WHAT IS LIVE KIDNEY DONATION?

‘Live donation’, ‘living-related transplantation’ or ‘live donor nephrectomy’ are terms used to describe the process where a living person donates one of their kidneys for transplantation to another person. The donor is the person giving the kidney and the recipient is the person getting the kidney.

Many people with kidney failure have a live kidney donation because it reduces or removes the need for dialysis. In Australia, the waiting time for a kidney transplant from a deceased donor is about three to four years. Live donation can also be planned. This reduces the time between a kidney’s removal and transplantation, thus improving the success rate. Hospital admission and surgery can also be organised ahead of time, allowing the donor and the recipient plenty of time to prepare for both surgery and recovery.

This fact sheet is designed to provide information for potential donors and their families about the live kidney donation process. If you are considering becoming a live kidney donor, the ‘Deciding to be a Live Kidney Donor’ fact sheet has more information, which may help you to think through the decision.

WHO CAN BE A LIVE DONOR?

To be a live donor, you must have normal kidney function and overall good health. Your blood and tissue type must also match the recipient’s. Live donors are often relatives such as parents, brothers, sisters or adult children. Living donation can also come from someone who is emotionally related to the recipient, such as a husband or wife, an in-law, or a good friend.

Recently, there has been a new type of live donation called ‘non-directed kidney donation’ or ‘altruistic donation’. A small number of people have donated a live kidney to a recipient on the deceased donor waiting list. In this situation, the donor has no say in who receives their kidney.

WHY IS BLOOD TYPE MATCHING IMPORTANT?

Kidney donation blood group compatibility is similar to blood donation blood group compatibility. The following table shows blood groups that are compatible with each other for the purposes of kidney donation.

<table>
<thead>
<tr>
<th>Recipient blood group</th>
<th>Can receive a kidney from someone with blood group</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>A</td>
<td>A, O</td>
</tr>
<tr>
<td>B</td>
<td>B, O</td>
</tr>
<tr>
<td>AB</td>
<td>O,A,B,AB</td>
</tr>
</tbody>
</table>

Even if your blood group is suitable, the cross-match test with your serum must be ‘negative’. This indicates that the recipient’s immune system is less likely to immediately reject the donor kidney.
WHAT IF THE BLOOD TYPES DON’T MATCH?

Sometimes blood can be specially treated to allow the recipient to get a kidney from a living donor who has an incompatible or non-matching blood group. To prevent immediate rejection of the kidney, the recipient undergoes plasmapheresis or a plasma exchange treatment before and after the transplant to remove harmful antibodies from the blood. Antibodies are part of the immune system. They are proteins produced by white blood cells to fight infections. This type of live kidney donation is being used on a limited scale in some Australian hospitals.

WHAT TESTS ARE USED TO FIND A DONOR?

Before offering to be a live donor, it is important to discuss this decision with your local doctor. Your doctor can test your kidney function and advise you about the effect of donation on your overall health. Conditions that may prevent you being a donor include:

- previous or current cancer
- diabetes, or an increased risk of developing diabetes in the future
- AIDS
- hepatitis
- major heart or breathing problems
- weight problems
- high blood pressure
- smoking
- psychological issues

Other tests to make sure that live donor kidney is suitable may include:

- tissue typing
- serum cross-matching
- radiology tests
- kidney function tests
- viral screens
- cardiovascular tests

These tests are time consuming and may take many months. During these tests, you may find out about a health problem that you were unaware of. You will receive support and, if needed, a referral to a specialist.

A psychological assessment is part of the testing to make sure you are certain about donating and making a voluntary and informed choice. This may be done informally as part of your assessment or as a formal interview with a social worker, psychologist, psychiatrist or doctor.

Live kidney donors must be fully aware of the risks to their own health. The transplant team helps the donor to weigh up the risks and/or benefits and understand the medical procedures. This is called informed consent. It also helps to make sure that the donor is comfortable with the idea of donation, is not being forced into or receiving a benefit for donating, and has a good understanding of the physical and emotional outcomes of kidney donation. You can change your decision to donate at ANY time - right up to the time that the surgery takes place.

WHAT IS REJECTION?

Even when you and the recipient are well matched, some level of kidney rejection is common. The level varies and may be acute or chronic. Acute rejection can happen in the first few weeks or months after a transplant. Chronic rejection usually starts a year after the transplant and can be a very slow process. If it is mild, there is often not a problem but severe rejection can lead to kidney failure.
WHAT HAPPENS DURING DONOR SURGERY?

In the week before surgery the donor and recipient are re-tested to make sure they are healthy and emotionally ready. Another serum cross-match test is undertaken. The day before surgery, the donor and recipient go to hospital. The recipient may have a dialysis session or other special treatments. There are two types of surgery for the donor, keyhole (laparoscopic) or open nephrectomy. Your transplant team will discuss these procedures in detail with you.

- **Laparoscopic nephrectomy or keyhole surgery**
  The surgeon inserts special instruments into your abdomen through three small cuts. One of them is a thin tube with a video camera on the tip called a laparoscope, which allows the surgeon to see inside your body to operate.
  
  The kidney is collected in one of two ways:
  1. **Endo catch** - a drawstring bag is used to catch the kidney and draw it out of the body through a small cut, about 10-12cms long
  2. **Handport** - the surgeon’s hand is used to remove the kidney

- **Open nephrectomy**
  The surgeon makes a cut on the side or front of the abdomen. The cut is along the bottom of the lower rib to a point just above the umbilicus (belly button). It will be on the left or right side depending on which kidney is being donated. The vessels connecting the kidney to its blood supply are clamped and cut, and the ureter (which is connected to the bladder) is disconnected.

WHAT HAPPENS AFTER DONOR SURGERY?

The first few days after surgery can be painful so medication is provided. A live donor’s hospital stay varies from four to ten days, followed by up to six weeks of recovery at home and up to two months with no heavy lifting. Keyhole surgery reduces the recovery time. Everyone’s experience is different so it is important to talk about recovery with the health care team, family and friends.

After returning home, you need to take life easy. It is important not to lift anything heavy for the first 6-8 weeks. You may feel tired and need more sleep. It is important you take special care with hygiene and check your wound site for any ooze, redness or increased soreness. If you develop any of these symptoms or get a high temperature, contact your doctor.

WHAT ARE THE RISKS TO LIVE DONORS?

The risk of serious complications and death following a transplant surgery is the same as with any other type of major elective surgery. Complications during surgery include:

- punctured lung
- lung infection
- nerve damage
- blood clots
- bowel perforation (small tear)
- bleeding

Removal of one kidney triggers the other to increase slightly in size due to the extra work. Donating a kidney does not reduce your life expectancy or make you more likely to have kidney failure or another medical condition. You should be able to live a normal life. However, you may be at increased risk if the remaining kidney is injured or disease unexpectedly develops. As you get older, there is also a small risk of increased blood pressure and protein in your urine. For more information see ‘Life with a Single Kidney’ fact sheet.
WHAT ARE THE COSTS INVOLVED WITH DONATION?

Public hospital costs, including medical tests, are covered by the usual hospital payment arrangements. There is generally a six-week recovery period before you can return to work. You will also need to have medical tests before the operation and check-ups afterwards. People who want to be private patients need to check with their health insurance company to find out to what extent their expenses are covered. Approaches should be made to the hospital if donation involves overseas donors.

If you have to travel a long way from home for the medical tests or donor operation, ask the transplant team if there is any financial assistance for transport and accommodation costs.

Donating a kidney should not affect any current health insurance arrangements. However, it may affect new health insurance arrangements as some companies could consider the loss of an organ through donation a ‘pre-existing condition’. Check your health and life insurance for any impact on future premiums or charges.

In April 2013, the Federal Minister for Health, together with Kidney Health Australia, announced a two-year pilot of a Supporting Leave for Living Organ Donors Programme. The two-year pilot programme provided up to six weeks paid leave at national minimum wage to employers, who passed it on to those eligible employees who became live organ donors.

In May 2015, the Government announced that the programme will continue for another two years, and employers will be reimbursed for up to nine weeks of the employee’s leave. To register for further information from the Australian Government about the new scheme, please email livingorgandonation@health.gov.au or visit http://www.health.gov.au/internet/main/publishing.nsf/Content/Leave-for-living-organ-donors.

OUTCOMES OF LIVE KIDNEY DONATION

The kidney transplant success rate in Australia is very high. At 5 years after receiving a kidney transplant from a live donor 97% of recipients are still alive, and in 89% of cases, the transplanted kidney is still functioning.

For more information about Kidney or Urinary health, please contact our free call Kidney Health Information Service (KHIS) on 1800 454 363. Alternatively, you may wish to email KHIS@kidney.org.au or visit our website www.kidney.org.au to access free health literature.

This is intended as a general introduction to this topic and is not meant to substitute for your doctor’s or Health Professional’s advice. All care is taken to ensure that the information is relevant to the reader and applicable to each state in Australia. It should be noted that Kidney Health Australia recognises that each person’s experience is individual and that variations do occur in treatment and management due to personal circumstances, the health professional and the state one lives in. Should you require further information always consult your doctor or health professional.

Revised May 2015

If you have a hearing or speech impairment, contact the National Relay Service on 1800 555 677 or www.relayservice.com.au. For all types of services ask for 1800 454 363.