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# JOB IDENTIFICATION

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| **Job Title** | **Senior Clinical Scientist** |
| **Responsible To:** | **Head of Nuclear Cardiology** |
| **Department(s):** | **Nuclear Cardiology, Glasgow Royal Infirmary****Nuclear Medicine & Medical Physics, Forth Valley Royal Hospital** |
| **Directorate:**  | **Diagnostics** |

# JOB PURPOSE

To support the scientific and technical aspects of the nuclear medicine service. This includes:

1. The delivery and development of NM services (both diagnostic and therapeutic)
2. Specialised, complex, multi-modality, clinical image analysis
3. Contributing to the interpretation and reporting of highly complex, specialist, diagnostic procedures
4. Teaching and training staff and students up to MSc level
5. Equipment calibration
6. Radiation protection and compliance with relevant statutory requirements

# ROLE OF THE DEPARTMENT

**Nuclear Cardiology**

The Department of Nuclear Cardiology provides a comprehensive and wide ranging Nuclear Imaging (over 6,500 procedures) and stress testing (over 3,000 procedures) service to Glasgow Royal Infirmary, Western Infirmary and other hospitals from Dumfries to Stornoway covering the whole of the West of Scotland.

**Forth Valley Royal Hospital**

Clinical Physics Scientific staff provide NHS Forth Valley with comprehensive Nuclear Medicine support at Forth Valley Royal Hospital ensuring that all Services are delivered to the required statutory standards and providing scientific support for all procedures. This involves a further dual-headed gamma camera which will be replaced by a SPECT/CT system this year, and a wide range of radiation measuring equipment. Scientific staff also support Medical Physics in Forth Valley.

# Organisational Position



# Scope and Range

Patient stress testing is an integral part of Nuclear Cardiology and is performed by all Nuclear Cardiology technical and scientific staff. A large proportion of these are specialised pharmacological stress tests. The reporting of all rest and stress ECGs is the responsibility of Nuclear Cardiology staff. Many patients are at high risk of cardiac arrest and also may have severe heart failure.

All scans require the use of radioisotopes injected intravenously. Results of scans determine if further invasive investigations leading to coronary bypass surgery or angioplasty are performed. All scans are complex Nuclear Medicine investigations requiring detailed quantitative computer analysis.

The department has 2 solid state gamma cameras along and a large associated imaging network (Total capital cost is > £1,000,000). Analysis and reporting of all scans is the responsibility of Nuclear Cardiology staff.

Patients attending the department are often seriously ill and can suffer from mental illnesses. The tests that we perform have a significant clinical risk associated with them and patients are often asked to wait for long periods (several hours) in the department.

As the department has no nursing input and limited clerical resources, all staff have to perform clerical, nursing, secretarial and other duties (often during imaging time) to allow for an efficient delivery of service. This requires staff to be competent on an even wider range of equipment, and they must be able to work on their own without immediate local support.

The department is managed by Consultant Clinical Physics Scientific staff with limited input from Consultant Cardiology staff (the ARSAC IRMER Practitioner and lead clinician in Cardiology) and Nuclear Medicine Physicians.

The department is integrally involved in the training of Medical staff (specialist registrars and SHO staff from Radiology, Nuclear Medicine and Cardiology), Clinical Scientist staff (including national trainees), Medical Technical Officers and other Professionals allied to Medicine. In addition nursing staff are given general background training in Nuclear Cardiology. All members of staff contribute to this training. The department is active in research, supporting MSc/MEng projects, PhDs and Cardiac Medical Research Fellows funded from grant applications.

Clinical Physics Scientific staff provide NHS Forth Valley with comprehensive Nuclear Medicine and MPE support, ensuring that all services are delivered to the required statutory standards and providing scientific support for all procedures. This involves a further gamma camera which will imminently be replaced with a SPECT/CT system, and a wide range of radiation measuring equipment.

# MAIN DUTIES/RESPONSIBILITIES

The post holder supports the Consultant Medical Physicist (Head of Service) and other Senior Scientific staff to deliver all aspects of the Nuclear Medicine Service (both diagnostic and therapeutic). This may involve work outside normal hours as required for the delivery of a safe, timely and effective clinical service. The post holder will be registered with the HCPC and, as such, will fulfil all the requirements of the HCPC *Standards of Conduct, Performance and Ethics* including maintenance of CPD.

Due to the nature of the post it is not possible to specify exactly the time that should be given to each area. However it is expected that the post holder will spend approximately 20-25% of their time on research and development and ~5% on teaching and training. The remainder will be spent in supporting the general work of the department. The post holder should expect to work on all sites supported by the department and may work with other Nuclear Medicine departments within NHS Greater Glasgow and Clyde.

The detailed duties of the post include:

## Managerial

1. Prioritises and manages own workload.
2. Is responsible for day to day provision of operational & scientific support to the servicewhen acting on the “duty physicist” rota.
3. Has a responsibility in implementing legislation, policies & guidelines, making recommendations and changing practice as required. This is performed in order to provide safe, high quality Nuclear Medicine services, including the highly regulated area of radiation protection (staff, public, patients) Specialist pieces of legislation include:
	* 1. Environmental Authorisations (Scotland) Regulations 2018
		2. Ionising Radiations Regulations (IRR) 2017
		3. Ionising Radiations (Medical Exposure) Regulations (IR(ME)R) 2017
4. Contribute to the development of radiation and other safety policies and associated documentation
5. Participate in working groups within the nuclear medicine service to propose changes in service provision to nuclear medicine imaging departments and develop protocols to implement changes agreed by management
6. Review, modify and standardise existing Standard Operating Procedures and introduce new procedures in consultation with other staff.
7. Supervise the work of Trainee Physicists in the department.

## Clinical

1. Has specialist knowledge of physiological / clinical aspects of Nuclear Medicine procedures
2. Acts as duty physicist on a rota for the service, This includes investigating the causes of unusual or erroneous acquisition of data in complex cases and acting as a point of contact for scientific matters within the department on a daily basis
3. Analyse and review highly complex, specialised clinical imaging and non-imaging studies. This requires clinical knowledge and a high level of expertise in Nuclear Medicine and includes careful review of measurements taken and judgement of the optimum shape and position of regions placed on images around anatomical structures and inspection of final results for validity.
4. Reviews images and decides whether further imaging, particularly SPECT/CT, is required.
5. Assists in the interpretation and reporting of highly specialised diagnostic procedures. This requires clinical knowledge and a high level of expertise in Nuclear Imaging. Results often generate information which may conflict with other modalities, and a comprehensive imaging and scientific knowledge is essential to resolve discrepancies.
6. Report the results of resting and stress ECGs.
7. Report myocardial perfusion scans and radionuclide ventriculograms (verification of final reports is performed by senior scientific staff)
8. Provides technical and scientific advice at clinical reporting sessions and provides information for the appropriate clinical staff in the interpretation and reporting of Radionuclide examinations.
9. Provides highly specialist advice on the use of diagnostic tests & therapies, follow-up investigations and outcomes on the interpretation of scan results and quantitative data.
10. Assesses referrals for diagnostic Nuclear Medicine procedures and takes responsibility for authorisation, as appropriate, under IR(ME)R Regulations 2017.
11. Formulates instructions on radiation protection for patients, relatives, carers & staff. As therapeutic administrations involve large amounts of radioactive material, instructions are tailored for individual patients.
12. Administers radioactive materials to patients for therapeutic purposes. These therapies use therapeutic quantities of highly dangerous unsealed radioactivity to treat a wide variety of conditions. The treatment includes assessment of the patient's condition to determine whether they can safely be given the treatment, and explaining complex post treatment restrictions to the way of life to minimise dose to others - this is a legal requirement under IRR 17.  The post holder may be expected to make a decision based on an assessment of the patient as to whether to go ahead with the therapy on that day, as required.

## Technical

1. Provide local immediate support to technical, scientific, secretarial and medical staff on equipment, computing, image analysis and radiation issues
2. Plan effective use of equipment to minimise waiting times and provide an effective imaging service.
3. Responsible for the safe use of highly complex imaging equipment, and test instruments during procedures in which the postholder takes the lead.
4. Investigates equipment performance issues, which are often difficult and non-reproducible, analyses the results and acts appropriately to resolve problems including liaising with and organising service engineers.
5. Plan, organize and perform the regular quality assurance testing of highly complex imaging and non-imaging equipment. This involves complex organisation around patient throughput, balancing the need for equipment checking with its safe operation.
6. Calibrate a range of highly specialised radiation instruments used in assessment of patient exposure to agreed protocols, traceable to national standards, including radionuclide contamination meters, dose calibrators and a variety of radioisotope counters
7. Test and evaluate imaging and dose performance for highly complex medical imaging used in patient diagnosis for commissioning tests and routine quality control (IRR 2017)
8. Design, support and maintain a variety of software systems with a particular emphasis on image analysis and archiving. This will involve highly specialised knowledge of Windows and/or Linux system administration, programming in a variety of languages (e.g. Python, Matlab, C, Perl), database implementation (SQL) and image processing. This includes the development of analysis software to quantitate patient investigations. The use of these in routine practice will directly affect patient management and requires, in addition to extensive knowledge of programming, an appreciation of software QC and checking. Information systems are used for data storage, analysis and production of reports and treatment sheets.
9. Assist in the specification, procurement and installation of new highly specialised and complex imaging systems and imaging computing systems.
10. Participates in the acceptance testing of new equipment. This includes performing complex technical and scientific measurements with specialised test phantoms to ensure that the systems are acceptable for clinical imaging.
11. Performs regular audit and arrange for audit of systems and procedures by other staff
12. Assist senior Physicists in ensuring that all services meet clinical governance standardse.g. plan, design and organise audits, inspections and quality assurance programs.
13. Responsible for the production and maintenance of documentation e.g. Local Rules, SOPs
14. Assist with Health and Safety systems in the Department.
15. Analyse data from surveys, patient investigations and tests, critically assess results and produce reports for use in patient diagnosis and treatment. Reports contain information, which have direct clinical impact on patient management.
16. Be able to undertake all clerical duties including use of CRIS system.
17. Participate in working groups within the nuclear medicine service to propose changes in service provision to nuclear medicine imaging departments and develop protocols to implement changes agreed by management.
18. Participates in local and national committees and working parties producing professional guidance as required (e.g. Institute of Physics and Engineering in Medicine).
19. Will gain the appropriate expertise to perform the following expert regulatory roles:
	* 1. Act as Radiation Protection Supervisor as required under IRR 2017.
		2. Develop a portfolio for registration as a Medical Physics Expert for therapeutic and diagnostic Nuclear Medicine and bone densitometry as required by IR(ME)R 2017.

## Radiation Protection

1. Analyse complex situations, which could result in radiation exposure, associated with new radiation techniques or facilities, and formulate risk assessments to identify controls required (IRR 2017)
2. Contribute to the development of radiation and other safety policies and associated documentation.
3. Contributes to systems to ensure the effective operation of procedures for monitoring for radioactive contamination of staff and premises and for disposal of radioactive waste.
4. Carry out inspection of radiation safety within departments to identify shortfalls in legislative compliance.
5. Investigate radiation incidents, calculate doses received, evaluate risks to individuals involved and prepare draft reports for verification by a consultant.
6. Performs radiation dosimetry calculations
7. Provide advice to patients and clinical staff on the levels of radiation exposure and the associated risk/benefit analysis

## Teaching and training

1. Contributes to the department’s formal and informal teaching and training commitments to staff (scientific, technical, radiographers, nursing, medical) and students (under- and post-graduate) up to post-graduate level. This may include lecturing, tutorials, demonstrations and lab work.
2. Provides training and supervision of scientific and technical staff working towards registration.
3. Supports and contributes to the continuing professional development of professional staff within the Nuclear Medicine service.
4. Participate in the supervision of trainees attached to the section.
5. Maintain ongoing CPD and provide teaching and training to allow other staff to develop their CPD.
6. Supports the ambassadorial work of the department in promoting nuclear medicine, medical physics and healthcare science in the wider community.

## Research and development

1. Carry out research to develop new scientific techniques and imaging methods relating to nuclear medicine as part of the Departmental Research programmes.
2. Review current scientific publications, guidance and national standards, and amend clinical service protocols, as directed by management, to ensure up to date and legally compliant testing methods.
3. Pursue independent and collaborative research with clinical colleagues,
4. Providing expert scientific support and input to research projects led by medical colleagues
5. Manages individual research / development projects. This involves performing regular literature reviews setting hypothesis, collecting data, managing data effectively, drawing accurate conclusions and presenting this data clearly and concisely both written and oral so that it is understood by a wide variety of health care professionals.
6. Report research findings in medical and scientific literature and at national and international meetings.
7. Performs research project supervision to MSc level
8. Support staff (including Medical staff) undertaking research for higher Degrees
9. Assist in writing grants to obtain external funding for Research staff to support the ongoing and continuous research of the department
10. Review current scientific publications, guidance and national standards, and amend clinical service protocols, as directed by management, to ensure up to date and legally compliant testing methods. Introduce new and modified procedures into clinical service after careful evaluation and validation
11. Ensure all research is approved by completing applications to local research ethics committee and ARSAC (Administration of Radioactive Substances Advisory Committee).

# SYSTEMS AND EQUIPMENT

Highly proficient in the use of a range of very complex imaging, computing, radiation detection and counting equipment. Highly proficient in the use of complex image analysis software for the production of quantitative data from clinical studies. Other IT systems are also used on a daily basis to appoint patients, schedule workload and perform statistical analyses The postholder must be aware of and comply with the Data Protection Act, CNORIS, Caldicott Guidelines and local policies regarding confidentiality and access to patient records.

Systems and software used on a daily basis to analyse and manipulate patient images, generate scientific measurements, access clinical information, maintain patient databases, plan daily workload, carry out statistical analysis and aid continuing professional development include:

Equipment

* Gamma cameras
* SPECT/CT scanners
* Solid state gamma camera (Nuclear Cardiology only)
* Radionuclide dose calibrators
* Gamma counter
* Contamination monitors
* Dose rate meters
* Blood pressure Monitors

Systems

* Patient Administration System
* Radiology Information System
* Picture Archiving and Communications System (PACS)
* Cedar supplies system
* Nuclear Medicine processing systems
* PCs with MS Office

# DECISIONS AND JUDGEMENTS

The post holder, while part of a multidisciplinary team has freedom to manage own work with a degree of autonomy (discretion) within policy and must demonstrate initiative and sound judgement in making decisions regarding all aspects of the nuclear medicine service.

These include:

1. Freedom to act independently within occupational guidelines without supervision, but can refer to Consultant Scientist where necessary. Areas of work are allocated by the consultant scientist who provides guidance and supervision.
2. The post holder prioritises and manages their own work in line with departmental / service objectives
3. Judgements involving analysis of highly complex technical and scientific information e.g. informed judgement on images and data to determine that optimal information has been acquired. Judgements (occasionally contentious) will be required when acting in the following roles: IRMER Operator, IRR Radiation Protection Supervisor.
4. Lead specialist role in the coordination of several of the more complex specialist nuclear medicine procedures used in the diagnosis and treatment of patients.
5. Assessment of patient’s condition and decide on the most appropriate technique to obtain a diagnostic image. Often this post holder’s advice is sought as a last resort with particularly difficult patients.
6. Reconstruct, analyse, display scans – this is often out with protocol.
7. Decide whether requests for radiation exposure can be authorised under defined criteria when acting in the role of operator, under the Ionising Radiation (Medical Exposure) Regulations (IRMER’17). This often requires the post holder to phone and speak to referring clinicians to question clinical information to make a decision as to whether the test can go ahead.
8. Recognise abnormalities on images to make decisions on whether further imaging should be considered (e.g. x-rays).
9. Respond rapidly and take control of any radiation incident (e.g a spill of radioactive material, excess dose to patient)
10. Because of the nature of nuclear medicine functional imaging the post holder is often required to use their judgement to image out with standard protocol in order to gain important information.
11. Encouraging staff to follow departmental procedures.
12. Provide scientific advice to clinical staff on the use of diagnostic tests & therapies, follow-up investigations and outcomes. Seeking advice as necessary, make potentially contentious decisions on the suitability of patients for procedures involving the administration of radioactive materials
13. Work autonomously or in cooperation with scientific and medical colleagues to interpret and report highly specialist and highly complex patient diagnostic studies
14. Analyses a wide range of diagnostic images from other modalities (e.g. echocardiography, MRI and X-ray) to allow clinically conflicting information to be resolved
15. Assess reasons for equipment malfunction (often involving highly complex situations which do not have obvious solutions e.g. intermittent faults, unusual combinations of malfunctions) and recommend remedial action.
16. Prepare recommendations on selecting, procuring, evaluating and implementing new technologies and equipment as appropriate (e.g. imaging system ~£500,000) for approval by consultants.
17. Participate in national professional committees and working parties producing professional guidance as required.

# COMMUNICATIONS AND RELATIONSHIPS

The post holder will be expected to communicate and liaise with patients, their relatives, the multidisciplinary team, and referring clinicians and ward nursing staff involved in the provision of patient care.

Post holder is expected often to present complex information to groups of staff including clinicians and non-scientific groups.

The post holder has to be aware of the sensitive nature and confidentiality of topics discussed and use tact and diplomacy.

**Patients**

1. Provide information by explanation of the complex and often lengthy procedures, listening to and acting upon the patient’s physical and emotional requirements in order to encourage compliance with the procedure. Some patients will have difficulty in understanding the process or be unable to communicate e.g. those with learning difficulties, dementia, or who are non-English speaking. Often the post holder is called to speak to particularly difficult patients.
2. Use developed motivational and persuasive skills to allow the production of acceptable diagnostic images in patients who have reduced mobility due to injuries or illness. These patients may have severely challenging behaviour that may make them obstructive or physically aggressive. They could also be uncooperative or violent if under the influence of drugs or alcohol.
3. Discuss the risk / benefit of a radiation exposure and provide reassurance as to the benefits of a procedure involving radiopharmaceutical administration to overcome the fears associated with ionising radiation.
4. Provide advice on radiation protection issues that may be required following procedures. This includes complex advice following radionuclide therapy.
5. Deal with patient complaints according to hospital policies.
6. Dealing with anxious patients e.g. cancer patient and/or patients with a terminal illness.
7. Communicating with patients receiving therapy and the associated anxiety and complex post therapy behaviour they must adopt.
8. Obtain informed, signed confirmation that the procedure has been explained and consent to therapy procedures.

**Relatives/Carers**

1. Provide reassurance, give and receive information, using tact and diplomacy and being mindful of the regulations governing personal information.

**Medical / Nursing / Radiology and Healthcare Staff**

1. Seek advice from consultant physicians, and other ARSAC certificate holders.
2. Query incorrect or unnecessary referrals in order to reduce or avoid unnecessary radiation dose.
3. Provide advice on patient preparation for investigations.
4. Provide advice on radiation protection issues prior to and following investigations.
5. Provide training to students and other healthcare professionals coming into contact with the specialist work of Nuclear Medicine.
6. Communicate with consultant cardiologists/physicians/radiologists, ward nursing or medical staff regarding patient’s clinical care needs.
7. Relay urgently to Clinical staff the significance of any abnormal findings on scans.
8. Seek help and advice with patients in pain or immobile.
9. Communicate with the technical staff on a day to day basis, ensuring quality assurance procedures and all radiation regulations are being followed. This requires tact and diplomacy to rectify any individual operational problems.
10. Discuss the results of scans with Clinical staff to determine patient management.
11. Communicate advanced specialised theory and concepts at various graduate and post graduate levels to technical, scientific and medical staff and students.
12. Contact and work with Clinical Physics (Electro-Medical Equipment Services) staff or external servicing organisations to resolve problems with equipment. Post holder is occasionally asked to undertake first line debugging of problems.

**External**

1. Liaise with Radioisotope Dispensary and other suppliers of radiopharmaceuticals to ensure cost-effective supply with minimal waste.
2. Liaise with ambulance control.
3. Deal with suppliers and external agencies, including regulatory bodies.
4. Contact and liaise with staff and contractors servicing and repairing equipment
5. Present professional presentations at local, national and international meetings.

# PHYSICAL DEMANDS OF THE JOB

**Physical Demands:**

1. About 70% of work is computer based and involves sitting in a restricted position.
2. Frequent manoeuvring of gamma camera and collimator equipment weighing up to 250kg.
3. Patient movement on/off scanning equipment from standing, wheelchairs or trolleys (Daily)
4. Occasional patient movement with use of pat slide
5. Occasional patient movement with use of mechanical aides.
6. Occasional manoeuvring of push trolleys and wheelchairs.
7. Accuracy while positioning complex imaging equipment e.g. gamma camera (Frequent)
8. Precision and speed in drawing up patient doses, phantom positioning with accuracy while minimising risk of spills etc. (Occassional)
9. Hand-eye coordination for accurate delineation of structures on imaging
10. Stand for long periods when labelling with restricted movement.

**Mental Demands:**

1. There is frequent requirement for prolonged and intense concentration e.g. interpreting and reporting patient images; reading, reviewing and in particular writing scientific papers; developing software; participating in meetings; and carrying out research & development work. These are all frequently interrupted for immediate advice. These interruptions are unpredictable and may require multi-tasking and re-prioritisation of work pattern.
2. Frequent concentration required when authorising investigations under IRMER.
3. Frequent concentration required when checking patient documentation prior to administration of radiopharmaceutical to patient including patient identity check prior to administration.
4. Concentration required during observation of patient behaviour which may be unpredictable
5. Observation of potential contamination incidence.
6. Frequent intense concentration required when carrying out complex mathematical analysis coupled with spreadsheet calculations for analysis of data from patients measurements, when tackling specific problems, and when developing software or protocols.
7. Frequent prolonged concentration required when writing procedures, checking these and reporting
8. Lateral and innovative thinking to solve complex non-routine problems
9. The post holder is constantly interrupted throughout each day and is required to adapt to changing work patterns which will require him/her to respond to requests for specific information and focus intense concentration on a particular task or activity in order to determine a solution within a limited timescale.

**Emotional Demands:**

1. Communicating with anxious/worried patients/relatives (Daily).
2. Working with severely unwell or terminally ill patients (Daily).
3. Promptly coping with ill or severely hypotensive patients
4. Communication with patients unsure of diagnosis (Daily).
5. Dealing with patients with severely challenging behaviour (Occasional).
6. Dealing with patients waiting for extended periods (Weekly).
7. Concentration and collaboration with other groups of staff and patients to ensure smooth patient throughput.
8. Occasional exposure to very distressed and anxious patients, relatives and carers when called upon as to assist with difficult situations
9. Dealing with patients undergoing cardiac arrest, severe angina or heart attack during or after stress testing. Assisting with transfer to CCU if required.
10. Working as part of the crash team in case of Cardiac arrest.

**Working Conditions:**

1. Prolonged occasional exposure to body fluids, faeces, emptying bed pans/urinals, catheter bags, unpleasant odours.
2. Frequent exposure to radioisotopes (Daily).
3. Exposure to verbal aggression (Occasional).
4. Prolonged exposure to blood products with the possibility of needle stick injury.
5. Exposure to physically aggressive behaviour (Rare).
6. Imaging rooms are poorly ventilated and very warm.
7. Frequent entry of data and typing of reports using desktop PC or laptop computer for periods of 3 hours.
8. Frequent travel between hospitals
9. Frequent use of workstations and keyboards.

# MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

The specialty of Nuclear Medicine involves over 50 different diagnostic imaging, non-imaging and therapeutic techniques utilising 30 different short and long-lived radiopharmaceuticals with highly variable timing between the patient’s arrival and the procedure itself (which depends on how quickly the radiopharmaceutical accumulates in the target organ. The post holder must not only have advanced knowledge of the scientific, technical, physiological and clinical aspects of these procedures and equipment but must also maintain this expertise, through involvement in education, research and development, at a level consistent with a major teaching establishment.

The postholder must lead by example in setting the highest quality and safety standards for their work and the work of the service, commanding respect from medical colleagues, staff and patients and ensuring compliance with the stringent regulatory requirements associated with the use of radioactive materials

The post holder must also be able to deal with the fear of radioactivity expressed by patients and other staff as well as the very real danger posed by unsealed radioactive substances. In addition, all procedures are carried out in a typical clinical environment where patients are anxious, distressed and in many cases seriously ill and with a poor prognosis.

There are many demands on this post holder making the job demanding including in particular the following:

The post holder must give constant encouragement to the staff to continue to work within the standard operating procedures and with particular regard to the legislation.

1. Determining the reason for or explanation of unusual imaging events and artefacts.
2. Constant need to change task must be set against the importance of some tasks requiring constant reprioritisation.

# KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB

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| **Person Specification** |
|  | **Essential** | **Desirable** |
| EDUCATION/QUALIFICATIONS |
|  | * 1st or upper 2nd class Honours degree in Physics or allied subject.
* MSc in Medical Physics or a related subject, or equivalent experience
* Registration as a Clinical Scientist (Medical Physics) with the Health & Care Professions Council
* Continuing education at post-graduate level and registration on a professionally recognised CPD scheme (e.g. IPEM).
 | * PhD.
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| EXPERIENCE/KNOWLEDGE |
|  | * At least 3 years experience post graduation in Clinical Physics (this may include research or other relevant work), with at least 1 year specialist training in Nuclear Medicine
* Highly specialist theoretical and practical knowledge and experience across a range of nuclear medicine techniques, their clinical application in diagnosis and therapy and their role in clinical medicine.
* Highly specialist training on and practical experience with a wide range of nuclear medicine equipment and computer applications.
* In depth knowledge of anatomy and physiology
* Experience in establishing and maintaining scientific and technical standards within a department, including enthusiastic involvement with the processes of Clinical Governance.
* Thorough knowledge of relevant legislation, national standards, professional and other guidelines.
 | * Evidence of undertaking research projects including a proven ability to plan, organize and carry out development work / scientific research
* BLS or ILS training
	+ A record of teaching, training and professional supervision involving junior and senior staff from a range of medical, scientific and technical disciplines.
 |
| SKILLS/ ABILITIES |
|  | * A proven ability to communicate on both a written and an oral level complex, highly technical and clinically sensitive information to medical care teams and other professionals within and outside the NHS.
* Highly developed skills in handling and preparing radioactive materials and in the use of a wide range of nuclear medicine and associated equipment.
* Analytical and problem solving skills
* Ability to work independently with initiative and accuracy
 | * + Highly developed computing and IT skills, including the use of highly specialist medical image analysis software.
	+ Experience re communicating complex medical and scientific work to national and international audiences
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| PERSONAL AND OTHER |
|  | * A pleasant disposition and an ability to demonstrate leadership and management skills.
* Ability to develop effective working relationships with all levels of staff.
* Ability to relate to and communicate information in a clear and sympathetic way to patients.
* Ability to be a flexible team member and have an awareness of personal limitations
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*This post will be subject to appropriate Disclosure Scotland and/or security checks before appointment.*