

Leading cardiovascular societies release new guidance on use of heart pumps

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Greater availability of percutaneous mechanical circulatory support (MCS) devices for treatment of heart failure is helping expand treatment options for a rapidly growing number of acutely and chronically ill cardiac patients who could benefit from the devices. An expert consensus statement released today by the Society for Cardiovascular Angiography and Interventions (SCAI), American College of Cardiology (ACC), Heart Failure Society of America (HFSA) and The Society of Thoracic Surgeons (STS) provides new guidance to help physicians match the right device with the right patient. The statement has been endorsed by the American Heart Association (AHA), Cardiological Society of India (CSI) and the Latin American Society of Interventional Cardiology (SOLACI). The Canadian Association of Interventional Cardiology (CAIC) has affirmed the value of the statement.

"Percutaneous [mechanical circulatory support](#) is revolutionizing the treatment of high-risk cardiac [patients](#)," said Charanjit S. Rihal, MD, FSCAI, FACC, chair of the Division of Cardiovascular Diseases at the Mayo Clinic, Rochester, Minn., and lead author of the paper. "In certain patients, these devices can mean the difference between recovery and the need for heart transplant or death, and they may be used to maintain hemodynamic stability during interventional procedures and as a bridge to longer-term treatment. The new consensus statement will help physicians select devices for the patients who are most likely to benefit."

To develop the new recommendations, a panel of experts reviewed scientific data on all of the available devices, including intraaortic balloon pumps (IABP), left atrial to aorta assist devices (TandemHeart), left ventricle to aorta assist devices (Impella), extracorporeal membrane oxygenation (ECMO) as well as methods for right-sided heart support. The expert panel also reviewed indications for percutaneous MCS, including complications of [heart attack](#), high-risk

angioplasty and stenting (also known as [percutaneous coronary intervention](#), or PCI), and advanced heart failure and cardiogenic shock.

Based on the available data and anticipated benefits and risks, the panel determined percutaneous MCS provides superior circulatory support compared to medical therapy, especially when using left ventricular assist devices. Early placement of MCS can benefit patients in cardiogenic shock when initial interventions fail to stabilize the patient. MCS may also benefit high-risk PCI patients and certain patients with acute decompensated [heart failure](#) whose symptoms are worsening despite treatment. MCS may also be used in patients who failed to wean off a heart-lung bypass machine. The evidence does not support routine use of MCS in [heart attack patients](#).

"MCS utilization is clearly increasing, and this document should assist clinicians in recognizing when early support is needed, and what that support should look like," said Srihari S. Naidu, MD, FSCAI, FACC, FAHA, director of the cardiac cath lab at Winthrop University Hospital and vice chair of the consensus document's writing committee.

The expert consensus statement also highlights emerging treatment opportunities, such as for patients undergoing percutaneous valve replacement who have severe, non-operable valve disease, and some patients undergoing electrophysiological procedures. Currently, most percutaneous MCS devices cannot be used in children due to size limitations, but the authors note this is an important area for future development. Registries and randomized controlled trials are also critically needed to compare different devices and treatment strategies across patient populations.

More information: The paper, titled "SCAI/ACC/HFSA/STS Clinical Expert Consensus Statement on the Use of Percutaneous Cardiac Assist Devices in Cardiovascular Care," is co-

published in *Catheterization and Cardiovascular Interventions*, the *Journal of the American College of Cardiology* and the *Journal of Cardiac Failure*. It is available online at www.scai.org, www.acc.org, www.hfsa.org and www.sts.org.

Provided by American College of Cardiology

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