Blood group (ABOi) incompatible kidney transplantation

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This leaflet gives you information specifically about blood group incompatible (ABOi) kidney transplantation.

It explains the reasons for undertaking this type of transplantation and its risks and benefits.

An information sheet for live kidney transplantation is also available and this leaflet should also be read alongside the live kidney transplantation leaflet.

What is ABO incompatible transplantation

About 30% of potential live donors for kidney transplantation are found to be blood group incompatible. This means that antibodies in the patient with kidney disease will reject the kidney of the donor because of different blood group types. Previously, if this transplant had been performed, the kidney would have immediate rejection. The table below shows blood group incompatibilities.

		Recipient			
	Blood Group	O	A	B	AB
Donor	O	√	√	√	√
	A	X	√	X	√
	B	X	X	√	√
	AB	X	X	X	√

Since the 1980s, techniques have been developed to safely overcome this barrier by reducing antibodies before transplantation. This has enabled many more patients to receive kidney transplants around the world.

The results of blood group incompatible kidney transplants are comparable to those of live donor blood group compatible and at 1 year about 90–95% of transplanted live donor kidney transplants would be expected to be functioning.

These types of transplants have been performed throughout the world.

How is the patient prepared for an ABOi transplant?

Following discussion with your doctor, and assessment of your ABO antibody levels, a plan is drawn up detailing when you will need to come to hospital for appointments and for treatments. Immunoadsorption is used to remove blood group antibodies from your blood on a machine in a process resembling a haemodialysis session. The session lasts 3–4 hours and the number of sessions is dependent on the amount of antibody present. Most people require 2–4 sessions, but some people require a lot more.

Your blood group antibodies will be monitored during this process and the transplant will only proceed if the antibody levels are sufficiently low. Occasionally (about 1 in 10 cases) it may not be possible to reduce your antibodies.

Sometimes high levels of antibodies come back after transplantation and further sessions of immunoadsorption are required.

You will start your anti-rejection medications 4–6 days before transplantation.

When does this take place?

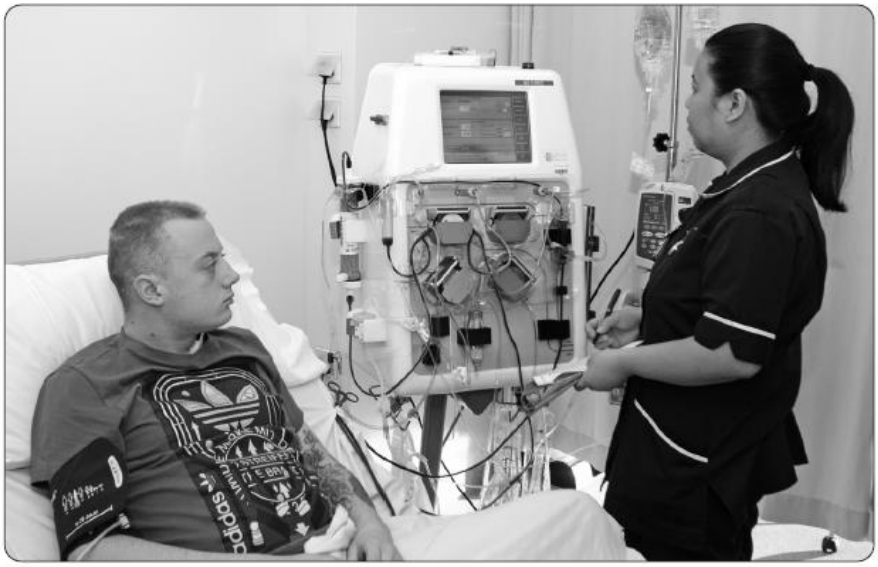
If If you do not have a dialysis line or fistula already, you will need to have a line inserted two weeks before your transplantation date. Arrangements for the dialysis line inserted will be made at your local hospital or at the QEHB. This is usually a day case procedure.

The immunoadsorption sessions will be carried out at the QEHB, on the third floor in our Dialysis Unit (Ward 301) at specified times depending on the amount of blood group antibody present. These are carried out the week before transplantation and are done as a day attendance.

What are the risks?

As with all kidney transplants, there are risks associated with the operation and the anti-rejection medications. In addition to these, there is a slightly higher risk of rejection which associated with higher levels of blood group antibodies.

Antibody removal



Who is suitable for this type of transplant?

You will need to have been assessed as medically fit to receive a transplant, and the potential donor will need to have been assessed as medically fit to donate a kidney.

Blood samples will be taken to measure the amount of blood group antibody present in the body. The amount of antibody present will guide whether the transplant can take place and how much treatment is necessary before the transplant operation. If your antibodies are too high at this stage, we would ask whether you would consider the paired exchange programme (ask your doctor about this programme).

Frequently asked questions

Do I have to have this type of transplant?

No. You can stay on dialysis or on the National Kidney Transplant Waiting List or participate in the Paired Exchange Programme. It is important to talk with your doctors about the benefits and risks of blood group incompatible transplantation and not having a transplant at present.

Are there any age restrictions on receiving a kidney from an ABOi donor?

There are no strict age restrictions, however, the potential recipient must be in good general health and may require further investigations to assess their overall fitness before the procedure can go ahead. Each donor-recipient pair will be considered on a case by case basis.

How long does the evaluation for ABOi transplantation take?

This is usually determined by the donor assessment. The overall time from entering the live donor transplant programme to receiving a kidney is 6–18 weeks depending on many factors.

For the recipient, special blood tests need to be taken and these will tell us the antibody levels within a week. Sometimes the antibody levels

in the recipient are too high to proceed, or other antibodies (non-ABO) are present that may require a different approach to treatment. Occasionally the recipient will require further medical assessment.

Will the recipient need to be in hospital before the transplant?

You will require daily reviews and increased treatment in the 10–14 days prior to transplantation. This treatment is performed as an outpatient, but will be discussed on an individual patient basis.

How long is the hospital stay after the transplant?

Most people receiving a transplant will be in hospital between 5–10 days. Donors are usually in hospital for between 3–5 days.

Websites

British Transplant Societywww.bts.org.uk
NHS Blood and Transplantwww.nhsbt.org.uk
KPA (Kidney patient advisory group)www.kidney.org.uk

Contacts

Enquire about ABO incompatible transplantation:
Antibody Incompatible Transplant Coordinator
Telephone: **0121 371 5834**
Live Donor Kidney Transplant Coordinators
Telephone: **0121 371 5845**

Renal

Queen Elizabeth Hospital Birmingham
Mindelsohn Way, Edgbaston
Birmingham, B15 2GW
Telephone: 0121 371 2000

Accessibility

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