

Oxford Transplant Centre

# Live donor kidney transplantation –

*what if we are not a match?*





You will already have been provided with information about different types of kidney transplant and the tests needed to check your donor is suitable to give you a kidney. People who are planning to donate a kidney are called donors. People who hope to receive the kidney are called recipients. In order for the transplant to be successful the donor and the recipient need to be 'compatible' on both their blood group and their tissue type.

This booklet provides further information about living kidney transplantation if you have been told that you are 'incompatible'. Incompatible means that if the kidney transplant was to go ahead with 'standard' treatment then there would be a high risk of early severe rejection. This leaflet explains what treatment options are available.

## What is a blood group and why is it important for kidney transplantation?

There are four main blood groups (types of blood): A, B, AB and O. Your blood group is determined by the genes you inherit from your parents. If you and your donor are not blood group compatible, then you will have antibodies to the blood group in the transplant kidney. Antibodies are proteins that recognise anything foreign in your body and alert your immune system to destroy it.

## What is a tissue type and why is it important for kidney transplantation?

You may hear tissue type referred to as Human Leukocyte Antigen (HLA). For further information about tissue types please ask for our leaflet 'Tissue typing for your organ transplant'.

If you have been exposed to your donors tissue type before (e.g. in pregnancy or through a blood transfusion) then you may have pre-formed antibodies to that tissue type which would lead to early severe rejection. These antibodies can be detected by a test called a 'cross match'. This involves mixing your blood with blood from your donor, to see if it reacts against your donors blood cells.

If the test is negative, it means that antibodies that would attack the transplant kidney are not present and the transplant can safely go ahead. However, a positive crossmatch means you have antibodies that would attack the transplant kidney. This means the kidney would be rejected immediately.

# What are the options if my donor and I are incompatible?

## **There are two potential options:**

1. National Living Donor Kidney Sharing Scheme (NLDKSS, which was previously called the 'paired exchange kidney transplant programme')
2. Direct incompatible transplantation with desensitisation.

These options will be discussed at the Oxford Transplant Incompatibility meeting, with the transplant multidisciplinary team. Your kidney doctor will then speak to you about which option is best for you. You can take as long as you need to make a decision and can change your mind at any point during the process.

## **National Living Donor Kidney Sharing Scheme (NLDKSS)**

In the NLDKSS, you and your donor may be matched with another pair of people who are also incompatible. In some cases, there may be three or more couples in the sharing scheme.

Instead of giving you a kidney, your donor would give a kidney to another kidney patient and their donor would give a kidney to you. The advantage of going through the living donor sharing scheme is that you would not need the desensitisation treatment (see next section) and receiving a compatible kidney is likely to result in a slightly better outcome (reduced chance of rejection and longer survival of the transplanted kidney). However, it is not always possible to find a matching pair.

A leaflet explaining the living donor sharing scheme is also available and should be read alongside this booklet.

## **Direct incompatible transplantation with desensitisation**

Desensitisation is a process which can remove harmful antibodies from your blood circulation, using a treatment called plasma exchange or immunoadsorption.

Before having this treatment, unless you are already receiving

haemodialysis, you will need to have a 'Tesio line' inserted (also known as a dialysis tunnelled line). Your doctor will talk to you about when you might need this. You will also be given a separate information leaflet about having this line inserted and how to look after it.

If you are on haemodialysis we will be able to use your fistula or graft.

## What is the risk of having desensitisation?

The combined effect of the treatments may give you higher total doses of anti-rejection medication than would be used for a compatible transplant. This means that you may be at a slightly higher risk of infection, particularly around the time of transplantation, but also for up to 6 months afterwards.

## How does plasma exchange or immunoadsorption work?

The antibodies are found in the plasma portion of your blood. Plasma exchange and immunoadsorption are treatments where blood is passed from your body through a machine, where a special filter removes either all the plasma (plasma exchange) or just the antibodies in your blood (immunoadsorption).

With plasma exchange, plasma replacement (from blood donors) is given back to you through the machine with your blood. With immunoadsorption, your antibody-depleted plasma is returned to you during the treatment. You will be connected to the machine for the whole of the treatment.

At the end of some sessions you will be given immunoglobulin (IVIg) through the machine. This helps to prevent the harmful antibodies from returning and replaces protective antibodies.

During plasma exchange or immunoadsorption treatments you may experience light-headedness, feel sick or vomit. You will be supported and monitored by one of the dialysis nurses during the treatment.

Each treatment takes around 2 to 4 hours. Plasma exchange treatments are usually done on the renal ward and immunoadsorption is usually done in the Main Haemodialysis Unit. You can bring a friend or relative to keep you company.

After your plasma exchange or immunoadsorption treatment you will be able to go home.

## How many plasma exchange or immunoadsorption treatments will I need?

The number of treatments you will need before the transplant can go ahead depends on:

- the amount of harmful antibodies in your blood
- how your antibody levels respond to the plasma exchange or immunoadsorption.

Most people require 2-6 treatments, but some people need more than 10. The treatments need to continue until the antibody levels in your blood are at a low enough level for the transplant to take place.

In 1 in 10 people, it is not possible to reduce the level of antibodies to a sufficiently low level and so the transplant cannot take place. Your kidney doctor will talk to you about other options, including the NLDKSS or waiting for a deceased donor kidney.



## What other treatment will I receive?

Ten to fourteen days before your transplant, you will need to start taking anti-rejection medication (also known as immunosuppression medication). Details of the transplant operation and the anti-rejection medications are provided in the Oxford Transplant Centre leaflet "Your kidney transplant". If you don't have a copy please speak to one of the transplant nurses.

Most people who are having an incompatible transplant are given an injection called Campath (alemtuzumab) to help prevent rejection (although almost all patients receiving a compatible kidney also receive this at the time of transplantation). For blood group incompatible transplants this is given as an injection with a needle which is inserted just under the skin (subcutaneously), usually in the upper arm.

This is usually given 14-21 days before the scheduled transplant date, but is also given during the transplant operation for antibody incompatible transplants. Having the injection only takes a few minutes, but you will need to stay in the renal ward or at least one hour afterwards. This is to make sure there are no side effects.

If you need further doses of Campath your consultant will discuss this with you.

There is a separate leaflet about Campath. If you have not received a copy please ask your transplant nurse.

## How will I be monitored after my transplant?

Immediately after your transplant you will be closely monitored for signs of kidney rejection. Your urine output will be measured and you will have blood tests for kidney function and antibody level. If there are any signs of rejection you may need a kidney biopsy. This is a procedure to take a small sample of your kidney.

Sometimes the level of antibodies rise after transplantation and further treatments (plasma exchange or immunoadsorption) are needed. It is likely that you will need at least one more treatment after your transplant. During this time you will receive the same medications as any other transplant patient.

When you have returned home you will need to be seen regularly in the transplant clinic. Initially this will be twice weekly, then will be reduce to weekly. If the transplant team need to see you in clinic more often they will explain the reason to you. If you have had desensitisation treatment you will be seen more often, so that your antibody levels can be monitored closely.

## Will the transplant work?

At the Oxford Transplant Centre, incompatible transplants have been very successful. Compared to someone receiving a compatible live donor transplant, there is a small increase in the risk of your transplant failing due to rejection. However, 90-95% of incompatible transplants are still working one year after surgery. The long term outcome is also good (about the same as if you received a deceased donor transplant from the waiting list).

## Where can I get more information?

**NHS Blood and Transplant** website has lots of information for patients and families about organ donation.

[www.nhsbt.nhs.uk/](http://www.nhsbt.nhs.uk/)

**NHS choices** website on kidney transplantation and the risks involved.

[www.nhs.uk/Conditions/Kidney-transplant/Pages/Risks.aspx](http://www.nhs.uk/Conditions/Kidney-transplant/Pages/Risks.aspx)

If you have any further questions or would like more information, please contact us.

### **Live donor Coordinators**

Tel: 01865 228 668

Or 01865 228 669

Or 01865 228 670

(Monday to Friday, 8.00am to 6.00pm)

### **Kidney Recipient Transplant Practitioners**

Tel: 01865 228 661

Or 01865 228 660

(Monday to Friday, 8.00am to 6.00pm)

There is an answerphone available, so please leave a message outside these hours and we will call you back.

If you have a specific requirement, need an interpreter,  
a document in Easy Read, another language, large print,  
Braille or audio version, please call **01865 221 473**  
or email **PALS@ouh.nhs.uk**

Author: Nicky Hayward, Specialist Nurse Practitioner  
Live Donor Programme  
Dr Phil Mason, Consultant Nephrologist  
Reviewed by the renal patient information group, June 2016  
January 2017  
Review: January 2020  
Oxford University Hospitals NHS Foundation Trust  
Oxford OX3 9DU  
[www.ouh.nhs.uk/information](http://www.ouh.nhs.uk/information)

