

Top Ten Things To Know Mechanical Circulatory Support

1. About 50,000 patients in the United States die from HF each year.¹
2. Without a heart transplant or mechanical circulatory support (MCS), the life expectancy of HF is less than 2 years.
3. The purpose of this paper is to provide clinicians an understanding of general considerations when determining appropriate use of MCS.
4. Heart transplantation has been a limited choice of treatment due to the limited supply of donor hearts, finite graft survival, and long-term complications of immunosuppressive therapy.
5. Due to the development of smaller, safer, and more durable ventricular-assisted MCS devices, it has become a more practical and effective form of therapy until transplantation--can be performed (bridge-to-transplant) or as an alternative treatment option.
6. MCS can be used as a bridge-to-recovery and provide temporary support until more definitive therapies can be employed in patients where myocardial recovery does not occur.
7. Although MCS is not contraindicated in patients with kidney dysfunction, caution should be used since no agreed upon glomerular filtration rate below which durable MCS has been established.
8. The first step in patient selection is assessment of disease severity, followed by an operative risk assessment to determine if the patient is a candidate for heart transplantation.
9. Infection risks are increased in obese patients and the incidence of organ failure has been observed in extreme obese patients whose body mass index is >35 kg/m².
10. With the introduction of the next generation of durable fully implantable devices, fewer adverse events will have the potential to improve patient outcomes.

Peura JL, et al; on behalf of the American Heart Association Heart Failure and Transplantation Committee of the Council on Clinical Cardiology, Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation, Council on Cardiovascular Disease in the Young, Council on Cardiovascular Nursing, Council on Cardiovascular Radiology and Intervention, and Council on Cardiovascular Surgery and Anesthesia. Recommendations for the use of mechanical circulatory support: device strategies and patient selection: a scientific statement from the American Heart Association. *Circulation*. 2012; published online before print October 29, 2012. 10.1161/CIR.0b013e3182769a54. <http://circ.ahajournals.org/lookup/doi/10.1161/CIR.0b013e3182769a54>

¹ Hunt SA. ACC/AHA 2005 guideline update for the diagnosis and management of chronic heart failure in the adult: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure). *J Am Coll Cardiol*. 2005;46(6):e1-82.