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Deceased Donor Kidney Selection and “Expanded” Criteria Donor Kidneys

How Good is a Deceased Donor Kidney?



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Deceased Donor Kidney Selection and “Expanded” Criteria Donor Kidneys *How Good is a Deceased Donor Kidney?*

Deceased donor kidneys are recovered by organ procurement organizations (OPOs). They have a full-time medical staff that screens all potential donors and receives the family’s permission for the donation. The kidneys are removed by trained surgeons and are then offered to patients at transplant centers, based mostly on the tissue match and waiting times of the patients. Transplant centers do not accept kidneys from some deceased donors if the doctors have doubts about the quality of the kidney.

How “good” is a donated kidney? All kidneys from deceased donors are not the same. Most deceased donors—of any kind—have less than perfect kidneys. There are no “brand new kidneys.” All kidneys are “used” and many deceased donors have had medical problems that may have affected their kidney function. Details that can affect the quality of kidneys from deceased donors include:

- The donor’s age
- Cause of death
- Any event that happened at the time of the donor’s death or when the kidney was removed, such as low blood pressure or clotting in the blood
- Long-term medical problems in the donor that might have damaged the kidney
- How long the kidney has been kept out of the body after it has been removed from the deceased donor. In general, the longer a kidney is out of the body, the greater the risk that it will not function well, particularly when this time is greater than 18 hours. This happens more often when a kidney is sent from one region of the country to another.

There is always some uncertainty in choosing a deceased donor kidney for transplant in today’s world. It may be hard to be sure of the quality of many deceased donor kidneys. The doctors cannot always predict how well a kidney will work after it is transplanted. Some kidneys that should work well may not. Some that are not used for a transplant might have worked well.

Yet all kidneys where there is some question about the quality cannot simply be thrown away. Many working kidneys would be lost. Patients would spend years longer on the deceased donor kidney waiting list. Patients would spend more time on dialysis. Many patients might not be offered a better kidney when their turn comes up again. But most often transplant centers can make good decisions whether to accept kidneys. As one might expect, transplant centers will disagree in some cases whether a given kidney should be used. Even today, some centers accept kidneys that other centers would not transplant. Currently, 9 out of 10 deceased donor kidneys will function for more than

one year, and about half of them—10 out of 20—will still be functioning 10 years after the transplant.

Whether a kidney is from a deceased or a living donor, many of the same factors have an impact on how well and how long the kidney will work. These factors have to do with the donor, the time right after surgery, the matching between the donor and recipient, and how well the anti-rejection medicines work.

- **The donor.** It is easier to be sure about kidney function when there is a living donor. There is much more time to test the kidney and plan the surgery. Sometimes even living donor kidneys do not function well in the short- or long-term. But the risks are greater with deceased donor kidneys.
- **The postoperative period.** Any problems that occur during or right after surgery may affect the new transplant. Also, rejection can occur at any time after a kidney is transplanted, even right after surgery. But the first month or two may be a more critical time for the health of the kidney. The kinds of transplant medications given to the patient during this time are very important.
- **Long term.** The degree of tissue match also has an influence on long-term transplant success. This is particularly true when there is a perfect match between the donor and recipient. Of course, the anti-rejection medicines that a transplant patient must take are crucial to how well the kidney will work. Although these medicines are very effective in preventing rejection, they do not work equally well for all patients. If the dose of these transplant drugs is too low, or when patients do not take all their medicines as prescribed, this will hurt long-term kidney function. Sometimes, patients have rejection even when the medicines are taken exactly as prescribed. This is as much or more of an issue than any problem with donor quality. The overall health of the recipient is also very important to maintaining a well functioning transplant.

“Expanded” Criteria Donor (ECD) Kidneys

The supply of deceased donors (called *cadaver donors* in the past) has not grown nearly as fast as the number of patients waiting for kidneys. Unfortunately, it seems the number of deceased donors will not increase nearly enough to transplant everyone. At this time, transplant centers do not accept kidneys from some deceased donors if they have doubts about the quality of the kidney. However, transplant doctors have wondered if we can afford to throw away all kidneys that might be less than perfect. These kidneys are called “Expanded” Criteria Donor, or ECD, kidneys. This type of deceased donor kidney has been used for transplantation very successfully by many centers for years. Today, due to the shortage of kidneys, more centers are accepting these kidneys.

Expanded criteria donors have the following risk factors:

1. Donor age is over 60, or over age 50 with these risk factors:
 - a. 2. Donor history of high blood pressure
 - b. 3. Stroke as the cause of death
 - c. 4. Serum creatinine level over 1.5 mg/dL before the kidney is removed (this shows the level of kidney damage)

About 17 out of every 100 kidneys now used in transplants come from donors with one or more of these risk factors.

Your transplant center must get your written permission to consider one of these kidneys for you. Patients are told that the state of these kidneys may not be perfect, and there is an increased risk of early and late failure of the transplant. The exact risk of failure of ECD kidneys is not known. But a good estimate is these kidneys may have a 2 out of 10 failure rate at one year. This compares with 1 out of 10 for usual standard donor kidneys at one year. About 5 out of 10 expanded donor kidneys are still working at five years. This compares with 7 out of 10 usual donor kidneys at five years. Your center will always follow your wishes and try to make the best decision for you. But accepting an ECD kidney may be the only way for some people to gain freedom from dialysis. They could wait many more years for a “standard” criteria donor (better quality) deceased donor kidney.

There is no right or wrong way to decide whether to accept an expanded donor kidney. Patients must look at what their life on dialysis is like. They have to look at the risks of selecting any deceased donor kidney. Plus, there is the added risk of having an expanded donor kidney. One can always wait for a better “standard” deceased donor kidney, knowing there are still no guarantees as to how long this might take or how well any kidney will work. The wait may only be weeks, but it could be years. We all know many patients who have lived for years on dialysis. They are active and enjoy life. Still, there is a greater lifelong risk of death in staying on dialysis and not having a transplant. This is especially true in younger patients.

Can I be Harmed by My Kidney Transplant?

Deceased donors and their kidneys are tested carefully. First, doctors look at the condition that has caused brain death. Some deceased donors have other medical conditions or diseases. Family members are asked about the lifestyle of the donor. Deceased donors are tested for syphilis, hepatitis B and C, HIV, AIDS, and other viral infections. Some good donors may have infections caused by bacteria. This does not exclude using these kidneys. But the transplant recipient will usually require treatment for these infections at the time of transplant. Even with all the testing, there is always a risk that a disease from the kidney donor may be given to the transplant patient. This risk is much less than 1 in 100.

Hepatitis C kidneys. A number of good kidney donors have been rejected because they are infected with the hepatitis C virus. In both kidney donors and transplant patients, it is often a rather mild form of the disease. But it can lead to long-term liver failure while patients are on dialysis or after a transplant. Many centers now offer kidneys from donors with hepatitis C to patients who already have been infected by the hepatitis C virus. These patients may have some resistance to the virus because their bodies are already fighting it. They may get a slightly different type (or “strain”) of this virus from a transplanted kidney. Overall, patients with hepatitis C will do better receiving a kidney from a donor with hepatitis C than they will if they remain on dialysis.

The risks that the anti-rejection drugs will make the hepatitis C worse are about the same whether they get a kidney from a donor with or without hepatitis C. The waiting list for kidneys with hepatitis C is not very long. If you are a patient with hepatitis C, you might want to think about accepting one of these kidneys. It must be discussed well ahead of time with your doctor.

Deceased donors are also screened for any form of cancer, because cancer can be spread to the transplant patient from the new kidney. If this happens, transplant drugs usually have to be stopped. The kidney is often lost. As with some infections that are carried by the transplanted kidney, getting cancer this way can be fatal. Certain forms of brain cancer in the donor do not seem to involve the donor kidney. Great care is now being taken in selecting kidneys from donors with cancer. The chances of spreading cancer to the patient are extremely low, probably less than 1 in 1,000.

How is the Deceased Donor Kidney Chosen for Me?

First, a kidney has to be found to be acceptable by an OPO and a transplant center. Then it is offered to kidney patients. Patients are ranked on the basis of the following:

- Blood type
- How long they have been on the waiting list
- Tissue match
- How sensitized they are to other people’s kidneys (“high PRA”)
- If they are less than 18 years old
- If the kidney is from an “expanded” criteria donor
- If the kidney is from a donor with hepatitis C

A computer program does the ranking selection.

There are other factors that might decide how a kidney is chosen for a person:

- Doctors at the transplant center may bypass a kidney patient if he or she cannot be reached in time. A patient may be bypassed if there are ongoing medical

problems that make the transplant too risky at that time. In these cases, the kidney is offered to the next person on the list for that kidney.

- At times, a patient may decide to refuse a kidney. There is no penalty for this. At the same time, there is no guarantee what kind of kidney will be offered next or when it will be offered.
- Patients who are waiting for several organ transplants (combined kidney-liver or kidney-heart) may be given priority.
- If the kidney is from an “expanded” criteria donor, or if the kidney is from a donor with hepatitis C, the kidney will only be offered to patients who have agreed in advance to accept kidneys from these types of donors.
- If there is anything else that is unusual about the donor or about the kidney being offered to you, your doctor will discuss this with you before the transplant so you will be fully informed about the risks of accepting the kidney.
- Remember, you are never obligated to accept a kidney that is offered to you, and you will not be punished in any way for refusing a kidney that you do not think is best for you.

Please note that the computer does not look at age, sex, race, type of insurance, or any other feature of the patients on the waiting list. If all of the local transplant centers agree, there may be regional differences in how kidneys are shared. Some regions may give more weight to certain donor or patient factors. This is done to distribute a deceased donor kidney in a way that is as fair as possible to all patients in that region.

Summary

There is a lot to think about in selecting deceased donor kidneys. The process requires good judgment and a little bit of good luck. Still, the expected “life span” for these kidneys goes up each year, and a kidney transplant improves the life and the health of many kidney patients. The information in this brochure should not take the place of talking with transplant doctors about these issues. It is a very complex field that is changing all the time. For some, the choice of an expanded criteria donor kidney or a hepatitis C kidney may be a good one. For all patients, knowing more about how and why deceased donors are selected should increase their comfort with a kidney transplant.