

“Our vision is to provide safe, high quality seamless service delivered with courtesy and respect. To achieve our vision we expect all our staff to uphold our Trust Values”

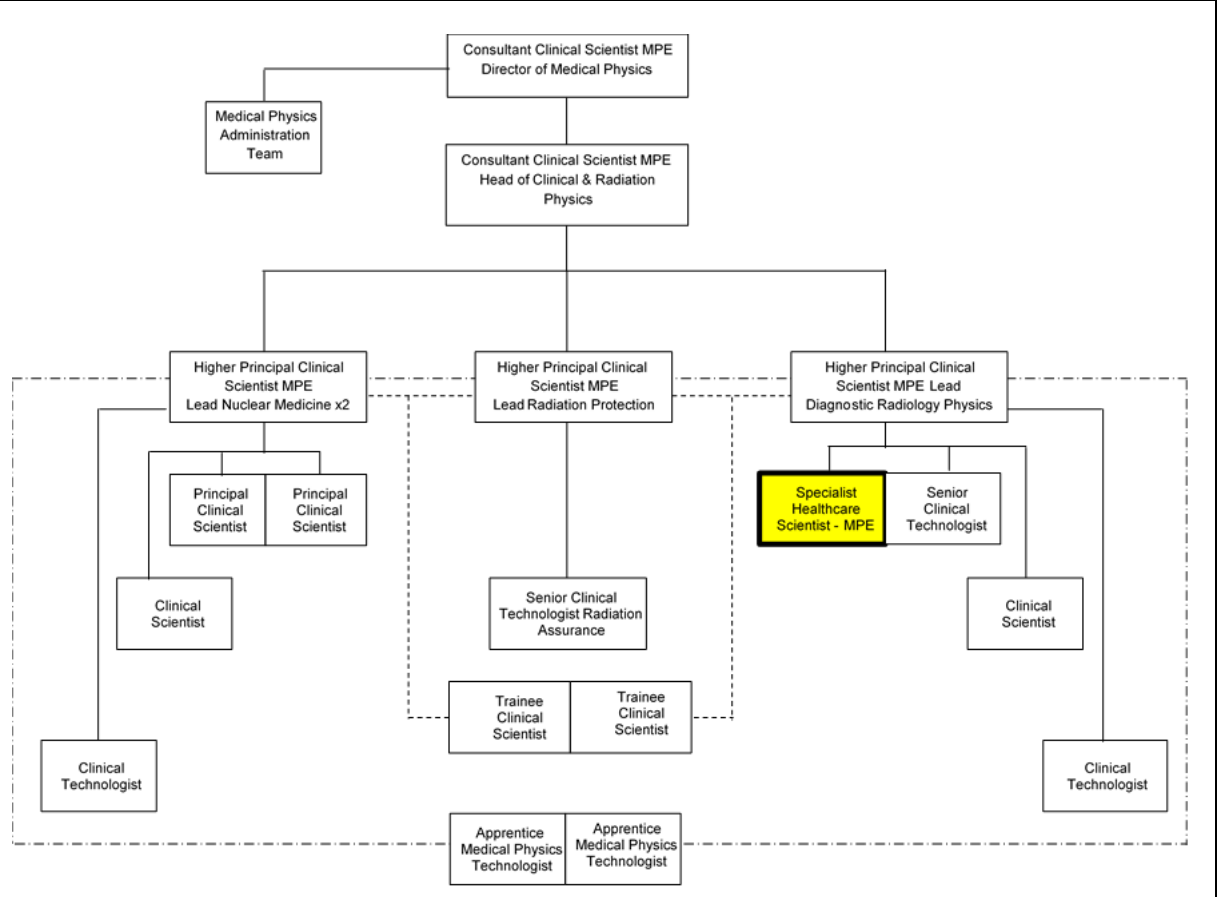
JOB DESCRIPTION

JOB DETAILS	
Job Title	Specialist Healthcare Scientist-MPE (Diagnostic Radiology & Radiation Protection)
Reports to	Lead for Diagnostic Radiology Physics/Head of Clinical & Radiation Physics
Band	8a
Department/Care Group	Medical Physics Department / Clinical Specialist Services Care Group

JOB PURPOSE
<ul style="list-style-type: none"> • Lead the provision of services to commercial customers • Provide highly specialised advice to maintain and enhance the diagnostic radiology and radiation protection services • Supervise and/or train staff/students/trainees on the safe delivery of services

KEY WORKING RELATIONSHIPS
<p>Scientific support is provided to within Royal Devon and to the service’s commercial customer base. These are mainly in the dental and veterinary sectors but also include providers of diagnostic medical services.</p> <p>Clinical & Radiation Physics support radiology services across North and East Devon, with approximately 200 x-ray and associated imaging systems, including x-ray, CT, Nuclear Medicine.</p> <p>The key working relationships of the post holder are: Clinicians, Radiographers, commercial customers (managers and clinical staff), Clinical Scientists, Clinical Technologists, Managers, other Trust staff, Equipment manufacturers.</p>

ORGANISATIONAL CHART



KEY RESULT AREAS/PRINCIPAL DUTIES AND RESPONSIBILITIES

Diagnostic Radiology / Radiation Protection:

Qualifications, Training and Experience

- Relevant registration: HCPC Clinical Scientist / Register of Clinical Technologists.
- MSc. and/or PhD. in Medical Physics or engineering, or equivalent experience.
- Medical Physics Expert (MPE) certification.
- Act as a Medical Physics Expert (MPE) for patients in diagnostic radiology as required and defined by the Ionising Radiation (Medical Exposures) Regulations 2017 (IRMER17).
- Assist the Trust RPA / Head of Clinical Radiation Physics in resolving any radiological incidents that may occur and which may be reportable to the HSE or other bodies.
- Lead provision of services to commercial customers.
- Deputise for the lead MPE.
- Plan, propose and undertake CPD, as required by the HCPC so that professional competency is maintained and developed, and the future requirements of the service are met.
- Attend suitable seminars and courses as part of training and personal development to keep abreast of the latest scientific and technical developments and their application.
- The post holder is required to be up to date with current legal requirements and national guidance relating to ionising radiations.

COMMUNICATION/RELATIONSHIP SKILLS

- Communicate specialist radiation protection advice to managers, staff and customers regarding patients undergoing medical exposure to ensure exposure of patients and their carers is optimised and so that the risk of accidental exposure to radiation may be minimised in accordance with IRMER17.
- In liaison with the RPA give advice on radiological safety of staff and members of the public who are or may be affected by work utilising ionising radiations. Recognise and overcome barriers to understanding specialist radiation protection information, which may require consideration of the occasional emotive nature of the subject.
- Liaise with X-ray engineers in order to diagnose equipment faults.
- Communicate the results of R&D and other developments at meetings, conferences and in peer reviewed scientific literature, collaborating with colleagues beyond the local department where appropriate.
- Communicate and interpret complex radiation protection advice concerning medical exposure of patient undergoing diagnosis in order that the requirements of statutory legislation are complied with.

ANALYTICAL/JUDGEMENTAL SKILLS

- Liaise with clinical staff, resolving problems with the procedures, including those arising with anxious staff, patients or carers.
- Create risk assessments as required under IRR17 for areas utilising ionising radiations to inform necessary control measures in order that staff and public doses are restricted as low as reasonably practicable. Advise commercial customers on the precautions required, and appropriate steps required to achieve compliance in accordance with regulatory requirements.
- Analyse complex clinical and technical requirements making judgements in order that medical exposures are optimised within technical, clinical and resource limitations
- Design protocols for equipment surveillance to ensure highly complex clinical equipment is subject to appropriate assessment to inform safe and effective clinical use. This will involve both standard and novel methodologies.
- Perform equipment surveillance tests, including necessary calculations and checks and authorise fitness of equipment for clinical use.
- Apply principles of radiological safety, including application of dose constraints and optimising in all aspects of work including public and staff exposures as well as medical exposures on patients.
- Perform calculations to estimate doses to patients for derivation and review of diagnostic reference levels and estimates of dose and risk associated with accidental and unintended exposures.

PLANNING/ORGANISATIONAL SKILLS

- Participate in the evaluation and procurement process for new equipment and participate in the installation, acceptance testing and commissioning, so that the service is the best obtainable within budgetary constraints.
- Coordinate with the Lead Scientists in diagnostic radiology and radiation safety to support the effective and safe delivery of services.
- Coordinate with the Lead Scientist for radiation safety to maintain and support the radiation dosimetry services ensuring equipment is calibrated in accordance with relevant standards.

PHYSICAL SKILLS

- Highly-developed physical skills are required, to carry out testing procedures and scientific measurements where a high degree of precision and accuracy is essential.
- Perform minute adjustments to medical equipment or instrumentation.
- Execute and coordinate equipment-based clinical measurements.
- Perform analysis of complex pieces of information and take prompt action as required to maintain safe and effective clinical operations.
- Advanced keyboard skills.

PATIENT/CLIENT CARE

- Plan, perform and supervise the tasks involved in the services provided to commercial customers.
- Carry out dose estimates for medical exposures in diagnostic radiology and issue appropriate advice for complex situations which require special attention as required by IRMER17.
- Follow appropriate procedures for infection control when working on clinical equipment.
- Undertake radiation protection measurements, including contamination monitoring, to ensure radiation hazards are minimised for the patients, carers and hospital workers.
- Respond as required and provide expert advice in relation to incidents involving ionising radiations that may occur in the Trust, or other commercial and non-commercial customers premises.
- Design plan and deliver radiation protection services to commercial customers.

POLICY/SERVICE DEVELOPMENT

- Provide radiation protection advice for patients and hospital staff.
- Plan, organise and deliver radiation safety training to meet service needs and contractual commitments.
- Ensure work with ionising radiation is in line with the relevant radiation risk assessment and Local Rules and has undergone appropriate notification/registration/consent with HSE.
- Interpret national and international guidance and implement protocols to keep services in line with recommended practice.
- Perform radiation safety inspections and audits of ionising radiation facilities and radiation safety policies and procedures.
- Advise on compliance with IRR17, IR(ME)R17 and other relevant legislation.
- Assist the Trust RPA / Lead scientist for radiation safety in investigating any radiological incidents that may occur and which may be reportable to the HSE or other bodies.
- Report when required to the Radiation Safety Group on IR(ME)R17 and IRR17.
- Provide estimates of patient doses from medical exposures by means of manual calculations, software based methods and physical measurements.
- Undertake quality control measurements on equipment used for medical exposure and the calibration of the relevant test and measurement equipment.
- Identify and take appropriate action where any activity involving ionising radiations is not carried out within Statutory Regulations, Approved Codes of Practice and local Safety rules, particularly IRR17 and IR(ME)R17.

FINANCIAL/PHYSICAL RESOURCES

- Oversee the installation, validation and commissioning of new hardware and software, including introducing new software upgrades into clinical use.
- In coordination with the Lead Scientists for Diagnostic Radiology and Head of Clinical & Radiation Physics produce and review the annual Clinical & Radiation Safety budget. Review the SLA and costs for commercial services. Prepare and send invoices for services provided.

HUMAN RESOURCES

- Communicate with clinical staff, providing advice regarding the appropriate clinical use and optimisation of medical exposures.
- Supervise the professional work of Clinical Scientists and other staff undertaking surveillance of radiological equipment.
- Deliver specialist training to Clinical Scientists in radiation safety and imaging with ionising radiations when required as part of their post-registration development.
- Provide training to STP trainees in radiation safety and imaging with ionising radiations.
- Train other persons such as dentists, dental nurses, veterinary practitioners in practical aspects of radiation protection.

INFORMATION RESOURCES

- Maintain and enhance the QA database for radiological equipment.

RESEARCH AND DEVELOPMENT

- Undertake and participate in clinical and professional audit, so that professional and safety standards may be maintained. Audits may be organised on a local, regional and national basis.
- Implement nationally and locally agreed policies where they have a direct bearing on the service.
- Promote the implementation of novel protocols as required for equipment surveillance.
- Commission new radiological equipment and hand over for clinical use.
- Promote continuous innovations and developments within the service, in line with changing clinical practice.
- Assist in the planning of new or modified facilities for radiation equipment in relation to providing expert advice on equipment specification, radiation safety and radiation shielding requirements; and assess the adequacy of engineering controls and radiation safety arrangements prior to a facility's introduction into clinical service.
- Propose and develop improvements and new methods for measurements and analysis to meet national standards and protocols.

FREEDOM TO ACT

- Undertake quality control measurements on radiation measurement equipment as required.
- Work autonomously under the direction of the Head of Clinical & Radiation Physics prioritising and managing your own schedule.
- Act as a Medical Physics Expert (MPE) for diagnostic medical exposures using x-rays for identified modalities.

- Assess staff doses in a variety of complex situations. Use expert knowledge to determine relevant parameters, derive effective radiation doses and advise on risks and appropriate courses of action.
- Write procedures, work instructions and instructions for physics and other staff engaged in the provision of services. Ensure processes are documented in accordance with the local quality system, undertaking audits both as auditor and auditee, and initiating quality improvements.
- Act as MPE, act as an Operator under IR(ME)R17 for x-ray equipment.
- Coordinate programme of surveillance of radiological equipment. Advise as appropriate on clinical use of equipment.
- Produce routine and complex spreadsheets as required to deliver the service, including for surveillance of radiological equipment and patient dose estimation.
- Participate in the production and execution of quality assurance protocols required for surveillance of radiological equipment.
- Undertake quality control measurements and other general activities on wide ranging radiological equipment when required. This may require working outside office hours but within the Agenda for Change working day envelope.

OTHER RESPONSIBILITIES

Physical Effort

- Plan, perform and execute commissioning of x-ray equipment. These activities require:
 - Ability to stand for Long periods (hours)
 - Manipulate (push) heavy pieces of equipment (assisted by trollies and tables on wheels)
 - Lift heavy ($\leq 15\text{kg}$) test equipment (in accordance with relevant manual handling protocols)
 - Ability to sit for long (hours) period of time in front of computer monitors.

Mental Effort

- Provide clinical advice under time pressure directly affecting medical exposure of patients.
- Deliver scientific advice on medical exposures making judgements under time pressure.
- Able to concentrate for prolonged periods (hours).
- Able to extract relevant clinical information from complex datasets.

Emotional Effort

- The post-holder must be able to deal with unexpected patient-related emotional distress.

Working Conditions

- Ensure that all practices comply with Statutory Regulations, Approved Codes of Practice and local Safety rules, particularly IRR17 and IR(ME)R17.
- Reduce as much as practicably possible his/her radiation exposure as well as the radiation exposure to patients, staff and members of the public to ionising radiation.

To take part in regular performance appraisal.

To undertake any training required in order to maintain competency including mandatory training, e.g. Manual Handling.

To contribute to and work within a safe working environment.

The post holder is expected to comply with Trust Infection Control Policies and conduct him/herself at all times in such a manner as to minimise the risk of healthcare associated infection.

As an employee of the Trust, it is a contractual duty that you abide by any relevant code of professional conduct and/or practice applicable to you. A breach of this requirement may result in action being taken against you (in accordance with the Trust's disciplinary policy) up to and including dismissal.

APPLICABLE TO MANAGERS ONLY

Evidence that supporting employee health and wellbeing is included in any documents outlining the skills and knowledge that line managers need.

Proportion of line managers whose job descriptions include supporting employee health and wellbeing.

THE TRUST- VISION AND VALUES

Our vision is to provide safe, high quality seamless services delivered with courtesy and respect. To achieve our vision we expect all our staff to uphold our Trust values. Our Trust values are:

Compassion
Integrity
Inclusion
Empowerment

We recruit competent staff that we support in maintaining and extending their skills in accordance with the needs of the people we serve. We will pay staff fairly and recognise the whole staff's commitment to meeting the needs of our patients.

We are committed to equal opportunity for all and encourage flexible working arrangements including job sharing.

We are committed to recruiting and supporting a diverse workforce and welcome applications from all sections of the community, regardless of age, disability, gender, race, religion, sexual orientation, maternity/pregnancy, marriage/civil partnership or transgender status. We expect all staff to behave in a way which recognises and respects this diversity, in line with the appropriate standards.

GENERAL

This is a description of the job as it is now. We periodically examine employees' job descriptions and update them to ensure that they reflect the job as it is then being performed, or to incorporate any changes being proposed. This procedure is conducted by the Manager in consultation with the jobholder. You will, therefore, be expected to participate fully in such discussions. We aim to reach agreement on reasonable changes, but if agreement is not possible, we reserve the right to insist on changes to your job description after consultation with you.

The Royal Devon is a totally smoke-free Trust. Smoking is not permitted anywhere on Trust property, including all buildings, grounds and car parks. For help to quit call: 01392 207462.

POST	Specialist Healthcare Scientist - MPE (Diagnostic Radiology & Radiation Protection)
BAND	8a

Requirements	Essential	Desirable
QUALIFICATION/ SPECIAL TRAINING		
BSc/MPhys/MSci good honours degree in physics/engineering or equivalent	E	
MSc in Medical Physics or related subject or equivalent	E	
HCPC-registered Clinical Scientist or registered clinical technologist	E	
Medical Physics Expert recognition	E	
Corporate member of IPEM		D
KNOWLEDGE/SKILLS		
Specialist theoretical knowledge and experience of radiation protection legislation in healthcare.	E	
Advanced knowledge of procedures and techniques within radiology physics, particularly in relation to specified area	E	
Knowledge of the techniques employed to measure radiation sources in a healthcare environment.	E	
Specialist knowledge of the techniques employed to measure radiation sources in a healthcare environment.	E	
High level of understanding of patient and staff risks arising from exposure to ionising radiation.	E	
In-depth understanding of relevant legislation, national standards, professional and other guidelines.	E	
Knowledge of programming languages such as IDL, Visual Basic, C, Matlab coding.		D
Knowledge of national standards, professional and other guidelines relevant to the specialist area	E	
Able to devise methods of analysing complex data.	E	
Able to work off-site alone and to use initiative in non-standard conditions	E	
Able to use Microsoft Office applications in order to set up documents & spreadsheets, extract information, calculate results and prepare reports.	E	
EXPERIENCE		
Able to exercise initiative when dealing with issues within own specialist area of competence. Able to accept high level of autonomy and act under own initiative.	E	

Sufficient experience to act as a Medical Physics Expert under IRMER17 in specified area.	E	
Experience in surveillance of radiological equipment.	E	
Able to solve complex problems using analytical skills and clinical judgement.	E	
Experience in interpreting different situations and judging and communicating measures required to ensure compliance in areas that relate to the legislation and uses of radiation in medicine.	E	
Experience in writing and using software to analyse data and extract information.	E	
Able to concentrate when frequently subject to unpredictable working patterns.	E	
Understanding of quality systems.	E	
Occasional requirement to lift and transport medium weight phantoms.	E	
Experience in developing and using Access databases.	E	
Able to communicate complex information.	E	
PERSONAL ATTRIBUTES		
Able to exercise own initiative when dealing with issues within own area of competence	E	
Able to deal with complex, unpredictable situations.	E	
Able to train and supervise clinical scientists and technologists.	E	
Ability to prioritise work.	E	
Able to work effectively as a member of a team.	E	
Good verbal and written communication skills.	E	
Able to communicate complex information to many different groups of staff at a range of levels and across professional boundaries.	E	
Negotiation skills.		D
Able to present scientific papers at local / national conferences.	E	
Rarely, able to deal with distressing circumstances.	E	
Able to use a VDU more or less continuously on most days.	E	
OTHER REQUIRMENTS		
Able to handle radioactive substances.	E	

Manual dexterity to manipulate small volumes of liquids whilst maintaining sterility and radiation safety.		D
Occasional requirement to work extended hours.	E	
Professional approach.	E	
Driving Licence and access to a vehicle for transporting test equipment between sites.	E	

WORKING CONDITIONS/HAZARDS		FREQUENCY (Rare/ Occasional/ Moderate/ Frequent)			
		R	O	M	F
Hazards/ Risks requiring Immunisation Screening					
Laboratory specimens	N				
Contact with patients	Y				
Exposure Prone Procedures	N				
Blood/body fluids	Y				
Hazard/Risks requiring Respiratory Health Surveillance					
Solvents (e.g. toluene, xylene, white spirit, acetone, formaldehyde and ethyl acetate)	N				
Respiratory sensitisers (e.g isocyanates)	N				
Chlorine based cleaning solutions (e.g. Chlorclean, Actichlor, Tristel)	N				
Animals	N				
Cytotoxic drugs	N				
Risks requiring Other Health Surveillance					
Radiation (>6mSv)	N				
Laser (Class 3R, 3B, 4)	N				
Dusty environment (>4mg/m3)	N				
Noise (over 80dBA)	N				
Hand held vibration tools (=>2.5 m/s2)	N				
Other General Hazards/ Risks					
VDU use (> 1 hour daily)	Y				
Heavy manual handling (>10kg)	Y				
Driving	Y				
Food handling	N				
Night working	N				
Electrical work	N				
Physical Effort	Y				
Mental Effort	Y				
Emotional Effort	Y				
Working in isolation	Y				
Challenging behaviour	N				