

Imaging and radiation physics, nuclear medicine and clinical measurement

Join the team and make a difference

These areas of medical physics are among the most rapidly expanding in the NHS. Professionals working in imaging and radiation physics, nuclear medicine and clinical measurement help to safely develop, use and assess groundbreaking techniques that often save lives.

What will you do?

Work in **imaging and radiation physics** involves a wide range of different medical imaging equipment and associated facilities, making sure they are working correctly and are safe for patients and staff. You may advise clinical staff how to make the best use of complex and rapidly-evolving technology, in one or more of these areas, and advise how to minimise the radiation received by staff and patients.

You will also assess how well imaging and other equipment is working, use your expertise to advise on the purchase of new apparatus and be involved in training doctors, nurses and others.

Nuclear medicine is a branch of imaging physics that involves the use of radioactive

substances for diagnosis and therapy. This complex role includes the preparation and administration of radioactive tracers to patients, then taking images using gamma cameras and analysing the results. It can also involve the administration of radioactive products to treat cancers and other serious conditions. A major responsibility is ensuring that all radioactive materials are handled, stored and disposed of safely.

As part of a multidisciplinary team that includes nurses, doctors and other healthcare scientists, you will perform investigations to clarify what is wrong with a patient and thus influence their care. Your findings may lead to life-saving treatment.

Clinical measurement ranges from developing equipment or establishing novel measurement techniques, through to carrying out more routine measurements, using specialised and emerging technologies. Examples include measurements of wound healing, nerve conduction studies and measuring the density of bone – an important test for osteoporosis.

Where will you work?	What skills and qualities will you need?
You are most likely to work in a hospital department.	<ul style="list-style-type: none"> • keen interest in science and developments in medical technology
Clinical measurement may be made in clinics and operating theatres	<ul style="list-style-type: none"> • IT and technical skills • good communication skills • ability to work independently and as part of a team • a sympathetic, professional approach • risk-assessment capability

Some of your work will involve contact with clinicians so that you can jointly develop new techniques to diagnose and treat disease. You may also be involved in carrying out any investigative measurements unsupervised, as requested by the referring clinician, and will need to provide scientific reports detailing the results.

You will also be responsible for ensuring that measurements made on patients are reliable and accurate, and will need to calibrate, maintain and assess the equipment.

What entry routes are available?

You will need to have a BTEC Higher National Certificate/Diploma, NVQ Level 4, or foundation degree in an appropriate physical, engineering or related science subject. To qualify in these areas, you need to undertake a vocational BSc degree in clinical technology, which includes an element of on-the-job training. On completion of your training you will be eligible to join the Voluntary Register of Clinical Technologists.

If you have a first-class or upper second-class degree in a relevant subject, you may be eligible to join the NHS clinical scientists training scheme. This is a four-year programme of in-depth training in a specialist area, usually leading to an MSc or specialist postgraduate diploma, and registration with the Health Professions Council. For more information, visit www.nhsclinicalscientists.info

With GCSEs or an equivalent NVQ and/or previous work experience it is often possible to start work as an assistant in healthcare science, combining on-the-job training with study so that you learn as you earn. For more information, see the *Clinical support worker* factsheet.

Some employers also offer Cadet schemes, which involve a two-year training programme that gives you experience of different jobs within healthcare science.

For more information on what qualifications are needed for each role, please visit

www.nhs Careers.nhs.uk/list/qualifications. You can search for current vacancies and download job descriptions at www.jobs.nhs.uk

How can you develop your career?

Careers in radiation physics, ultrasound, nuclear medicine and clinical measurement have excellent prospects and include openings for research, management and education. You will be expected to continually expand your knowledge as advances are made, and you could reach the highest level in the profession, attaining consultant status.

Find out more about what training is open to you, and how you can develop your career, at www.nhs Careers.nhs.uk/list/training

You will also have the chance to take on additional responsibilities and progress within the organisation, as part of the Career Framework. For more information about this initiative please see the *Careers in healthcare science* booklet.

Pay

The national pay system in the NHS is called Agenda for Change (AfC). This applies to all healthcare science staff except very senior managers. These are examples of roles and the AfC bands at which they may be paid: healthcare science support worker (Band 2); healthcare science assistant (Band 4); healthcare science practitioner (Band 5); healthcare science specialist (Band 6); healthcare science advanced (Band 7); healthcare science consultant (Bands 8-9).

For more information, visit www.nhs Careers.nhs.uk/list/payandbenefits

To find out more about this area of healthcare science, please visit
www.nhs Careers.nhs.uk/list/working

For more information on the professional bodies relevant to healthcare science, please visit
www.nhs Careers.nhs.uk/list/contacts