

Cardiac Transplantation

What is cardiac transplantation?

Cardiac transplantation is a heart transplant. A diseased heart is replaced with a healthy heart from a person (donor) who has recently died.

When is it used?

If you have a heart disease that makes it hard for you to function, or your disease keeps getting worse, your healthcare provider may recommend a heart transplant. The most common of these diseases is heart failure caused by cardiomyopathy, a heart muscle disease. Other possible reasons for surgery are:

- severe heart valve disease
- some types of heart disease present from birth
- some severe heart rhythm problems.

What are the steps in getting a transplant?

Your healthcare provider will refer you to an evaluation team at a hospital where this kind of surgery is done.

Tests may include:

- an interview and physical exam
- blood tests, lung tests, and kidney tests
- psychological testing
- a complete heart evaluation, which may include cardiac catheterization.

Sometimes the evaluation may suggest that another kind of treatment may help, such as a change in medicines or a mechanical device to help your heart work better. If a heart transplant is your best option, your name will be placed on a list of people waiting for a donor heart. People on the list are divided into 2 groups: those who will die if they do not get a new heart soon and those who appear to be able to survive longer. This ensures that a donor heart will go to the person who needs it most. Both regional and national lists are kept.

While waiting for a donor heart, you will learn about the diet you need to follow and medicines you need to take after surgery. You will be given a pager so the transplant center can contact you if a heart becomes available for you.

There are not enough donor hearts for everyone who needs one. A computer matches a donated heart to the person who would benefit the most. The match is based on how compatible the tissues are and on the severity of your illness.

How do I prepare for the procedure?

Always keep a bag packed in case you are called. Follow your healthcare provider's advice about activity and medicines.

What happens during the procedure?

When a matching donor heart is found, you will be notified and told to go quickly to the transplant center. The transplant team will prepare for immediate surgery. The donor heart needs to be transplanted no more than 4 to 6 hours after its removal from the donor.

When everything is ready, you will be given a general anesthetic. The anesthetic will relax your muscles and put you in a deep sleep. It will prevent you from feeling pain during the operation.

Your surgeon will make a cut in your chest and divide your sternum (breastbone). You will be connected to a heart-lung machine that will take over the work of your heart and lungs during the operation. Your failing heart will be removed and the donor heart will be sewn in place. Your new heart will begin beating right away and takes the place of your diseased heart.

What happens after the procedure?

Your body will see the new heart as foreign and will try to reject it. Powerful drugs called immunosuppressants are used to fight rejection. You will have to take these drugs for the rest of your life.

How long you will be in the hospital depends on how your body reacts to the new heart. Most people are home within 30 days of surgery. You can usually expect full recovery within 3 to 6 months. Most people can go back to their normal physical activities.

How is rejection diagnosed?

The most accurate way to see if your body is rejecting the new heart is to examine a small piece of heart muscle under a microscope. This test is called a biopsy. The individual heart muscle cells will show changes in their structure. A

biopsy may be done even when there is no evidence of rejection. A biopsy is usually done soon after a transplant to try to detect rejection very early.

Your healthcare provider takes a sample of the heart muscle with a biptome. You will be given a local anesthetic so that you will not feel any pain during the procedure. A biptome is a thin, flexible tube (catheter) with small cutting jaws at its tip. The tube is inserted through a vein in your neck and then moved through the vein into your heart. The cutting jaws remove a very small piece of muscle from inside the heart. This procedure is quite simple and causes very few problems. Your provider may change the dosage of the drugs you take to suppress your immune system, depending on the biopsy results.

What are the benefits?

Most people are able to live nearly normally after a heart transplant.

What are the risks?

There is risk with every treatment or procedure. Talk to your provider for complete information about how the risks apply to you.

The main risks are rejection of the donor heart and infection. Almost all people who get transplants have some rejection. It usually happens during the first 3 months after surgery. The drugs used to prevent rejection may weaken your ability to fight infections. Infections can quickly become a serious problem. Report all fevers and infections to your healthcare provider right away. In rare cases, a second transplant may be needed.

Other risks are side effects caused by immunosuppressants. The most serious side effects are high blood pressure (hypertension), high cholesterol, kidney damage, small shaking movements of the arms and legs, and a condition similar to diabetes. Most of these side effects can be managed by adjusting drug dosages or by taking other medicines. Your healthcare provider will always check for these problems at your routine office visits.

For unknown reasons, some transplanted hearts rapidly develop hardening of the arteries (atherosclerosis) in the coronary arteries. This leads to narrowing or complete blockage of the coronary arteries. Eventually, this can cause a heart attack.

A number of people who have had heart transplants develop emotional problems for which they may need treatment. The stress of a chronic illness can cause anxiety and frequent mood changes. Some of the medicines you take may also affect your mood.

When should I call my healthcare provider?

Call your healthcare provider right away if you have a fever or infection.

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