

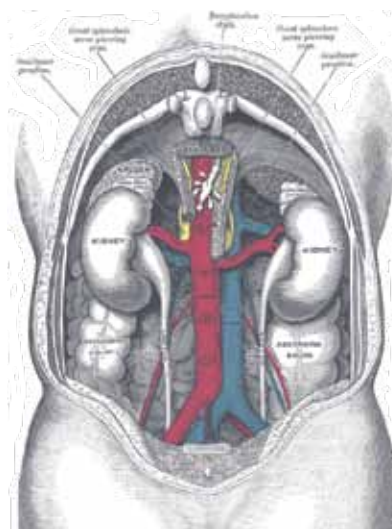
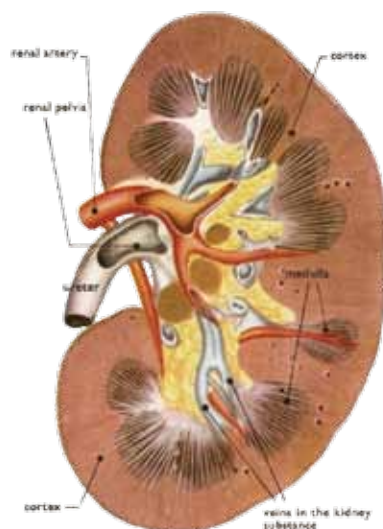
Transplants at University of Michigan Health System

In 1964 a team of surgeons at the University of Michigan Health System (UMHS) performed the first kidney transplant operation in Michigan. Our transplant surgeons now perform approximately 250 kidney transplants a year. This makes the UMHS team among the most experienced in the nation. Our kidney Transplant Team includes transplant surgeons, urologists, nephrologists (kidney doctors), physician assistants, nurse practitioners, nurses, transplant coordinators, social workers, psychologists, pharmacists, dietitians, pathologists and other specialized support staff. The professionals can help you have the best possible kidney donation experience. In addition to an expert team, UMHS also has the most comprehensive medical facility in the state.

Normal Kidneys

Kidneys filter waste products and excess water from your blood. They also make hormones that control your blood pressure and red blood cell count. They keep the water, salt and acid levels in your body balanced. Most people have two kidneys that are located toward the back and under the rib cage, where they are protected. There is one on each side of the spine.

Kidneys produce urine that carries the waste products out of your body. Each kidney is attached to a ureter, a tube-like structure. The urine travels through the ureter and empties into a bag-like organ called a bladder. The bladder can stretch to hold urine until it is full. It then signals your brain that you need to urinate. The urine leaves the body through a tube called a urethra. This tube exits through the penis in men and in front of the vagina in women.



Kidney Failure and Transplantation

Kidney failure happens when the kidneys are unable to perform their normal functions. Kidney failure can result from health concerns such as hypertension, glomerulonephritis, chronic pyelonephritis, and hereditary diseases such as diabetes such as polycystic kidney disease or Alport's syndrome, metabolic diseases such as diabetes mellitus or inborn errors of metabolism such as oxalosis or cystinosis, obstructive, uropathy, medication toxicities, multisystem diseases such as vasculitis, amyloidosis, or systemic lupus erthematosus, congenital malformations including vesical ureteral reflux, hypoplasia and/or dysplasia.

Diseased kidneys do not do a good job of filtering toxins or removing water from the body. To stay healthy, people with diseased kidneys will need dialysis or a kidney transplant. Kidney transplant improves the length and quality of life of those whose own kidneys have failed.

Living Kidney Donors

Each year more than 4,700 Americans die from kidney disease and the complications of kidney disease. As of June 2009 there were 79,774 persons awaiting a kidney transplant from a deceased donor or "brain dead" donor in the United States. At the University of Michigan alone, there were 1,061 patients waiting. Unfortunately, in the year 2008 only 16,517 such kidney transplants were performed in the United States and 6,915 persons died waiting for a transplant. Because of the severe national organ shortage, alternative solutions to using deceased donor have been sought.

There are several advantages for a transplant candidate receiving a living kidney transplant as opposed to receiving a kidney from a deceased donor. The major advantage is that the transplant can occur before the patient begins dialysis, or becomes too ill to survive transplantation or dies. Another advantage of living donor kidney transplantation is that it can give patients the chance to receive a transplant before the onset of debilitating complications of their kidney disease. Finally, another advantage to the living donor approach is the emotional satisfaction donors and recipients feel when they are involved in such a life-sharing experience.

Although living kidney donation is considered safe, the operation does involve certain risks, including pain, infection and rarely death. This is a major operation and it should be discussed thoroughly with your family and family physician as well as with the Transplant Team. All risks will be explained to you in greater detail at the time of your clinic visit so that you can make an informed decision regarding donation. In addition, you will be able to find out exactly how many patients have been transplanted at the University of Michigan using the living donor method and how the donors and recipients have done

The Living Donor

Parents, children, siblings, other relatives and in-laws, close friends and altruistic donors can be considered for a living kidney donation. The potential donor and recipient must have compatible blood types and they must have a negative crossmatch. **Please refer to “The Immune System” on page 9 of the “Before Transplant” section of this booklet for more information on the immune system, antigens, antibodies, matching, tissue typing and crossmatching.**

Some health circumstances may prevent an individual from donating a kidney. For instance, individuals with diabetes or cancer may not be eligible to donate. The Transplant Team may review the data on potential donors with a relevant health history prior to scheduling an evaluation appointment.

Potential living kidney donors who are over the age of 50 with a history of hypertension may be eligible to donate a kidney. There is a protocol in place and the living donor coordinator will review the requirements to see if the potential donor qualifies.

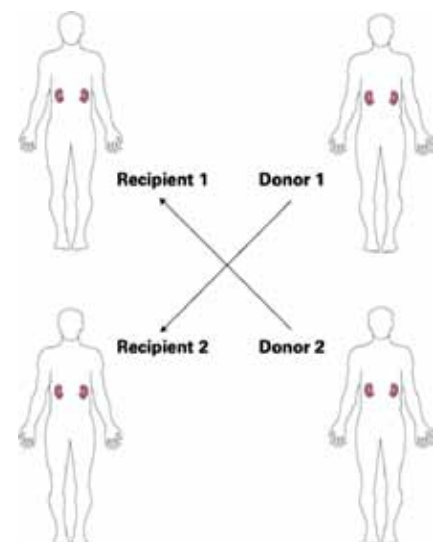
Obesity and prior abdominal surgeries may also exclude a donor because of increased surgical risk. Donors must be at least 18 years old. Donors may not be paid or receive any financial incentives to donate.

Paired Kidney Donors

Occasionally a healthy and suitable individual presents as a potential donor for their loved one, only to find they are not compatible (either by blood type or positive crossmatch), yet they want to donate. Paired kidney donation is aimed at providing transplant opportunities for these potential donors and recipients. This program identifies “pairs” where the donor from one pair donates their kidney to the recipient of the second pair.

Paired donation is only available to recipients who are actively listed for a kidney transplant and have exhausted all other living donor options.

If you have questions about the paired donation program, please ask your transplant coordinator.



The Decision to Donate

Being a living donor can be a very rewarding experience. Living donation is a sharing of life, giving a part of you to someone in need. However, it is also a choice that only the donor can make. The Transplant Team is always available to ensure all of your questions are answered thoroughly and by arranging any additional counseling necessary to help you make your decision. Our responsibility is to protect the privacy and rights of each potential donor. At any time in the process, it is perfectly acceptable to say “no,” regardless of the circumstance. The results of your donor evaluation are protected health information and cannot be shared with the recipient or anyone else without your written permission. Deciding not to become a living donor does not affect whether your loved one has a chance to have a kidney transplant from another living donor or a deceased donor. Remember that the only right decision is the one that makes you and your family most comfortable.

Living Donor Advocate

The University of Michigan provides an independent living donor advocate (LDA) who participates in the care of living kidney donors. The LDA is knowledgeable of living organ donation, transplantation, medical ethics and informed consent, and has no responsibility in the care of kidney transplant recipients. The LDA meets with potential donors during their formal evaluations to help educate them about living donation and to try to ensure that they are able to make a decision about donation that is fully informed and free from pressure. The LDA participates in team discussion about living donors and has the authority to exclude any potential living donor if there is a belief that donation would not be in the best interest of the living donor. The LDA will remain available for assistance and consultation throughout the donors’ evaluation, donation process and beyond.

Living Donors Must Call the Transplant Center

Individuals who wish to be considered to donate a kidney must contact the Transplant Office to indicate their interest in donation; the office cannot initiate contact with potential donors until they declare their interest. Potential donors must self refer by providing the Transplant Team with the full name of their intended recipient. When you call our office, you will speak with a member of the living donor team who will begin the process by asking a series of questions and completing a Living Donor Worksheet. The questions include demographic information, personal and family general health history, medications and social history. Please consider your accurate responses help the team begin to determine whether living donation could be safe for you.

Does Your Blood Type Match?

Potential living donors are expected to provide documentation of their ABO blood type. Some individuals, who have previously donated blood have this information on their Red Cross donor card. Individuals who have been in the military will have this information on their dog tag. Others may contact us to request a requisition to have the blood drawn and to have their ABO determined. For more information please refer to “Blood Types” on page 11 of the “Before Transplant” section.

Does Tissue Typing Show You Are Compatible?

Potential donors who are deemed to be ABO compatible and medically appropriate will need to have blood drawn for tissue typing. The living donor coordinator will communicate with potential donors eligible for tissue typing informing them to expect a tissue typing kit in the mail. The potential donor will need to take the kit to a lab to have their blood drawn and sent to the University of Michigan. For more information on tissue typing and matching please refer to “The Immune System” on page 9 of the “Before Transplant” section.

Tissue typing generally takes two to three weeks to be completed by the lab. In some cases, if initial tissue typing is compatible between a recipient and a potential donor, the recipient will need to undergo additional testing. This additional test takes seven to 10 business days to be completed.

Tissue typing may be done on up to four potential living donors per recipient, one at a time. Only one potential donor may be active in the evaluation process at one time. The living donor coordinators will make the potential donors aware they are compatible and whether other potential donors are also compatible. The potential donors and the recipient will determine which potential donor will move forward to the evaluation process. The living donor coordinators will provide the individuals involved with points to consider in making their decision, such as age of donor and recipient, job status, familial responsibilities and demographic locations.

Pre-Donation Evaluation

Potential donors identified to move forward in the process will be given an appointment in the Kidney Evaluation Clinic. During this appointment your evaluation as a donor will be assessed by a nephrologist, a transplant surgeon and a social worker.

Specific issues that will be addressed during your evaluation appointment include the donor surgery itself, potential complications of the surgery, post operative recovery and expectations for returning to work. Transplant social workers help potential living donors discuss their motivation to be a donor and assess any potential barriers to donation such as financial, psychosocial or social support. Each of the skilled health care professionals who make up the Transplant Team have an interest in answering your questions thoroughly and taking care of your medical and emotional needs.

Tests and Procedures

Initial Testing:

The following is a list of preliminary testing that can be expected in order to determine if you are an appropriate candidate to donate your kidney. Many times all the testing below can be accomplished on the day of evaluation.

- A complete history and physical exam to evaluate for any medical issues that may make donation unwise. It is very important that you be completely honest with us about your health history, any symptoms you have and also regarding the amount of alcohol that you drink. The results of these evaluations are held confidential; not even the recipient is told what you tell us.
- Blood studies will include blood chemistries, blood counts, blood type, immune system function and tests for certain infectious diseases.
- Chest X-ray to determine the health of your lungs and respiratory tract.
- EKG of your heart to determine how well your heart is working and if there is any heart disease you weren't aware of.

Additional tests may be necessary depending on your individual medical history.

Additional Testing

If on the day of evaluation it is thought that you are an excellent candidate to donate your kidney, you are scheduled for a spiral computerized tomography (CT) scan. Often this can be scheduled the same day of the evaluation at UMHS. If that is not possible, the test can be scheduled on another day at UMHS or at a local facility.

- A Spiral CT Scan is an X-ray test that involves lying flat on a table while a machine scans your abdomen. Although it is painless, it is necessary to have an IV for infusion of intravenous dye in order to best see your kidneys and ureters, and their blood supply. The surgeons need to make sure that the anatomy of the blood vessels would allow the kidney to be safely donated and transplanted to the recipient. At times the blood vessel anatomy is not suitable for kidney donation.

Evaluation Meeting and Donation Status

After all your testing results are received, your case will be presented at the weekly evaluation meeting where there will be discussion to determine your suitability to donate your kidney. You will be notified within two weeks of that meeting about the status of your evaluation. If you were identified as a suitable candidate, the living donor coordinator will work with you to schedule the operation.

Sometimes the living donor coordinator contacts you to advise you that more testing is needed. When that happens, it is important to complete that testing as soon as possible. Please communicate with your coordinator when your testing is completed.

Occasionally the living donor coordinator contacts you to advise that it is not possible for you to donate. This can be very disappointing news. It may help to remember the team is looking out for your welfare and makes the decision after considering much data. The goal is to improve the health of the recipient, while protecting the current and future health of the donor. If health concerns are noted during your evaluation, you will be notified and will be advised to obtain appropriate follow-up care.

Pre-Operative History and Physical

A pre-operative history and physical is required within 30 days of surgery. During this final visit you will sign a consent form giving permission for the operation. You will have a chance at this point to have any questions or concerns you have answered personally. In order to proceed with the operation, it is necessary that you and the recipient are both feeling well at the time. If either of you has a cold or flu, we will cancel the operation and reschedule it. You also will be asked not to take aspirin or non-steroidal anti-inflammatory drugs like Advil or Nuprin for seven days before the surgery.

The Donor Operation

The living donor kidney transplant actually involves two overlapping operations between you and the recipient. Your kidney will be removed (called a nephrectomy) with its blood vessels intact in one operating room. While this is happening, the recipient is being prepared to receive your kidney in another operating room. Your healthy kidney is then taken to the other operating room where it is sewn into place in the recipient.

The removal of the donor kidney is performed by a laparoscopic technique, where removal of the kidney is done using narrow instruments placed through several small incisions after inflating the abdomen with gas. Generally a three- to four-inch incision is made either near the belly button or in the pelvic area. This is in addition to several small incisions on the donor's side, each about one inch.

Frequently Asked Questions:

What functions do the kidneys perform?

Kidneys filter poisons out of your blood and they regulate the water balance in your body.

What are the risks of donating my kidney?

The complication rate for donating a kidney is around 6%. As with any abdominal operation, there is risk for complications. The majority of these complications are minor. If there are more serious complications, they can usually be treated and rarely have any long-term effects. The complications include but are not limited to: wound infections, urinary tract infection, pneumonia, blood clot, pulmonary embolus (clot in the lung), injury to the abdominal structures (large intestine, spleen or pancreas) and death. The chance of dying from a complication of the donor operation is one in 3,000.

What functions do the kidneys perform?

Kidneys filter poisons out of your blood and they regulate the water balance in your body.

When will I be able to eat again?

Patients generally start with clear liquids as tolerated and their diet is advanced accordingly.

How long will I be in the hospital?

The length of the hospitalization varies by individual, but most donors are generally in the hospital from one to two days.

How will this be paid for?

Living donors are not responsible for the cost of their donation work up, hospitalization or the costs of complications. These services are covered by the transplant center. If a donor receives a bill for these services they should contact the kidney financial specialist at **(734) 936-7779**.

Donors will be responsible for their lost wages, cost of travel to and from the hospital for pre-transplant, admission and post-transplant procedures. Most medical insurers do not reimburse for these items.

The National Living Donor Assistance program may help with travel expenses for patients who qualify based on financial need. The Transplant Donor Coordinator can provide information on this program. You will need to complete paperwork and provide

financial statements, as well as the recipient, to assess the financial need for funds. It takes approximately four weeks to apply for funds, receive approval and receive a card for travel funds. These funds can be used for travel to UMHS for the donor evaluation appointment for yourself and one additional person. The funds can also be used for travel for yourself and another person for the transplant surgery. If you plan to apply for and use these funds it will be necessary to plan ahead of your evaluation appointment.

When can I return to work?

You should anticipate being out of work for four to eight weeks after your surgery to give your body time to continue healing itself properly. In some cases, donors may be able to return to non-active work sooner. Your return-to-work release date will be dependent upon the type of work you do. You may not drive for three weeks or while on narcotic pain medications. You will be not able to lift greater than 10 lbs for six weeks to prevent abdominal herniation.

How much does it hurt?

Although pain tolerance varies by individual, all individuals should anticipate some pain in the days following surgery. Once the pain medication that was given to you for the operation begins to wear off you may have some pain and discomfort. Pain medication will be given to alleviate or minimize your discomfort as much as possible. In most cases, you will have control over the pain medication through a machine that allows you to push a button and get a dose of pain medication, right after the operation.

What will the scar be like?

With a “laparoscopic” nephrectomy, you will have several small scars. One three- to four-inch scar will be near your belly button or pelvic area, with several other one-inch scars on your side. Scars will fade with time. Using a scar revision cream (after the initial healing) can be helpful in minimizing scarring.

Is a living donor transplant better than a transplant from a deceased person?

Yes, a living donor transplant is almost always better than a transplant from a deceased person because the anticipated graft survival is longer and the transplant is planned.

Are there any long-term physical restrictions or other limitations?

There are no restrictions or limitations on physical activity once you have recovered from the surgery. However, kidney donors may not take non-steroidal anti-inflammatory medications, because the risk of injury to the remaining kidney from these medications is high.

I am a woman and I want to have children. Will donating prevent me from getting pregnant or having a healthy baby?

Living donation is not a reason to avoid future pregnancies. We recommend that you inform your physician that you have donated a kidney and are considering becoming pregnant.

Who can I turn to with questions?

Before the surgery, call:

- Living Donor Advocate (LDA) at **(734) 232-1706**
- Concerns about donation – call **(800) 333-9013**



The Operation and the Recovery

Before the Operation

Once the Transplant Team has made a decision regarding your ability to donate, a living donor coordinator will contact you to discuss possible dates for the operation. The living donor coordinator also will make all of the hospital arrangements for your admission on that date.

The day before your surgery a nurse from the hospital will call you to confirm your arrival time at the hospital. It is important not to eat or drink after midnight the night before your surgery.

If you develop a fever, cold, cough, nausea or vomiting the day before surgery it is important that you call the living donor coordinator to let them know as soon as possible.

The Day of Surgery

On the day of surgery you should take all of your medications as prescribed, unless otherwise directed by your doctor. You should avoid taking aspirin or medicines that contain aspirin for seven days prior to your surgery, unless directed to do so by your physician. You should also bring a list of all your current medications with you to the hospital for your doctors to review.

From the surgical admission suite you will be taken to the operating room. You will be under general anesthesia throughout the entire operation and a member of the surgical team will be at your side at all times.

Any family members and friends who accompany you to the hospital can wait in the Patient and Family Lounge where the doctors will speak to them after your surgery is complete.

Waking Up After Surgery

The donor operation typically takes between two and four hours, but may vary depending on your anatomy and any previous abdominal surgeries you may have had. Once the operation is done, you will be taken directly from the operating room to the recovery room. After several hours in the recovery room, you will then be taken to a hospital room. Your family and friends will be allowed to visit during regular hospital visitation hours, which are 8 a.m. to 8 p.m.

Once the pain medication that was given to you for the operation begins to wear off you may have some pain and discomfort. Pain medication will be given to alleviate or minimize your discomfort as much as possible. In most cases, you will have control over the pain medication through a machine that allows you to push a button and get a dose of pain medication.

Also upon wakening you will be asked to take deep breaths, and to cough and turn to help keep your lungs free from infections.

You will also have an IV line in your arm or neck under the collar bone, used to give IV fluids and medications for the first few days after the surgery.

You will also have a catheter inserted into your bladder to drain urine. This catheter may feel slightly uncomfortable, but it is only temporary and will be removed when you are able to get out of bed safely to urinate on your own.

During your stay in the hospital, your laboratory studies, medications, nutritional status and exercise tolerance will be monitored closely. As soon as possible, your nurses will begin teaching you how to care for yourself in preparation for your discharge home.

The Recovery Process and Follow Up After Discharge

You will be discharged from the hospital once your doctors feel you are medically stable. The length of your hospital stay will depend on your individual progress, but donors can typically expect to be in the hospital for one to two days. You are advised not to drive for three weeks following your nephrectomy or while you are on narcotic pain medications. You should not lift more than 10 pounds for the first six weeks after your nephrectomy. You should anticipate being out of work for four to eight weeks after your surgery to give your body time to continue healing itself properly.

You will need to come back to the transplant clinic approximately two weeks following surgery to track your progress and detect any complications. If you have problems prior to this visit, contact the Transplant Team using the contact information you were given at discharge.

In addition, you should notify each of your local health care providers of any problems that develop once you are discharged home, and they should be given the number to the transplant office in the event they need to contact us to discuss a problem related to your surgery. It is recommended you see your primary care physician at least once a year for an exam and health care maintenance monitoring such as blood pressure, serum creatinine and protein in your urine.

When to Notify the Transplant Office

It is important that you notify your post-transplant nurse if you develop any of the following symptoms once you have been discharged home:

- A fever of 100.5° or greater
- Shortness of breath
- A cough that produces a yellowish or greenish substance
- Prolonged nausea, vomiting or diarrhea
- Persistent or worsening pain, drainage, redness or swelling at the incision site
- Unusual lightheadedness or weakness

It is also important that you notify your post-transplant nurse of any emergency room treatment or hospitalization.

Donor Billing

The University of Michigan Transplant Center is responsible for all testing required as part of a potential organ donor's work up and all medical claims related to the donation event.

Testing Completed at the University of Michigan

- Processed internally – you should not receive a bill.
- If you do receive a bill, please forward as soon as possible to the Transplant Donor Billing Specialist at the address below.
- Each time you receive a bill; please forward to the Transplant Donor Billing Specialist at the address below.

Testing Completed at Outside Facilities

- Facilities are asked to bill the University of Michigan Transplant Center.
- Some facilities aren't able to bill to a "third-party" and may bill the potential donor directly. If this happens, please forward these bills as soon as possible to the Transplant Donor Billing Specialist at the address below.

Facilities Requesting Pre-Payment (Lab Drawing Fees)

- Occasionally a facility requests prepayment for their services. When this occurs you have several options:
 - If the facility will accept a credit card, you may call the Transplant Donor Billing Specialist at (734) 936-7779 or the Transplant Finance Manager at (734) 615-0351 to have the fee charged to a UM credit card.
 - You may pay the fee up front and submit your receipt to address below for reimbursement. Reimbursement takes one to two weeks.
 - You may choose a different facility that is willing and able to bill to a third party.

Donation Event

- After your donation you may receive a statement from the University of Michigan for your donation surgery and/or inpatient stay in the hospital. The billing should indicate "no payment due at this time" and if it does, please disregard this automated statement. If the billing reflects a balance due, please contact the Transplant Donor Billing Specialist at the address below.

Follow-up After Donation

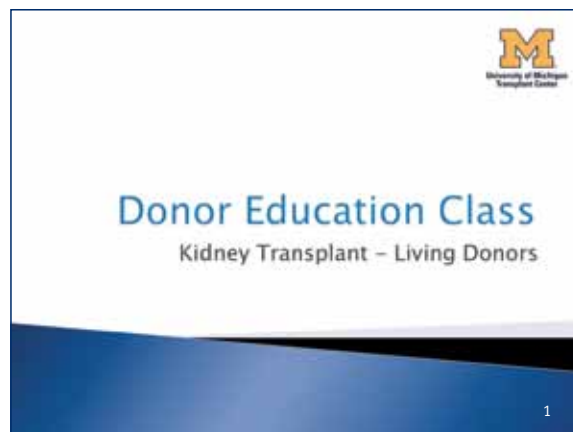
- If you receive a billing statement for your care following donation, please notify your Donor Coordinator and forward all medical claims related to your donation event to the Transplant Donor Billing Specialist at the address below.

Transplant Donor Billing Specialist
300 North Ingalls
NIB Room 2C40, SPC 5451
Ann Arbor, MI 48109-5451
Phone: 734-936-7779
FAX: 734-998-2293

Kidney Donor Class

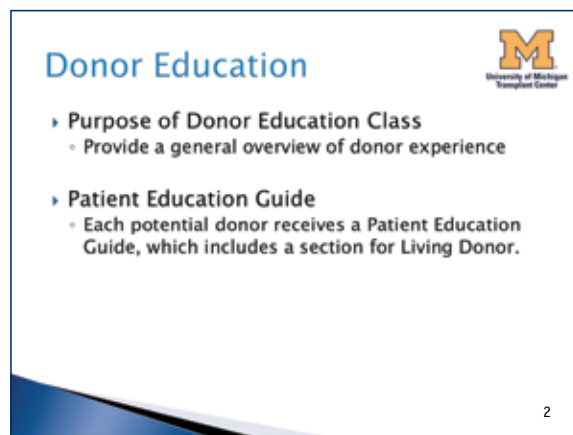
Slide 1: Donor Education Class

This is the Donor Education Class for living kidney donors. You are here today as a potential living donor to be evaluated to donate a kidney for transplantation.



Slide 2: Donor Education

The Donor Education Class is designed to provide a general overview of transplantation and the donor experience. Today we will review a slide presentation of the facts you will need to determine whether donation is right for you. As we review the slides in class today, you may want to use the space provided next to each slide to make notes or jot down questions you want to ask.



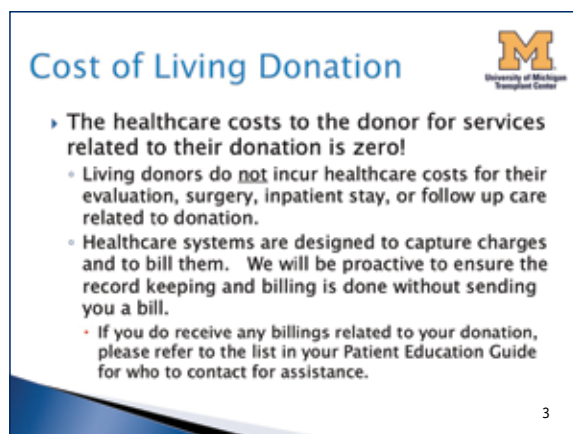
You will receive a Patient Education Guide that explains transplantation in detail and has a section on living donor kidney transplants. This guide will be your reference guide through the donation process. You can add information and contact numbers to this guide. It is important to bring your Patient Education Guide with you for your pre-operative history and physical and when you are admitted to the hospital for your surgery. Portions of this guide will be used during your inpatient stay to teach you about post-transplant care.

Slide 3: Cost of Living Donation

The University of Michigan Transplant Center is responsible for all testing required as part of a potential organ donor work up and all medical claims related to the donation event. The costs of healthcare services to work up living donors are many and the system for recording and billing these services are complex. Potential living donors and their insurance carriers are not responsible to pay for these services. Living donors receive many services – including testing during the evaluation phase, the inpatient stay and donation surgery, medications and follow up care. The donors should not pay for any of these services.

The Transplant Center staff work proactively to ensure you, as a donor, do not receive a bill for healthcare services related to your donation. Some services are received at the UMHS and others may be performed outside the UM system. Please refer to the Donor Billing Guidelines in the resource section for more information on the billing process and for contact information.

If you receive a bill for healthcare services related to your donation, please contact us for assistance.



Cost of Living Donation

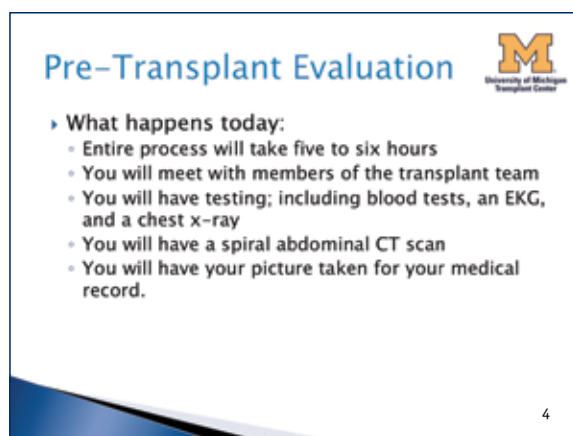
- ▶ The healthcare costs to the donor for services related to their donation is zero!
 - Living donors do **not** incur healthcare costs for their evaluation, surgery, inpatient stay, or follow up care related to donation.
 - Healthcare systems are designed to capture charges and to bill them. We will be proactive to ensure the record keeping and billing is done without sending you a bill.
 - If you do receive any billings related to your donation, please refer to the list in your Patient Education Guide for who to contact for assistance.

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Slide 4: Pre-Transplant Evaluation

Your evaluation appointment today will take approximately five to six hours. You will meet with members of the Transplant Team who will explain donation and answer any questions you may have. Today you will have blood tests, an EKG, a chest x-ray and you will have your picture taken for your medical chart. You will also need a spiral abdominal CT scan.

The evaluation process is an opportunity for the Transplant Team to assess whether donation will be safe for you and for you to determine whether donation may be the right choice for you.



Pre-Transplant Evaluation

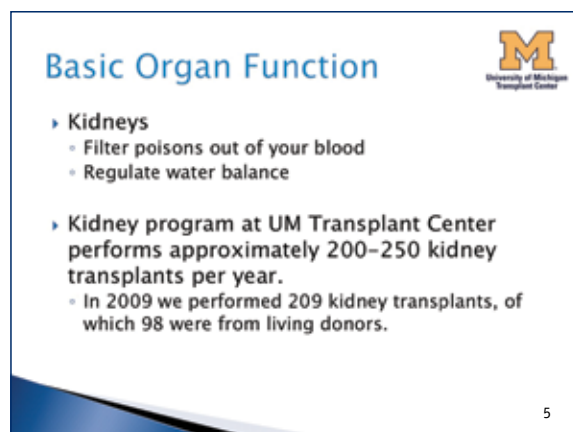
- ▶ What happens today:
 - Entire process will take five to six hours
 - You will meet with members of the transplant team
 - You will have testing; including blood tests, an EKG, and a chest x-ray
 - You will have a spiral abdominal CT scan
 - You will have your picture taken for your medical record.

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Slide 5: Basic Kidney Function

The basic functions of the kidneys are to filter poisons out of your blood and to regulate water balance.

The University of Michigan performs approximately 200 to 250 kidney transplants each year. In calendar year 2009 approximately 209 kidney transplants were performed, of which 98 were from living donors.



Basic Organ Function

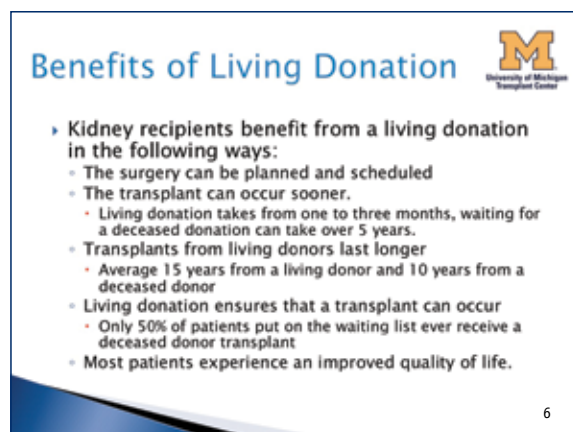
- › **Kidneys**
 - Filter poisons out of your blood
 - Regulate water balance
- › **Kidney program at UM Transplant Center performs approximately 200–250 kidney transplants per year.**
 - In 2009 we performed 209 kidney transplants, of which 98 were from living donors.

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Slide 6: Benefits of Receiving a Kidney from a Living Donor

Kidney recipients experience several benefits from receiving their transplant from a living donor.

- The surgery can be planned and scheduled to accommodate the schedules of the donor and the recipient.
- The recipient can receive a transplant sooner. It takes from one to three months to receive a kidney from a living donor; it takes an average of five years to receive a kidney from a deceased donor. Survival after transplant is generally better the sooner the transplant is performed.
- The transplants last longer: average 15 years from a living donor and 10 years from a deceased donor.
- Living donation ensures a transplant can occur. Only about 50% of the patients put on the deceased donor waiting list ever receive a deceased donor transplant. Some patients die waiting or become too ill to survive the surgery. The risk on dying while on the waiting list is approximately 8% each year.



Benefits of Living Donation

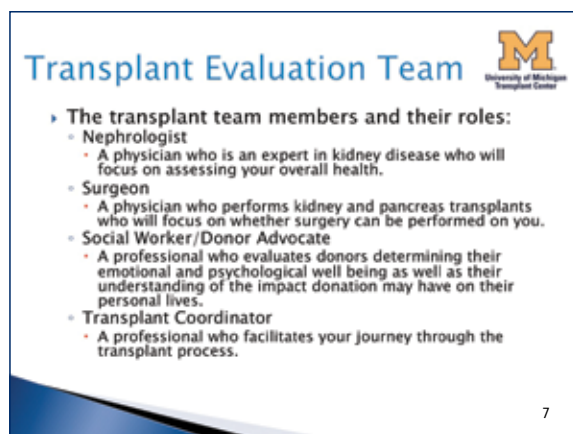
- › **Kidney recipients benefit from a living donation in the following ways:**
 - The surgery can be planned and scheduled
 - The transplant can occur sooner.
 - Living donation takes from one to three months, waiting for a deceased donation can take over 5 years.
 - Transplants from living donors last longer
 - Average 15 years from a living donor and 10 years from a deceased donor
 - Living donation ensures that a transplant can occur
 - Only 50% of patients put on the waiting list ever receive a deceased donor transplant
 - Most patients experience an improved quality of life.

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Slide 7: Transplant Evaluation Team

You will meet with the following members of the Transplant Team during your evaluation today:

- Transplant Nephrologist – specializes in kidney disease and will focus on assessing your overall health.
- Transplant Surgeon – specializes in performing kidney and pancreas transplants and will focus on whether the surgery can be performed on you.
- Social Worker/Donor Advocate – specializes in helping patients and their families understand and cope with the issues they may face related to donation. The Donor Advocate evaluates donors for their emotional and psychological well being as well as their understanding of the impact donation may have on their personal lives.
- Transplant Coordinator – a professional who facilitates your journey through the process to donation.



Transplant Evaluation Team

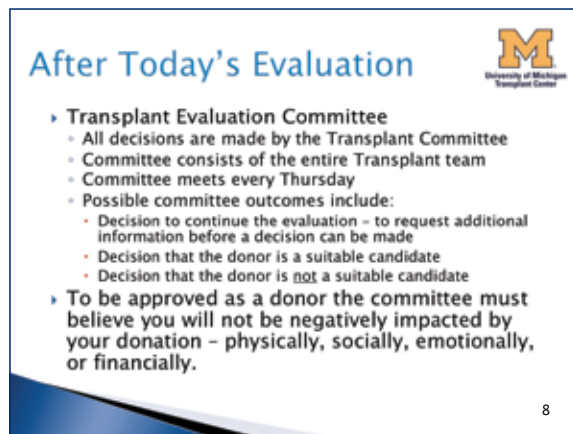
- **The transplant team members and their roles:**
 - **Nephrologist**
 - A physician who is an expert in kidney disease who will focus on assessing your overall health.
 - **Surgeon**
 - A physician who performs kidney and pancreas transplants who will focus on whether surgery can be performed on you.
 - **Social Worker/Donor Advocate**
 - A professional who evaluates donors determining their emotional and psychological well being as well as their understanding of the impact donation may have on their personal lives.
 - **Transplant Coordinator**
 - A professional who facilitates your journey through the transplant process.

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Slide 8: After Today's Evaluation

After all the testing results are obtained, your case will be reviewed by the Transplant Evaluation Committee. The Committee includes the nephrologists, the surgeons, the social workers, the financial coordinators, dietitians, pharmacists, living donor advocate and the transplant coordinators. All decisions about approving donation are made by this committee which meets each week. The committee will review your case to determine whether they have sufficient medical and social information to make a determination about whether donation will be safe for you. If they do not have sufficient information, they may request more testing.

To be approved as a donor the committee must believe you will not be negatively impacted by your donation – physically, socially, emotionally, or financially.



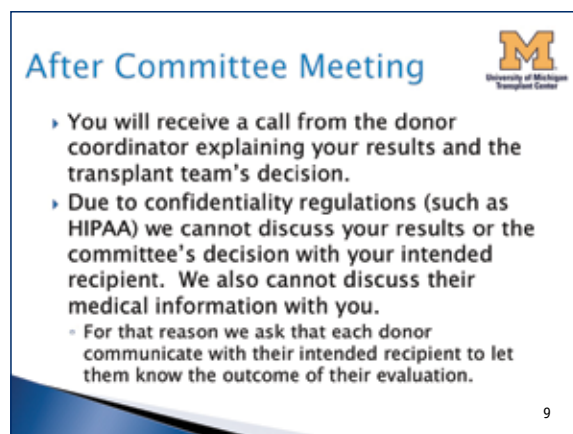
After Today's Evaluation

- **Transplant Evaluation Committee**
 - All decisions are made by the Transplant Committee
 - Committee consists of the entire Transplant team
 - Committee meets every Thursday
 - Possible committee outcomes include:
 - Decision to continue the evaluation – to request additional information before a decision can be made
 - Decision that the donor is a suitable candidate
 - Decision that the donor is not a suitable candidate
- **To be approved as a donor the committee must believe you will not be negatively impacted by your donation – physically, socially, emotionally, or financially.**

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Slide 9: After Committee Meeting

Following the Transplant Evaluation Committee meeting, you will receive a call from the Donor Coordinator explaining your test results and the committee's decision. Due to confidentiality regulations (such as HIPAA) we cannot discuss your results and the committee's decision with your intended recipient. For that reason we ask that each donor communicate with their recipient to let them know the outcome of their evaluation.



After Committee Meeting

- ▶ You will receive a call from the donor coordinator explaining your results and the transplant team's decision.
- ▶ Due to confidentiality regulations (such as HIPAA) we cannot discuss your results or the committee's decision with your intended recipient. We also cannot discuss their medical information with you.
 - For that reason we ask that each donor communicate with their intended recipient to let them know the outcome of their evaluation.

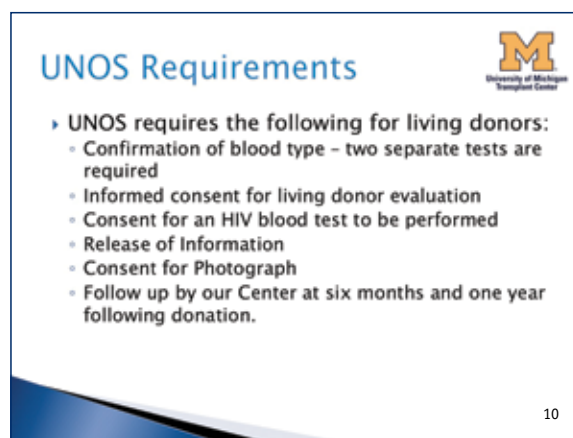
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Confidentiality regulations are very specific and restrictive. We cannot discuss the recipient's medical information with the donor. We cannot discuss the donor's medical information with the recipient.

Slide 10: UNOS Requirements

UNOS requires the following for living donors:

- Confirmation of Blood Type – Two separate tests are required to confirm your blood type.
- Informed consent for living donor evaluation. After you have learned about living donation and you have had your questions answered, you will be asked to sign an informed consent.
- Consent for an HIV blood test to be performed.
- Antigen data – genetic markers. For matching purposes six specific antigens are considered in the recipient and the donor. A six antigen match is considered a “perfect” match.
- Type of Transplant being listed for – kidney, SPK, PAK, PA.
- Dialysis Start Date – The dialysis start date will be entered for patients listed in the State of Michigan. For patients listed after they are on dialysis, their wait time will accrue from their dialysis start date – not their listing date.



UNOS Requirements

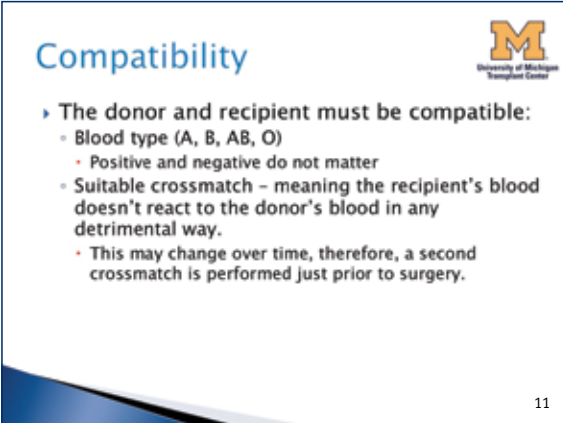
- ▶ UNOS requires the following for living donors:
 - Confirmation of blood type – two separate tests are required
 - Informed consent for living donor evaluation
 - Consent for an HIV blood test to be performed
 - Release of Information
 - Consent for Photograph
 - Follow up by our Center at six months and one year following donation.

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It is our policy to list every patient for a deceased donor kidney even those planning for a living donor transplant. Doing so protects the patient by allowing them to accrue wait time while they pursue living donation. Occasionally, living donor transplants cannot be accomplished and the accrued wait time has value for the recipient.

Slide 11: Compatibility

Living donors need to have a blood type (ABO) that is compatible with the intended recipient. The donor and recipient's blood are cross matched to ensure the recipient's blood does not react to the donor's blood in a detrimental way. The positive/negative aspect of blood type does not matter in a cross match. Since everyone's blood antibodies change over time another cross match will be done just prior to surgery.



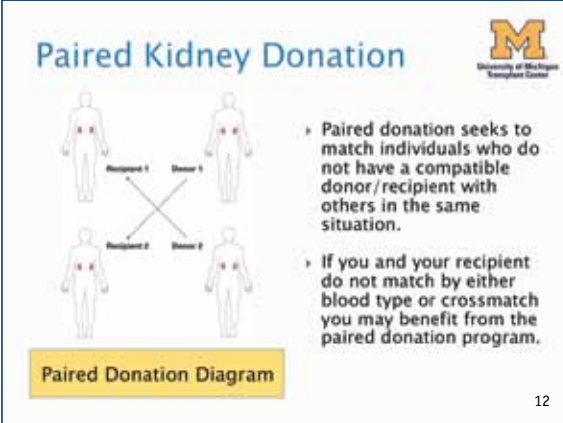
Compatibility

- ▶ The donor and recipient must be compatible:
 - Blood type (A, B, AB, O)
 - Positive and negative do not matter
 - Suitable crossmatch – meaning the recipient's blood doesn't react to the donor's blood in any detrimental way.
 - This may change over time, therefore, a second crossmatch is performed just prior to surgery.

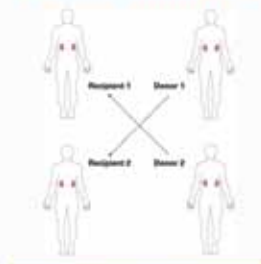
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Slide 12: Paired Kidney Donation

Our paired kidney donation program offers new hope to patients who need a kidney transplant. Often a patient who needs a kidney has a family member or a friend willing to donate one of his or her kidneys, but it cannot be done due to tissue or blood type incompatibilities. Paired donation seeks to match individuals who do not have a compatible donor/recipient with others in the same situation.



Paired Kidney Donation



- ▶ Paired donation seeks to match individuals who do not have a compatible donor/recipient with others in the same situation.
- ▶ If you and your recipient do not match by either blood type or crossmatch you may benefit from the paired donation program.

Paired Donation Diagram

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If you and your intended recipient do not match by either blood type or cross match, you may benefit from the paired donation program.

Slide 13: Altruistic Donor Begins Chain

Altruistic donors come forward with an offer to donate an organ, often without an intended recipient. Altruistic donors receive no financial or other incentives to donate: their offers stem from a selfless regard for the welfare of another.

One donation can begin a chain of organ matches in the paired donation program that may allow for many transplants to occur.

One kidney is donated, and...

Transplant One

- Is matched and transplanted to recipient A
- Recipient A had a donor who was not compatible, but now...

Transplant Two

- Matches with and donates to recipient B
- Recipient B had a donor who was not compatible, but now...

Transplant Three

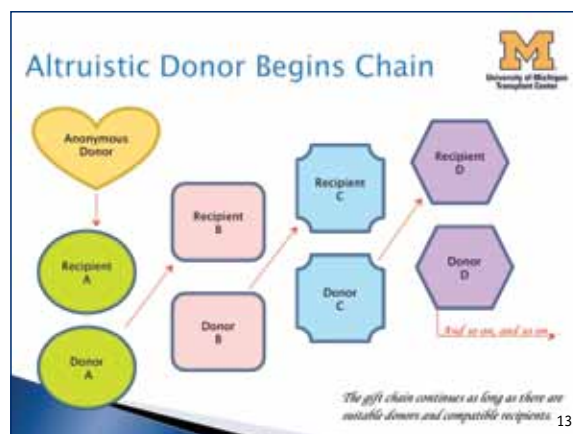
- Matches with and donates to recipient C
- Recipient C had a donor who was not compatible, but now...

Transplant Four

- Matches with and donates to recipient D
- Recipient D had a donor who was not compatible, but now...

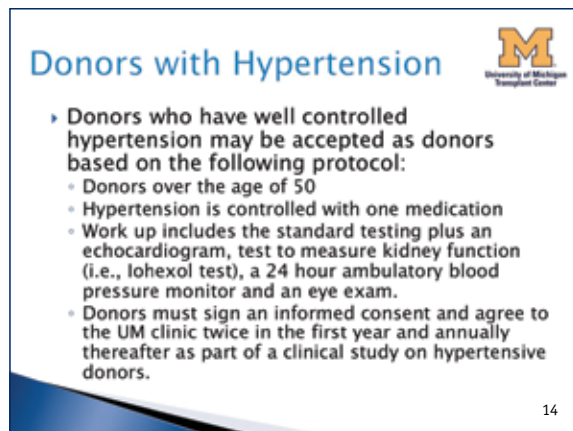
And so on, and so on and so on...

The gift chain of donations continues as long as there are suitable donors and compatible recipients.



Slide 14: Donors with Hypertension

Potential donors who have well controlled hypertension (high blood pressure) may be acceptable as donors if they meet certain criteria. The hypertension must be well controlled with one medication, the donor must be over 50 years of age, and they must successfully complete an expanded work up. In addition they must sign an informed consent agreeing to a schedule for follow-up care in the first year and beyond as part of a clinical study on hypertensive donors. The expanded donor work up includes the standard testing plus an echocardiogram, test to measure exact kidney function (i.e., Iohexol test), a 24-hour ambulatory blood pressure monitor and an eye exam.



Donors with Hypertension

- ▶ Donors who have well controlled hypertension may be accepted as donors based on the following protocol:
 - Donors over the age of 50
 - Hypertension is controlled with one medication
 - Work up includes the standard testing plus an echocardiogram, test to measure kidney function (i.e., Iohexol test), a 24 hour ambulatory blood pressure monitor and an eye exam.
 - Donors must sign an informed consent and agree to the UM clinic twice in the first year and annually thereafter as part of a clinical study on hypertensive donors.

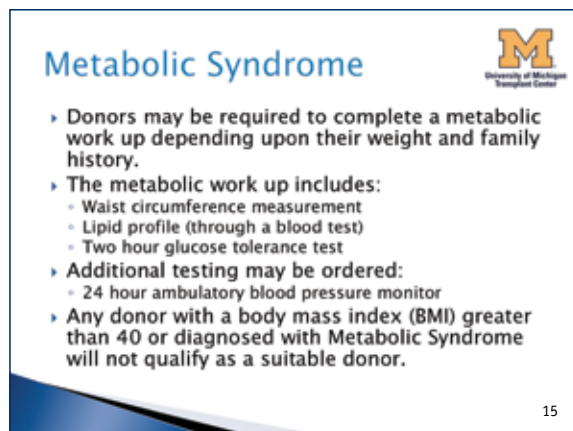
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Slide 15: Metabolic Syndrome

Metabolic syndrome is a name for the group of high risk factors that occur together and increase the risk for type 2 diabetes, coronary artery disease, and stroke. Donors may be required to complete a metabolic work up depending upon their weight and their family history.

The metabolic work up may include a waist circumference measurement, a lipid profile (through a blood test) and a two-hour glucose tolerance test. Additionally, a 24-hour ambulatory blood pressure monitor may be ordered.

Any potential donor with a body mass index (BMI) greater than 40 or diagnosed with Metabolic Syndrome will not qualify as a suitable donor.



Metabolic Syndrome

- ▶ Donors may be required to complete a metabolic work up depending upon their weight and family history.
- ▶ The metabolic work up includes:
 - Waist circumference measurement
 - Lipid profile (through a blood test)
 - Two hour glucose tolerance test
- ▶ Additional testing may be ordered:
 - 24 hour ambulatory blood pressure monitor
- ▶ Any donor with a body mass index (BMI) greater than 40 or diagnosed with Metabolic Syndrome will not qualify as a suitable donor.

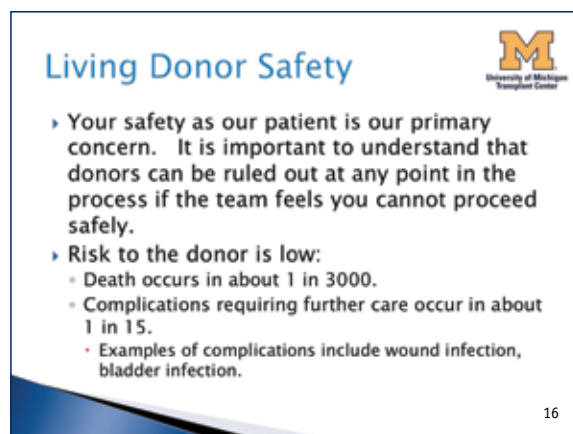
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Slide 16: Living Donor Safety

Our first priority in assessing a person to become a living donor is their safety. The medical team and the Donor Advocate will focus on the donor's needs to promote their best interests.

It is important to understand that donors can be ruled out at any point in the process if the team feels you cannot proceed safely to donation.

The risk to a donor is low with death occurring in about one in 3,000 donations. Complications that would require further medical care occur in approximately one in 15 donations; such as wound or bladder infections.



Living Donor Safety

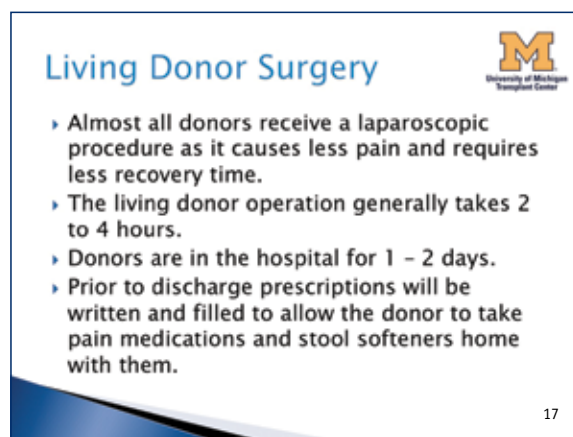
- ▶ Your safety as our patient is our primary concern. It is important to understand that donors can be ruled out at any point in the process if the team feels you cannot proceed safely.
- ▶ Risk to the donor is low:
 - Death occurs in about 1 in 3000.
 - Complications requiring further care occur in about 1 in 15.
 - Examples of complications include wound infection, bladder infection.

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Slide 17: Living Donor Surgery

The length of time a donor spends in the operating room varies, but generally is between two to four hours. Almost all donors have the procedure done laparoscopically as it will cause less pain and require less recovery time. With a laparoscopic procedure, you will have several small incisions in your abdominal area from which the organ will be removed.

The average length of the hospital stay for a living donor is one to two days. Prior to discharge, prescriptions will be written and filled to allow you to take pain medications and stool softeners home. You will be trained in how to care for your wound prior to discharge.



Living Donor Surgery

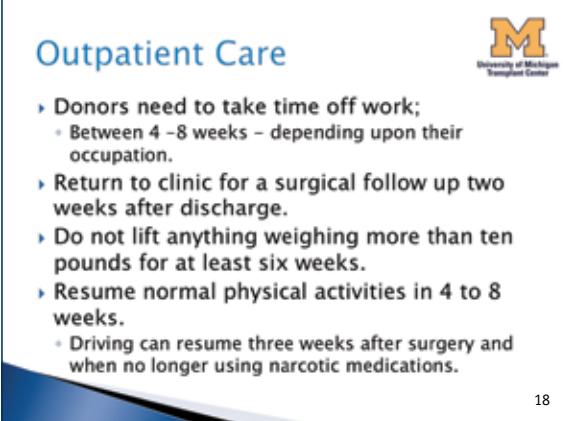
- ▶ Almost all donors receive a laparoscopic procedure as it causes less pain and requires less recovery time.
- ▶ The living donor operation generally takes 2 to 4 hours.
- ▶ Donors are in the hospital for 1 - 2 days.
- ▶ Prior to discharge prescriptions will be written and filled to allow the donor to take pain medications and stool softeners home with them.

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Slide 18: Outpatient Care

Living donors need to return to the clinic for a surgical follow-up appointment two weeks after discharge. You should not lift anything weighing more than 10 pounds for at least six weeks. As a donor you will need to take time off work; between four and eight weeks depending upon the type of work you do. You may resume driving three weeks after surgery and when you are no longer using narcotic pain medications. Although it varies by individual, the total recovery time for living donors is between four and eight weeks.

Barring any complications, after the two week post operative clinic visit donors may return to the care of their primary care provider.



Outpatient Care

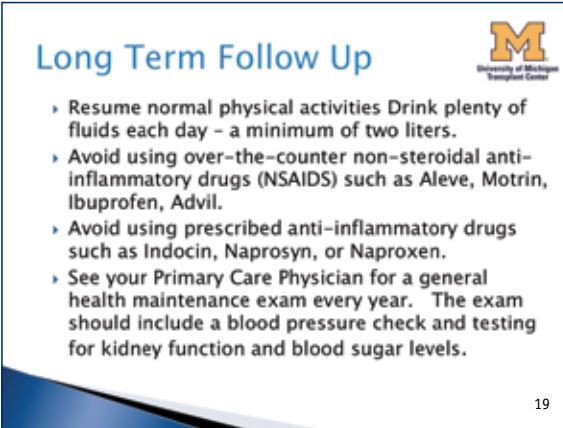
- ▶ Donors need to take time off work;
 - Between 4 - 8 weeks - depending upon their occupation.
- ▶ Return to clinic for a surgical follow up two weeks after discharge.
- ▶ Do not lift anything weighing more than ten pounds for at least six weeks.
- ▶ Resume normal physical activities in 4 to 8 weeks.
 - Driving can resume three weeks after surgery and when no longer using narcotic medications.

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Side 19: Long-Term Follow Up

After the initial recovery period, donors may resume their normal physical and life activities. You will want to maintain a healthy lifestyle. Everyone should drink plenty of fluids each day: a minimum of two liters. You should avoid using over-the-counter non-steroidal anti-inflammatory drugs (NSAIDS), such as Aleve, Motrin®, ibuprofen and Advil®. You should avoid using prescribed anti-inflammatory drugs such as Indocin, Naprosyn, or naproxen.

You should see your primary care physician for a general health maintenance exam every year. The exam should include a blood pressure check and testing for kidney function and blood sugar levels.



Long Term Follow Up

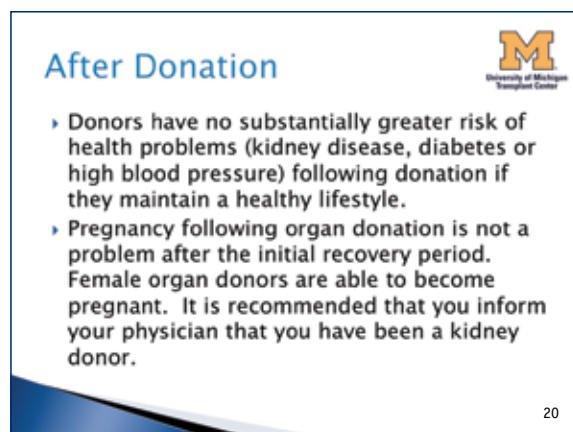
- ▶ Resume normal physical activities Drink plenty of fluids each day - a minimum of two liters.
- ▶ Avoid using over-the-counter non-steroidal anti-inflammatory drugs (NSAIDS) such as Aleve, Motrin, ibuprofen, Advil.
- ▶ Avoid using prescribed anti-inflammatory drugs such as Indocin, Naprosyn, or Naproxen.
- ▶ See your Primary Care Physician for a general health maintenance exam every year. The exam should include a blood pressure check and testing for kidney function and blood sugar levels.


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Side 20: After Donation

If you maintain a healthy lifestyle, your living donation will not increase your risk of developing health problems in the future, such as kidney disease, diabetes, or high blood pressure.

Pregnancy following organ donation, after the initial recovery period, is not a problem. Female organ donors are able to become pregnant. It is recommended that you advise your physician that you have been an organ donor.



After Donation 

- › Donors have no substantially greater risk of health problems (kidney disease, diabetes or high blood pressure) following donation if they maintain a healthy lifestyle.
- › Pregnancy following organ donation is not a problem after the initial recovery period. Female organ donors are able to become pregnant. It is recommended that you inform your physician that you have been a kidney donor.

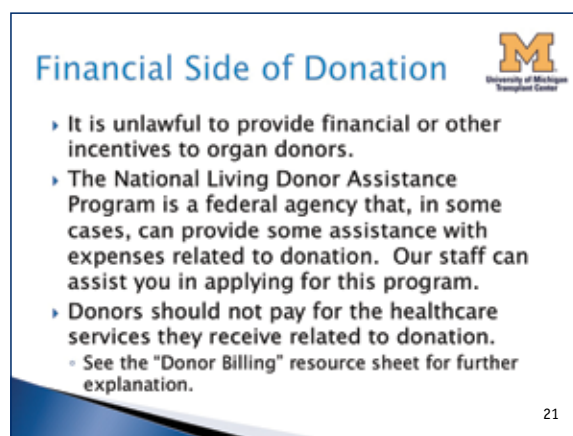
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Slide 21: Financial Side of Donation

It is unlawful for anyone to provide financial or other incentives to organ donors.

While as organ donors you are not responsible to pay for the medical care you receive in the evaluation, donation, or follow-up care; there are other non-medical expenses that you will incur. The National Living Donor Assistance Program is a federal agency that, in some cases, can provide some assistance with expenses related to donation. Please ask our staff about this program and they can assist you in applying for this program

As a donor you should not pay for the healthcare services you receive. If you do get a bill for these services, please contact us so we can assist you. Please refer to the “Donor Billing” resource sheet for further explanation.



Financial Side of Donation 

- › It is unlawful to provide financial or other incentives to organ donors.
- › The National Living Donor Assistance Program is a federal agency that, in some cases, can provide some assistance with expenses related to donation. Our staff can assist you in applying for this program.
- › Donors should not pay for the healthcare services they receive related to donation.
 - See the “Donor Billing” resource sheet for further explanation.

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Slide 22: Help for Donors

There are resources available to help you as you consider and/or proceed with living donation. Our Donor Mentor Program provides a forum for previous donors to speak with you and share their experiences. Ask your transplant coordinator if you are interested in this program.

There are several website available that may be helpful to you:

- www.ustransplant.org
- www.nationalkidneyfoundation.org

Slide 23: Questions?



Help for Donors



- ▶ We offer a Donor Mentor Program in which previous donors are available to speak with you and share their experiences. Ask your transplant coordinator if you are interested.
- ▶ Several websites are available that may be helpful to you:
 - www.ustransplant.org
 - www.nationalkidneyfoundation.org

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Questions?





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