

# Histocompatibility testing for kidney transplant patients

Information for patients



# Your guide to laboratory testing and giving your permission, keeping you in control of the process.

## Why do you need my permission?

We need permission for scientists to test, and store, your blood sample. Before you decide whether to give your permission you need to be aware of the tests we will carry out on your sample.

Your blood samples will be sent to the Histocompatibility and Immunogenetics (H&I) laboratory to carry out these tests. There are three main tests - HLA typing, HLA antibody screening and HLA antibody crossmatching.

This leaflet will explain the tests, and what happens to your sample after we have tested it.

If you do not give your permission, we cannot carry out tests or keep your samples.



## HLA Typing

You inherit your HLA (Human Leucocyte Antigen) type (also called tissue type) from your parents. HLAs are found on the surface of most cells in the body. If your HLA is different to the donor's, your body's immune system may recognise the difference and attack the kidney, causing it damage. The better the HLA match between you and the donor, the better the chances of the transplant being successful in the long term. However, while a perfect match is best, it is not always essential and many transplants work well despite some differences in the HLA types.

There are many different tissue types and so most people are different from each other. The best chances of finding a good match are among your close family members, especially brothers and sisters. However, it is also possible to find a good match with donors who are not related to you. We must find your HLA type to help choose a suitable donor for your transplant. We will do this by testing a sample of your DNA, which we get from your blood cells. The laboratory will store a sample of your DNA in case we need to carry out more tests in the future.

We will give the results of your HLA typing to your doctor and to the team that will perform your transplant. We will also send this information to NHS Blood and Transplant Organ Donation and Transplantation (NHSBT ODT) as part of the information they need to help find a suitable donor for you. We may send copies to the other healthcare staff who are treating you (for example, your dialysis unit), so they have your results in their files. We can also send these results to any other hospitals you may transfer to in the future.

## HLA antibody testing

HLA antibodies can be made by your immune system. These antibodies may attack the donor HLAs and cause damage to the kidney. You may have HLA antibodies if you have:

- Previously had a transplant that failed
- Had blood transfusions
- Been pregnant

HLA antibodies can appear, disappear and reappear over time and so it is important to test for these regularly. If you are waiting for a transplant, you must be tested for HLA antibodies at least once every three months. Your blood will be sent to the H&I laboratory to carry out these tests at the relevant times.

The laboratory will use the results to help decide which differences in you and your donor's HLA types can be allowed and which cannot.

The laboratory will then send the results to NHSBT ODT to help make sure you are only offered a kidney from a suitable donor.

The laboratory will keep all these samples to carry out crossmatch tests in the future.



## Crossmatching

The crossmatch test is a direct test between the antibodies in your blood and the white blood cells from a potential donor. This is the ultimate test of whether you have any antibodies that could cause a transplant to fail.

If you have been offered an organ from a deceased donor (a donor who has died), we will carry out this test immediately before the transplant is expected to take place, to decide whether you match the donor. The crossmatch test will use some of your stored blood samples, but the transplant team may also call you in to provide a fresh sample. This is a test of whether you have any antibodies in your blood that could attack the transplanted organ and cause it to fail. We often call it "doing a transplant in a test tube". A transplant cannot usually take place unless the result of this test shows that none of these antibodies are in the patient's blood at the time of transplant.

If a living donor is being considered, you will probably have more than one crossmatch test to make sure the donor is suitable. These tests will usually take place over a number of months, as it can be a long time between the first test and the transplant. The final crossmatch test will be shortly before the transplant is due to take place. Until the transplant team know the results of the final crossmatch test, they cannot make a decision about whether or not the donor is suitable, and whether the transplant can go ahead.

We will give the crossmatch results to a member of the transplant team as soon as we have them.

Once you have had your transplant, the laboratory will store all your samples, and the donor's samples, in case they need them for tests to help with your treatment in the future.

If your transplant has been successful, we may need further samples to check for specific antibodies. These antibodies can provide early signs of your body rejecting the kidney.

## **What happens to my sample?**

When we no longer need your samples for testing, or we have more samples than we need, the law allows us to use these anonymously for quality control (making sure our tests are working correctly), research (depending on whether this is approved by ethics committee) or introducing new procedures, or for educating and training doctors, nurses, scientists and other professionals working in healthcare. This helps us maintain accurate testing procedures and improve our knowledge, and so provide the best possible care for all patients.

However, if you do not want us to use your samples for any of the purposes above, you must tell your doctor or the person taking your blood (or both). We will respect your wishes and dispose of any samples we no longer need.

## **Data Storage**

All data obtained by the laboratory is held and used in compliance with the Data Protection Act 2018.





## What did you think of your care?

Scan the QR code or visit [bit.ly/nhsleedsfft](https://bit.ly/nhsleedsfft)

*Your views matter*



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