The Radiopharmacist in Nuclear Medicine

What is a radiopharmacist?

Radiopharmacists are qualified and registered pharmacists (experts in medicines and their use) who have specialised in that area of pharmacy that uses radioactive substances.

The main responsibility of radiopharmacists working in nuclear medicine will be the preparation of radiopharmaceuticals, the radioactive drugs that are needed to perform nuclear medicine tests and treatments. Part of their work is to ensure that the quality of these radiopharmaceuticals is of a uniformly high standard, ensuring that they are safe to use, that the correct dosage is given and that the results of the tests performed can be correctly interpreted. Quality assurance and quality control testing therefore play an important part in the work of any radiopharmacist.

Since all radiopharmaceuticals are, by definition, radioactive, a thorough working knowledge of radiation protection issues is also central to being a radiopharmacist.

Radiopharmacists need a wide range of skills and knowledge. Academically they will need a working knowledge of the core pharmaceutical sciences together with some radiation physics. Practically, they will also need to develop a variety of skills including the ability to handle radioactive substances safely and, because many radiopharmaceuticals are given to patients in the form of an injection, to be able to prepare substances under aseptic conditions. They will also need to develop various specialised techniques such as chromatography, gel filtration and electrophoresis, useful both for quality control and for research purposes.

Because radiopharmaceuticals are both medicines and radioactive substances, radiopharmacy is a highly regulated profession. People working in this discipline must be well-informed and acutely aware of the legal requirements and proper procedures that will ensure the safety of the products they produce and dispense.

Radiopharmacists in nuclear medicine work in a variety of settings including hospitals, both NHS and private, and industry. Many will also be involved in research such as increasing our understanding of the ways in which specific radiopharmaceuticals work, how they interact with other medications that patients may be taking, methods of improving their performance or even developing new radiopharmaceuticals for future use.

What training is needed?

You must first qualify as a pharmacist by taking a four-year degree course followed by a one-year postgraduate attachment. This will qualify you to

register as a qualified pharmacist and become a member of The Royal Pharmaceutical Society, the professional society for pharmacists in the UK. Most hospital pharmacists will continue by taking a post-qualification diploma or MSc degree in clinical pharmacy or pharmaceutical technology, some of which include modules on radiopharmacy.

Further information

- The British Nuclear Medicine Society is the specialist society for all professions working in the nuclear medicine field in the UK. Further information can be found on their website at www.bnms.org.uk
- The Royal Pharmaceutical Society is the processional body for pharmacists in the UK. Careers information about pharmacy in general can be found on their website at www.rpsgb.org/ and a leaflet about pharmacy careers can be downloaded from http://www.rpsgb.org/pdfs/careersleaflet.pdf
- More detailed information about radiopharmacy, including details of specialist training and courses can be found on the UK Radiopharmacy Group's website at www.ukrg.org.uk/

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