

VENTRICULAR ASSIST DEVICE (VAD)

PURPOSE:

The purpose is to provide knowledge to the pre-hospital care provider, and provide instructions on how to assistance patients with VAD. To identify appropriate receiving hospitals to transport VAD patients in an emergency.

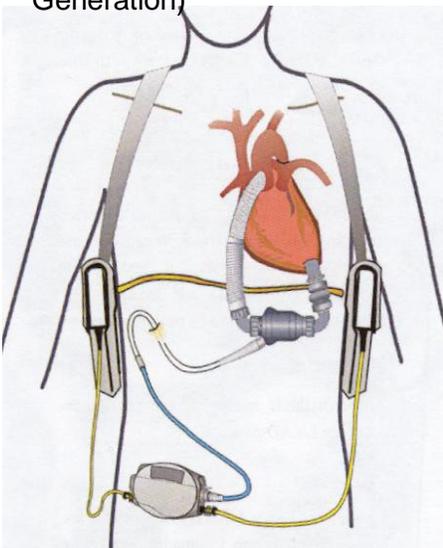
DEFINITION:

A **Ventricular Assist Device**, or **VAD**, is a mechanical device used to substantially support circulation in a patient with significant cardiac ventricular dysfunction. VADs may be placed for short term use of several weeks, such as in patients recovering from myocardial infarction or heart surgery. VADs may also be placed for long term use of months to remainder of life, such as in patients awaiting a heart transplant or suffering particularly severe congestive heart failure. A VAD is not an artificial heart, which completely supports circulation in a patient whose heart has been removed.

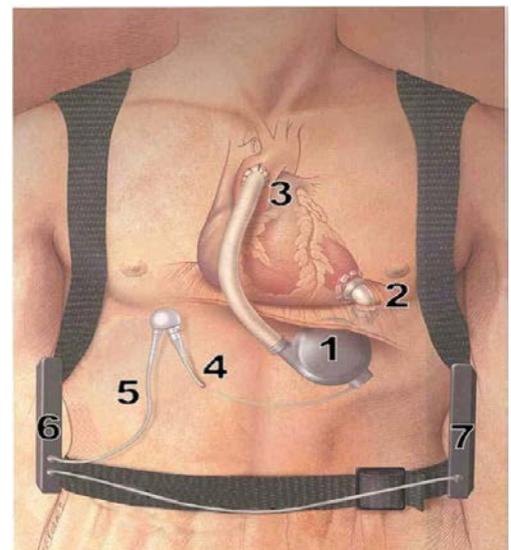
VADs can assist either the right (RVAD) or left (LVAD) ventricle, or both at once (BiVAD). The choice of device depends on underlying heart disease and pulmonary arterial resistance. LVADs are more commonly used, but when pulmonary arterial resistance is high, right ventricular assist becomes necessary.

The Heartmate II (2nd generation VAD) uses a continuous flow pumping action to produce forward circulation. Hospitals in Northern California are installing this device. There are a total of seven commercial devices out and implanted in patients in North America. One of the most interesting one is the Levacor VAD (4th generation VAD) uses magnetic levitation technology to suspend the pump's rotor so that it does not make contact with the pump housing during operation. Second and fourth generation VADs are simpler in mechanism of flow, resulting in smaller VAD size and greater reliability. As with the second generation VAD **a patient utilizing a fourth generation VAD may not have a palpable pulse even though they are alive**. In other words, lack of a pulse does not equal death in these patients.

Heart Mate II (2nd Generation)
Generation)



Levacour VAD (4th)



POLICY:

APPROVED: July 1, 2013

EFFECTIVE: July 1, 2013

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MOST patients have a tag located on the controller around their waist that says what type of device it is, what institution put it in and a number to call. Most importantly is the color of the tag – it matches this EMS Field Guide and allows you to quickly locate the device you are caring for. (See attached guide)

HEARTMATE II

Assess the patient's airway and intervene per your protocol.

Auscultate Heart Sounds to determine if the device is functioning and what type of device it is. If it is continuous flow device, you should hear a "whirling sound".

Assess the device for any alarms.

Look on controller usually found around the waist of the patient and to see what color tag and device it is.

Match the color on the device tag to the EMS Guide.

Intervene appropriately based on the type of alarm, tag (device) and EMS Guide. Contact support number.

Start Large Bore IV.

Assess vital signs

Transport to closest VAD center. Call the number on the device to get advice.

Bring all of the patient's equipment.

Bring the significant other if possible to act as a expert on the device in the absence of consciousness in the patient.

Only attempt CPR if absolutely necessary.

TRANSPORT DECISION:

Transport to closest VAD center. Call the number on the device to get advice. Consider use of EMS Aircraft to transport patient to the support device center that implanted the device, when available and appropriate.

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Northern California Hospitals with a Ventricular Assist Device Program:

UC Davis Medical Center

2315 Stockton Blvd
Sacramento, CA 95817, US
(916) 734-2011

Supported Devices: Heartmate II® LVAD

Sutter Memorial Medical Center

5151 F. Street
Sacramento, CA 95819, US
(916)396-9402

Supported Devices: Heartmate II® LVAD

California Pacific Medical Center

2340 Clay Street, 1st Floor
San Francisco, CA 94115, US
(415) 600-1050

Supported Devices: Heartmate II® LVAD

UCSF Medical Center

1600 Divisadero St.
San Francisco, CA 94115, US
(415)567-6600

Supported Devices: Heartmate II® LVAD