

What does a Radionuclide Radiologist do?

Radionuclide radiology is an established sub-specialty within clinical radiology. A radionuclide radiologist uses their understanding of the physiology and metabolism of radioactive substances within the body in conjunction with knowledge of normal and pathological anatomy to diagnose and monitor causes of disease.

The radionuclide radiologist works within the multidisciplinary team to support a variety of diagnostic nuclear medicine imaging techniques. The consultant radiologist will take responsibility for the organisation and delivery of a nuclear medicine service often within a department of clinical radiology.

The equipment used, the techniques, and the required range of skills and expertise are similar to those used by nuclear medicine physicians for radionuclide imaging. In addition the radionuclide radiologist brings the skills required to integrate the physiological or functional investigation of disease with the anatomic investigation of conventional radiology.

Physiological changes in disease generally precede anatomic changes, so radionuclide techniques are in general more sensitive – although less specific – than anatomic imaging techniques, and the combination of both offers unique insights and can improve patient outcome. The development of hybrid imaging systems eg combined PET/CT and SPECT/CT scanners, which generate both anatomic and physiologic information in a single examination, has led to a need for clinicians who have the skills to integrate this information within the clinical context.

What training is required?

Subspecialty radionuclide radiology training follows 4 years (depending on deanery) of radiology training. It follows a curriculum, which covers the same core imaging aspects as nuclear medicine physicians' training. Most training schemes offer 12 months of general radionuclide radiology training, which can include 1 of nuclear cardiology or PET imaging, completing both requires 15 months of specialist training.

A radionuclide radiologist who wishes to further obtain a CCST in nuclear medicine in addition to the clinical radiology CCT can achieve this by undertaking an additional (6th) year of specialist training in a department accredited for this purpose which as well as covering general, cardiac and PET also includes a therapy component and a variety of non-imaging tests. Year 6 posts are applied for after starting radiology training, usually at ST3.

What are the career prospects?

Currently there is a shortage of applicants for consultant posts both in nuclear medicine and in radionuclide radiology across the UK. The number of trainees in post is currently much less than that required to fill vacancies that are expected to occur over the next few years, so career prospects in this field are excellent.

Where are the growth areas?

The two major growth areas in nuclear medicine techniques are PET and some novel therapeutic agents. The growth is primarily related to oncological indications. The evolving multimodality techniques in cancer imaging using CT, MRI and radionuclide generated data, and complementary experience in unsealed source therapy can place a radionuclide radiologist at the forefront of oncological imaging.

Other growth areas in nuclear medicine, include Nuclear Cardiology and Neuro-imaging, both with conventional technetium-based radiopharmaceuticals and with positron emitters, which can be employed in conjunction with CT and MRI for patients best care.

Further Information

www.bnms.org.uk

www.rcr.ac.uk

www.pmetb.org.uk