



Ventricular Assist Device (VAD)

E	Supplemental O2 as necessary to maintain SpO2 $\geq$ 94%
	Airway adjuncts as needed
	Check power supply and connections
	Chest compressions ONLY if unresponsive, apneic, SBP < 60mmHG, and VAD is presenting with a Red Heart Alarm
	Collect all VAD equipment (power unit, spare batteries, and black emergency bag)
A	Establish IV access with Normal Saline and titrate to SBP of 70 mmHg not exceeding 1500 ml of fluid if auscultated SBP is < 60 mmHg, pulmonary edema is not present, and patient exhibits symptoms such as dyspnea, hypotension, syncope, and loss of consciousness.
	Cardiac monitoring
	Advanced airway adjuncts as needed
P	CPR for unconscious patient with SBP of < 50mmHG after IV fluid
	Defibrillation and/or cardioversion are indicated for shockable rhythms.



	Contact Base Hospital for medical direction if necessary.	
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E	EMT
A	A-EMT
P	PARAMEDIC

DRAFT

Skills





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CONSIDERATIONS:

- Two (2) most common causes of VAD pump failures are disconnection of power and failure of driveline.
- VAD patients will not have a systolic and diastolic blood pressure in the absence of a pulse. The blood pressure can be palpated or auscultated with a 70-90 mmHg as an acceptable range.
- Automatic blood pressure cuffs are not reliable when used on a VAD patient.
- Chest compressions and blunt thoracoabdominal trauma can disrupt the anastomoses between the left ventricle, VAD, and the ascending aorta.
- The patient or caregiver may be able to interpret any VAD controller unit alarms.
- Do not separate the patient from the caregiver. The caregiver is trained in managing the VAD equipment.
- VAD patients may also have an Implanted Cardioverter-Defibrillator (ICD) or pacing ICD.
- Blood pressure and pulse oximetry may not be measurable.
- Cardiac monitoring heart rate will differ from the pulse rate since the VAD is not synchronized with the native heart. The pulse rate reflects the rate supporting perfusion.

NOTES:

- Patients with mechanical devices in ventricular tachycardia or ventricular fibrillation may still have a perfusing rhythm and be conscious; these patients should **NOT** receive CPR.
- Patients with total artificial hearts (BiVADs) do not respond to CPR and should not receive medication or CPR.
- Transport patient experiencing VAD-related problems to the appropriate receiving facility providing VAD services. Patients who meet critical trauma criteria or have severe burns shall be taken to UC Davis.

REFERENCE FOR ADDITIONAL INFORMATION:

- The International Consortium of Circulatory Assist Clinicians Mechanical Circulatory Support Emergency Guide 2020-2021: ICCFAC Emergency Guides 20 21.pdf
- VAD Program Coordinator will likely be in contact with patient/caregiver by phone and can be used as a resource in determining if the presenting chief complaint is a pump-related problem or a patient-related problem

