

## **14. Organ Donation & Kidney Transplantation**

### **14.1. Organ donation**

Organ donation is the removal of the organs or tissues of the human body from a person who has recently died, or from a living donor, for the purpose of transplanting them into other persons. People of all ages may be organ and tissue donors. Organ and tissue donation is the ultimate humanitarian act of charity.

#### **14.1.1. What are the organs and tissues that can be donated?**

The commonly transplanted organs are kidneys, heart, liver, lungs and pancreas (currently no pancreas transplant has been done in Malaysia) while the transplantable tissues are cornea (eyes), arteries or veins, intestines, tendons, ligaments, bones, skin and heart valves.

#### **14.1.2. How are organs and tissues obtained?**

There are two sources:

(a) Living Donors

For many years, most living donors were closely related to the potential recipient, e.g. brother, sister or parent. Such close relatives were likely to be a close tissue match to the recipient, resulting in excellent outcomes. With the advent of improved immunosuppressive medications (anti-rejection medications), it is now possible to achieve similar outcomes using living donors who are unrelated to the recipient, but only emotionally related such as spouses are sometimes found to have a compatible blood group and tissue match to the potential recipient.

(b) Cadaveric Donors

Organs from cadaveric donors are allocated to the best tissue matched patients on the transplant waiting list. Potential cadaveric donors with a history of cancer or transmissible viruses such as Hepatitis B, Hepatitis C and HIV are not considered for organ donation.

There are 2 sources of cadaveric donors:

- Heart-Beating

Donors

These donors have suffered severe trauma to the brain. In order to be considered as organ donors, these patients must be ventilated in an intensive care unit and medically certified as "brain stem" dead, meaning that all functions of the brain have ceased. In other words, life cannot be sustained. Heart beat and lung function are artificially maintained by a respirator. A very small proportion of all deaths in hospitals occur under these conditions. Heart, kidney and liver transplants are only possible from heart-beating donors.

- Non Heart-Beating Donors

Only tissues such as cornea (eye), skin and heart valves can be procured after cardiac death.

#### **14.1.3. What are the advantages of a life donor recipient?**

1. Reduces time dependent on dialysis, particularly important for diabetics and young children.
2. Allows for specific planning of operation, i.e. the best time for donor and recipient and early (pre-operative) immuno-suppression.
3. Generally, the recipient requires less immuno-suppressive drugs, therefore fewer side effects.
4. It is more likely to be successful if the donor is related to the recipient.

#### **14.1.4. Who can be a living donor?**

A close blood relative, i.e. a brother, sister, parent or child may be a suitable donor. Because of inherited genes, brothers and sisters may be a perfect match. Parents and children have at least half match and so are better matched than a cadaver kidney. It is necessary for donor and patient to have compatible blood and tissue type. However, genders of the donor and patient do not have to match. The prospective donor must be an adult (over 18 years of age) and be in good health. Individuals below 18 years of age will require parental or guardian consent.

#### **14.1.5. Can I choose which organs and tissues I want to donate?**

Yes, you may indicate your decision to donate all organs and tissues, or only specific organs and tissues.

#### **14.1.6. Can I choose who should receive my organs and tissues?**

No, donated organs and tissues are given to individual recipient based on need, blood type, genetic match and other criteria.

#### **14.1.7. If I have indicated my decision for organ donation, will everything be done to save my life?**

Yes. The first and foremost concern for doctors caring for critically ill patients is to do everything possible to save lives. The possibility of donation is considered only when all lifesaving efforts have failed and brain death is declared.

#### **14.1.8. What happens after the organs and tissues are removed?**

The body is released to the family or funeral home. Every effort is made to schedule the operation to avoid any delay in making funeral arrangements.

#### **14.1.9. Can I change my mind?**

Yes. You may change your mind at any time. Let your family know your decision.

#### **14.1.10. Can organs and tissues be bought and sold in Malaysia?**

No, it is illegal to buy or sell organs in this country.

#### **14.1.11. Are there any religious objections with regards to organ donation?**

No. All the major religions of the world – Islam, Christianity, Hinduism, Buddhism and Sikhism endorse organ and tissue donation.

## **14.2. Kidney Transplantation**

### **14.2.1. Kidney transplant operation**

The transplant operation takes around 3-4 hours. The transplanted kidney is placed on the right or left side of the abdomen, below the navel. The new kidney's artery and vein are joined to an artery and vein in the pelvic area. The urine tube (ureter) from the kidney is attached to the bladder.

Many patients are surprised to learn that their failed kidneys are not removed but left to continue whatever small amount of function they may still have. However, if the failed kidneys must be removed, a separate operation is necessary prior to transplantation. This is only rarely required e.g. in the case of chronic infection or the very large size of the kidney.

### **14.2.2. Donor and family concerns**

When and if a family member decides to donate a kidney, it must be a voluntary decision free from feelings of being "pressured". It is important to talk the decision over with family, particularly the patient. However, it is also essential to discuss feelings and concerns confidentially with the kidney doctor and social worker or psychiatrist. Every prospective donor has the right, after discussing and considering the facts, to decide against kidney donation. The donor who does wish to go ahead with the surgery can ensure risks to his/her health are minimized by stopping smoking and ceasing oral contraceptives three months prior to the operation.

### **14.2.3. Transplant success rate**

The success rate at one year interval after transplant for live donor related kidneys is 96% and 84% for cadaveric kidneys. It's 90% and 70% for live donor and cadaver respectively at 10 years interval. (Source: The National Transplant Registry 2006).

If the transplant works well for the first year, the chances are good that it will function for many years. If the transplant fails, a second transplant is possible and can be entirely successful. Many patients who received kidney transplants 25 - 35 years ago remain well with those original grafts. The refinement and development of new immunosuppressive medications has consistently improved the success of kidney transplantation.

### **14.2.4. Who is eligible for kidney transplant?**

Most people who have irreversible kidney failure and are on dialysis can be considered for transplantation. Except for their kidney failure, these people must be in relatively good health and willing to undergo the procedures involved. For people with other major medical problems, such as severe heart and vascular disease, there may be increased problems for transplantation, and dialysis may be a better treatment option. Some people are happy with their dialysis treatment and do not wish to undergo transplantation. Each patient should discuss his/her own medical suitability with their kidney specialist (nephrologist).

#### **14.2.5. Living with a new kidney**

A kidney transplant can offer a "new lease of life" but patients and their families have to make many adjustments in the first year after transplant, particularly in learning to live with disruption to one's life and the "uncertainty" about how long the kidney will function.

Most people are able to get back to normal activities and work within 3 to 6 months after transplant. Exercise (gentle at first) is also an important part of toning muscles and maintaining good health.

For many people, sexual function improves after transplant. Sexual activity will not harm the transplanted kidney nor increase risk of infection. However, as is the case for any major surgery, it is advisable to wait about four weeks before having sexual intercourse.

Having a baby after receiving a kidney transplant is possible but not usually advised until at least 1-2 years of good kidney function. There are considerably increased risks of pregnancy complications, such as premature births and high blood pressure in women who have kidney transplants and careful monitoring of the pregnancy is needed. Couples considering pregnancy should seek advice from their doctor, as x-rays and other tests might be necessary and preferably done before the pregnancy. Women should have an annual Pap smear and mammogram.

#### **14.2.6. What causes rejection after a kidney transplant? Isn't there a way to tell if it will be rejected before the surgery?**

Rejection of a kidney is due to the same immune response that helps to protect you against colds and other viruses. We can do some tests, which indicate in a general way, how likely rejection will be. Unfortunately, there is no way to be sure about it.

#### **14.2.7. Can I donate one of my kidneys to someone?**

You cannot just decide to donate your kidney. If the occasion should arise that a family member is in need of a kidney transplant, you may be asked to submit to a blood checkup to determine if you are a match for him or her. Only in rare situations do physicians consider anyone other than family or cadavers as organ donors. The most appropriate step you can take is to become a registered organ donor. Be sure to discuss your choice with your family members so that they are aware of your decision. You can also obtain an organ donor card by calling the National Kidney Foundation of Malaysia if you decide to pledge your organs.