



Cardiovascular
MECHANICAL CIRCULATORY SUPPORT (MCS) DEVICES
LVAD • RVAD • BiVAD • TAH
Practice Guideline

In patients who are not eligible to receive a heart transplant because of age, other medical conditions, or availability, an MCS device can be implanted to extend survival and improve quality of life.

Patient Care Goals:

1. Thorough assessment of patient focusing on MCS associated problems such as stroke, infection, arrhythmias, bleeding, and hypovolemia
2. Utilization of trained family/caregiver to troubleshoot device alarms or malfunctions
3. Identify pts designated MCS hospital destination

Patient Presentation:
Inclusion Criteria
 Pt with mechanical circulatory support device
 LVAD Left ventricular assist device
 RVAD Right ventricular assist device
 BiVAD Left and Right ventricular assist device
 TAH Total artificial heart

Mechanical Circulatory Support Devices (MCS) are heart pumps that move blood from heart to body. They are temporary or permanent devices that either supplement or replace the action of a failing heart.

Patient Management:
Two major categories:

- Pulsatile (TAH Total Artificial Heart)
- Non Pulsatile (continuous flow devices-most VADs)

Pt mgmt varies greatly between the two categories

Patient Safety Considerations:
 Pts typically on anticoagulation/antiplatelet therapy
 ICD implant common with MCS patients
 Device flow on the controller reflects cardiac output
 All ACLS drugs may be given
 CPR *not* indicated for TAH patients
 CPR VAD pt may pose risk of dislodgement-use clinical judgment, confirming function/positioning of pump
 Bring all of pts equipment, as well as the caregiver/significant other to act as an expert on the device
 Family/caregivers are trained to troubleshoot alarms, change driveline exit dressings and address potential equipment malfunctions.

- Low Flow: hypovolemia, obstruction, tamponade, arrhythmia, cardiogenic shock
- Power: low battery, disconnected power source
- Hi power: thrombus, hypertension

MCS/VAD engineer contact info readily available on back of device for additional alarm guidance

****Transport to pts MCS cardiac facility regardless of diversion status**

