LIVING WITH LVAD
REPORT #2727

BACKGROUND: A ventricular assist device (VAD), also known as a mechanical circulatory support device, is an implantable mechanical pump that helps pump blood from the lower chambers of your heart to the rest of your body. A VAD is used in people who have weakened hearts or heart failure. Although a VAD can be placed in the left, right or both ventricles of your heart, it is most frequently used in the left ventricle. They call this a left ventricular assist device (LVAD). The procedure to implant a VAD often requires open-heart surgery and has serious risks. However, a VAD can be lifesaving if you have severe heart failure.
(Source: https://www.mayoclinic.org/tests-procedures/ventricular-assist-device/about/pac-20384529)

WHY AN LVAD AND RISKS: A VAD can be implanted temporarily while you wait for a donor heart to become available. It keeps the blood pumping despite a diseased heart and will be removed when the new heart is implanted. It may also help improve the function of other organs in your body that may not be working properly and may improve other medical conditions. A VAD may sometimes be implanted if you have heart failure, but you're not eligible for a heart transplant due to age or other medical conditions. This is called "destination therapy." If your heart failure is temporary, it may be recommended to implant a VAD until your heart is healthy enough to pump blood on its own. This is referred to as "bridge to recovery." Risks involved with LVAD implantation are: blood clots slowing or blocking normal blood flow through the heart, which can lead to stroke or heart attack, or cause the VAD to stop working. Having open-heart surgery can increase your risk of bleeding during or after your procedure. Because the power source and control unit for your VAD are located outside your body and are connected through a port in your skin, there's an increased risk of germs getting in the port and causing a serious infection. It's possible that your VAD may stop working properly after it's implanted. The pumping action of the device might not work correctly, making it so not enough blood pumps through your heart. Each of these problems requires immediate medical attention.
(Source: https://www.mayoclinic.org/tests-procedures/ventricular-assist-device/about/pac-20384529)

NEW RESEARCH FOR LVAD'S: A study published in The Journal of Thoracic and Cardiovascular Surgery finds when people with advanced heart failure have residual mitral regurgitation after their mechanical pump is placed, it can negatively affect right heart function, too. This is due to the back pressure from the leaky mitral valve which increases pressure in the veins and leads from the lungs to the heart, resulting in a fluid build-up that imposes more work for the right side of the heart, says lead author Paul Tang, MD, PhD, a cardiac surgeon at Michigan Medicine's Frankel Cardiovascular Center. "There are conflicting studies about whether it's necessary to repair the mitral valve in patients getting an LVAD," Tang says. "We found that if the mitral valve no longer functions well to prevent the backflow of blood, there can be significant health consequences." The results suggested residual, persistent mitral regurgitation after LVAD implantation leads to higher pulmonary vascular resistance and contributes to poor right heart function, persistent pulmonary hypertension and increased readmissions later.
(Source: https://labblog.uofmhealth.org/lab-report/study-cautions-against-catch-all-assumptions-about-lvads)

✉ **For More Information, Contact:**

Susan Hall, Media Manager
susan.hall@BSWHealth.org / (214) 820-1817