Cardiac sciences

Cardiac science involves analysing known and suspected heart disease.

If you work in cardiac sciences, you'll carry out crucial diagnostic, monitoring and analytical procedures for patients with known or suspected heart disease. You'll also assist in interventional procedures.

Working life

In cardiac sciences, you'll be assessing patients during what can be a distressing time in their lives.You'll have a lot of direct patient contact, working with people of all ages, ranging from babies to the elderly.

Depending on your role, you could be carrying out a range of procedures in cardiac sciences including:

- echocardiography - using ultrasound [1] to obtain pictures of the heart to help diagnose and monitor diseases that affect the structure and function of the heart including heart

valves and muscle
- pacemaker implantation and follow-up - taking measurements and programming pacemaker devices to ensure they are functioning correctly when they are implanted and during long-term follow-up
- exercise stress testing - closely monitoring a patient as they exercise (usually on a treadmill) to test if the blood vessels supplying the heart are working properly. Can be used as part of diagnosis or monitoring the response to treatment including surgery.

Roles in cardiac sciences

In cardiac sciences, there are various roles you could consider, including:

- healthcare science assistant or associate
- healthcare science practitioner
- clinical scientist

Healthcare science assistant or associate

As a healthcare science assistant or associate in cardiac sciences (such as a cardiographer [2]) you'll undertake routine tests for patients such as electrocardiograms [3] (ECGs) and blood pressure measurement. The majority of your work involves working directly with patients.

Find out more about healthcare science assistants and associates [4].

Healthcare science practitioner

As a healthcare science practitioner in cardiac sciences, you'll:

- assess patients using diagnostic equipment
- often provide technical reports of the tests you perform
- probably be based in a hospital cardiology department but you might work in primary care [5]

Your job will vary depending on the types of procedures carried out by the hospital in which you're working, but will usually include:

Due to the very nature of this area of healthcare science, you'll have a lot of direct patient contact

- ambulatory electrocardiography
- ambulatory blood pressure measurement
- providing technical support during pacemaker implantation and follow-up
- helping with exercise stress testing
- providing technical reports on the tests you perform

Clinical scientist

If you're a clinical scientist in cardiac sciences, you'll:

- work at a more senior level
- have a considerable amount of responsibility for performing more complex tests and interpreting the results of each test
- be expected to teach and supervise other members of the team
- often work in a management role with responsibility for resources (such as staff, budgets or equipment).

'I'm qualified to perform a range of diagnostic cardiac tests such as ECGs, exercise tolerance tests and 'tilt' tests, and 24 hour heart monitors.'

Samantha Thorn, trainee healthcare scientist

Read Samantha's story [6]

Who will I work with?

You'll work as part of a large team providing care to patients. This team includes anaesthetists [7], surgeons [8], healthcare science assistants and associates [4], cardiologists (doctors) [9], specialist nurses [10] (including theatre nurses [11]), operating department practitioners [12] and radiographers [13].

Want to learn more?

- Find out more about the entry requirements, skills and interests required to enter a career in cardiac sciences [14].
- Find out more about the training you'll receive for a career in cardiac sciences [15].

Pay and conditions

Most jobs in the NHS are covered by the Agenda for Change (AfC) [16] pay scales. This pay system covers all staff except doctors, dentists and the most senior managers. In a support role such as a cardiographer or healthcare science assistant, you'll typically start at AfC [17] band 2 or 3. As a healthcare science practitioner, you'd usually start on band 5, with opportunities to progress to more senior positions. 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 [18], you could apply for posts up to band 9. 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.

Healthcare science staff often work at the forefront of research and innovation, so that patients are continually receiving the very best healthcare. For example, in cardiac science, healthcare science staff are developing non-invasive techniques for various cardiac procedures.

Job market and vacancies

Job market

In November 2018, there were 6,123 clinical scientists registered with the Health and Care Professions Council [19].

The NHS Scientist Training Programme (STP) [20] and Higher Specialist Scientist Training (HSST) [21] [21]attract many more applicants than there are places and so there is considerable competition for places.

Finding and applying for jobs

When you're looking for job or apprenticeship vacancies, there are a number of sources you can use, depending on the type of work you're seeking.

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 C.V. for example.

For the STP [22] and HSST [18] there is an annual recruitment cycle and applications should be made through the National School for Healthcare Science website [23], where you can also find information about the programmes and the recruitment process.

Key sources relevant to vacancies in the health sector:

- vacancies in organisations delivering NHS healthcare can be found on the NHS Jobs website [24]
- opportunities in the Civil Service can be found on the Civil Service Jobs website [25]
- vacancies in local government can be found on the Local Government Jobs website [26] and the Jobs Go Public website [27]
- vacancies for apprenticeships appear on the Gov.uk website [28]
- vacancies for traineeships appear on the Gov.uk website [29]

As well as these sources, you may find suitable vacancies in the health sector by contacting local employers directly, searching in local newspapers and by using the Universal Jobmatch tool [30].

Find out more about applications and interviews [31].

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 [32].

- **Further information**

For further information about a career in cardiac scences, please contact:

- Academy for Healthcare Science [33]
- Health and Care Professions Council [34]
- National School of Healthcare Science [23]
- Society for Cardiological Science and Technology [35]
- UCAS [36]

Other roles that may interest you

- Cardiologist [37]
- Cardiothoracic surgeon [38]
- Neurophysiology [39]
- Respiratory physiology and sleep sciences [40]

Source URL:https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/physiological-sciences/cardiac-sciences

Links
[1] https://www.healthcareers.nhs.uk/glossary#Ultrasound [2] https://www.healthcareers.nhs.uk/explore-roles/clinical-support-staff/cardiographer-0 [3] https://www.healthcareers.nhs.uk/glossary#Electrocardiograms [4] https://www.healthcareers.nhs.uk/explore-roles/clinical-support-staff/healthcare-science-assistant-and-associate [5] https://www.healthcareers.nhs.uk/glossary#Primary_care
[6] https://www.healthcareers.nhs.uk/explore-roles/physiological-sciences/cardiac-sciences/real-life-story-samantha-thorn [7] https://www.healthcareers.nhs.uk/explore-roles/anaesthesia
[8] https://www.healthcareers.nhs.uk/explore-roles/surgery/general-surgery
[9] https://www.healthcareers.nhs.uk/explore-roles/medicine/cardiology
[10] https://www.healthcareers.nhs.uk/explore-roles/nursing [11] https://www.healthcareers.nhs.uk/explore-roles/nursing/theatre-nurse [12] https://www.healthcareers.nhs.uk/explore-roles/operating-department-practice/operating-department-practitioner [13] https://www.healthcareers.nhs.uk/explore-roles/allied-health-professionals/radiographer-diagnostic [14] https://www.healthcareers.nhs.uk/explore-roles/physiological-sciences/cardiac-sciences/entry-requirements-skills-and-interests
[15] https://www.healthcareers.nhs.uk/explore-roles/physiological-sciences/cardiac-sciences/training-development-and-registration-cardiac [16] https://www.healthcareers.nhs.uk/about/careers-nhs/nhs-pay-and-benefits/agenda-change-pay-rates [17] https://www.healthcareers.nhs.uk/glossary#AfC
[18] https://www.healthcareers.nhs.uk/i-am/working-health/nhs-higher-specialist-scientific-training
[19] http://www.hcpc-uk.org [20] https://www.healthcareers.nhs.uk/i-am/considering-university/not-studying-health-related-degree/nhs-scientist-training-programme [21] https://www.healthcareers.nhs.uk/i-am/currently-working-health/nhs-higher-specialist-scientific-training [22] https://www.healthcareers.nhs.uk/i-am/considering-or-university/not-studying-health-related-degree/nhs-scientist-training-programme [23] http://www.nshcs.hee.nhs.uk/ [24] http://www.jobs.nhs.uk
[25] https://www.civilservicejobs.service.gov.uk/csr/index.cgi [26] http://www.lgjobs.com/
[27] http://www.jobsgopublic.com/ [28] https://www.gov.uk/apply-apprenticeship [29] https://www.gov.uk/find-traineeship [30] https://www.gov.uk/jobsearch
[31] https://www.healthcareers.nhs.uk/career-planning/offering-career-support/training-and-teaching-resources-young-people/application [32] https://www.healthcareers.nhs.uk/i-am/i-am-secondary-school-or-fe-college/gaining-experience [33] http://www.ahcs.ac.uk [34] http://www.hcpc-uk.org/
[35] http://www.scst.org.uk [36] http://www.ucas.com [37] https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/medicine/cardiology [38] https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/surgery/cardiothoracic-surgery [39] https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/physiological-sciences/neurophysiology
[40] https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/physiological-sciences/respiratory-physiology-and-sleep-sciences