



Dear Living Donor Candidate:

Thank you for your interest in living kidney donation; your selflessness is extraordinary. Becoming a living donor offers a loved one, a friend or even a stranger an alternative to waiting on the National Kidney list.

Living donors are true superheroes and we have a dedicated team to help you navigate the process. Before initiating the donor evaluation process, it is important to learn more about kidney donation so you can make an educated decision.

Please review the attached documents:

- "Living Donor Information Packet"
- "Living Donor Selection Criteria"

After reading the above information, you may begin the living kidney donation process by completing and returning the "Kidney Living Donor Referral Form". This form helps us determine if you are a suitable living donor candidate. You **MUST** return the form to initiate the evaluation process.

Please Return Referral By:

- **Email:** kidneylivingdonor@atriumhealth.org
- **Fax:** 704-446-4876 or 704-446-4875
- **Mail:** P.O. Box 32861, Charlotte, NC 28232 (*Mailing can delay referral up to 3 weeks.*)

Please do not hesitate to contact the Living Donor Team at 704-355-6649 or KidneyLivingDonor@atriumhealth.org to discuss any questions or concerns. We look forward to working with you through this process.

Best regards,
The Living Donor Team
Atrium Health Carolinas Medical Center

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Atrium Health

Living Donor Education: Atrium Health Transplant Center at Carolinas Medical Center

What is Living Organ Donation?

- Living organ donation is when a living person donates an organ or a part of an organ for transplantation into another person. Living organ donors make thousands of transplants possible every year. There is a lot to learn before you can decide whether donating an organ is right for you. This handout gives information about living kidney donation and how to become a donor.

Who can be a Living Kidney Donor?

- **Be willing to donate:** No one should feel that they MUST donate.
- **Age:** Over the age of 18 years of age
- **Health insurance:** You must have health insurance or access to healthcare.
- **Overall health:** You must have normal kidney function. We also assess you to make sure you are in good physical and mental health. Some health conditions that might prevent you from becoming a kidney donor include active cancer, diabetes, uncontrolled high blood pressure, obesity, or active infections such as HIV and hepatitis.
- **Primary care provider:** We encourage you to have a primary care provider who monitors your overall health. Routine medical care is important to protect your remaining kidney after donation.
- **Support system:** You will need help during your recovery. We work with you to identify those who can support you in your recovery plan.

Type of Donors

- **Related Donor** (blood relative): parent, child, aunt, uncle, nephew, cousin
- **Unrelated** (non-blood relative): friend, coworker, church member
- **Altruistic or Good Samaritan:** someone willing to donate to a stranger
- **Kidney Paired Exchange/Kidney paired donation (KPD):** donor and recipient pair are not a good match, so they swap with other pairs to get better matches

Kidney Donor Referral

- **To start Donor Process:** Complete the Living Donor referral form
- **Please Return Referral By:**
 - **Email:** kidneylivingdonor@atriumhealth.org
 - **Fax:** 704-446-4876 or 704-446-4875
 - **Mail** (*Mailing can delay referral up to 3 weeks.*)

Evaluation Step-By-Step

- **Blood type compatibility** the first step in the donor evaluation is ABO testing to determine whether you have a compatible blood type. Blood is typed as A, B, O or AB. Even though some blood types are not the same, they may still be compatible with others. (Table below) If your blood type is not compatible with the recipient, then other options may be considered, in certain situations, where you could still be able to donate. (*Refer to "Types of Donors"*)



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Blood Type	Can Receive From	Can Donate to Type
O	O	O, A, B, AB
A	A, O	A, AB
B	B, O	B, AB
AB	O, A, B, AB	AB

- **Crossmatching** a blood test is done before the transplant to see if the potential recipient will react to the donor organ. If the crossmatch is “positive,” then the donor and patient are incompatible because antibodies will immediately react against the donor’s cells and consequently cause immediate loss of the transplant. If the crossmatch is “negative,” then the transplant may proceed. Crossmatching is routinely performed for kidney and pancreas transplants). If your cross match is positive, there may be other options to be considered, in certain situations, where you could still be able to donate. (*Refer to “Types of Donors”*)
- **Lab tests:** blood test will be completed to evaluate kidney function and other transmissible diseases
- **Urine tests:** Urine samples are collected for 24 hours to assess the donor’s kidney function.
- **Testing:**
 - Chest X-Rays
 - EKG
 - CT scan
 - *Additional Testing may be added depending on your donor evaluation*
- **Evaluation by our Transplant Team:**
 - Transplant Nephrology
 - Independent Living Donor Advocate
 - Transplant Surgeon
 - Transplant Coordinator Nurse
 - Medical Social Worker
 - Registered Dietician
 - Psychiatry
- **Evaluation Testing Completed:** The Transplant Team will review the details of your evaluation and decide if you are a suitable candidate for donation. Only after the Team has reviewed your case and a decision has been made, will potentially dates for surgery be discussed.

Donor Surgery

- The Surgery There are two ways a kidney may be removed (nephrectomy).
 - **Laparoscopic donor nephrectomy:** the most common technique utilized at our center. This usually limits the postoperative pain experienced by the donor and allows removal of the kidney through a few small incisions. *There is always a small chance of needing to convert to an open donor nephrectomy when laparoscopic surgery is undertaken. In such cases, a larger incision will then be made to remove the kidney*
 - **Open donor nephrectomy:** in some cases, a larger incision will then be made to remove the kidney. Open donor nephrectomy in some cases, will be recommended as the preferred procedure because of the donor's anatomy or other characteristics



Follow up care After Donation

- Following donation and discharge from the hospital, your surgeon will want to see you at approximately 2 weeks and again at 8 weeks after surgery to be sure you are recovering as expected. Labs will be done at these visits to check kidney function. The Transplant Center is also required to report accurate, complete, and timely living donor follow up information by submitting a “Living Donor Follow-up” form about your health status. This is extremely important and must be done at 6 months, 1 year and 2 years after donation. Overall, long term studies of donors have shown that donors do well over time, but the true lifetime risk following donation is unknown. For this reason, we recommend that people who have donated a kidney be seen by their doctor annually, refrain from the use of any tobacco products, and maintain a normal weight.

Risk of Donation

- **Inherited risks associated with evaluation for living donation**
 - Allergic reactions to contrast
 - Discovery of reportable infections
 - Discovery of serious medical conditions
 - Discovery of adverse genetic findings unknown to the living donor
 - Discovery of certain abnormalities that will require more testing at the living donor’s expense or create the need for unexpected decisions on the part of the transplant team
- **Potential medical or surgical risks:**
 - Death (3 per 10,000) – 0.03%
 - Scars, hernia, wound infection, blood clots, pneumonia, nerve injury, pain, fatigue, and other consequences typical of any surgical procedure
 - Abdominal symptoms such as bloating, nausea, and developing bowel obstruction.
 - Being allergic to a test and having a bad reaction
 - You could have kidney failure and need dialysis.
 - If you become pregnant after donating, you are more likely to have high blood pressure during pregnancy. This is called “preeclampsia.”
- **Potential psychosocial risks:**
 - Problems with body image
 - Post-surgery depression or anxiety
 - Feelings of emotional distress or grief if the transplant recipient experiences any recurrent disease or if the transplant recipient dies
 - Changes to the living donor’s lifestyle from donation
- **Potential financial impacts:**
 - Personal expenses of travel, housing, childcare costs, and lost wages related to donation might not be reimbursed; however, resources might be available to defray some donation-related costs
 - Need for life-long follow up at the living donor’s expense
 - Loss of employment or income
 - Negative impact on the ability to obtain future employment



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- Negative impact on the ability to obtain, maintain, or afford health insurance, disability insurance, and life insurance vi. Future health problems experienced by living donors following donation may not be covered by the recipient's insurance

Effects on your Health

- On average, you will permanently lose 25-35% of your kidney function after donating.
- Your risk of having kidney failure later in your life is not any higher than it is for someone in the general population of a similar age, sex or race. However, you are more likely to have kidney failure than healthy people who are not donors.
- Chronic kidney disease most often starts in the middle of your life (40-50 years old). Kidney failure most often starts after age 60. If you get tested when you are young, doctors cannot predict how likely you are to have chronic kidney disease or kidney failure later in life.
- Current policy gives living donors priority on the national waiting list if they need to get a kidney transplant in the future. You can ask your ILDA or another transplant hospital staff member about this policy.
- Living donors may be at a higher risk for CKD if they sustain damage to the remaining kidney. The development of CKD and subsequent progression to ESRD may be faster with only one kidney.
- Dialysis is required if the living donor develops ESRD
- In female donor of childbearing age risks of preeclampsia or gestational hypertension are increased in pregnancies after donation

Cost of Donation

- **Covered Cost:** the medical cost associated with your evaluation as an organ donor is covered by the recipient's insurance.
- **Uncovered Cost:** hotel accommodation, time lost from work, routine health maintenance. There is an option to apply for the National Living Donor Assistance Fund, which can cover some of the travel and time off expenses. If a major medical condition is identified during your evaluation, that excludes you from donating your kidney, we will refer you back to your primary care doctor for further follow up and the cost will revert to your own insurance.

Scientific Registry of Transplant Recipient

- Current National and Program specific transplant recipient outcomes are updated every six months, and the data can be found on the Scientific Registry of Transplant Recipient at srtr.org. There currently are no national or center specific outcomes for living donors calculated by the Scientific Registry of Transplant Recipient. If you have questions about this data or how to use the website, you can discuss this with your living donor team member.

Making an informed decision

- The informed consent process should help you understand all aspects of the donation process, including the risks and benefits. Your consent to become a donor is completely voluntary. You should never feel pressured to become a donor. You have the right to delay or stop the donation



process at any time. The reasons behind your decision will be kept confidential. Please contact your Transplant Team with any questions.

More information about Donation

- United Network for Organ Sharing (UNOS): www.UNOS.org
- Scientific Registry of Transplant Recipients: [Find and Compare Transplant Programs \(srtr.org\)](http://Find and Compare Transplant Programs (srtr.org))
- National Kidney Foundation: www.kidney.org
- Organ Procurement and Transplantation Network (OPTN): www.optn.transplant.hrsa.gov
- National Foundation for Transplants: www.transplants.org
- Donate Life NC: NC Organ Donor Registration | Donate Life NC

Atrium Health Transplant Center Living Donor Patient Selection Criteria

The standard criteria for living kidney donor candidates are as follows:

1. Healthy adults, age \geq 18 years old and mentally capable of making an informed decision
2. Non-reactive HIV and Hepatitis.
3. Free of active infection. In certain infections, patient will be evaluated on an individual basis.
4. Malignancy (cancer) free. If there is a history of malignancy, each patient is evaluated on an individual basis.

Relative Contraindications: (possibly unable to donate)

1. Patients with a history of kidney stone(s) will be evaluated on an individual basis.
2. Patients with a BMI of $<$ 35 will be evaluated on an individual basis.
3. Proteinuria (goal is $<$ 280mg/24hrs)
4. Microscopic hematuria (blood in urine) will be evaluated on an individual basis.
5. Multiple renal vessels will be evaluated by surgical team.
6. History of thrombosis or thromboembolism will be evaluated on an individual basis.
7. Controlled HTN with no more than 2 agents will be looked at on a case-by-case basis
8. Smokers will be asked to quit.

Absolute Contraindications: (unable to donate)

1. Type 1 diabetes / Type 2 diabetes where an individualized assessment of donor demographics or comorbidities reveal evidence of end organ damage or unacceptable lifetime risk of complications
2. HIV, unless the requirements for a variance are met, according to policy 15.7
3. Uncontrolled hypertension or a history of with evidence of end stage organ damage.
4. Active/untreated substance (drug/alcohol) abuse.
5. GFR (kidney function) $<$ 80ml/min
6. Multiple medical problems such as heart disease, sickle cell anemia
7. Unstable psychiatric history, conditions actively being treated, including any evidence of suicidality.
8. High suspicion of donor inducement, coercion, or other undue pressure
9. High suspicion of knowingly and unlawfully acquiring, receiving or transferring anything of value in exchange for any human organ.
10. Both $<$ 18 years old and mentally incapable of making an informed decision.
11. Active or incompletely treated malignancy either requires treatment other than surveillance or has more than minimal known risk of transmission / Melanoma

The Transplant program may exclude a donor with any conditions that, in the Transplant programs medical judgment, cause the donor to be unsuitable for organ donation.