Your kidney donation decision

Patient information

Corewell Health™

Thank you for considering donating your kidney. This booklet is designed to provide you with information needed to help you make your choice.

In addition to this booklet, you will be provided with education by all members of the transplant team. You are always welcome to ask questions about anything that you don't understand.

Please keep in mind that this booklet is for general information only. Your individual treatment and experience may vary.

Notes and questions

Table of contents

Corewell Health William Beaumont University Hospital Kidney Transplant Program 1

More than 40 years of excellence 1

Multidisciplinary transplant team 1

Objectives 1

Understanding kidney disease 2

Where are the kidneys? 2

What do kidneys do? 2

Kidney failure 2

What is kidney failure? 2

Treating kidney failure 3

Dialysis 3

Types of dialysis 3

Kidney transplant 3

Living donor kidney transplants 4

Benefits of living kidney donation 4

Option for incompatible donors 5

Paired exchange 5

Chain transplants 5

Deceased-donor kidney transplants 5

Recipient financial information 5

Living kidney donor selection criteria 6

Corewell Health's selection criteria for live donor candidacy 6

Confidentiality 7

Informed consent for evaluation and donation 8

What will my life be like with a single kidney? 9

Potential risks associated with living donation evaluation 9

Living kidney donation initial evaluation 10

Blood typing 11

Tissue typing 11

Crossmatch 11

Choosing the donor 12

Living kidney donor evaluation 12

Medical assistant 12

Transplant nurse coordinator 12

Transplant social worker 13

Transplant financial coordinator/ representative 14

Transplant surgeon 14

Transplant nephrologist 14

Independent living donor advocate team 15

Transplant dietitian 15

Transplant pharmacist 15

Team decision 16

What test will I have to do during the evaluation phase? 16

Laboratory 16

24-hour urine collection 16

Glucose tolerance test 16

Chest X-ray 16

Electrocardiogram (EKG or ECG) 16

Colonoscopy 17

Cardiac stress test 17

CT angiogram scan 17

Pap smear and pelvic exam 17

Mammogram 17

PSA (prostate specific antigen) 17

Miscellaneous testing 17

What happens when all the tests are completed satisfactorily? 18

Before surgery 18

Kidney donation surgery 19

Laparoscopic donor surgery 19

Conversion of laparoscopic to open surgery 19

Day of surgery 20

Will I need a blood transfusion during surgery? 20

After surgery 21

Prevention of post-surgical complications 21

Potential short- and long-term risks 22

Recovery after your surgery 23

Guidelines to follow during recovery 23

How long will my recovery take? 23

When can I drive? 23

When can I go back to work? 24

How you can protect your remaining kidney 24

Monitoring 24

Controlling blood pressure 24

Eating sensibly 24

Avoiding injury 25

Pregnancy 25

Feel free to ask questions 25

Closing thoughts 25

Definitions of terms 26

Corewell Health William Beaumont University Hospital Kidney Transplant Program

Corewell Health William Beaumont University Hospital Kidney Transplant Program provides comprehensive medical care to patients with chronic kidney disease and assists patients in choosing the best possible individualized treatment options for their end-stage renal (kidney) disease.

More than 50 years of excellence

The first kidney transplant was performed at William Beaumont Hospital, Royal Oak in 1972. Since that time, the kidney transplant program has performed more than 2,300 adult kidney transplants. The Corewell Health Transplant Kidney and Living Donor Kidney Programs are Medicare approved.

Corewell Health William Beaumont University Hospital Kidney Transplant Program outcomes are available for national comparison through the Scientific Registry of Transplant Recipients (SRTR). The SRTR provides ongoing evaluation of the status of solid organ transplantation in the United States. SRTR responsibilities include reporting outcome information to transplant programs, organ procurement organizations, policy makers, transplant professionals, transplant recipients, organ donors and donor families and the public. The SRTR reports include transplant center specific comparisons of patient and kidney transplant survival. All donors are provided a handout containing the Corewell Health William Beaumont University Hospital Kidney Transplant Program's most recent available SRTR data. All transplant center specific reports are available for review at **srtr.org**.

Multidisciplinary transplant team

The specialized multidisciplinary team includes:

- Transplant surgeons.
- Transplant nephrologists (a physician who specializes in kidney transplantation).
- Transplant nurse coordinators.
- Transplant social workers.
- Independent living donor advocate team.
- Transplant dietitian (as needed).
- Transplant pharmacist.
- Transplant financial representatives.
- Transplant psychologist.
- Other team members include, but are not limited to a histocompatibility specialist, anesthesiologist and infectious disease physician.

We work very closely with our donors and their families and other hospital team members to provide support, guidance and state-of-the-art medical care in preparation for the journey through the donation process. Corewell Health William Beaumont University Hospital has a multi-physician and multi-surgeon transplant team available 365 days a year, 7 days a week, 24-hours a day, to provide transplant program coverage and to respond when a kidney is made available for transplant.

Objectives

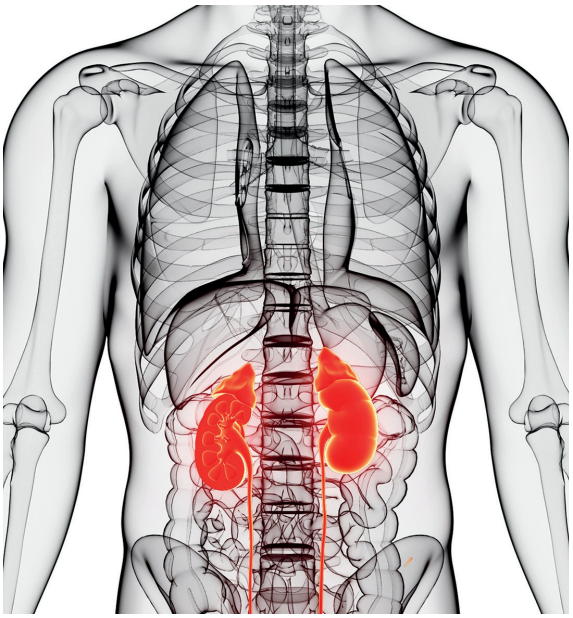
This booklet will help you understand the following information:

- Kidney (renal) failure.
- Forms of treatment for kidney failure.
- The interview process prior to donation.
- Diagnostic studies (testing) required during the evaluation phase.
- Time it takes to complete the evaluation phase.
- Admission to the hospital and the hospital stay.
- Expectations before and after surgery.
- Life after donating a kidney.

Understanding kidney disease

Where are the kidneys?

The kidneys are bean-shaped organs in the back of your abdomen. They lie on either side of the spine. An adult kidney weighs four to six ounces each and are about the size of a fist. Normally a person has two kidneys. Occasionally, people are born with only one kidney and still live normal lives.



What do kidneys do?

Kidneys filter and remove waste products from the blood, help control blood pressure, control fluid and electrolyte (minerals like salt and potassium) balance and make hormones such as erythropoietin, which stimulates red blood cell growth.

Kidney failure

What is kidney failure?

It is estimated that more than 35 million American adults have chronic kidney disease (CKD) and millions of others are at increased risk. End stage renal disease (ESRD) or kidney failure, occurs when the overall function of the kidneys declines to less than 20% of normal. There are two types of kidney failure, acute and chronic.

Acute kidney failure occurs when the kidneys lose function very rapidly. This may occur within a few hours or days. Kidney function may return to normal or progress to CKD or ESRD.

Chronic kidney failure occurs when the kidney tissue is slowly and permanently destroyed. Often, no symptoms occur until less than 25% of kidney function remains. When the kidney function declines to less than 20% normal, planning for dialysis or a kidney transplant becomes necessary.

Treating kidney failure

Dialysis

When the kidneys do not function, fluids and waste products build up in the body. One method used to remove the build-up of fluid and waste products from the body is dialysis. However, dialysis cannot perform many of the other normal kidney functions. At best, dialysis only provides the equivalent of 8-9% of kidney function. Dialysis reduces life expectancy by about 60-70%.

Types of dialysis include:

Hemodialysis

Hemodialysis uses a machine to remove the fluids and waste products from the blood stream. Patients may have a temporary catheter placed for hemodialysis access. Most hemodialysis patients have a connection called a fistula or graft. This connection is made between an artery and a vein in the patient's arm. The fistula or graft provides a large blood vessel (or tube) through which blood can easily be removed and replaced.

Blood flows from the patient's artery through a special filter called a dialyzer. While the blood is in the dialyzer, waste products and excess water are removed and washed away. Blood is then returned to the patient through a vein. Hemodialysis is usually needed three times each week for two to four hours per treatment. Most patients go to outpatient dialysis centers for their treatments, but hemodialysis can also be done at home.

Peritoneal dialysis

Peritoneal dialysis (also called continuous ambulatory peritoneal dialysis or CAPD) removes waste products from the body. A catheter (a soft plastic tube) is surgically placed into the abdomen just below the navel. A solution called peritoneal dialysate flows through the catheter into the abdominal cavity. Waste products and excess water move from the body fluids into the dialysate. The dialysate is then drained out of the body. Peritoneal dialysis is repeated four times per day, every day of the week. Patients are taught how to perform peritoneal dialysis for themselves. This method of dialysis allows the patient to be more mobile and independent. Some patients are candidates for the cycler, which is an automated way to perform peritoneal dialysis.

Kidney transplant

Kidney transplants are a widely accepted treatment for end-stage kidney failure. Transplantation is not a cure but is a preferred alternative to dialysis. A kidney transplant doubles the life expectancy compared to dialysis.

About 20,000-25,000 kidney transplants are successfully performed each year in the United States. Over 90,000 people are waiting for a kidney transplant.

Transplant hospitals choose who is able to receive a kidney transplant based on hospital specific guidelines or practices and clinical judgment.

Kidneys can be donated by a living donor (living related or living non- related) or a deceased donor (individuals who have agreed to donate their organs at the time of their death).

Success rates vary depending on each kidney recipient's situation. Kidney transplant recipients must take medications for as long as the transplanted kidney remains functioning and see their doctor for follow-up office appointments.

A well-functioning transplant can last 20 years or more however, many kidney transplants do not last the rest of the recipient's life. Reasons for losing the transplanted kidney include but are not limited to, rejection, surgical problems, side effects of medications, return of the original disease which caused kidney failure, or not following medical recommendations.

The person who receives a kidney must have the same or similar blood type to their donor. Kidneys are also matched by other genetic factors, which will be explained in detail later in this booklet.

Living donor kidney transplants

Living donor kidney transplants have been performed since 1954. Currently, living donor surgeries comprise approximately 20-30% of kidney transplants in the United States.

There are two types of living donor transplants:

- **Living related.**
- **Living non-related.**
  (includes altruistic or anonymous and kidney paired donors).

A living related kidney may be donated by a blood relative such as a mother, father, sister, brother, son, daughter, cousin, aunt or uncle.

Benefits of living kidney donation:

- Generally, a living related kidney provides a closer genetic match than a deceased donor kidney. This increases the chance that the recipient's body will accept the kidney.
- Typically, a closer matched kidney will function for a longer time.
- The recipient may be able to be treated with lower doses of immunosuppression (anti-rejection) medicine because of the greater chance of a genetic match.
- The recipient will not have a long wait on the deceased donor kidney list, where the average wait is five years. Receiving a kidney transplant sooner often means that the recipient is in better health, making recovery easier.
- The longer a person is on dialysis, the more negative its impact on survival and health. The best transplant outcomes are seen in patients who receive a transplant before requiring dialysis.
- The surgery may be scheduled at a time convenient for both the donor and recipient.
- Living donors complete a thorough medical evaluation providing a high-quality kidney for the recipient.
- The live donor kidney is transplanted into the recipient shortly after removal, which helps to preserve kidney function and reduce the risk of complications.
- Living kidney donation helps more than one person on the transplant list. Donating a kidney to the intended recipient allows another patient to move ahead on the transplant waiting list.
- A benefit for the donor is having the ability to improve the quality of life for another person.

Success rates for the transplanted kidney (graft) at one year, for persons receiving a living related kidney transplant, are about 95%-100%. The average living-related kidney lasts 12-20 years.

A living non-related kidney transplant, sometimes called “living unrelated kidney transplant,” includes anyone who is living but not blood related, such as the spouse or a friend. A person who wishes to donate to a person with whom they have no connection is called an altruistic donor.

The advantages to a living non-related kidney transplant are the same as the living-related kidney transplant. Statistically, a living non-related transplant recipient has a higher success rate than a deceased donor kidney recipient.

Options for incompatible donors

Some people who wish to become a living donor are not compatible with the intended recipient. For instance, a donor may have blood type A, while the recipient has blood type B. Depending on your incompatibility, other approaches to transplant are available.

Paired exchange

With paired-organ donation, a donor exchanges his or her kidney with a living donor from another incompatible donor/recipient pair to create two compatible pairs. The donor does not directly donate his or her kidney to the intended recipient but instead exchanges with another incompatible pair to allow for two compatible transplants.

Chain transplants

Donor chains work similarly to paired kidney donations in that they involve healthy and willing, but incompatible donors. The chain is initiated by what is called a non-directed donor. A non-directed donor is someone who offers to donate a kidney without a chosen recipient but with the wish to donate to someone in need of a transplant.

Deceased donor kidney transplants

Deceased donors are individuals who donate their organs at the time of death. The individual may have made their donation choice known by registering to be an organ donor. Alternatively, the individual’s family is offered the option of organ and tissue donation and provides consent for the donation.

There is a shortage of donor organs. To be eligible to receive a deceased donor organ, a person is placed on the United Network for Organ Sharing (UNOS) transplant waiting list for a kidney. Unlike living-related and living non-related kidney transplants, the deceased donor kidney transplant surgery cannot be scheduled ahead of time.

It is likely that your intended transplant recipient is on or is in the process of completing their evaluation to be placed on the deceased donor waiting list. They will remain on the deceased donor waiting list while you are in the process of completing your donor evaluation. As a result, a deceased donor kidney offer may become available before your evaluation is complete.

Success rates for the transplanted kidney at one year, for persons receiving a deceased-donor kidney transplant, are about 85-95%. The average deceased-donor kidney is expected to last 10 to 12 years.

Recipient financial information

For transplant recipients to receive full Medicare benefits for a transplant, they must go to a Medicare approved facility. If a transplant is done in a non-Medicare approved transplant center, it could affect the transplant recipient's ability to have immunosuppressant medications paid under Medicare Part B.

Medicare approved transplant programs must meet Medicare criteria for the number of transplants performed and the overall quality of patient outcomes. Corewell Health William Beaumont University Hospital has a Medicare approved kidney transplant program.

Transplant recipients must meet certain requirements to be eligible for Medicare coverage. This may include a patient's age, and the medical condition for which they may need a transplant. Patients transplanted at Medicare approved facilities and who have Medicare Part A at the time of transplant are eligible for immunosuppressant medication coverage at a reimbursement rate of 80%. Transplant recipients must have Medicare Part B to purchase immunosuppressant medications at this rate.

Living kidney donor selection criteria

All transplant centers are required to have selection criteria for living donors. Some of these criteria are mandated by UNOS and others are transplant center specific.

These criteria are guidelines to help the medical team decide who can or cannot donate a kidney. The reason for the criteria is to ensure safety for the potential donor and to provide an unbiased (fair and equal) selection.

William Beaumont University Hospital Kidney Transplant Program's selection criteria for live donor candidacy

Living kidney donor candidates are generally between the ages of 18 and 75 and exhibit good overall physical and mental health. Individuals older than 75 may be considered on a case-by-case basis.

Living kidney donor candidates must undergo evaluations by the multidisciplinary transplant team to obtain a comprehensive medical and psychosocial assessment. If medical, anatomic, psychosocial or other factors which preclude donation are identified, the individual will be counseled regarding options to address these conditions and may be advised that they are not a candidate for kidney donation.

The living kidney donor candidate must have the mental capacity to make an informed decision about consent for kidney donation. The candidate must demonstrate comprehension of the kidney donation process, including its risks and benefits. The candidate must also understand the risks, benefits and alternative treatments available to the recipient.

The following criteria exclude consideration to be a living kidney donor:

- Less than 18 years of age.
- Mentally incapable of making an informed decision.
- High suspicion of donor coercion.
- High suspicion of illegal financial exchange between donor and recipient.
- Uncontrollable hypertension or history of hypertension with evidence of end organ damage.
- HIV positive.
- Diabetes.
- Active malignancy or incompletely treated malignancy.
- Evidence of acute symptomatic infection (until resolved).
- Uncontrolled diagnosable psychiatric conditions requiring treatment before donation, including any evidence of suicidality.
- Current or pending incarceration.

Other factors that may preclude living kidney donation include:

- Significant pre-existing kidney disease.
- Lack of social or financial support that may cause hardship after donation.
- Other medical or psychosocial conditions that may interfere with donation or recovery.

Determination for living kidney donor candidate eligibility has been developed within the framework of the hospital's mission for the care of persons without regard to race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity and/or expression.

If you do not meet William Beaumont University Hospital Kidney Transplant Program's selection criteria for kidney donation, you have the option to seek another evaluation at another transplant center that may use different selection criteria.

Confidentiality

Our transplant center will take all reasonable precautions to ensure confidentiality (privacy) for both the living donor and the recipient. If during the process of your work-up you are found to have a previously undetected health problem, you will be counseled regarding it. If a health problem is detected that would prevent you from being a donor, your recipient would only be told that it would be medically unsafe for you to proceed. In other words, no details of your health issue would be shared with the recipient.

Health information obtained during your donor evaluation will be subject to the same regulations as all patient records. There are certain conditions (such as communicable diseases) that the transplant program must report to local, state or federal public health authorities.

If an infectious disease or malignancy pertinent to recipient care is discovered during the donor's first two years of post-operative follow- up care, by regulation these findings:

- Will be disclosed to the donor.
- May need to be reported to local, state or federal public health authorities.
- Will be disclosed to their recipient's transplant hospital.
- Will be reported through the Organ Procurement and Transplantation Network (OPTN) Improving Patient Safety Portal.

Due to some insurance requirements beyond the transplant center's control, the donor's identity may also be present on the recipient's insurance Estimate of Benefits form.

The donor's name is usually in coded form and not available to the recipient, however this may vary by insurance carrier.

Similarly, confidential medical information about the recipient is not shared with the potential donor. Any transplant candidate may have risk factors for increased adverse outcomes (including complications and/or loss of kidney transplant) or mortality (death) that:

- Exceed local or national averages.
- Do not necessarily prohibit transplantation.
- Are not disclosed to the living donor.

The transplant center can disclose to the living donor certain information about the transplant candidate only with the permission of the candidate. This includes the reasons for the transplant candidate's increased likelihood of adverse outcomes and personal health information gained during the transplant candidate's evaluation, which is confidential and protected under privacy law.

Informed consent for evaluation and donation

Donation of a kidney is one of the most important decisions of your life. It is a decision which requires a great deal of information and thought. There are many advantages to living donation (as outlined previously in the section describing living donation). However, you must consider how kidney donation may affect your life: medically, emotionally and financially. The informed consent process will help you to understand the risks and benefits of donating a kidney.

Donors must be volunteers who do not expect any material gain from donation. If you ever feel that you are being coerced (pressured) to donate, it is important to share this information during the donor work-up. Those donors with any evidence of coercion to donate their kidney will be excluded from donation.

It is a federal crime for the potential donor to knowingly acquire, obtain or otherwise transfer any human organ for anything of value including, but not limited to cash, property and vacations.

If there is suspicion of illegal financial exchange between the donor and the recipient, living donation will not be considered.

You have the right to stop the donation process at any time. If you choose not to become a donor, your recipient still has the options of dialysis, an alternate living donor, a deceased donor transplant or stopping treatment (palliative care or hospice).

What will my life be like with a single kidney?

After kidney donation, the remaining kidney grows approximately 30 to 50% larger. After one to two years, it will do approximately the work of one and one-half kidneys.

Post-donation kidney function and how chronic kidney disease (CKD) and end-stage renal disease (ESRD) might potentially impact the donor in the future:

- On average, donors will have a 25 to 35% permanent loss of kidney function after donation.
- Although risk for ESRD does not exceed that of members of the general population with the same demographic profile (things like age, race or gender), risk for ESRD for living kidney donors may exceed that of healthy non-donors with medical characteristics similar to living kidney donors.
- Donor risks must be interpreted by looking at the known disease course of both CKD and ESRD. When CKD or ESRD occur, CKD generally develops in mid-life (40 to 50 years old) and ESRD generally develops after age 60. The medical evaluation of a young potential donor cannot predict lifetime risk of CKD or ESRD.
- Donors may be at a higher risk of CKD if they sustain damage to the remaining kidney (e.g. from trauma or a disease process such as a kidney stone). The development of CKD and progression to ESRD may be more rapid with only one kidney.
- Dialysis is required if the donor develops ESRD.
- Current practice is to prioritize prior living kidney donors who become kidney transplant candidates.

Though living donation has many advantages for the kidney transplant recipient, donation of your kidney will not improve your health and has a potential for harming it. This potential is small, but these issues must be considered when making your choice to donate.

Potential risks associated with living donation evaluation:

- Allergic reaction to contrast used in testing.
- Discovery of reportable infections.
- Discovery of serious medical conditions.
- Discovery of adverse genetic findings unknown to the donor.
- Discovery of certain abnormalities that will require more testing at the donor's expense or create the need for unexpected decisions on the part of the transplant team.

Potential short- and long-term medical, surgical, psychosocial and financial risks associated with living donation surgery are reviewed later in this booklet.

You will be asked to sign a consent that you understand the evaluation and donation process, that you are willing to donate and that your donation is free from inducement (bribes) or coercion (pressure). If at any time during the process of your evaluation you are uncomfortable considering donation, you have the right to choose not to donate and your reason will be kept confidential.

When you agree to become a living kidney donor, you must commit to UNOS required post-donation follow-up testing at six months, one year and two years after donation. This means that you will return to the Corewell Health William Beaumont University Transplant Center at those time periods for blood work and a urine sample and a brief exam to assess your blood pressure, weight and general health. This follow-up benefits you by screening for early signs of kidney dysfunction (not working correctly) or other issues. It also provides valuable data for research about the long-term safety of kidney donation. In addition, it is recommended that you have an annual physical exam with your primary care physician, so that issues that may affect your remaining kidney may be addressed in a timely manner.

Living kidney donation initial evaluation

The confidential donor evaluation phase begins when you contact the Corewell Health William Beaumont University Transplant Living Donor Program office. You will be mailed a copy of this donor education booklet, an initial consent for blood work and a donor questionnaire. It is important that you answer all the medical and psychosocial history questions completely and accurately on this questionnaire, sign the forms and return them in the envelope provided.

The kidney living donor nurse coordinator will call you to review the medical history that you have submitted. If there are no immediate concerns that would exclude you from being considered as a kidney donor (as listed in the selection criteria), the Independent Living Donor Advocate will call you for a brief interview. The Independent Living Donor Advocate's role is to assess whether you are making the decision to donate free of any pressure. Please discuss any worries that you may have about donating your kidney with the Independent Living Donor Advocate.

Once the Independent Living Donor Advocate has assessed that you are willingly donating your kidney without the expectation of personal gains, an appointment will be made for lab work to determine if your blood type matches your potential recipient. There are no diet or fluid restrictions prior to this test.

If you do not live in the area where Corewell Health William Beaumont University Hospital is located, the transplant nurse coordinator will help arrange to have the blood drawn near your home. Your blood will need to be delivered by next-day mail service to our laboratory for testing. Our office will provide all the necessary blood tubes, instructions and pre-paid mailing envelopes.

Blood typing

There are four different blood types. O is the most common blood type. The next most common is blood type A, then B and the rarest is blood type AB. The blood type of the donor must be compatible with the recipient. Blood type O is considered the universal donor. People with blood type O can give to any other blood type. Blood type AB is the universal recipient because they can receive an organ from any blood type.

For kidney transplant, it does not matter if you are Rh positive or negative (i.e. A+ or A-).

Recipient's blood type	The donor must be:
O	O or non-A1 (a subtype of A)
A	A, A1, non-A1 (subtypes of A) or O
B	B, O, non-A1, non-A1B
AB	A, AB, A1, non-A1, non A1B, B or O

Tissue typing

Tissue typing, also known as human leukocyte antigen (HLA) typing, is a blood test that uses DNA-based technology to identify genetic similarities (antigens) between the donor and the recipient. Tissue typing reveals how many antigens you and the person receiving your kidney (recipient) have in common.

There are six antigens that have been shown to be the most important in organ transplantation. Of these six antigens, we inherit a set of three from each parent. Because of the way we inherit genes from our parents, it is possible for one sibling to match all six antigens (also referred to as HLA identical or a perfect match) with another sibling. It is also possible that among siblings, there might be either a three-antigen match (haplotype) or a zero-antigen match (complete mismatch). Parents and their natural children will always match three antigens (haplotype).

The ideal match would be an identical twin. Since few individuals have identical twins, the next best match is a living-related, six-antigen match. However, it is not necessary to have a six-antigen match to have excellent kidney transplant function.

Crossmatch

A person's body makes antibodies to fight and destroy foreign (external) substances. Antibodies may be formed after receiving a blood transfusion, during pregnancy, or from infections. A crossmatch provides information about how the transplant recipient's antibodies will react to your kidney. A "positive" crossmatch means that your kidney would likely be rejected if placed in the recipient's body. A "negative" crossmatch means that your kidney is compatible (similar) to the recipient.

A person's blood antibodies may change over time, so the crossmatch is repeated between potential donors and recipient candidates just prior to transplant.

If the blood test is reported as a strong positive crossmatch, despite your blood type compatibility and genetic matching, you may not be a living donor for this recipient.

Choosing the donor

Not all donors who come forward to donate will receive a full evaluation. The transplant team will identify the most suitable donor to proceed with testing. This may be the person that has the closest genetic match to the recipient, but multiple factors are considered. If the identified donor is not able to continue the donor evaluation, another individual is chosen from those available.

Many things are considered beyond the initial blood testing. Your transplant nurse coordinator will discuss these issues with you when he or she calls with your results. Please write down questions you have so they can be answered. Tell your transplant nurse coordinator about any concerns you have. The transplant nurse coordinator must know how you are feeling about being a kidney donor, so never hesitate to call. Be honest about your concerns, issues and questions. Your conversations with the transplant nurse coordinator will be confidential from the recipient.

It is important to note that during your evaluation process, the transplant team members are not permitted to provide any information to your potential recipient about your testing or where you are in the evaluation process. It is your choice if you wish to disclose any information to your intended recipient.

Living kidney donor evaluation

If your blood type is compatible with the potential kidney transplant recipient and you are chosen to proceed, you will be scheduled for a visit with the Transplant Team for a thorough medical and psychosocial evaluation. The initial visit typically takes several hours to complete. We suggest that you bring a snack. You are encouraged to bring family members for support and for them to learn about the evaluation and donation process.

You will interact with the following transplant team members during your evaluation:

Transplant program coordinator

On the day of your evaluation appointment, the transplant program coordinator will collect the medical records you have brought with you and will coordinate your appointments with the individual members of the transplant team. Should you choose to proceed with further evaluation for donation, the transplant program coordinator will be available to help you schedule the tests that will be part of your kidney donation work-up.

Transplant nurse coordinator

The transplant nurse coordinator's role is to keep the process moving along and to communicate with the transplant team while you are being evaluated for donating a kidney. Your transplant nurse coordinator is a liaison (connection) between the transplant team and you.

On the initial evaluation day, the transplant nurse coordinator will review this donor education book with you along with other educational materials. The nurse coordinator will answer your questions or refer you to another transplant team member who can answer them more completely.

Transplant nurse coordinator (cont.)

You will be informed about the potential success of kidney donation both for you and the recipient. You will be given a copy of the national statistics and our program's success rate (transplant recipient outcomes) from the most recent Scientific Registry for Transplant Recipients (SRTR). You will be made aware about all Centers for Medicare & Medicaid (CMS) outcome requirements not being met by the transplant hospital, if applicable. You will be asked to sign a consent to proceed with further testing and donation. You may decline to be a donor at any time, even after signing this consent.

The transplant nurse coordinator will work closely with you to be sure that tests are being scheduled and completed, results are being sent to the transplant office for review, communication lines are staying open and questions are being answered. It is very important that you keep in touch with your transplant nurse coordinator. Any test results that you might have from other hospitals should be sent directly to your transplant nurse coordinator. Your work-up is successfully completed when all the necessary medical information has been reviewed and approved by the transplant team.

The transplant nurse coordinator will ask you several questions about countries you may have lived in or traveled to in order to assess for potential for infections.

Transplant social worker/Transplant psychologist

The transplant social worker's role is to evaluate your emotional wellness and to assess your understanding of how kidney donation may affect your life. The social worker will assess if you have adequate emotional support and resources to help with your decision to donate a kidney. At the time of your evaluation, the transplant social worker will meet with you and possibly your support person.

The social worker will ask you many personal questions, including some about your sexual history, past of present substance use disorder (alcohol and/or recreational drugs) and current or past legal problems. It is important for you to answer these very personal questions honestly for your safety and the safety of your potential recipient.

The social worker will also discuss possible emotions that you may feel after donation. Most living donors report positive feelings after donation because they have helped improve the kidney transplant recipient's quality of life. However, some living donors report feeling depressed after donation. This feeling may be the result of fatigue following surgery, renewed demands on you by family and work while you are still recovering, or the sudden letdown following a major life event that had been marked by lots of energy, anxiety and attention from others.

If you donate to a spouse, family member or friend, the nature of your relationship with that person may change. You or the recipient may feel guilt, indebtedness, conflict or regret and experience manipulation or other destructive behavior. Seek professional counseling if your relationship becomes dysfunctional.

Your mood may also be influenced by what happens to the recipient of your donated kidney. The recipient may reject the transplanted kidney or may die despite the transplant. It's natural to go through a grieving process in these circumstances.

The transplant social worker will be available to you throughout the evaluation and donation process to answer questions and offer resources for support.

The transplant social worker may refer you to the transplant psychologist for additional assessment and/or support.

Altruistic donors will undergo an assessment by the transplant psychologist.

Transplant financial representative

The transplant financial representative will participate in your donor evaluation by discussing real or potential financial concerns and counsel you regarding available resources. The transplant donor carries no financial responsibility for services related to the kidney transplant donation.

All services related to transplant donation are covered either under the recipient's insurance coverage or by Medicare. Services for determination of donor candidacy such as laboratory work up, outpatient procedures, inpatient services such as surgery and hospitalization, and post-surgical aftercare are covered under Medicare. However, a test is that is routine health maintenance (such a mammogram) is the responsibility of the donor.

Personal expenses of travel, housing, childcare costs, loss of wages related to donation, telephone and television while in the hospital are not covered. However, resources may be available to defray some donation-related costs. The transplant social worker or financial representative may aid with the application process for assistance, if needed.

The cost of the required post-donation follow-up visits for health/social screening at six months, one year and two-year intervals may be covered by the Corewell Health William Beaumont University Hospital Kidney Transplant Program. If you must have these post-donation health follow-up visits completed by your local family physician due to distance from Royal Oak, you will be provided information about what testing is required and covered as part of your follow-up care during the two years after donation.

In the event of unforeseen complications directly related to the transplant donation, medical bills would be reviewed for possible payment under the recipient's insurance coverage. However, there is a possibility that future problems related to donation may not be covered by insurance.

If you inadvertently receive a bill for a test directly related to your kidney donor evaluation, we apologize. Please immediately forward the bill to the transplant financial representative.

Transplant surgeon

The transplant surgeon will ask you about your medical history, perform a physical exam and explain the kidney donation operation. This is the doctor who will perform the living kidney donor surgery and care for you after surgery.

Transplant nephrologist

The transplant nephrologist will complete a medical evaluation, including a physical exam. It is vital to openly share your health history, your family health history, medical issues, hospitalizations and test results with the nephrologist.

The nephrologist will also ask you several questions about travel and other risk factors for infections that could be passed to a recipient. The transplant nephrologist will provide education about kidney donor outcomes and short- and long-term risks of living kidney donation.

Independent living donor advocate team

An independent living donor advocate (ILDA) is an individual who is separate from the transplant team, not involved with the potential recipient evaluation, and who is not involved with the decision to transplant the potential recipient. This individual is available to assist the donor during the donor evaluation, donation, post-donation and follow-up phases of care. You will be assigned an ILDA to meet with during your evaluation. Another ILDA who is part of the team may see you during your inpatient stay.

The purpose of the living donor advocate is to:

- Focus on the donor's needs and questions.
- Protect and promote the best interests of the potential living donor.
- Ensure protection of the rights of the living donor including the application of principles of medical ethics.
- Respect the donor's decision and ensure that the donor's decision is informed and free from inducement and coercion.
- Make recommendations to the transplant team regarding the prospective donor's suitability for donation.
- Assure the potential donor that a decision not to proceed with the donation will be protected and confidential and that the reason will only be disclosed with the consent of the potential donor.
- Inform the donor that he/she may decline to donate at any time.
- Assist the potential donor with understanding information regarding the:
  - Consent process.
  - Medical and psychosocial risks evaluation process.
  - Importance of post-donation follow-up.
  - Surgical procedure.

Transplant dietitian

A nutritional assessment and diet education will be completed as needed prior to donation. Weight management diet education may be provided to potential donors with a body mass index (BMI) greater than 30.

Transplant pharmacist

The transplant pharmacist will participate in your donor evaluation by reviewing pertinent medical history, medication and supplement use and laboratory data to determine if there are any contraindications to kidney donation. The transplant pharmacist will also participate in your medication management as needed after your kidney donation.

The pharmacist will review your medications (including medications for pain management) prior to discharge and make recommendations to the transplant team.

Team decision

After your initial evaluation, the transplant team will meet to decide if you are a suitable donor. If you are accepted as a donor candidate, the team will decide what further testing that you need. The transplant team must be certain that you do not have any significant risk factors for this elective surgery. Health conditions such as heart disease, high blood pressure (hypertension – blood pressure will be checked on at least two different occasions), obesity (height, weight, and body mass index [BMI] will be measured) or diabetes may eliminate you as a candidate for live kidney donation. Kidney donors will not knowingly be placed at risk.

The length of time to complete the testing depends on you and your schedule. Testing is scheduled at your convenience, whenever possible. Your transplant nurse coordinator will work with you during this phase to complete the required testing.

What tests will I have to do during the evaluation phase?

Laboratory

Your health status will be checked with blood tests for general and metabolic function, kidney function and potentially transmissible diseases (such as hepatitis, HIV, syphilis, etc.). Some of the blood work will require fasting (no food or drink for 12 hours before the laboratory tests are drawn).

A pregnancy test is required for female patients who are premenopausal and who have not undergone surgical sterilization.

24-hour urine collection

A 24-hour urine collection provides information about your kidney function. If you have excessive protein in your urine (proteinuria) or your kidneys are not able to clear waste products from your body (low creatinine clearance), it will not be safe for you to donate a kidney.

Glucose tolerance test

This test is required if there is a family history of diabetes or if your fasting blood sugar is above normal range.

Chest X-ray

A chest X-ray provides information about your lungs. If you have had a chest X-ray within the last six months, please bring the written report to your evaluation. You do not have to bring the actual X-ray films.

Electrocardiogram (EKG or ECG)

An EKG provides information about your heart rhythm. If you have had an EKG done within the last six months, please bring the report to your evaluation.

Colonoscopy

All donors 45 years of age or older or who have a family history of colon cancer must have a current colonoscopy to screen for colon cancer. If you have had this exam within the last 12 months, please bring the report to your evaluation.

Cardiac stress test

A cardiac stress test is done on a treadmill. Donors over age 50 will need a current stress test. If you have had a stress test within the last 12 months, please bring the report to your evaluation. If other risk factors are identified, you may need a stress test even if you are not yet 50 years of age. Additional cardiac testing may be required.

CT angiogram scan

The CT (computed tomography) angiogram scan is an examination that produces a series of cross-sectional, 3-dimensional images of your kidneys. The CT angiogram confirms the presence of two kidneys, examines the structure of the kidneys, confirms the absence of stones, and visualizes the number of renal arteries, veins and ureters.

An intravenous (IV) contrast is used, which will highlight your kidneys. The test takes approximately 20 to 30 minutes. Preparation for the CT angiogram is nothing by mouth (except for clear liquids) for 90 minutes prior to the test. This test determines which kidney will be used for donation. This test must be done at Corewell Health William Beaumont University Hospital in Royal Oak.

Females:

Pap smear and pelvic exam

This is done as a routine cancer screen. All females age 21 and older must have a current pap and pelvic (within 12 months). If you have had this within the last 12 months, please bring the report to your evaluation. If you have had a hysterectomy, please see your doctor to have a pelvic examination.

Mammogram

This is done as a routine cancer screen. Females age 40 and older must have a current mammogram. If you have had this within the last 12 months, please bring the paper report to your evaluation. We do not need the films.

Males:

PSA (prostate specific antigen)

Men 40 years of age and older must have this blood test to screen for prostate cancer

---

Miscellaneous testing

Other testing may be required based on your medical, psychological and surgical history. Your transplant nurse coordinator will inform you of any further required testing as determined by the transplant team.

What happens when all the tests are completed satisfactorily?

The transplant team members review your testing as it is being completed. After testing has been completed, your results will be presented at a transplant team meeting. The team includes nephrologists, surgeons, nurse coordinators, the social worker, independent living donor advocate and the financial representative (or coordinator). There will be a discussion to determine your suitability to be a donor.

If the team feels that it is not possible for you to donate, you will be given the option to be evaluated at another transplant center that may have different selection criteria. If you chose to do so, the results of your testing at Corewell Health William Beaumont University Hospital may be sent to that transplant center for review at your request.

We realize that being turned down to be a donor may be very disappointing for you, however, the transplant team would not proceed with an elective surgery that would not be in your best interest. If the team decides that you may be a donor, your transplant coordinator will contact you to explain the next steps in the process. Remember that even after you have been accepted as a donor, you still have the option to opt out at any time. If you are having doubts, discuss your concerns with any member of the transplant team or the ILDA.

Before surgery

Your transplant nurse coordinator will review specific plans with you prior to surgery.

Specific blood tests are required at certain intervals, so there will be several clinic appointments before surgery occurs. You will need to come in for an office visit prior to the surgery date to meet with the doctor and transplant nurse coordinator for final instructions and blood tests for final crossmatching and pre-surgical testing. The physician will review information regarding the surgery. If you have any questions, make a list and bring it to this appointment.

Transplant hospitals are required to obtain a blood sample from each living donor within 24 hours of the donation surgery. This sample is stored for 10 years and will only be used for investigation of a potential donor-derived disease.

Kidney donation surgery

If you decide to donate, you will have a donor nephrectomy (the removal of a kidney) for donation.

Your transplant surgeon will explain open and hand-assisted laparoscopic donor nephrectomy to you and answer any questions regarding each technique. There is the possibility that a laparoscopic surgery could be converted to an open surgery depending on the findings during the operation.

Laparoscopic donor surgery

Our surgeons perform living kidney donor surgeries using the hand-assisted laparoscopic technique. Two or three half-inch incisions are made in the upper abdomen and a laparoscope (small, lighted camera) and other instruments are placed into the abdomen to perform the surgery. The laparoscope provides the surgeons with images on a video monitor that guide them through the surgery. To create a working space, the abdomen is filled with gas. The kidney is removed through an incision in the abdomen, below the belly button. This incision is about four to six inches long (large enough to fit a fist). A laparoscopic nephrectomy requires a shorter hospital stay, significantly decreases recovery time at home and produces a better cosmetic effect than an open nephrectomy.

Another benefit of laparoscopic surgery includes less blood loss, due to the pressure of the gas in the abdominal cavity.

Usually the left kidney is removed for transplant, but occasionally the anatomy of some donors requires the right kidney to be removed instead.

Cases are considered individually, but some donors may not qualify for laparoscopic surgery if they:

- Have had previous abdominal surgery.
- Are significantly overweight.
- Have abnormal anatomy of their kidney.

You will be asked to drink a lot of water on the day before surgery. This will keep your kidneys full of fluid (hydrated). The night before surgery do not eat or drink after midnight. It is important for your stomach to be empty.

For the laparoscopic kidney surgery, you will be asked to take a bowel prep the day before surgery. This is an over-the-counter medication that will cause your bowels to move several times. This is important in laparoscopy to reduce the risk to your intestines.

Conversion of laparoscopic to open surgery

Certain difficulties (such as scarring in the abdomen from previous surgeries; bleeding or other issues) may be encountered during laparoscopic surgery which will make it necessary for the surgeon to switch to an open operation. This would be done by creating a larger incision. Fortunately, these situations are rare, but a laparoscopic surgery might be converted to an open operation for your safety or to protect the donated kidney.

You will have the opportunity to discuss these options in detail with the surgeon performing the procedure, and the surgeon will answer your questions.

Day of surgery

You will be admitted to Corewell Health William Beaumont University Hospital in Royal Oak early on the morning of surgery.

At the time of the procedure you will be asked to sign a formal hospital operative consent, which is required for all patients undergoing surgery.

You will go to surgery before the kidney recipient. Your surgeon and anesthesiologist will meet you in the pre-op area and discuss the procedure and what to expect.

The pre-surgical nurses will place an IV in your arm and give you fluid. This keeps your kidneys hydrated.

You will receive general anesthesia and will not be awake during surgery. You will be intubated (a breathing tube is placed through your mouth into your trachea).

Once anesthesia is begun, a catheter tube is placed in the bladder to drain your urine. You will be positioned on one side or the other depending on which kidney is removed. Physicians are careful with positioning you under general anesthesia to avoid injury, yet despite best attempts, minor injury can occur. Skin or nerves can be damaged from pressure to small areas. These complications are rare.

The kidney is removed from the donor, flushed with a special cold solution and put in sterile ice slush to protect it from the lack of blood flow. The kidney is then taken by the recipient surgeon, who prepares it further for transplantation.

In general, the operation will take two to four hours to complete. During the operation, the kidney to be donated will be removed, along with some blood vessels and the ureter, which drains urine from the kidney to the bladder. The adrenal gland will remain with the donor.

Once the kidney has been removed, your incisions will be closed and you will be transferred to the recovery room. Your kidney will then be transplanted into the recipient.

Will I need a blood transfusion during surgery?

Kidney donation surgery usually involves minimal blood loss. It is unlikely that you will need a blood transfusion during or after your kidney donation. However, if you would need a blood transfusion, the current blood supply meets the highest standards and is judged safe by the medical community.

After surgery

After the surgery, you will go to the recovery room, also known as post anesthesia care unit or PACU.

Nurses will take your blood pressure, monitor your urine output, provide you with pain medication and answer your questions. When you are medically stable, you will be transferred to the inpatient nursing floor.

You will have an IV (intravenous) catheter in your arm to receive pain medication and to give you fluids to keep you hydrated.

You should anticipate incisional pain after the surgery. Pain tolerance varies by individual and the nurses will assess your pain regularly and treat it individually. Right after surgery, donors will receive narcotic pain medication through an I.V. (intravenously). If this does not control your pain adequately, you will be given additional medications to make you more comfortable. Most donors can switch to pain medications taken by mouth after a day or two.

You will have a catheter in your bladder to drain urine. This is to monitor that your remaining kidney is functioning properly. The catheter is usually removed at the bedside 24 hours after your surgery.

The recipient of your kidney will be taken from the operating room directly to the Intensive Care Unit or ICU. Nurses will carefully monitor the recipient and the new kidney transplant. Approximately 24 hours later, the recipient will be moved to the transplant nursing unit.

The donor and the recipient will recover on the same unit once the recipient has been transferred from the ICU.

Prevention of post-surgical complications

There are risks associated with anesthesia and surgery. Obesity, hypertension, age or other donor-specific medical conditions may increase risk for surgical complications. Complications may occur following your donor surgery, but many may be avoided by following the directions of your physicians and nurses.

Getting out of bed and walking on the day after your surgery will help to prevent blood clots, pneumonia and bowel problems. Gas build-up and constipation may put pressure on your incision and increase your pain; therefore, walking will help ease your pain, as it will help move gas out of your system and help you move your bowels. You will also be asked to cough and breathe deeply every one to two hours to clear fluid from your lungs to prevent pneumonia.

Potential short- and long-term risks

Long-term medical implications of organ donation have not been fully identified. Potential risks associated with living kidney donation may be transient or permanent and may include:

Potential psychosocial risks

- Problems with body image.
- Post-surgery depression or anxiety.
- Changes to the living donor's lifestyle.
- Feelings of emotional distress or bereavement if the transplant recipient experiences recurrent disease or in the event of the transplant recipient's death.

Potential financial risks

- Personal expenses of travel, housing, child care costs and lost wages related to donation might not be reimbursed (resources may be available to defray some donation-related costs).
- Need for life-long follow-up at the donor's expense.
- Loss of employment or income.
- Negative impact on the ability to obtain future employment.
- Negative impact on the ability to obtain, maintain, or afford health, disability and/or life insurance.
- Future health problems experienced by living donors following donation may not be covered by the recipient's insurance.

Potential medical or surgical risks

- Scars, pain, fatigue, hernia, wound infection, blood clots, pneumonia, nerve injury (usually temporary due to positioning during surgery) and other consequences typical of any surgical procedure.
- Acute kidney failure and the need for dialysis or kidney transplant for the donor.
- Bleeding (this rarely requires a blood transfusion).
- Adverse reaction to anesthesia.
- Infection in the wound, in the abdominal cavity or in the urinary tract.
- Damage done to the donated kidney itself during the surgery, which might jeopardize the ability of the transplant to function in extraordinarily rare circumstances, the kidney may be damaged so greatly that it cannot be transplanted.
- Males may have temporary swelling in the scrotum.
- Damage to surrounding organs or blood vessels.
- Damage to the spleen, the pancreas, the intestines or colon (these injuries are rare).
- Abdominal symptoms such as bloating, nausea or developing an obstruction of the bowels.
- Though many female donors have had successful pregnancies, the risks for preeclampsia or gestational diabetes are increased after donation.
- Death, living kidney-donor surgery is estimated to have a 0.03% mortality (death) rate (i.e., 3 In 10,000). To put this in context, this is the approximate risk of dying in a motor vehicle accident on the streets of Metro Detroit every year or the risk of a construction worker dying on the job annually. According to the United States Census Bureau, the 2017 infant mortality rate in the U.S. is 0.58% (i.e., 58 in 10,000), indicating that it is almost 20 times riskier to be born in the United States than to donate a kidney.

Recovery after your surgery

Laparoscopic-donor nephrectomy patients usually require two to four days in the hospital. You must be walking regularly, urinating without difficulty, tolerating food and have adequate pain control before being discharged. You will need someone to drive you home.

The surgeon will see you for a follow-up visit within four weeks of discharge. You may call nurse coordinator or your surgeon if you have concerns.

Usually pain is well managed with oral pain medicines for one to two weeks. It is unusual to require significant pain medication after two weeks.

Full healing of your incisions will probably not occur for at least four weeks.

Guidelines to follow during recovery

- Drink extra fluids. Water is the best fluid to drink. Drink at least eight, 8-ounce glasses of fluid per day. This equals 64 ounces, or two quarts of fluid per day.
- Eat a healthy diet (see diet guidelines under “Eating Sensibly” in this booklet).
- Avoid driving for two to three weeks and while you are taking pain medicines.
- Avoid lifting items heavier than 10 pounds for six weeks after donation. You may do light housework or similar activities.
- Avoid vigorous activity until cleared by your surgeon.
- You may feel very tired when you get home. Gradually increase activity and exercise as tolerated. Walking is a great form of exercise.
- You may resume sexual relations in two to four weeks as you feel ready.
- Avoid use of over the counter or prescribed nonsteroidal anti-inflammatory medications (e.g. ibuprofen, naproxen, indomethacin). These medications may be harmful to your remaining kidney.
- Do not use any herbal supplements without first checking with your physician.

How long will my recovery take?

Every donor is unique and therefore each donor’s recovery time frame varies. You can help your recovery by keeping an active and healthy lifestyle before surgery. Many donors find that regaining their previous energy level takes four to six weeks. You should start by walking and increasing your activity as soon as you feel able. Each day plan on doing just a little bit more, but always within reason.

When can I drive?

You may usually start driving two to three weeks after surgery. If you are still on narcotics (pain medication), or your ability to make quick movements is still limited, returning to driving may be longer. Check with your surgeon for permission to drive. Remember to always wear your seat belt, starting with your ride home after discharge.

When can I go back to work?

Kidney donors generally return to work in three to eight weeks. Return to work is determined by the type of work and activity levels. Some patients consider returning to work for half days for the first week that they resume work. If you have a job that requires heavy lifting, the surgeon may ask you not to return to work for up to eight weeks to allow adequate time for the incision to heal and strengthen.

How you can protect your remaining kidney

Monitoring

Transplant programs are required to report donor information to the Organ Procurement and Transplant Network (OPTN) and the United Network for Organ Sharing (UNOS) at six months, one year and two years post-donation. You must commit to this follow-up to be a kidney donor.

In addition, you should follow-up with your primary care physician at least yearly to monitor your kidney function and to check your blood pressure. Blood work and testing your urine for protein should also be completed once a year. Protein in your urine may be a sign of your remaining kidney not working properly.

Measuring your level of kidney function, also sometimes called GFR, (short for glomerular filtration rate, which shows how well your kidney is filtering your blood) requires a blood test for creatinine. An increase in your creatinine and/or a decrease in your GFR may reflect a decline in the ability of your kidney to adequately filter your blood.

Controlling blood pressure

“Normal” blood pressure is 120/80 or lower. You may have high blood pressure if your blood pressure is consistently over 140/90. People with kidney disease or one kidney should keep their blood pressure below 130/80. Controlling blood pressure is especially important because high blood pressure can damage your remaining kidney.

Great care should be taken in selecting blood pressure medicines for people with a solitary kidney. Angiotensin- converting enzyme (ACE), inhibitors and angiotensin receptor blockers, (ARB), are two classes of blood pressure medicine that may provide additional protection for kidney function and reduce proteinuria. However, these medicines may be harmful to someone with renal artery stenosis, which is narrowing of the arteries that enter the kidneys. They may also be harmful in situations that lead to dehydration. Controlling your blood pressure may require a combination of two or more medicines, plus changes in diet and activity level.

Eating sensibly

You should continue to make healthy food choices, including fruits, vegetables, grains and low-fat dairy foods. Limit your daily salt (sodium) intake to 2,000 milligrams or less. Reading nutrition labels on packaged foods to learn how much sodium is in one serving may help.

Avoid high-protein diets. Protein breaks down into the waste materials that the kidneys must remove, so excessive protein puts an extra burden on the kidneys. Eating moderate amounts of protein is still important for proper nutrition. A dietitian can help you calculate the right amount of protein for you. Limit alcohol and caffeine intake as well.

Avoiding injury

Avoid contact sports such as boxing, football and hockey. Having a solitary kidney should not automatically disqualify you from sports participation. Protective gear such as padded vests worn under a uniform can make limited contact sports like basketball or soccer safe. Doctors and patients should discuss the risks of any activity and decide whether the benefits outweigh those risks.

Pregnancy

The risk for gestational hypertension (high blood pressure) or preeclampsia (a complication of pregnancy) is increased in living kidney donors. However, there is no difference with respect to rates of preterm birth, low birth weight, maternal death, stillbirth or neonatal death. In other words, having a small increase in gestational hypertension and preeclampsia does not have an adverse effect on long-term maternal or fetal outcomes. These risks can be managed and monitored through regular physical exams, blood tests and urine tests.

Feel free to ask questions

We hope this booklet has answered your questions about kidney donation. Throughout this process, please ask questions to clear up any information you do not understand. Discussions between you and members of the transplant team will be strictly confidential from the recipient. The transplant team will support your decision, no matter what it is. Your living donor advocate will be available to discuss any further questions or concerns you may have.

Closing thoughts

The decision to donate a kidney and the act of doing so is an important and personal process. Giving of oneself in this way is a generous gift to a family member or friend. It is of immeasurable value. We feel privileged to be involved in this work. We will always strive to make this a positive and successful experience for you and your recipient.

Thank you for your interest in kidney donation at Corewell Health William Beaumont University Hospital.

Definitions of terms

Acute rejection
Acute rejection can happen at any time after a kidney transplant. During an acute rejection episode, the serum (blood) creatinine rises. This can usually be treated by taking a higher dose or a different type of immunosuppressive medicine until the creatinine returns to a baseline.

Antibody
Product of the immune system that helps the body fight infections and foreign substances.

Antigen
The "marker" that stimulates the body to produce antibodies.

Anti-rejection medicine
These drugs are taken by the recipient every day through the life of the transplanted kidney. They are also known as immunosuppressive medicine. They help prevent the immune system from rejecting the new kidney.

Autologous blood
Your own blood donated for yourself before surgery.

Bladder
The part of the urinary tract that receives urine from the kidneys and stores it until you urinate.

Blood typing
A blood test that indicates blood group. You can be type O, A, B or AB. The recipient's blood type needs to be compatible with the donor's blood type to receive the kidney transplant.

BUN
Blood urea nitrogen, or BUN, a waste product from the kidney. Your BUN value is an indication of waste products being created by the body.

Chronic rejection
Chronic rejection is a process that may happen after a kidney transplant. It can develop over months or even years. During this process, the creatinine slowly rises. There is no known reversal of chronic rejection.

Chronic renal (kidney) failure
Permanent damage to both kidneys that cannot be reversed; it is treated by dialysis or a kidney transplant.

Creatinine
A product of muscle metabolism. Creatinine level serves as a very good indicator of kidney function.

Crossmatching
A test to find out if the blood of the kidney donor and the person receiving the kidney are compatible.

Deceased donor
An individual whose tissues or organs are donated after his or her death. Such donations come from two sources: patients who have suffered brain death and patients whose hearts have irreversibly stopped beating. The latter group is referred to as "donation after cardiac death" (DCD) donors.

Dialysis
A process that cleans and balances the chemicals in the blood when a person's kidneys have failed. Dialysis may refer to hemodialysis or peritoneal dialysis.

Donor nephrectomy
Removal of a kidney for donation from a living person.

End-stage renal (kidney) disease
Condition in which the kidneys no longer function and dialysis or a transplant is needed to replace lost kidney function and support life.

Glucose
A type of sugar found in the blood.

Hypertension
Another word for high blood pressure.

Immunosuppressive medicines
Medications taken by the recipient every day the transplanted kidney is functioning. They help prevent the recipient's immune system from fighting against and rejecting the new kidney. Also known as anti-rejection medicine.

Intravenous or IV
A small catheter placed into a vein; refers to the fluids and medicines that are injected into a vein through a needle or catheter.

Kidneys
Two bean-shaped organs located beside the spine, just above the waist. They remove waste and balance fluids in the body by producing urine.

Living non-related kidney
A kidney donated from someone who is living but not blood related, such as the spouse or a friend.

Living-related kidney
Donated by a blood relative such as a mother, father, sister, brother, son, daughter, cousin, aunt or uncle.

Nephrectomy
Surgically removing one or both kidneys.

Rejection
The process by which the body responds to a "foreign object," such as a new kidney. Rejection can be acute or chronic (see definitions: acute rejection and chronic rejection).

Renal
Having to do with the kidneys or referring to them.

Tissue typing
A blood test that evaluates if there is a tissue match between organ donor and recipient antigens that is done before a transplant.

Transplant
Transferring organs or tissues from a donor to a recipient.

Ureters
The tube that carries urine from each kidney to the bladder.

Urethra
The tube from the bladder that allows urine to flow out of the body.

Urinary tract
The system made up of the kidneys, ureters, bladder and urethra. It produces, moves, stores and eliminates urine.

Corewell Health William Beaumont University Hospital Transplant Center

3535 W. 13 Mile Road, Suite 644
Royal Oak, MI 48073

248.551.1033 Phone
800.253.5592 Toll free

Hours: Monday-Friday, 8 a.m. to 4:30 p.m.

corewellhealth.org

Corewell Health™