

Histocompatibility and immunogenetics

Histocompatibility and immunogenetics involves carrying out tests to support stem cell and organ transplantation.

The work involves typing patients and donors, assessing the closeness of the match and thus helping to select the most appropriate donor for a particular patient.



Overview

The main role of a histocompatibility and immunogenetics (H&I) laboratory is to provide the services required to support haemopoietic stem cell and organ transplantation programmes. In addition, the H&I laboratory provides genetic testing for a number of human leukocyte antigens (HLA) and immune-related genes to support disease diagnosis and management, and plays a role in the investigation of transfusion-related reactions.

Helping to select the most appropriate donor for a particular patient

The work involved in the support of transplantation programmes includes HLA typing patients and donors, assessing the closeness of the match and thus helping to select the most appropriate donor for a particular patient. This is crucial to the success of the transplant, as mismatching can result in immune damage to the patient in haemopoietic stem transplantation or rejection in organ transplantation.

In the case of organ transplantation, the laboratory also performs HLA antibody screening and crossmatching, to ensure that there are no antibodies in the recipient which could reject the transplant. Finally, an H&I laboratory may keep registers of potential recipients of organ transplants and volunteer donors of haemopoietic stem cells (both bone marrow and cord blood).

Working life

In this area of healthcare science, you'll:

- be involved in tissue banking - the collection, processing, harvesting, storage and issuing of different types of tissue to be used to treat patients. These tissues might include skin, bone marrow, eye corneas, heart valves and stem cells.
- be responsible for ensuring that tissues are handled safely and the correct tissue is issued to patients.

The typical work activities that you might undertake in this field include:

- carrying out complex analyses on patient and donor specimens
- assuring the quality of clinical investigations
- auditing the diagnostic and clinical use and performance of investigations
- developing new and existing tests often requiring considerable manual expertise
- liaising with clinical and other healthcare staff, often in a multidisciplinary team setting
- writing reports
- submitting funding bids and conducting research with clinicians and other healthcare scientists.

Where would I work?

If you specialise in histocompatibility and immunogenetics, you could work for an NHS hospital trust (generally within the transplantation or immunology department) or other NHS organisations such as NHS Blood and Transplant [1]. There are also opportunities with charitable organisations, such as the Anthony Nolan Trust [2].

Who would I work with?

You'll work as part of a team including other healthcare science staff [3], surgeons [4] and nurses [5] involved with organ and stem cell transplantation.

Want to learn more?

- Find out more about the entry requirements, skills and interests required to enter a career in histocompatibility and immunogenetics [6]
- Find out more about the training you'll receive for a career in histocompatibility and immunogenetics [7]
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Pay and conditions

Most jobs in the NHS are covered by the Agenda for Change (AfC) [8] pay scales. This pay system covers all staff except doctors, dentists and the most senior managers. If you work in histocompatibility and immunogenetics, your salary will typically be between AfC [9] bands 6 and 9, depending on the role and level of responsibility. Trainee clinical scientists train at band 6 level, and qualified clinical scientists are generally appointed at band 7. With experience and further qualifications, including Higher Specialist Scientist Training [10], you could apply for posts up to band 9.

NHS staff will usually work a standard 37.5 hours per week. They may work a shift pattern.

Terms and conditions of service can vary for employers outside the NHS.

- ## **Where the role can lead**

With further training or experience or both, you may be able to develop your career further and apply for vacancies in areas such as further specialisation, management, research, or teaching.

Clinical scientists often work at the forefront of research and innovation, so that patients are continually receiving the very best healthcare. For example, in histocompatibility and immunogenetics, clinical scientists are involved in wide ranging research including the development of methods to support antibody incompatible solid organ transplantation, understanding the significance of HLA and other immunogenetic markers in haematopoietic stem cell transplantation, the development of new methods and the design and delivery of innovative models of service provision. Developments in histocompatibility and immunogenetics are enabling the expansion of transplantation as a treatment option for an increasing range of diseases.

- ## **Job market and vacancies**

Job market

In November 2018, there were 6,123 clinical scientists registered with the Health and Care Professions Council [11].

The NHS Scientist Training Programme (STP) [12] and Higher Specialist Scientist Training (HSST) [10] attract many more applicants than there are places and so there is considerable competition for places.

Finding and applying for jobs

Check vacancies carefully to be sure you can meet the requirements of the person specification before applying and to find out what the application process is. You may need to apply online or send a CV for example.

For the NHS STP [12] and HSST [10] there is an annual recruitment cycle and applications should be made through the National School of Healthcare Science website [13], where you can also find information about the programme and the recruitment process.

Key sources relevant to vacancies in the health sector:

- Vacancies in organisations delivering NHS healthcare (including NHS Blood and Transplant [1]) can be found on the NHS Jobs website [14]
- Opportunities in the Civil Service can be found on the Civil Service Jobs website [15]
- Vacancies in local government can be found on the Local Government Jobs website [16] and the Jobs Go Public website [17]

Find out more about applications and interviews [18].

Volunteering is an excellent way of gaining experience (especially if you don't have enough for a specific paid job you're interested in) and also seeing whether you're suited to a particular type of work. It's also a great way to boost your confidence and you can give something back to the community.

Find out more about volunteering and gaining experience [19].

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Further information

For further information about working and training in haematology, please contact:

- Academy for Healthcare Science (AHCS) [20]
- British Society for Histocompatibility and Immunogenetics [21]
- Health and Care Professions Council [22]
- National School of Healthcare Science [13]
- UCAS [23]

Other roles that may interest you

- Biomedical science [24]
- Blood sciences [25]
- Cellular sciences [26]
- Clinical bioinformatics health informatics [27]

Source URL:<https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/life-sciences/histocompatibility-and-immunogenetics>

Links

[1] <http://www.nhsbt.nhs.uk/> [2] <http://www.anthonynolan.org/> [3] <https://www.healthcareers.nhs.uk/explore-roles/life-sciences> [4] <https://www.healthcareers.nhs.uk/explore-roles/surgery/general-surgery> [5] <https://www.healthcareers.nhs.uk/explore-roles/nursing> [6] <https://www.healthcareers.nhs.uk/explore-roles/life-sciences/histocompatibility-and-immunogenetics/entry-requirements-skills-and-interests> [7] <https://www.healthcareers.nhs.uk/explore-roles/life-sciences/histocompatibility-and-immunogenetics/training-development-and-registration> [8] <https://www.healthcareers.nhs.uk/about/careers-nhs/nhs-pay-and-benefits/agenda-change-pay-rates> [9] <https://www.healthcareers.nhs.uk/glossary#AfC> [10] <https://www.healthcareers.nhs.uk/i-am/working-health/nhs-higher-specialist-scientific-training> [11] <http://www.hcpc-uk.org> [12] <https://www.healthcareers.nhs.uk/i-am/considering-or-university/not-studying-health-related-degree/nhs-scientist-training-programme> [13] <http://www.nshcs.hee.nhs.uk/> [14] <http://www.jobs.nhs.uk> [15] <https://www.civilservicejobs.service.gov.uk/csr/index.cgi> [16] <http://www.lgjobs.com/> [17] <http://www.jobsgopublic.com/> [18] <https://www.healthcareers.nhs.uk/career-planning/offering-career-support/training-and-teaching-resources-young-people/application> [19] <https://www.healthcareers.nhs.uk/i-am/secondary-school-or-fe-college/gaining-experience> [20] <http://www.ahcs.ac.uk> [21] <http://www.bshi.org.uk> [22] <http://www.hcpc-uk.org/> [23] <http://www.ucas.com> [24] <https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/life-sciences/biomedical-science> [25] <https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/life-sciences/blood-sciences> [26] <https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/life-sciences/cellular-sciences> [27] <https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/clinical-bioinformatics/clinical-bioinformatics-health-informatics>