

Tissue Typing Laboratory

Human Tissue Act: tissue typing patient information and consent

The following information describes the role of the Tissue Typing Laboratory and the tests it undertakes. The leaflet is designed for patients whose blood sample is referred for testing to the laboratory in relation to transplantation or disease diagnosis.

The Tissue Typing Laboratory (professionally known as Histocompatibility and Immunogenetics) performs a range of laboratory tests to assess a patient's immunological compatibility for transplantation and to assist doctors in the diagnosis of certain diseases. These tests involve genetic (DNA) and antibody testing and the storage of patient and donor blood, tissue and DNA.

Human Leukocyte Antigen (Tissue Typing) and Immunogenetic testing

The Human Leukocyte Antigens (HLA) are protein structures present on the surface of most cells, tissues and organs of the body. There are over two thousand different HLA documented in the human population, although any one individual will only possess a small number of these. A person's 'tissue type' is determined by the combination of HLA they have. When an organ becomes available for transplant we ensure that the donor and recipient tissue types are compatible. The laboratory also performs HLA typing and 'immunogenetic' assays to aid disease diagnosis and identify other proteins which are involved in the function of the immune system (immunogenetics).

Screening for antibodies that can cause transplant rejection and disease

The human immune system is designed to recognise and remove any 'foreign' protein which is not part of a person's own body ('non-self'). This is how the human body fights infection from bacteria and viruses. One way it does this is to form antibodies that stick to the non-self protein and destroy it. If the immune system encounters the HLA from a different person, on a transplanted organ for example, it may react in the same way and make antibodies. Antibodies can cause very rapid failure (rejection) of a transplant. Antibodies are present in the serum (fluid) component of blood and the laboratory regularly screens blood samples from patients waiting for a transplant to check for antibodies and also stores these samples to use in the crossmatch test.

Crossmatching

When a donor becomes available for a patient on the transplant waiting list, the laboratory performs a crossmatch test to check that the recipient and donor are compatible. In the crossmatch test, the stored serum samples from the transplant recipient are mixed with white blood cells from the donor. The test shows if the recipient has antibodies that can stick to the donor cells and destroy them. If antibodies are present (a positive crossmatch), it is not safe to perform the transplant. If the recipient does not have antibodies (negative crossmatch) the transplant can proceed.

Tissue Typing patient/donor consent:

To carry out these functions the Human Tissue Act requires the health care professional (HCP) with responsibility for patient and/or donor care to seek consent regarding the following:

1. To perform genetic*, cellular and serological tests using identifiable patient tissue, cells and DNA to assess donor and recipient immunological compatibility for transplantation and/or assist in disease diagnosis (for example, tissue [HLA] typing, immunogenetic testing, antibody screening and donor crossmatch tests).
2. To store identifiable donor and patient tissue (for example, cryopreserved [frozen] blood cells, blood, serum, lymph nodes, spleen and DNA) for future testing in support of the diagnosis of transplant rejection, transplant monitoring, other patient diagnosis, test validation, service development and quality management.
3. To store identifiable donor and patient information and test results (including results of genetic analyses*) in electronic and paper format and share this data with other approved professional bodies and transplant registries (for example, UK Transplant).
4. To use surplus archived donor and patient tissue and DNA in ethically approved research studies.

* It should be noted that genetic tests carried out on more than one member of the same family can, under some circumstances, give information concerning their genetic relationship and disease susceptibility.

Patient/donor Consent:

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| 1. Genetic and serological testing: | Yes ** |
| 2. Storage and future testing of sample(s) | Yes / No ** |
| 3. Storage of patient/donor data | Yes ** |
| 4. Use of samples in ethically approved research | Yes / No |

** Points one and three are mandatory in all cases, and in addition, point two is mandatory for solid organ transplantation (this means that withholding consent would stop you being accepted on the transplant waiting list and/or organ donation).

If you have any questions relating to this information please contact Craig Taylor (01223 217741) or Tim Key (01223 217739).

Some useful links:

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| British Society for Histocompatibility and Immunogenetics: | www.bshi.org.uk |
| UK Transplant: | www.uktransplant.org.uk |
| British Transplantation Society: | www.bts.org.uk |
| Bone Marrow Donors Worldwide: | www.bmdw.org |
| The Anthony Nolan Trust: | www.anthonynolan.org.uk |

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Polish

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Portuguese

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Russian

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Cantonese

若你需要此信息的其他語言版本、大字體版或音頻格式，請致電 01223 216032 或發郵件到: patient.information@addenbrookes.nhs.uk

Turkish

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Bengali

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Document history

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| Authors | Tim Key |
| Department | Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 2QQ www.cuh.org.uk |
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