

Histocompatibility testing for potential donors for stem-cell transplant patients

What is histocompatibility testing?

Histocompatibility testing helps decide if we can find a suitable donor to provide stem cells for a transplant. For a transplant to be successful, it is important to find a donor whose HLA (human leucocyte antigen) type (also called tissue type) is as close as possible to the patient's. The better the match between the patient and the donor, the better the chances of the transplant being successful in the long term.

You inherit your HLA type from your parents. HLAs are found on the surface of most cells in the body and are an important part of your body's immune system. If your HLA type is different to the patient's, the immune cells from your body may recognise cells in the patient's body as foreign and attack and seriously damage them. It may also be possible for the patient's immune system to recognise your stem cells as foreign and attack them, causing the transplant to fail. The better your HLA type matches the patient's, the better the chances of the transplant being successful in the long term.

There are many thousands of different tissue types and so most people are different from each other. The best chances of finding a good match are among close family members, especially brothers and sisters. However, it is also sometimes possible to find a good match with donors who are not related to the patient. You have come forward to see if you may be suitable match, we will give your blood sample to the histocompatibility and immunogenetics (H&I) laboratory for HLA typing.

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What is HLA typing?

We must find your HLA type to see if you are a match for the patient. 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 send the results of your HLA typing to the hospital consultant. We may also give them to the consultant who is responsible for transplants, if this person is different to your doctor.

The H&I laboratory will keep copies of your results and use them to help work out whether you or any other family members who have been tested are suitable donors for your relative.

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 an 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.

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This patient information leaflet does not replace the guidance provided by your treating clinical team. Your treating clinical team should advise you of the options for treatment, advise of any alternative treatment and associated risks. Your treating clinical team should ensure that you are aware of the material risks associated with the treatment advised.

If you are unsure about any aspects of the treatment/care, ask your treating clinical team to explain.

NHS Blood and Transplant

NHS Blood and Transplant (NHSBT) saves and improves lives by providing a safe, reliable and efficient supply of blood and associated services to the NHS in England and North Wales. We are the organ donor organisation for the UK and are responsible for matching and allocating donated organs. We rely on thousands of members of the public who voluntarily donate their blood, organs, tissues and stem cells.

All information provided to NHS Blood and Transplant is used in accordance with the General Data Protection Regulation (GDPR) and all other applicable privacy legislation. For more information on how we look after your personal details or to find out more about your privacy rights visit www.nhsbt.nhs.uk/privacy or call 0300 123 23 23. NHSBT are committed to keeping your data safe and confidential.

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