

Implantable Ventricular Assist Devices

Aliases

Biventricular assist device (BiVAD)
Right ventricular assist device (RVAD)

Left ventricular assist device (LVAD)
Ventricular assist device (VAD)

Patient Care Goals

1. Rapid identification of, and interventions for, cardiovascular compromise in patients with VADs
2. Rapid identification of, and interventions for, VAD-related malfunctions or complications

Patient Presentation

Inclusion Criteria

1. Adult patients that have had an implantable ventricular assist device (VAD), including a left ventricular assist device (LVAD), right ventricular assist device (RVAD), or biventricular-assist device (BiVAD) and have symptoms of cardiovascular compromise
2. Patients with VADs that are in cardiac arrest
3. Patients with VADs that are experiencing a medical or injury-related event not involving the cardiovascular system or VAD malfunction

Exclusion Criteria

Adult patients who do not have a VAD in place

Patient Management

Assessment

1. Assess for possible pump malfunction
 - a. Assess for alarms
 - b. Auscultate for pump sound “hum”
 - c. Signs of hypoperfusion including pallor, diaphoresis, altered mental status
2. If the VAD pump has malfunctioned:
 - a. Utilize available resources to troubleshoot potential VAD malfunctions and to determine appropriate corrective actions to restore normal VAD function:
 - i. Contact the patient’s VAD-trained companion, if available
 - ii. Contact the patient’s VAD coordinator, using the phone number on the device
 - iii. Check all the connections to system controller
 - iv. Change VAD batteries, and/or change system controller if indicated
 - v. Have patient stop all activity and assess for patient tolerance
 - vi. Follow appropriate cardiovascular condition-specific protocol(s) as indicated

Treatment and Interventions

1. Manage airway as indicated
2. Cardiac monitoring
3. IV access
4. Acquire 12-lead EKG