

Laparoscopic Living Kidney Donation



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**University of Cincinnati
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Alliance Transplant Services

The Kidney Transplant Program at The University Hospital in conjunction with University of Cincinnati College of Medicine performed the first adult kidney transplant in 1967. This transplant procedure was a living kidney donor transplant. The donated kidney has functioned for 32 years.

Living Kidney Donation

Donating a kidney to someone is a significant gift and the decision must be entered into with a sound knowledge of the living kidney donation process. Some of the most frequently asked questions about living kidney donation are answered in the following pages.

Why should I donate a kidney?

The waiting list for a cadaver kidney continues to grow in our community and across the country. The longer the waiting list, the longer patients must wait for a transplant. However, the waiting time can virtually be eliminated if you decide to donate a kidney to a loved one or friend.

What are the advantages of donating one of my kidneys?

The main advantages to donating a kidney are:

- 1) Eliminating the waiting time before transplantation.
- 2) Avoiding kidney dialysis in many patients.
- 3) Scheduling the surgery when it is most convenient for you and your family.
- 4) Decreasing the chances for rejection.
- 5) Reducing the amount of medications needed, and therefore, resulting in fewer side effects for the recipient in the long term.
- 6) Increasing the chances of long-term survival of the kidney transplant. Living donor kidneys usually last much longer than kidneys from cadaver donors.

2

Laparoscopic Kidney Donation

Although the operation to remove a kidney for transplantation has been shown to be remarkably safe and effective, it typically requires six to eight weeks for full recovery. As a result, there has been an interest in recent years in refining the operation to decrease pain and disability for the donor without compromising the safety or function of the transplanted organ. By using an instrument known as a laparoscope, it is now possible to perform the operation through only a few small incisions.

Not all donors are suitable for this procedure, however. Tests will be performed to determine suitability. In over 90 percent of cases, laparoscopic donation is possible.

4

What are the risks of being a kidney donor?

A thorough medical evaluation of the potential donor is always performed to minimize any potential risks. There are the usual risks and pain associated with any surgery, but these are minimal due to the donor's good health.

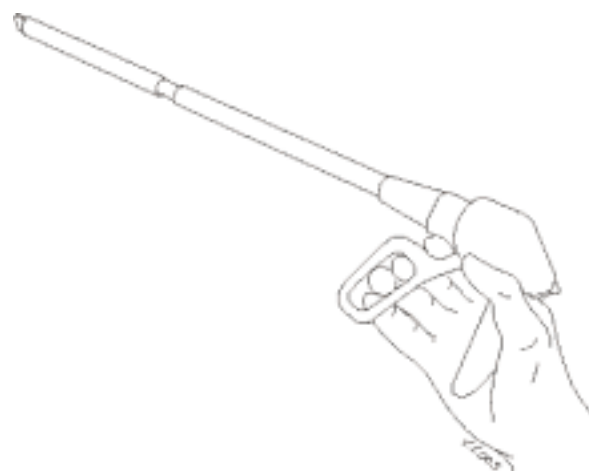
After donation, a healthy person can lead a normal life with only one kidney. Most donors that undergo the laparoscopic surgical procedure are able to return to their previous level of activity within two to three weeks. In addition, the laparoscopic surgical procedure significantly reduces the length of the hospital stay to only one to two days. The life expectancy and general health of the living donor are not affected by donating a kidney. The risk of the donor developing kidney failure is no different than if he or she had never donated a kidney. Kidney donation does not affect an individual's ability to have children. Female donors can experience a normal pregnancy and childbirth.

3

What is a laparoscope, and how is this procedure done?

A laparoscope is a long thin wand, generally about 18 inches long and $\frac{1}{4}$ inch in diameter. There is a microscopic lens at the end of the wand that projects images back to a camera.

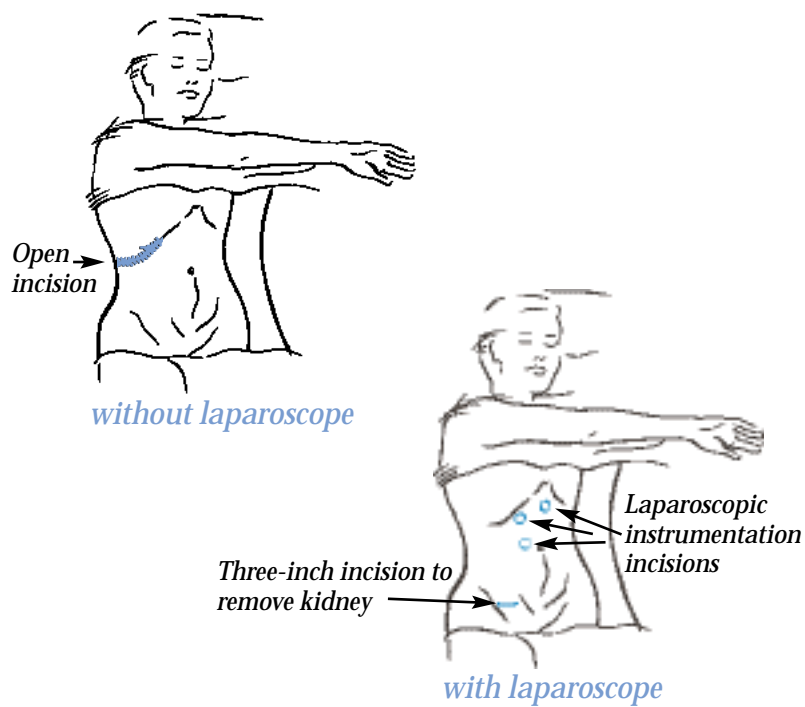
The laparoscope is inserted into the donor's abdomen using a tiny incision, and air is put in the abdomen in order to separate the patient's organs so the surgeons can see more easily. Then, two surgical instruments, each also about 18 inches long and less than $\frac{1}{4}$ inch wide, are placed into the abdomen. The operation now begins. A picture of a laparoscopic instrument can be seen below.



laparoscopic instrument

5

During the procedure the donor is lying on his or her side and the only other incision that is usually needed is a small horizontal incision, near the groin, for removing the kidney. This incision is generally about three inches long and is placed low in order to hide the scar and to use an area where muscle can be pushed aside without having to be cut. The drawings below show a patient on the operating table. The first shows the incision made in the “open” procedure when a laparoscope is not used. The second shows the incisions made in the procedure when a laparoscope is used.



6

7

In the “open” procedure, an incision that started at the patient’s navel and extended around to the back for about 8 inches was used. In both the laparoscopic technique and the old open technique, the left kidney is the preferred kidney for removal because its vein is longer than the one on the right side. Still, at times, there may be medical reasons to remove the right kidney. With minor modifications, the laparoscopic technique can be used on the right side also.

Once inside the abdomen, the instruments are used to free up the donor kidney in much the same way as traditional surgery

The entire procedure takes about three and a half hours, which is very similar to the old method of operation. However, the laparoscopic approach has resulted in shorter hospital stays and significantly less pain and discomfort for the donor and a quicker return to normal activity (usually within two to three weeks). Most living kidney donors will be eligible for the laparoscopic procedure.

Patients experience pain even after the laparoscopic approach, and generally may need pain medicine for about a week. This medication will be supplied upon discharge. Shoulder pain, which is caused by the air pushed into the abdomen during the procedure, is not uncommon and can persist for several days to a week after the surgery. Driving can be resumed when the donor no longer needs pain medicine. Only very vigorous physical activity such as weight lifting, other very heavy lifting or full contact sports need to be restricted for more than a week or two. A follow-up visit with the patient’s surgeon is arranged for two weeks after the operation. Complications are unusual, but may occur as with any surgery. The surgeon will review potential complications with you in detail before the operation.

Who pays for the kidney donor’s medical evaluation, surgery and follow-up care?

Most costs for the living donor are covered by the recipient’s insurance coverage. However, this may vary with individual insurance payors. If you have questions about payment, please ask to speak to one of our financial counselors, and they will be happy to assist you.

Types of Living Kidney Donors

There are two types of living kidney donors, related and unrelated:

Living Related Donors are healthy blood relatives of the patient requiring a transplant. The donor can be:

- a twin.
- a sibling.
- a parent.
- a child over 18 years of age.
- other blood relatives (half-sisters, half-brothers, nieces, nephews, aunts, uncles, cousins).

8

9

Living “Unrelated” or “Emotionally-related” Donors are not blood relatives and usually do not share tissue similarities with the recipient. The donor can be:

- a spouse.
- an in-law.
- a close friend.
- an adoptive parent.
- an adopted child (over the age of 18).
- a significant other.

Benefits of Living Donation

- Close to 95 percent success rate at one year after transplantation.
- Living unrelated transplantation offers a significantly better success rate than a cadaver kidney transplant.
- Early kidney function.
- Few rejections.
- Fewer medications.
- Avoidance of dialysis before transplantation in some patients.
- Immunosuppression can be started prior to the transplant.
- Long waiting periods that can occur with cadaver donor transplants are eliminated.
- Surgery can be scheduled when the recipient is in optimal medical condition.
- Provides a significant psychological benefit to the donor.

Benefits of Laparoscopic Living Kidney Donation

- Less discomfort following procedure.
- Reduced length of hospital stay.
- Earlier return to previous activity level.

10

11

Living Donor Evaluation

- Potential donors must have compatible blood type with the recipient.
- Must have excellent medical health with perfect kidney function.
- Must be willing to donate a kidney.

The evaluation of the living donor includes a medical history and physical exam, as well as tests for kidney function (blood and urine tests), liver function, cholesterol, hepatitis, HIV and other viral antibody tests.

Within a few months after the removal of one kidney, the remaining kidney enlarges and assumes approximately 90 percent of the function the kidneys had prior to donation. The life expectancy and general health of the living donor are not affected by the donation of one kidney. Therefore, life insurance premiums are not altered by kidney donation.

Steps In The Donation Process

Process: You have a genuine willingness to donate.

Follow-up: Call The University Hospital Kidney Transplant Office at (513) 584-4956 to let us know you are interested in donating a kidney to your loved one or friend.

Process: We test your blood to determine if you are compatible.

Follow-up: Basic information about your health status will be requested at this time to determine if you are healthy enough to be tested as a donor. If this initial screening is passed successfully, plans will be made to test your blood.

Process: If you are willing to proceed, arrangements are made for blood testing.

Follow-up: Your transplant nurse or doctor will call you and discuss the results. It may take eight to 10 days to obtain the blood test results.

12

13

Process: If you are a suitable donor and if you are willing to proceed, arrangements are made for your medical evaluation.

Follow-up: The transplant office will arrange an appointment at the transplant clinic for your medical evaluation. If you live out of town, the transplant nurse will try to arrange workup at the nearest transplant center or your family doctor's office.

Process: Your completed tests and reports are reviewed by the transplant physicians and nurses.

Follow-up: Any additional testing that is necessary will be arranged by the transplant nurse.

Process: If you are accepted as a living donor, final X-ray and compatibility testing is scheduled.

Follow-up: Your transplant nurse will schedule these tests. The final X-ray is called a renal angiogram. It is an invasive procedure done as an outpatient, but you will need to spend the day in the hospital. The findings will help the surgeons determine if the kidney can be removed laparoscopically.

Process: If your tests are satisfactory, the transplant is scheduled.

Follow-up: The transplant office will schedule a date with you and the transplant team.

14

A patient's story

John Feck



At the age of 25, John Feck's life took a dramatic turn. It began after he granted his mother a seemingly simple Christmas wish.

After suffering from chronic headaches for some time, John's mother, Linda, asked him to visit a doctor for her Christmas present in December 1995. John agreed and soon made an appointment. He walked into the doctor's office one man and came out a completely different one.

During the appointment, the doctor ran several tests after noticing that John had high blood pressure, a symptom prompted by the deterioration of his kidneys. John knew prior to the visit with his doctor that something was wrong. For quite some time his body felt worn down, and he had lost energy. The doctors diagnosed John with IgA Nephropathy, a kidney disorder caused by protein deposits inside the kidney's filters. The disease progressed to the point where John needed to start dialysis therapy and needed a kidney transplant.

Two years after the diagnosis, John entered The University Hospital to receive a new kidney. He felt lucky to find a living donor so quickly.

16

If you would like to talk to someone who has been a living donor, the transplant nurse will be happy to provide you with the name of a contact person with whom you can discuss the donation process.

If you have any further questions or if you would like more information about any of the topics discussed in this brochure, please call 513-584-4956 or fax 513-584-6158 or call toll free to 1-866-268-4265.

15

The donor, his mother, felt just as lucky when she found out that she was his match. Linda never had a second thought about donating a kidney to her son in need. John, on the other hand, was more worried about his mother than he was about himself. After his mother underwent a thorough medical workup and extensive meetings with doctors and other members of the transplant team, all of their worries were put to rest, and they were both confident things would go smoothly.

John was in the hospital for less than three days; his mother was released after two days. John recalls, "I felt like a new person after the operation, and I didn't realize until I received a new kidney how sick my body really was."

John experienced a minor rejection episode that was immediately reversed with medication.

The entire experience helped Linda and her son realize just how precious the gift of good health is. "I am thankful I was able to help my son," said Linda. "And now, in essence, I can say I have given my son the gift of life, twice."

Today, John is feeling strong and healthy. He is back to his normal routine of working and occasionally indulging in a game of golf or an afternoon of fishing. John now has a whole new perspective on life. He is forever thankful to his mother and all of the people involved in his surgery for giving him a second chance to live and to be a kid again!

17

A patient's story

Janet Bell



Janet Bell has suffered from Amyloidosis for years, but it wasn't until she was 48 years old that it threatened her life. Amyloidosis is a condition that causes protein deposits to form in the organs. The condition prevents organs from re-growing new cells and leads to organ failure.

Over time the disease began attacking Janet's kidneys leaving her feeling weak, fatigued and dizzy almost all the time. Janet's doctors told her that her only option was to undergo a kidney transplant. That's when Janet's 50-year-old brother, Obie, stepped up to be the first one tested to see if he was a compatible kidney donor for his sister. Janet's prayers were answered. Obie was a perfect match.

Obie recalls, "It was an emotional time. I knew giving my sister my kidney was the right thing to do, but the final decision was still difficult." Obie's friends and family admired him for his decision and his courage. Many told him they were not sure if they would have been able to go through with it themselves. But Obie did go through with the donation and ultimately saved his sister's life.

Janet and Obie entered The University Hospital on Sept. 30, 1999. After surgery both Janet and Obie were weak and sore, but the transplant was a success. Janet did not experience any rejection, and neither she nor Obie has suffered from any medical problems as a result of the operation. Although Janet has not returned to work and has been unable to go bowling, something she once enjoyed, she has several new passions in life. She is attending church, reading, taking walks and enjoying her grandchildren, Jalen and Rhyann. Despite the fact that Janet felt both mentally and physically drained before the surgery, she now says she feels anything is possible with Jesus in her life.

Janet extends her thanks not only to her brother, but to many friends and family who helped her through this difficult time. Obie also offered thanks. "I would like to thank God and my family and friends for their ongoing support," he says.

Janet offers some advice for anyone who must walk down the same path she and Obie did. "Keep faith no matter how bad things get. I feel that keeping faith in God and having a positive attitude are the two things that helped me through this life-changing experience."

Kidney Transplant Team

J. Wesley Alexander, M.D., *Professor of Surgery, Transplant Surgeon*

Rita Alloway, Pharm.D., *Research Professor of Medicine, Transplant Pharmacist*

Samirah Brown, R.N., B.S.N., C.C.T.C., *Transplant Coordinator*

Margi Bryant, R.N., B.S.N., C.N.N., *Transplant Coordinator*

Joseph Buell, M.D., *Assistant Professor of Surgery, Transplant Surgeon*

M. Roy First, M.D., *Professor of Medicine, Director, Section of Transplantation, Division of Nephrology, Department of Medicine*

Michael Hanaway, M.D., *Assistant Professor of Surgery, Transplant Surgeon*

Agnes Lo, Pharm.D., *Assistant Research Professor of Surgery, Transplant Pharmacist*

Rino Munda, M.D., *Professor of Surgery, Transplant Surgeon*

V. Ram Peddi, M.D., *Associate Professor of Medicine, Medical Director, Islet Transplant Program*

Prabir Roy-Chaudhury, M.D., Ph.D., *Assistant Professor of Medicine*

Jennifer Trofe, Pharm.D., *Assistant Research Professor of Surgery, Transplant Pharmacist*

Pat Weiskittel, R.N., M.S.N., C.N.N., C.S., *Clinical Nurse Specialist*

E. Steve Woodle, M.D., *Professor of Surgery, Director of Pancreas Transplantation, Director of Transplantation, Department of Surgery*

Edward Zavala, M.B.A., *Transplant Administrator*



The University Hospital Kidney Transplant Office

Mail location 597B
234 Goodman Street
Cincinnati, OH 45267-2316
513-584-4956
Toll free 1-866-268-4265