

## PRESS INFORMATION

# HEART FAILURE

## VENTRICULAR ASSIST DEVICES AS A TREATMENT OPTION

“Heart failure” means that the heart is no longer capable of pumping enough blood to the body and supplying the organs with sufficient oxygen and nutrients. In most cases, the left ventricle is the one affected (left ventricular heart failure). If both ventricles are affected, it is called biventricular heart failure.

Heart failure is a serious condition - in most cases, it leads to complete failure of the cardiac muscle’s pumping mechanism, and subsequently to failure of additional organs (e.g., kidneys, liver, lungs).

### **What treatment options are available for heart failure?**

It depends on the type and severity of the heart failure. Medication may help in some cases; in others, surgery may be necessary (e.g., to implant a CRT system), or mechanical circulatory support may be required.

### **When can a ventricular assist device help?**

If conservative measures no longer suffice, and the heart is damaged to the point that the patient’s organs can no longer be supplied sufficiently, the heart will need to be supported. Ventricular assist devices take over some or all of the heart’s function, ensuring adequate blood flow and blood pressure.

Ventricular assist devices (VADs) are primarily used with the following diagnoses:

#### Congenital heart defects:

Despite the availability of good treatment options, congenital heart defects such as ventricular septal defects, malformed cardiac valves, etc., increase the risk of conditions such as cardiac dysrhythmia and heart failure.

#### Dilated cardiomyopathy:

A condition of the cardiac muscle in which the heart is significantly enlarged. Because the cardiac muscle is severely stretched, it can no longer contract enough to pump sufficient amounts of blood.

#### Ischemic cardiomyopathy:

Circulatory conditions in the heart (due to coronary artery disease, for example), which result in weakening of the cardiac muscle. The coronary arteries are narrowed or blocked, severely restricting perfusion.

#### Myocarditis:

An inflammation of the heart (usually due to a viral infection) that results in heart failure.



### Post-cardiotomy:

The heart does not resume its normal pumping function after heart surgery (e.g., cardiac valve operation, bypass operation). The patient cannot be weaned from the cardiopulmonary bypass that was necessary for the operation.

### **What therapy options are available with ventricular assist devices?**

VADs are used as a bridge to transplant - that is, in patients waiting for heart transplantation. VADs can also be used as a destination therapy - in other words, permanent therapy for patients for whom heart transplantation is not an option. In some cases, by relieving the strain on the heart, the VAD helps it heal to the point that transplantation is no longer necessary, and the VAD can be removed (bridge to recovery).



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