Kidney Health® Australia

Living kidney donation

What is living kidney donation?

A kidney transplant is a treatment for kidney failure that involves transplanting a healthy kidney from a donor into a person with kidney failure (recipient). It is the most effective treatment for kidney failure, allowing for a more active life than other options like dialysis or comprehensive conservative care.

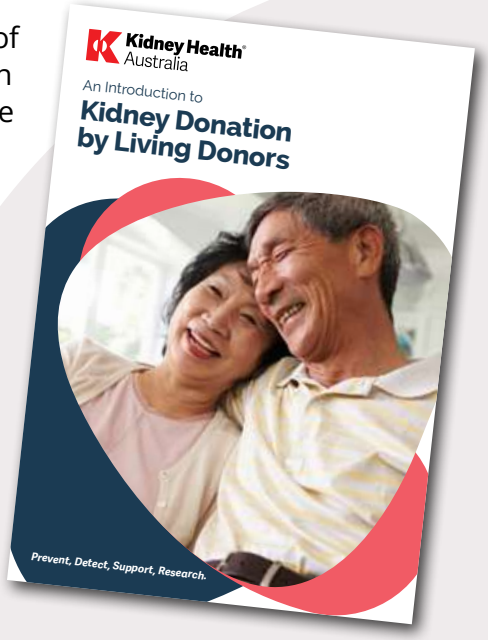
Kidneys for transplantation can come from living donors or deceased donors. In Australia, around **two in ten** people who have a kidney transplant receive their kidney from a living donor.

Living donors may be relatives such as parents, brothers, sisters, or adult children of the person who needs the kidney transplant. People who are unrelated to you, such as your partner, parent or friend, may also donate a kidney if it's a good match.

If a loved one is not a suitable match for the recipient, the **Australian and New Zealand Paired Kidney Exchange (ANZKX) Program** allows donors and recipients to connect with compatible pairs.

'Non-directed donation' or **'altruistic donation'** is another type of living kidney donation. This is where a live donor gives a kidney to an unknown recipient on the transplant waiting list. In this situation, the living donor has no say in who receives their kidney.

Becoming a living kidney donor is a serious decision. This factsheet provides an overview of the living donor process. To learn more, check out Kidney Health Australia's **Introduction to Living Kidney Donation** booklet.



Two
involve kidneys from living kidney donors

Eight
involve kidneys from deceased kidney donors

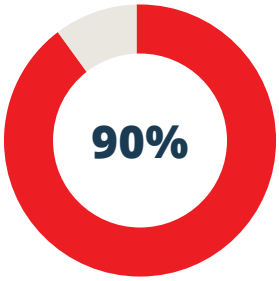
What are the benefits of living kidney donation?

Kidneys transplanted from a live donor have better success.

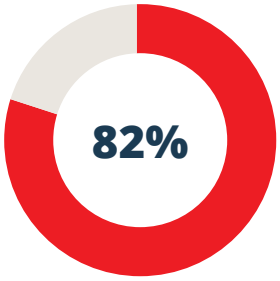
Transplant success rates are higher with living donor kidneys than for deceased donor kidneys. Five years after receiving a kidney transplant, 90 per cent of kidneys transplanted from a living donor and 82 per cent of kidney transplanted from a deceased donor are still working. 4 in 10 transplanted kidneys from living donors have lasted 20 years or more.

Another benefit of having a living kidney donor is timing. It can sometimes take years before a kidney becomes available from a deceased donor. Having a living donor may mean the transplant can be scheduled. Some people with a live donor can have a kidney transplant before needing to start dialysis. This is called a **pre-emptive transplant**.

Having a living donor also means that the transplant surgery can be well organised and planned. This allows for a shorter time between removing the kidney from the donor and transplanting it into the recipient, reducing damage to the kidney. Hospital admission and surgery can also be planned, allowing you and the kidney transplant recipient to prepare for the surgery and recovery.



Kidneys transplanted from a living donor still working after five years.



Kidneys transplanted from a deceased donor still working after five years.

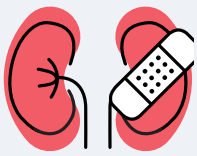
Who is suitable to be a living kidney donor?

To be a living kidney donor, you must have normal kidney function and overall good health. You will need to undergo testing to make sure you are physically and mentally healthy, and to assess if you are a good match for your recipient.

It is important that if you are thinking about being a living kidney donor that you discuss this decision with your doctor. Your doctor can test your kidney function and give advice on how your donation might affect your overall health.

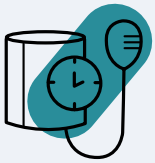
Understand that kidney donation is not suitable for everyone - there are risks involved with the surgery and the transplant recipient will need to take life-long medicines to prevent their kidney from being rejected.

Conditions that may prevent you from being a donor include:



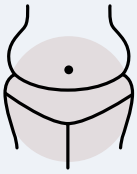
Kidney damage, or an increased risk of developing kidney disease in the future

Diabetes, or an increased risk of developing diabetes in the future



Have high blood pressure

Heart, stroke or breathing problems



Being overweight or underweight

Smoking

Other conditions such as cancer, HIV or AIDs, hepatitis, and psychological issues.

How do I prepare to become a donor?

To become a donor you will need to be referred to the transplant team at the transplanting hospital. You will meet the transplant coordinator who will help your GP order the necessary tests to see if you are able to donate your kidney and are a good match to the recipient.

These tests may take many months to complete. During the testing process, you may find out that you have a **health problem** that you did not know about. If this happens you will receive support and referral to a specialist.

General health tests

The transplant team will ask for a detailed history of your medical and family history. Let the doctor know if you or someone in your family has conditions that would prevent you from being a donor.

The initial testing helps to screen for conditions that may prevent you from donating including heart disease, diabetes, lung problems, and cancer. The doctor will make sure your kidneys are working, and you are healthy enough to be a donor by checking:

- **physical examinations**
- **blood pressure tests**
- **blood tests**
- **urine tests**
- **checks of your weight, height, and body mass index (BMI)**
- **CT scans of your kidneys to screen for structural issues**

Psychological assessments

The transplant team will perform a psychological assessment to make sure you are making a voluntary and informed decision about donating.

The transplant team will help you to weigh up the risks and benefits and understand the medical procedure. This is called **informed consent**. A psychological assessment also helps to make sure that you:

- **are comfortable with the idea of donation**
- **are not being forced or paid for the donation**
- **have a good understanding of the physical and emotional outcomes of kidney donation.**

Donor and recipient matching tests

You also will need to be tested to see if your kidney is a good 'match' for your recipient. The transplant team will order blood tests to determine:

- **Blood group matching:** to test if your blood group (A, B, AB, or O) is compatible. Ideally, you and your recipient should be the same blood group. Some transplants can proceed even if you're not a matching blood group in an **ABO incompatible transplant**.
- **Tissue typing:** to test if you have similar HLA proteins. The more HLA proteins you and your recipient have in common, the lower the risk of rejection.
- **Cross matching:** to see if you have any antibodies to your recipients' HLA proteins.
- **Infection risk:** if you have any germs that may lead to an infection in the kidney recipient.

HLA proteins

Your immune system helps keep you safe from germs and foreign invaders. It does this by recognising proteins that different to your own on the virus or bacteria and creates antibodies (the defenders) to attack.

HLA proteins are found on your cells that help your immune system identify your own body's tissues. There is a higher risk of kidney transplant rejection if the recipient has antibodies against the donor's HLA-proteins. Cross match testing helps to identify these HLA-antibodies.

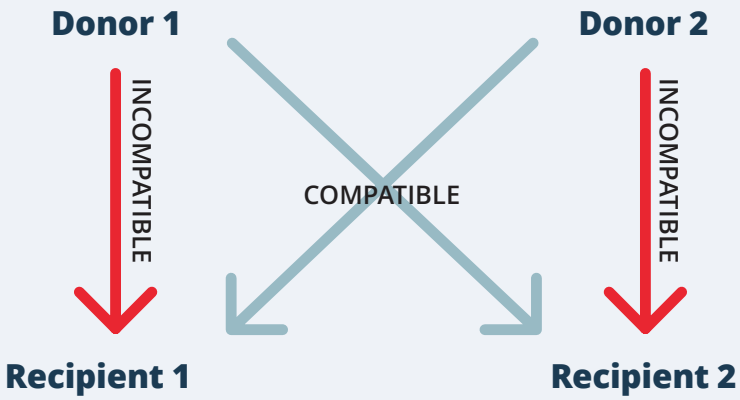
What if the kidney is not a good match?

Another advantage of receiving a kidney from a living kidney donor is that it may be possible to deal with kidney matching problems. Sometimes it may be possible to **prepare the recipient's immune system** so that they are able to receive a kidney that would have otherwise been not a good match. If this is not possible, or it does not work, then you may be able to participate in the Australian and New Zealand Paired Kidney Exchange Program.

Australia and New Zealand Paired Kidney Exchange (ANZKX) Program

The ANZKX program uses a database to identify matches for people who are waiting for a kidney transplant and have a living donor who is unable to donate because the kidney is not a match. If the computer finds a compatible match, two or more transplants can occur by swapping the living kidney donors. This is known as paired kidney exchange or paired kidney donation.

More than 400 transplants have been successfully performed in Australia as part of the ANZKX program. The average wait time to matching with a pair was ~100 days. To find out more, visit **donatelife.gov.au/for-healthcare-workers/ANZKX/information-patients-anzkx-program**.



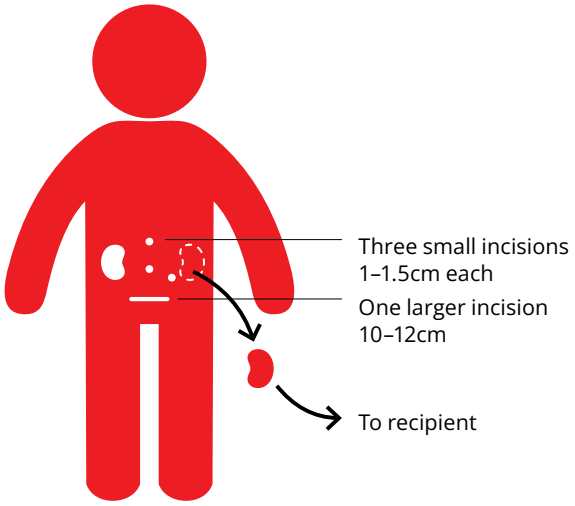
What happens during the living kidney donor surgery?

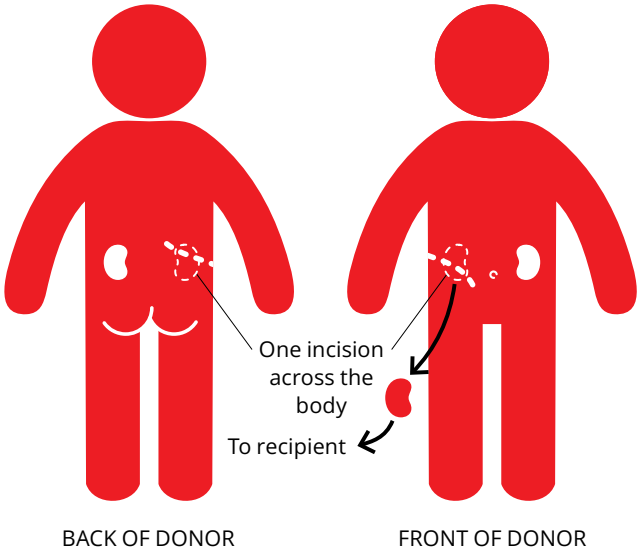
Before surgery:

In the week before surgery, both you and the transplant recipient will be re-tested to ensure your health is stable and your emotionally ready for the surgery. Another cross match test is done. The day before surgery, you will both go to hospital.

During surgery:

There are two ways of removing the kidney from a living donor; 'laproscopic nephrectomy' or 'open nephrectomy'.





With a **laproscopic nephrectomy**, three or four small cuts are made in your abdomen (belly area). This provides access for a special video camera and allows the surgeon to remove the kidney through a 10-12cm cut (incision) in your abdomen.

With an **open nephrectomy** the surgeon removes the kidney through one long cut on the side or front of your abdomen. This type of surgery is less common and has a longer recovery time.

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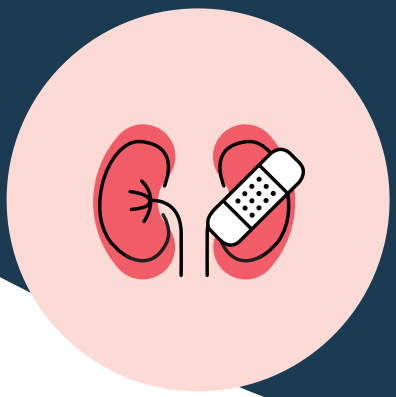

After surgery:

After the transplant surgery you will feel some pain around your wound. Your doctor will give you medicine to help with the pain. You will likely need to stay in the hospital for three to seven days after surgery.

Living donors who have laparoscopic (keyhole) surgery often recover quicker than living donors who have an open nephrectomy. Everyone's experience is different, so it is important to talk about recovery with the health care team, family, and friends to receive the care you need.

What are the risks of kidney donation?

Kidney donation requires a major surgery. It is important to talk to your doctor about the possible risks of surgery, which may include bleeding, blood clots, nerve damage, lung damage, and rarely death.

Living kidney donors are unlikely to develop kidney problems in the future. When one kidney is removed, the remaining kidney increases in size and function. Your remaining kidney can provide up to **75 per cent of normal kidney function**, rather than the expected 50 per cent.

There may also be financial costs associated with donating a kidney. You will need to take off work for an extended period and have multiple visits to the doctor's office. To learn more about what financial support is available from the Australian government visit **health.gov.au/our-work/supporting-living-organ-donors-program/about**.

Keeping your kidney healthy after donation

After kidney donation, you will need to follow-up with your GP for yearly Kidney Health Checks. A Kidney Health Check consists of a blood test, urine test, and blood pressure check. It's a simple way to keep an eye on the health of your remaining kidney.

Things to remember:

- ✓ **In Australia, around two in ten people who have a kidney transplant receive their kidney from a living donor.**
- ✓ **Kidney transplants from a living kidney donor have higher success rates than transplants from a deceased donor.**
- ✓ **Being a live kidney donor is a serious decision, and you should find out as much as you can about what is involved.**

What does that word mean?

Abdomen – The part of the body that contains the pancreas, stomach, intestines, liver, gallbladder, and other organs.

Antibody – A protein that fights infections including bacteria and viruses as well as foreign bodies, for example a donated kidney.

Dialysis – A treatment for kidney failure that removes waste products and excess fluid from the blood by filtering the blood through a special membrane.

HLA (Human Leukocyte Antigen) – Proteins located on the surface of white blood cells and other tissues in the body and play an important role in the immune system. Each person has a unique set of HLA.

Laparoscopic nephrectomy – The surgical operation to remove a kidney using a special video camera and through three or four small cuts in the donor's abdomen.

Nephrectomy – The surgical operation to remove one or both kidneys.

Open nephrectomy – The surgical operation to remove a kidney using one long cut on the side or the front of the donor's abdomen.

Pre-emptive transplant – Where a person with end stage kidney disease receives a transplant before needing to have dialysis.

Transplant – A surgical operation in which an organ or tissue is removed from the body of one person (the donor) and put it into the body of another person who is very ill (the recipient). Organs that are suitable for donation include kidneys, heart, lungs, liver, intestines and pancreas. Tissues that are suitable for donation include heart valves and tissues, bone and tendons, skin, and eye tissue.