

## Ionising Radiation (Medical Exposure) Regulations 2017

### Procedure 2: Identification of Duty Holders under IR(ME)R 2017

Required under IR(ME)R 2017 Regulation 6 & 10 & Schedule 2  
(b)

<b>CATEGORY:</b>	Procedure
<b>CLASSIFICATION:</b>	Health & Safety, Clinical Governance
<b>PURPOSE:</b>	To identify individuals entitled to act as referrer or practitioner or operator within a specified scope of practice.
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<b>Distribution:</b>	
<ul style="list-style-type: none"> <li><b>Essential Reading for:</b></li> </ul>	<p>Staff who are designated as an IR(ME)R duty holder, defined as referrer, practitioner and/or operator.</p> <p>Staff in training to become an IR(ME)R duty holder</p> <p>Managers of IR(ME)R duty holders</p> <p>General managers of departments and</p>

<ul style="list-style-type: none"><li>• <b>Information for:</b></li></ul>	areas that refer for or perform procedures involving ionising radiation  All staff working in departments that refer for or perform procedures involving ionising radiation.
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## 1. Procedure Statement

- 1.1 To clearly identify who is entitled by University Hospitals Birmingham NHS Foundation Trust to act as a referrer, practitioner and operator within the definition of the Ionising Radiation (Medical Exposure) Regulations 2017.

## 2. Scope

- 2.1 All medical exposures and non-medical imaging exposures carried out by the Trust
- 2.2 Specific restrictions related to referrers and practitioners for non-medical imaging are covered in IR(ME)R Employer's Procedure 3.
- 2.3 Specific restrictions and arrangements relating to exposures for medical and bio-medical research are covered in IR(ME)R Employer's Procedure 8.
- 2.4 Specific arrangements relating to exposures of carers and comforters are covered in IR(ME)R Employer's Procedure 14.
- 2.5 Specific protocols relating to the Breast Screening Imaging Unit:
- Breast Screening Unit (BSU) GP Referral Protocol
  - BSU Referral Protocol
  - Symptomatic Imaging Follow-Up Patients Protocol

## 3. Responsibility

- 3.1 The Trust is responsible for establishing who can act as referrer, practitioner, and operator.
- 3.2 The responsibility for advising the relevant personnel of their entitlement and duties to act as practitioner or operator within a specified scope of practice is delegated to:
- Clinical Service Leads – Imaging, Medical Physics and Radiotherapy
  - Lead Radiologist for Breast Imaging Services
  - The Principal Investigator for Wellcome Trust Birmingham Clinical Research Facility WTCRF (for research trials approved within the Trust)
- 3.3 They are also responsible for issuing information on the relevant referral criteria that have been adopted. These are based on the Royal College of Radiologists – iRefer. The aim is to promote the best use of imaging/exposure for the benefit of patients.
- 3.4 Practitioners and operators must read the IR(ME)R Employer's Procedures annually and when they are updated.
- 3.5 Referrers must have refresher training once every three years. Their scope of practice should be checked as part of the annual appraisal.
- 3.6 The qualifications and registration, where applicable, of duty holders must be checked on commencement of employment and when promoted into a new role. Registration must be checked to ensure the duty holder has renewed their registration following the end of a previous registration period. Verification of this is the responsibility of the Trust HR department.

## 4. Practice

### Referrers

- 4.1 A Registered healthcare professional who is a member of a profession regulated by a body mentioned in section 25(3) of the National Health Service Reform and Health Care Professions Act 2002(4) whom is entitled in accordance with this procedure to refer individuals for medical exposure to a practitioner.
- 4.2 Physicians' associates cannot be entitled as referrers under IR(ME)R 2017 as they are not currently registered healthcare professionals.
- 4.3 University Hospitals Birmingham NHS Foundation Trust entitles the personnel given in Table 1 (Appendix 1) to act as referrers within the scope specified.
- 4.4 As registered healthcare professionals, referrers are responsible for ensuring that they are aware of the latest nationally accepted referral criteria.
- 4.5 The Trust has adopted criteria for the justification and authorisation of referrals.
- 4.6 The process that qualified, non-medical Healthcare Professionals need to follow to become approved Non-Medical Referrers (NMRs) and be able to refer patients for ionising radiation under an agreed scope of practice is defined in CD1224; Standard Operating Procedure for Imaging Referrals by Non-Medical Practitioners which is held in the Trust management system.

### Duties and Responsibilities of the Referrer

- 4.7 At the time of referral for diagnostic examinations, the referrer should obtain verbal consent from the individual to be exposed to ionising radiation and, as appropriate, discuss any associated risks. Arrangements for providing, where practical, adequate information relating to the benefits and risks associated with the exposure (prior to the exposure taking place) are given in IR(ME)R Employer's Procedure 12. If the referrer is unsure about the nature and risks of the procedure/ examination then they should discuss and clarify these risks with a suitably trained healthcare professional in the relevant department.
- 4.8 Full written informed consent is required for therapeutic procedures.
- 4.9 The referrer must supply the practitioner with sufficient medical data, such as results of previous diagnostic or imaging investigations or medical records, relevant to the medical exposure requested by the referrer to enable the practitioner to decide whether there is sufficient net benefit as required by Regulation 11(1) (b) to enable justification for the exposure to go ahead.
- 4.10 As a minimum requirement, the referrer must always:
  - Ensure the patient they are referring is the correct patient. This means double checking that the clinical details and examination required are correct for the name.
  - Provide sufficient information so that the individual can be uniquely identified in accordance with IR(ME)R Employer's Procedure 1.
  - Supply sufficient medical data and a clear clinical question to enable the examination to be justified for medical exposure including cases deemed a

clinical emergency, i.e. clinical diagnosis, relevant past history, previous exposures relevant to the condition being investigated, clinical findings on the examination, relevant medication, known pregnancy status in line with IR(ME)R Employer's Procedure 4, breast feeding (for Nuclear Medicine procedures), any available histology, laboratory results e.g. INR, Creatinine and eGFR, whether the examination is for non-medical imaging or research purposes. For research trials, provide trial name and study time point.

- 4.11 If an electronic request is submitted the IT network individual's login credentials will act as a digital signature.
- 4.12 In the instance where a paper referral is used, the referrer must supply their own details, including a signature (plus clearly legible name, job title, professional registration number and contact details) uniquely identifying the referrer.
- 4.13 The referrer must ensure duplicate requests are not entered.

**NB. The person requesting the examination MUST be the referrer taking responsibility for the examination or treatment requested. Failure to adequately complete an exposure request as defined above will result in a delay to the request being processed or ultimately being rejected.**

- 4.14 Where a discussion has taken place between a healthcare professional and the practitioner resulting in the acceptance of a patient for a procedure involving exposure, the IR(ME)R practitioner will be acting as the referrer.
- 4.15 It is referrer's legal responsibility to ensure that The Society & College of Radiographers 'Referral Pause & Check' is carried out BEFORE a referral is submitted

#### **Amending, Cancelling / Recalling a Referral**

- 4.16 Should a referral need to be amended, cancelled / recalled, the Imaging, Nuclear Medicine or Radiotherapy department as appropriate must be contacted directly and a senior member of staff in the relevant modality spoken to immediately. Electronic requests cannot be cancelled using the electronic referral system.

#### **Practitioners**

- 4.17 A registered health care professional who is entitled in accordance with this procedure to take responsibility for an individual medical exposure.

#### **Duties and Responsibilities of the practitioner**

- 4.18 University Hospitals Birmingham NHS Foundation Trust entitles the personnel given in Table 2 (Appendix 2) to act as practitioners within the scope specified.
- 4.19 The practitioner is responsible for the justification and authorisation of a medical exposure and, to the extent of their involvement, keeping the dose to the patient as

low as reasonable practicable consistent with the intended purpose. This includes the responsibility for the justification of foetal exposure where appropriate, with the exception of the Advance Trauma Life Support (ATLS) Protocols; when this situation occurs a practitioner must document the justification.

- 4.20 IR(ME)R Employer's Procedure 4 provides more information on the exposure of potentially pregnant individuals
- 4.21 Any practitioner who justifies and authorises a medical exposure must use the Vetting Module on the relevant electronic record system thus creating an electronic audit trail.
- 4.22 If a protocol/ examination is amended prior to the examination taking place, the amending practitioner must document the changes within the Vetting module or event comments on the relevant electronic record system.
- 4.23 For "fast track" breast imaging, changes may be documented on the fast track request form and subsequently signed clearly identifying the practitioner.

### **Authorisation**

- 4.24 Authorisation is the process of recording that justification has taken place. It can be performed by the practitioner or by an operator under written guidance from a practitioner
- 4.25 A radiologist or IR(ME)R licence holder (ARSAC) may produce authorisation protocols to enable an operator to authorise specific exposures given specific referral criteria.
- 4.26 Administration of radioactive materials must be justified by a practitioner holding a relevant IR(ME)R licence (ARSAC)

### **Operators**

- 4.27 An operator is any person who is entitled in accordance with this procedure, to carry out practical aspects of an exposure including the physical conduct of the exposure and any supporting aspects, identification of the individual to be exposed and authorisation.
- 4.28 Some of the practical aspects include:
- Operating the imaging equipment
  - Patient identification
  - Checking pregnancy status
  - Clinical evaluation
  - Image manipulation and archive
  - Equipment QA tests
- 4.29 Lists of personnel who are have been entitled as Operators within the Trust are held within the relevant modalities Quality Management Systems.

### **Duties and Responsibilities of the operator**

- 4.30 University Hospitals Birmingham NHS Foundation Trust (UHB) entitles the personnel given in Table 3 (Appendix 3) to act as operators within the scope specified.
- 4.31 A person undergoing practical training e.g. a student radiographer/ trainee assistant practitioner may undertake certain operator duties whilst under the supervision of an appropriately trained operator, as defined by IR(ME)R schedule 3; however the trained operator retains responsibility and accountability for that exposure.
- 4.32 Should a practitioner verbally authorise an exposure, following a discussion with an operator e.g. by phone, with the practitioner off-site, the operator should, under their log-in, enter the practitioner's initials in the 'practitioner' box, along with an explanatory note.
- 4.33 As part of the examination, if additional projections/ examinations outside the standard authorisation protocols are required, the operator must seek advice from the practitioner. This must be documented by the authorising operator in the relevant electronic record system.
- 4.34 For symptomatic ("fast track") breast imaging, changes may be documented on the fast track request form and subsequently signed clearly identifying the practitioner.
- 4.35 It is an operator's responsibility to ensure that The Society & College of Radiographers 'Pause & Check' is carried out BEFORE an exposure is undertaken.
- 4.36 The Medical Physics Expert operator duties and responsibilities include:
- Advise the employer on optimisation, specifically relating to equipment procurement, exposure protocols, patient dose reduction techniques and image processing.
  - Advise on a quality assurance programme for all equipment used for medical exposures. In practice the "physics level" quality assurance tests of imaging equipment are performed by a member of RRPPS staff, who might not themselves be a MPE
  - Calculate patient radiation doses when required for incidents and research ethics applications.
  - Assist with organisation of dose audits and the setting of diagnostic reference levels.
  - Advise on the suitability of local equipment for research exposures.

## 5. Contingencies

- 5.1 Any failure in compliance with this procedure must be reported to the relevant Divisional General Managers or Medical Physics Expert in their absence. Failure to comply with the above procedure may result in the Trust's Disciplinary Policy being invoked.

Appendix 1 Table 1: Staff Entitled to Act as Referrers

<b>Category of Referrer</b>	<b>Qualifications</b>	<b>Scope of Referral</b>
Medical/ Surgical Consultant or Senior Registrar	Professional Registration Appropriate Royal College Fellowship	All diagnostic and therapeutic exposures. Note: Radionuclide therapies must be referred to Nuclear Medicine via a consultant holding the relevant ARSAC therapy certificate/IR(ME)R licence (ARSAC).
Junior Doctor	Provisional Registration Medical degree	All diagnostic examinations
General Practitioners	Professional Registration Medical degree	All diagnostic examinations except interventional , Nuclear Medicine, PET and Radiotherapy procedures
General Dental Practitioners, Oral Surgeons and Orthodontists	Professional Registration Dental/ Medical Degree	All plain radiography of the head, jaw and chest x-rays for foreign bodies
Radiotherapy Clinical Oncologists	Professional registration FRCR Parts 1&2	ALL Radical and palliative External Beam treatments

Radiotherapy Clinical Oncologists	Professional registration FRCR Parts 1&2 IR(ME)R licence holder (ARSAC) for specific brachytherapy practice	Brachytherapy treatments using sealed sources
Radiotherapy Oncology Specialist Registrars in Clinical Oncology	Professional registration FRCR Part I and part II Working under consultant supervision in line with agreed competencies	Radical and Palliative External Beam Radiotherapy treatments
Radiotherapy Oncology Specialist Registrars in Clinical Oncology	Professional registration FRCR Part 1 Working under consultant supervision in line with agreed competencies	Palliative External Beam Radiotherapy treatment Only
Breast Imaging Service	There is no requirement for a named referrer when an individual undergoes an exposure as part of a national screening programme following an invitation e.g. Breast Screening Programme.	

Appendix 2 Table 2: Staff Entitled to Act as Practitioners

<b>Category of Practitioner</b>	<b>Qualifications</b>	<b>Scope of justification</b>
<u>Radiology (including dental)</u>		
Consultant Radiologists	Professional Registration FRCR (or DMRD)	All x-ray diagnostic examinations and interventional procedures
Specialist Radiology Registrars	Professional Registration Completion of part 1 FRCR training programme (end of Year 1)	All x-ray diagnostic examinations
Advanced Practitioner Radiographers	HPCPC Registration BSc or DCR	As defined within the individual's scope of practice
General Dental Practitioners, Oral Surgeons and Orthodontists	Professional Registration Dental/ Medical Degree	Intra-orals, panoramic dental and cone-beam CT dental examinations only.
Consultant radiographers	HPCPC Registration BSc or DCR	As defined in locally-approved protocols
<u>Cardiology</u>		
Consultant Cardiologists	Professional Registration MRCP + CCT	All x-ray cardiology procedures
<u>Nuclear Medicine</u>		
IR(ME)R Licence Holders (ARSAC)	Approved by ARSAC committee	As listed in ARSAC practitioner Licence or approval by ARSAC on a named patient (particular patient licence) basis, including examinations authorised by Clinical technologists and Clinical Scientists in Nuclear Medicine.
<u>Bone Mineral Densitometry (BMD)</u>		
Clinical Scientist	Clinical scientist registration Relevant Master's Degree	BMD only

	or equivalent Medical Degree	
Consultant Metabolic Bone Specialist	Professional Registration Royal College Fellowship – specialising in metabolic bone disease	BMD only
<u>Lithotripter Unit</u>		
Consultant Urologists	Professional Registration MD FRCS – Urology	Use of Lithotripter
<u>Maxillofacial Departments</u>		
Maxillofacial Consultant/ Surgeon	Professional Registration	Intra oral, OPG, Cephalostat and cone beam CT x-ray equipment
<u>Fluoroscan Unit (mini-C-arm)</u>		
Consultant Orthopaedic Surgeons Consultant Podiatric Surgeons Registrars	Professional Registration FRCS (Orthopaedics) FRCS (Plastic surgery) Post MRCS	Use of Fluoroscan Units
<u>Research</u>		
Practitioners listed in this table		Exposures within their scope for clinical purposes Note: In Nuclear Medicine the procedures must be included in the practitioner's IR(ME)R licence for research in
<u>Non-Medical Imaging Examinations</u>		
See IR(ME)R employer's Procedure 3		
<u>Radiotherapy</u>		
Clinical Oncologists	Professional registration FRCR Parts 1&2	ALL Radical and palliative External Beam treatments
Oncology Specialist Registrars in Clinical Oncology	Professional registration FRCR Part I and part II Working under consultant supervision in line with agreed competencies	Radical and Palliative External Beam Radiotherapy treatments

Oncology Specialist Registrars in Clinical Oncology	Professional registration FRCR Part 1 Working under consultant supervision in line with agreed competencies	Palliative External Beam Radiotherapy treatment Only
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Appendix 3 Table 3: Level of Qualifications for Operators

<b>Category of Operator</b>	<b>Qualification requirements</b>
Radiologist	Professional Registration FRCR (or DMRD)
Radiopharmacist	MRPharms
Radiopharmacy Technician	BTec or equivalent
Radiographer	BSc or DCR
Assistant Practitioner	Accredited Foundation Degree with relevant competency modules or equivalent
Assistant Practitioner (Breast Imaging Services)	NVQ3 (Mammography module)
Clinical Technologist	BTec /BSc Hons in Clinical Technology or equivalent
Clinical Scientist	Relevant Master's Degree or equivalent Medical Degree
Registered Nurse (Nuclear Medicine)	Relevant degree and specialist training
Registered Nurse (Advanced Clinical Practitioner / extended role)	Relevant degree and specialist training
Cardiologist	Professional Registration MRCP CCT
General Dental Practitioners, Oral Surgeons and Orthodontists	Professional Registration FRCS (Orthopaedics) FRCS (Plastic surgery) Post MRCS Dental/Medical Degree
Registered Dental Nurse	National Certificate in Dental Nursing Dental Radiography Certificate
Registered Dental Nurse (extended role)	National Certificate in Dental Nursing Dental Radiography Certificate

Appendix 4 Table 4: Personnel Entitled to Act as Operators

Practical Aspects of Operator	Staff Groups	Additional training requirements in addition to qualifications (see Table 3)
<u>XRAY</u>		
Performing all plain film radiography	<ul style="list-style-type: none"> <li>All Radiographers</li> </ul>	
Performing more complex examinations e.g. <ul style="list-style-type: none"> <li>Advanced Practice (Fluoroscopy )</li> <li>CT scanning</li> <li>Cardiac imaging</li> </ul>	<ul style="list-style-type: none"> <li>Radiographers recorded as competent on central training records</li> </ul>	In-house training Specialist equipment application training
Diagnostic imaging according to the Trust's 'Assistant Practitioner Scope of Practice'	<ul style="list-style-type: none"> <li>Assistant Practitioners</li> </ul>	In-house training Specialist equipment application training *Working under the supervision of a Registered Radiographer
Performing Interventional fluoroscopic and CT procedures	<ul style="list-style-type: none"> <li>Consultant Radiologist</li> <li>Senior Registrar, with a radiographer present. Indirect supervision from a Consultant Radiologist</li> </ul>	In-house training Specialist equipment application training
Standard Fluoroscopic procedures	<ul style="list-style-type: none"> <li>Consultant Radiologist</li> <li>Senior Registrar</li> <li>Advanced Practitioner Radiographers</li> </ul>	In-house training Specialist equipment application training
All cardiology procedures	<ul style="list-style-type: none"> <li>Consultant Cardiologists</li> <li>Associate Specialist or Fellow in Cardiology</li> <li>Cardiothoracic Surgeons</li> </ul>	Specialised IR(ME)R training: BIR e-LfH IR(ME)R Cardiology On-line training – All modules Specialist equipment application training
Fluoroscopy using a “mini c-arm”	<ul style="list-style-type: none"> <li>Consultant Orthopaedic Surgeons</li> <li>Consultant Podiatric</li> </ul>	In-house training Specialist equipment application training

	<p>Surgeons</p> <ul style="list-style-type: none"> <li>• Registrars</li> </ul>	IR(ME)R training
In-house QA on X-ray equipment (Level A tests)	<ul style="list-style-type: none"> <li>• Radiographers</li> <li>• Assistant Practitioners</li> </ul>	In-house training – Level A tests
In-house QA (including testing before use and routine level B tests)	<ul style="list-style-type: none"> <li>• Clinical Scientists</li> <li>• Clinical Technologists</li> </ul>	In-house training - QA
Authorisation of imaging exposures (when not carried out by practitioner)	<ul style="list-style-type: none"> <li>• Radiographers</li> <li>• Registered dental nurse</li> </ul>	Familiar with justification criteria agreed by practitioner(s)
<u>Nuclear Medicine including PET-CT</u>		
Preparation of radiopharmaceutical	<p>Radiopharmacist Radiopharmacy Technologist Clinical Technologist Radiographer Clinical Scientist Pre-Registration Scientist e.g. Trainee Pharmacist Registered Nurse</p>	In-house training - Preparation of radiopharmaceutical
Dispensing of radiopharmaceutical	<p>Clinician Clinical Scientist Clinical Technologist Radiographer Registered Nurse Radiopharmacist Radiopharmacy Technologist Pre-Registration Scientist e.g. Trainee Pharmacist</p>	In-house training - Dispensing of radiopharmaceutical
Equipment QA	<p>Clinical Scientist Pre-Registration Scientist Clinical Technologist Radiopharmacy Technologist Radiographer Assistant Practitioner Pharmacist Assistant Technical Officer</p>	In-house training - Equipment QA
Admin. of radiopharmaceutical	<ul style="list-style-type: none"> <li>• Diagnostic</li> </ul> <p>Clinician Clinical Technologist Clinical Scientist Registered Nurse</p>	In-house training: Phlebotomy course Supervised IV training Admin. of

	Radiographer	radiopharmaceutical - diagnostic  Approved in writing by IR(ME)R licence (ARSAC) holder for diagnostics
Admin. of radiopharmaceutical • Therapy	Clinician Clinical Technologist Clinical Scientist Radiopharmacy Technologist Registered Nurse	In-house training - Admin. of radiopharmaceutical - Therapy  Approved in writing by IR(ME)R licence (ARSAC) holder for therapies.
Patient Preparation & counselling	IR(ME)R licence holder (ARSAC) Other clinicians (e.g. registrars, SPR) Clinical Technologist Radiographer Registered Nurse Trainee Clinical Technologist Clinical Scientist Pre-registration scientist Radiopharmacist Nuclear medicine receptionists Assistant Practitioner Assistant Technical Officer Imaging Department Assistant	In-house training - Patient Preparation & counselling
Performing PET/ CT Scan Imaging	Clinical Technologist Radiographer Clinical Scientist	In-house training - Performing PET/ CT Scan Imaging
Performing Nuclear Medicine imaging	Clinical Technologist Clinical Scientist Radiographer Assistant Practitioner Trainee Clinical Technologist	In-house training - Performing Nuclear Medicine Imaging
Perform CT acquisition for cardiac calcium scoring (as part of combined MPI study), SPECT/CT hybrid imaging, attenuation correction	Clinical technologist Clinical scientist Radiographer	In-house training

Authorisation of CT exposures for SPECT /CT hybrid imaging when authorisation is not carried out by a nuclear medicine IR(ME)R practitioner	Clinical technologist Clinical scientist Radiographer	Authorisers must be approved in writing by the nuclear medicine IR(ME)R practitioners  Authorising under justification criteria agreed by the nuclear medicine IR(ME)R practitioners
Perform non-imaging diagnostic test	Clinical Technologist Trainee Clinical Technologist Clinical Scientist Pre-registration Scientist Radiographer Registered Nurse Clinicians Phlebotomists Assistant Practitioner Assistant Technical Officer Imaging Department Assistant	In-house training
Authorisation of exposures when not carried out by practitioner	Radiographers Clinical Technologists Clinical Scientist Consultant Radiologist Cardiologist	Authorisers must be approved in writing by the IR(ME)R licence holders (ARSAC)  Authorising under justification criteria agreed by IR(ME)R licence holder(s) (ARSAC)
<b><u>BMD (Nuclear Medicine)</u></b>		
BMD scanning	Clinical Technologist Radiographer Assistant Practitioner Clinical Scientist	In house training
BMD equipment QA	Clinical Technologist Radiographer Assistant Practitioner Clinical Scientist	In house training
BMD QA (including testing before	Clinical Scientists	In-house training

use and routine level B tests <sup>1)</sup> )	Clinical Technologists	
BMD Authorisation	Clinical Scientist Radiographer	In house training Familiar with justification criteria.
<u>Breast Imaging Services</u>		
Performing all Mammographic exposures	Radiographers Assistant Practitioners (mammography)	Certificate of Competence in Mammograms Diagnostic & Therapeutic support – mammography module In house training
In-house QA on X-ray equipment (Level A tests <sup>1)</sup> )	Radiographers Assistant Practitioners (mammography)	As above
QA (including testing before use and routine level B tests)	Clinical Technologists Clinical Scientist	In-house training
Authorisation of exposures (when not carried out by practitioner)	Radiographers	Familiar with justification criteria agreed by practitioner(s)
<u>Wellcome trust clinical research facility</u>		
Fluoroscopic procedures	Radiographer	In house training
Body composition scanning	Radiographer	In house training
Equipment QA	Clinical Technologists Clinical Scientist Radiographer	In house training
Authorisation of exposures (when not carried out by practitioner)	Radiographer	Familiar with justification criteria agreed by practitioner(s)
<u>Maxillofacial Departments</u>		
Operation of Intra oral, OPG and Cephalostat x-ray equipment	General Dental Practitioners, Oral Surgeons and Orthodontists  Registered Dental Nurses	Specific IR(ME)R and radiology training

	Dental Surgery Assistant (DSA) (extended role)	Additional Dental Radiography Course for DSA's
Operation of Cone Beam CT	Maxillofacial Consultant/Surgeon Dental Surgery Assistant (DSA) (extended role)	Additional Dental Radiography Course for DSA's and completion of UHB protocol.
Equipment QA	Dental Surgery Assistant (DSA)(extended role)	Additional Dental Radiography Course for DSA's
<u>Urology</u>		
Operation of Lithotripter Unit (As listed within Lithotripter Unit)	Consultant Urologists	In house competency on use of equipment
QA (including testing before use and routine level B tests)	Clinical Scientists Clinical Technologists	In-house training
<u>Mini C-arm Theatres</u>		
Operation of Fluoroscan Unit	Consultant Orthopaedic Surgeons Consultant Podiatric Surgeons Registrars – post MRCS	Fluoroscan Training Course Applications training on use of equipment In – house training *Evidence of training on the use of the same equipment in other Trusts will be accepted
Equipment QA	Radiographers	In house training
QA (including testing before use and routine level B tests)	Clinical Scientists Clinical Technologists	In-house training
<u>Radiotherapy</u>		
Performing CT localisation Scans	Therapy Radiographers	In house training
Radiotherapy External Beam Treatment Delivery (including on	Therapy Radiographers	In house training

set imaging)		
HDR Brachytherapy Treatment Delivery	Therapy Radiographers	In house training
Pre-treatment functions including planning, checking and data entry to Mosaik	Therapy Radiographers	In house training
External Beam Treatment Planning & checking	Clinical scientists Clinical technologists Therapy Radiographer / Dosimetrist	In-house training
HDR Brachytherapy; Treatment planning and QA.	Clinical scientists Clinical technologists Therapy Radiographer / Dosimetrist	In-house training
SRS (CK) Treatment Planning	Clinical scientists Clinical technologists Therapy Radiographer / Dosimetrist	In-house training
CT scanner QA	Clinical scientists Therapy Radiographer / Dosimetrist	In-house training
Machine and accessory QA (includes commissioning)	Clinical scientists Clinical technologists Linac Engineer Therapy Radiographer / Dosimetrist	In-house training
Treatment and imaging equipment QA	Clinical scientist Clinical Technologist Linac Engineer Therapy Radiographer/Dosimetrist	In-house training
PPM and corrective maintenance on treatment machines	Linac Engineers Clinical Scientist	Manufacturer training courses In-house training
Mould Room pre-treatment manufacture of patient immobilisation, shielding and set-up devices	Clinical Technologist Dosimetrist	In-house training
CCIS, Software support and software development and implementation	Clinical scientist Clinical Technologist	In-house training
Medical Physics Expert	Clinical Scientists	Recognised by the

		Department of Health and Social Care and listed on the national register
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