

## Clinical Engineering

Medical engineering refers to the process of checking medical equipment to make sure it's working properly and is safe to use

Hospitals use an increasingly wide range of medical equipment in order to deliver healthcare services. This ranges from simple devices such as nebulisers to deliver treatment for respiratory patients through to sophisticated radiotherapy linear accelerators for cancer treatments and other cutting-edge technologies.

All medical equipment needs to be checked to ensure it is working correctly and safe for patients and it is the role of healthcare science staff working in medical engineering to do this.

It isn't just safety checks and maintenance, though. In medical engineering, you'd also get involved with the entire equipment lifecycle.



## Cardiac Science

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.

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 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



## Audiology

Audiology is about identifying and assessing hearing and balance function and their associated disorders

You'd work with patients of all ages as part of a team, recommending and providing appropriate therapeutic rehabilitation and management.

Audiology is a rapidly developing field, and the need for audiological services is clear. A national study of hearing showed that approximately 16% of the population have a significant hearing loss, indicating that working in this field is an important area of the NHS.

Most healthcare science staff in audiology work in a hospital, assessing and treating patients, and may reach consultant level. Many operate open referral clinics and may be the only point of contact for the patient. Some audiologists work in a university, where their job is primarily concerned with teaching and research.



## Anatomical Pathology

Anatomical pathology is the processing, examination, and diagnosis of surgical specimens in hospital and public mortuaries.

In the NHS, the healthcare science staff who work in hospital mortuaries are called anatomical pathology technologists (APTs). Outside the NHS, they also work in local authority public mortuaries

Your role as an APT is varied and there are many different areas of expertise required. One of your main roles is to provide assistance to a pathologist in conducting post mortems. This is a vital area of work as understanding the causes of death enables better understanding of the disease process and in some cases, when death is unexpected, the cause of death can have legal implications.



## Virology

Virology is the study of viral infections, such as rubella, herpes, hepatitis and HIV.

If you work in this area of healthcare science, you'll usually be part of a larger clinical microbiology service specialising in the identification and characterisation of viruses that cause infection.

Your investigations will involve highly specialised serological and molecular techniques, such as antigen, antibody detection, Polymerase Chain Reaction (PCR) and sequencing.

In some instances you may be directly involved in the screening of selected populations at risk from specific viral diseases.

Aside from dealing with patients, you might also investigate how infections have spread through the environment.



"I feel one of the apprenticeship strengths has been being able to complete training and qualifications which I will be able to take with me and add to my CV which improves my chances of employability."

## Nuclear Medicine

Nuclear medicine is the use of radioactive substances (such as radiolabelled pharmaceuticals) to help diagnose and treat patients.

Nuclear medicine uses small amounts of radioactive substances to look at what is happening the body, not just the physical changes that have already taken place. Images are taken which allow problems to be diagnosed, prevented and sometimes treated.

As a healthcare science practitioner working in nuclear medicine, you'll be administering radiolabelled pharmaceuticals to patients and then taking images and measurements using highly sophisticated equipment.



"If thinking about an apprenticeship - go for it 100%. It is very worthwhile getting the work based experience behind you" **Darby - Intermediate Healthcare Apprentices**

"Kayleigh - Intermediate Apprenticeship Business Admin"

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Intermediate Healthcare Apprentices

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	Level 8	Doctorate	
Higher/Degree Apprenticeship	Level 7	Masters (MA, MSc, MPhil) Postgraduate Certificate / Diploma	NVQ5
	Level 6	Degree (BA, BSc)	NVQ4
	Level 5	Foundation Degree (FdA, FdSc)	
	Level 4		
Advanced Apprenticeship (2 A-level passes)	Level 3	A & A/S Level International Baccalaureate	NVQ3
Intermediate Apprenticeship (5 GCSE's A*-C)	Level 2	GCSE A*-C or 9-4 Key Skills Level 2	NVQ2
	Level 1	GCSE D-G or 3-1 Key Skills Level 1	NVQ1

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## Lincolnshire Talent Academy

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Lincolnshire Talent Academy supports work experience placements in a wide range of health and care settings across Lincolnshire. For information please contact [WorkExperience@ulh.nhs.uk](mailto:WorkExperience@ulh.nhs.uk)

Lincolnshire Talent Academy provides comprehensive support to those interested in, or already undertaking, a career within the health and care sector across Lincolnshire

Lincolnshire Talent Academy supports the NHS priorities for developing the workforce which include:

- *Get in... Opportunities for people to start their career in a support role*
- *Get on... Support people to be the best they can be in the job they do*
- *Go further... Provide opportunities for career progression, including into registered professions*

*"Doing a clinical apprenticeship has given me much more of an insight into mental health and I've had the opportunity to experience every aspect of the job. I've seen things from varying points of view, including doctors, pharmacy and occupational therapists - not just the nurses."*



**Grace - Intermediate Health and Social Care**

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