

Incompatible Live Donor Programs

The preferred type of kidney transplant is from a living donor. In most cases, the donor can donate their kidney to their intended recipient. However, in some cases, a person is a suitable donor but is unable to donate to their recipient because of an incompatible blood group, or because of antibodies in the recipient's blood.

In the past, these donors were turned down for transplant, and the recipients either had to find another living donor or went onto the waiting list for a deceased donor transplant. However, there are now programs in place to help donors and recipients overcome these obstacles.

First, it is important to understand what it means to have antibodies against the donor or an incompatible blood group:

Antibodies and Kidney Transplantation

Antibodies are a protein that the body's immune system produces. They help the body fight off infections and give immunity to those infections. When you receive your flu shot or another vaccine, this stimulates your body to make antibodies against the flu, and keeps you from getting sick.

Sometimes, people produce antibodies against other people. If a recipient has antibodies in their blood against their donor, this can cause an immediate severe rejection at the time of the transplant operation, and the transplant may never work. In order to prevent this, a test called a **crossmatch** is done before the transplant. If the crossmatch test is negative, it means that there are no antibodies and the transplant can go ahead. If the crossmatch test is positive, then antibodies against the donor are present, and the transplant cannot take place right away.

Blood Group and Kidney Transplantation

There are four blood groups: A, B, AB and O. Kidney transplants, like blood transfusions can only be done if the donor and recipient's blood group are compatible. This is because people of one blood group make antibodies against some or all of the other blood groups.

A transplant can be done in the following situations:

- Recipient blood group A: can receive from blood group A or O
- Recipient blood group B: can receive from blood group B or O
- Recipient blood group AB: can receive from blood group A, B, AB or O
- Recipient blood group O: can only receive from blood group O

Notice that a person who is blood group AB can accept a kidney from a donor of any blood group. This is called a **universal recipient**. In comparison, people who are blood group O can **only** receive a kidney from a blood group O donor.

The positive or negative Rh factor in the blood group does **not** matter for a kidney transplant. For example, someone who is blood group A positive can donate to someone who is A negative.

Choices for Patients When the Blood Group Is Incompatible or Antibodies Against the Donor Are Present

One option is to find another donor and recipient who also cannot donate because of blood group incompatibility or antibodies. However, the donor from that pair can donate to the recipient in the first pair, and the donor from the first pair can donate to the recipient from the second pair. This is called **paired exchange**.

It can be difficult to find another pair where the donor and recipient are compatible. To increase the chances of finding a compatible pair, transplant centres across Canada have formed the [Living Donor Paired Exchange Registry](#). The Multi Organ Transplant Program has played a key role in establishing the Registry.

A second option is to try to eliminate or reduce the level of antibodies in the blood. We say that patients who have antibodies to other people are “sensitized.” The process of trying to reduce the antibody level is called **desensitization**.

Desensitization takes place before the transplant. The type and length of treatment depends on several factors. If you are interested in these programs, you will meet with a transplant coordinator and transplant nephrologist for information and to help you make a decision.