Hospital with questions or if directed by patient’s caregiver or LVAD Center personnel to do something outside of your protocol.
- If possible, the patient’s family member or caregiver should accompany the patient in the ambulance, and all related VAD equipment, including spare batteries, should also be transported with the patient.
- In arrest situations, determine if a POLST/DNR or advanced directive is available. Many VAD patients have made end of life care decisions.