

Kidney Transplant Overview

Transplantation is not a cure; it's an ongoing treatment that requires you to take medicines for the rest of your life. And the wait for a donated kidney can be years long.

A successful transplant takes a coordinated effort from your whole health care team, including your nephrologist, transplant surgeon, transplant coordinator, pharmacist, dietitian and social worker. But the most important members of your health care team are you and your family. By learning about your treatment, you can work with your health care team to give yourself the best possible results, and you can lead a full, active life.

When your kidneys fail

Healthy kidneys clean your blood by removing excess fluid, minerals and wastes. They also make hormones that keep your bones strong and your blood healthy. When your kidneys fail, harmful wastes build up in your body, your blood pressure may rise, and your body may retain excess fluid and not make enough red blood cells. When this happens, you need treatment to replace the work of your failed kidneys.

BEFORE:

How transplantation works

Kidney transplantation is a procedure that places a healthy kidney from another person into your body. This one new kidney takes over the work of your two failed kidneys.

A surgeon places the new kidney inside your lower abdomen and connects the artery and vein of the new kidney to your artery and vein. Your blood flows through the new kidney, which makes urine, just like your own kidneys did when they were healthy. Unless they are causing infection or high blood pressure, your own kidneys are left in place.

Your doctor's recommendation

The transplantation process begins when you learn that your kidneys are failing and you must start to consider your treatment options. Whether transplantation is to be among your options will depend on your specific situation. Transplantation isn't for everyone. Your doctor may tell you that you have a condition that would make transplantation dangerous or unlikely to succeed.

Medical evaluation at a Transplant Center

If you are considering transplantation as an option you, your doctor, or dialysis unit can initiate the process. The next step is a thorough medical evaluation at the transplant

hospital. The pre-transplant evaluation may require several visits over the course of several weeks or even months. You'll need to have blood drawn and X-rays taken. You'll be tested for blood type and other matching factors that determine whether your body will accept an available kidney.

The medical team will want to see whether you're healthy enough for surgery. Cancer, a serious infection, or significant cardiovascular disease would make transplantation unlikely to succeed. In addition, the medical team will want to make sure that you can understand and follow the schedule for taking medicines.

If a family member or friend wants to donate a kidney, he or she will need to be evaluated for general health and to see whether the kidney is a good match.

Placement on the waiting list

If the medical evaluation shows that you're a good candidate for a transplant but you don't have a family member or friend who can donate a kidney, you'll be put on the transplant program's waiting list to receive a kidney from a deceased donor (someone who has just died).

Every person waiting for a deceased donor organ is registered with the Organ Procurement and Transplantation Network (OPTN), which maintains a centralized computer network linking all regional organ gathering organizations (known as organ procurement organizations, or OPOs) and transplant centers. The United Network for Organ Sharing (UNOS), a private nonprofit organization, administers OPTN under a contract with the Federal Government.

UNOS rules allow patients to register with multiple transplant centers. Each transplant center will probably require a separate medical evaluation, even if a patient is already registered at another center.

Observers of OPTN operations have raised the concern that people in certain regions of the country have to wait longer than others because allocation policies for some organs give preference to patients within the donor's region. Kidneys, however, are assigned to the best match regardless of geographic region. The Federal Government continues to monitor policies and regulations to ensure that every person waiting for an organ has a fair chance. The key to making waiting times shorter is to increase the number of donated organs.

Waiting period

How long you'll have to wait depends on many things but is primarily determined by the degree of matching between you and the donor. Some people wait several years for a good match, while others get matched within a few months.

While you're on the waiting list, notify the transplant center of changes in your health. Also, let the transplant center know if you move or change telephone numbers. The center will need to find you immediately when a kidney becomes available.

OPOs are responsible for identifying potential organs for transplant and coordinating with the national network. The 69 regional OPOs are all UNOS members. When a

deceased donor kidney becomes available, the OPO notifies UNOS, and a computer-generated list of suitable recipients is created. Suitability is initially based on two factors:

- **Blood type.** Your blood type (A, B, AB, or O) must be compatible with the donor's blood type.
- **HLA factors.** HLA stands for human leukocyte antigen, a genetic marker located on the surface of your white blood cells. You inherit a set of three antigens from your mother and three from your father. A higher number of matching antigens increases the chance that your kidney will last for a long time.

If you're selected on the basis of the first two factors, a third is evaluated:

- **Antibodies.** Your immune system may produce antibodies that act specifically against something in the donor's tissues. To see whether this is the case, a small sample of your blood will be mixed with a small sample of the donor's blood in a tube. If no reaction occurs, you should be able to accept the kidney. Your transplant team might use the term negative cross-match to describe this lack of reaction.

DURING: **Transplant operation**

If you have a living donor, you'll schedule the operation in advance. You and your donor will be operated on at the same time, usually in side-by-side rooms. One team of surgeons will perform the nephrectomy – that is, the removal of the kidney from the donor – while another prepares the recipient for placement of the donated kidney.

If you're on a waiting list for a deceased donor kidney you will have tubes of blood drawn at least monthly to be sent to the tissue typing lab. These blood samples will be used for the antibody cross-match test. If you have a negative cross-match, it means that your antibodies don't react and the transplantation can proceed.

You'll be given a general anesthetic to make you sleep during the operation, which usually takes 3 or 4 hours. The surgeon will make a small cut in your lower abdomen. The artery and vein from the new kidney will be attached to your artery and vein. The ureter from the new kidney will be connected to your bladder.

Often, the new kidney will start making urine as soon as your blood starts flowing through it, but sometimes a few weeks pass before it starts working.

AFTER: **Recovery from surgery**

As after any major surgery, you'll probably feel sore and groggy when you wake up. However, many transplant recipients report feeling much better immediately after

surgery. Even if you wake up feeling great, you'll need to stay in the hospital for about a week to recover from surgery, and longer if you have any complications.

Post-transplant care

Your body's immune system is designed to keep you healthy by sensing "foreign invaders," such as bacteria, and rejecting them. But your immune system will also sense that your new kidney is foreign. To keep your body from rejecting it, you'll have to take drugs that turn off, or suppress, your immune response. You may have to take two or more of these immunosuppressant medicines, as well as medications to treat other health problems. Your health care team will help you learn what each pill is for and when to take it. Be sure that you understand the instructions for taking your medicines before you leave the hospital.

If you've been on hemodialysis, you'll find that your post-transplant diet is much less restrictive. You can drink more fluids and eat many of the fruits and vegetables you were previously told to avoid. You may even need to gain a little weight, but be careful not to gain weight too quickly and avoid salty foods that can lead to high blood pressure.

Rejection

You can help prevent rejection by taking your medicines and following your diet, but watching for signs of rejection – like fever or soreness in the area of the new kidney or a change in the amount of urine you make – is important. Report any such changes to your health care team.

Even if you do everything you're supposed to do, your body may still reject the new kidney and you may need to go back on dialysis. Unless your health care team determines that you're no longer a good candidate for transplantation, you can go back on the waiting list for another kidney.

Side effects of immunosuppressants

Immunosuppressants work by diminishing the ability of immune cells to function and weaken your immune system, which can lead to infections. In some patients, over long periods of time, this diminished immunity can increase the risk of developing cancer. Other possible side effects include cataracts, diabetes, extra stomach acid, high blood pressure and bone disease. When used over time, these drugs may also cause liver or kidney damage in a few patients.

Some medications may also change your appearance. Your face may get fuller; you may gain weight or develop acne or facial hair. Not all patients have these problems, though, and diet and makeup can help.

Sources:

http://www.ast.org/researcheducation/patientguide/Kidney_Transplantation_Patient_Guide.aspx
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