Shropshire Community Health NHS
NHS Trust

Document Details	
Title	**Radiation Safety Policy**
Trust Ref No	648
Local Ref (optional)	
Main points the document covers	This policy sets out the framework for managing all Radiation Safety within the Trust.
Who is the document aimed at?	All staff who use ionising and non-ionising radiation, x-ray, laser and ultrasound and those at all levels who manage these functions within the Trust
Author	Tom Seager, Clinical Director Community Dental Service Radiation Protection Committee Chair
Approval process	
Approved by (Committee/Director)	Quality & Safety Committee
Approval Date	30th January 2025
Initial Equality Impact Screening	Yes
Full Equality Impact Assessment	No
Lead Director	Director of Nursing, Quality, and Clinical Delivery
Category	Clinical
Sub Category	
Review date	14th August 2027
Distribution	
Who the policy will be distributed to	All Managers in departments using ionising or non-ionising radiation Information available to all staff
Method	Managers via Datix alerts Staff via policies page on the staff intranet
Document Links	
Required by CQC	Yes
Required by NHLSA	No
Other	1. Environmental Permitting (England & Wales) Regulations 2016. (SI 2016 No 475) and (Amendment) Regulations 2018 (SI 2018 No 110) and (Amendment) (No 2) Regulations 2018 (SI 2018 No 428) 2. The Ionising Radiations Regulations 2017 (SI 2017 No 1075). 3. The Ionising Radiation (Medical Exposure) Regulations 2017 (SI 2017 No 1322) and The Ionising Radiation (Medical Exposure) (Amendment) Regulations 2018 (SI 2018 No 121)

	4. The Radiation Emergency Preparedness and Public Information Regulations 2001 (SI 2001 No. 2975) 5. The Justification of Practices Involving Ionising Radiation Regulations 2004 (SI 2004 No 1769). Environmental Permitting (England and Wales) (Amendment) Regulations 2011 (SI 2011 No 2043)

Amendments History

No	Date	Amendment
1	14.5.12	• Trust name amended throughout. • Re-write to remove duplication. • Addition of Telford Ultrasound machines. Inclusion of Oswestry Health Centre x-ray machine. Section 4 • Update of the regulations/guidance to the most current/ most appropriate throughout and Section 5. • Amended management arrangements- Appendix 9 • Amended monitoring section - Appendix 4
2	21.3.13	• Amended order of section 4 duties • Section 12 added exemption guidance Medical & Veterinary Uses of Radioactive Sources 2011 • Appendix 1 updated list of services Trust delivers and is responsible for • Appendix 3,4,8 updated with management titles of Clinical Services Managers • Appendix 2 removed 'Mobile Lithotripsy Service at Bridgnorth Hospital provided by Impact Medical Ltd' as not operating
3.	15.9.14	• Appendix 1 removed APCS orthopaedics mobile ultrasound at Burlington & RJAH for ultrasound guided shoulder injections due to service being managed by RJAH. • Appendix 2 added Mobile Lithotripsy Service at Bridgnorth Hospital.
4.	17.8.15	• Director of Quality, Nursing & Operations changed to Executive Director of Nursing & Operations • Section 12.3 narrative changed to after applying suitable excretion factors

		• 14.1 References – No 6 added • Appendix 3 – APCS Orthopaedic reference removed. • Appendix 9 New management arrangements diagram added
5.	10.7.18	• Amendments advised by Radiation Protection Adviser to meet the latest radiation protection guidance and the Radiation Protection Adviser's Policy Template.
	13.08.2024	• Amendments advised by Radiation Protection Advisor to meet the latest radiation protection guidance, and utilise the new policy template

Contents

1. Policy Statement

1.1. The Trust will ensure, as far as is reasonably practicable, the safety of patients, members of the public (including the families of patients), staff and, others (such as outside workers) who may be exposed to hazards arising from the use of ionising radiations (e.g. x-ray, etc.) and non-ionising radiations (e.g. ultrasound,lasers).

1.2. The Trust will ensure that the legal obligations contained within the regulations described in section 7.1.1 are met.

1.3. The Trust will ensure that an appropriate radiation protection programme is implemented and reviewed and that appropriate organisational arrangements are in place to facilitate it.

1.4. The Trust is committed to a policy of keeping exposures to ionising and non-ionising radiation as low as reasonably practicable.

2. Scope

2.1 This policy applies to all employees (including volunteers, students, locum and agency staff working on the premises) of the Trust and to all members of the public, patients and contractors whilst they are on sites managed by the Trust.

2.2 This policy applies to outside workers whilst on sites managed by the Trust unless other specific arrangements have been agreed.

2.3 Members of staff who work in Commissioned Services on sites not managed by the Trust are covered by this Radiation Safety Policy, unless other specific arrangements have been agreed.

2.4 The Trust is responsible for those services listed in Appendix A. These services receive Radiation Protection Advice from the University Hospitals Birmingham NHS Foundation Trust.

2.5 Commissioned services are listed in Appendix B.

2.6 Compliance with the Regulations and Good Practice Guides (see References) covering the use of ionising and non-ionising radiation will ensure that radiation doses for all personnel and patients will be as low as reasonably practicable.

3. Framework

3.1. This section describes the broad framework for ensuring radiation safety. Detailed operational instructions for the implementation of this policy are

contained within the associated documents listed in section 8. The associated documents may be amended by authority of the document sponsor (the person responsible for the document within the controlled document procedure), provided that such amendments are compliant with this policy.

3.2. The Trust will:

3.2.1. maintain a radiation protection management structure to implement radiation safety requirements;

3.2.2. appoint suitable Radiation Safety Advisers (RSA) to advise on all matters concerning the safe use of ionising or non-ionising radiations;

3.2.3. where appropriate, appoint Supervisors to cover each department using ionising or non-ionising radiation to enable work with radiation to be carried out in a safe manner and ensure that local rules are followed;

3.2.4. comply with the relevant Regulations and Good Practice Guides (see References) covering the use of ionising and non-ionising radiation.

3.2.5. ensure that medical examinations involving the use of ionising radiation will only be carried out:

(a) where there is sufficient medical justification; and

(b) in accordance with Trust standard operating procedures and protocols.

3.2.6. ensure that ionising radiation doses to patients from diagnostic procedures are kept as low as reasonably practicable consistent with the intended clinical outcome.

3.2.7. ensure that ionising radiation doses for all personnel will be as low as reasonably practicable.

3.2.8. ensure clinical audits are carried out.

3.3. **Expert Advice and Support**

Medical physics support and advice for radiation safety is provided as follows

3.3.1. RRPPS

a) Radiation Protection Advisers (section 5.5).
b) Approved personal monitoring service providing whole body, extremity and eye dosemeters for ionising radiation (section 3.7.1).

c) Ionising radiation instrument calibration service and Qualified Persons (section 5.8) relating to the calibration and testing of both protection level and diagnostic radiology quality assurance instruments (section 3.7.5).

d) Medical Physics Experts (MPEs) for diagnostic radiology (section 5.10.4).

e) Radiation safety surveys and quality assurance testing of diagnostic x-ray equipment, and other non-ionising facilities and quality assurance tests of ultrasound equipment (section 3.4.4)

3.4. Radiation Facilities and Equipment

3.4.1. All radiation facilities will be designed to meet the requirements of relevant Regulations, Codes of Practice and Guidance Notes (see References, section 7), to ensure that doses are below relevant nationally agreed dose limits and constraints and the appropriate security measures are included.

3.4.2. Local Rules will be prepared to cover procedures using ionising radiation and non-ionising radiations as required. The Local Rules will contain or reference operational instructions designed to minimise radiation doses. Radiation doses to staff who work with ionising radiation will be monitored as deemed appropriate by a Radiation Protection Adviser (RPA).

3.4.3. The minimising of radiation doses to patients will be a prime factor in the selection and use of diagnostic equipment.

3.4.4. Quality assurance tests, including tests before the equipment is put into clinical use and subsequent regular checks at appropriate intervals, will be carried out (See Appendices F & G).

3.4.5. When new facilities are being planned the appropriate RPA will be involved to advise on the best method of achieving the required dose constraints.

3.4.6. Advice will be sought from the relevant MPE regarding the technical specification, selection, purchase and replacement of all ionising radiation equipment.

3.4.7. Any equipment or apparatus used in connection with medical exposures will, as far as reasonably practicable, be selected, installed and maintained so that it is capable of restricting the exposure of the patient in accordance with the intended clinical purpose.

3.4.8. The Trust will ensure that a critical examination of all equipment emitting ionising radiation has been carried out before it is used. Responsibility for performing this critical examination lies with the

installer. Other radiation sources such as ultrasound should also be examined by a Radiation Safety Adviser before use. A laser protection adviser (LPA) will examine laser equipment and other hazardous optical equipment before it is used on patients

3.4.9. Equipment will not be brought on to site by staff or manufacturers etc. for demonstration, trial or testing purposes without prior consultation with a Radiation Safety Adviser and consideration of indemnity.[1] An appropriate Health and Safety Adviser may also be involved for non-radiation matters. Such equipment will be subject to the same safety and quality checks as permanent equipment.

3.4.1. Any radioactive material will be transported in accordance with the relevant Regulations.

3.5. Risk Assessments

3.5.1. Radiation risk assessments will be undertaken for all radiation activities prior to any work commencing. The assessments must be reviewed if the activity, equipment or location changes. All assessments must be reviewed at frequent intervals not exceeding 3 yearly.

3.5.2. Where risks are identified, appropriate measures will be put in place to reduce the dose and hence risk to as low as reasonably practicable. Such measures should include the following in the order specified:

a) Engineering controls (e.g. shielding, interlocks and other safety features);

b) Changes to working procedures and provision of training to ensure these are correctly followed;

c) Personal protective equipment (e.g. lead aprons, gloves).

3.5.3 Risk Assessments will be carried out for all equipment as required.

3.6. Work Instructions

3.6.1. Safe Working Practices shall be established for the safe use of ionising radiation equipment, and the use of hazardous optical equipment.

[1] This is so that the relevant statutory provisions such as notification under the graded approach to HSE and risk assessments can be satisfied. The supplier of the equipment is responsible for providing details concerning the necessary safety arrangements including (a) documentation proving that the equipment is safe to use and describing the necessary safe working procedures, (b) testing and maintenance requirements of the equipment whilst on loan, (c) any additional personal safety equipment and staff training that might be necessary and (d) training in proper use of the equipment.

3.7. **Monitoring**

3.7.1. Radiation dose monitoring for staff regularly using ionising radiation will be routinely carried out as deemed necessary by the RPA. This may include whole body, eye and extremity monitoring as appropriate.

3.7.2. Periodic monitoring of other staff (including extremity and eye monitoring) and of environmental doses in the workplace will be carried out as deemed appropriate by the RPA.

3.7.3. All personal monitoring for the Trust will be carried out by a dosimetry service approved by the Health and Safety Executive for dose assessment. Dose records will be managed by a dosimetry service approved by the HSE for record keeping. The Trust will follow the advice of the RPA regarding the designation of staff as classified persons[2] and the need for monitoring.

3.7.4. Local rules for ionising radiation will specify local investigation levels. Whenever a staff member receives a whole body radiation dose greater than the investigation level, the departmental manager will investigate and discuss any possible dose reduction strategies with the relevant RPA. The manager has responsibility to implement any necessary changes.

3.7.5. All equipment involved with the measurement of radiation hazards in connection with the Ionising Radiations Regulations will be tested annually under the supervision of the Qualified Person (see section 5.8) following national guidelines.

3.8. **Staff Training**

3.8.1 All staff working with ionising and non-ionising radiation will be trained to a level commensurate with the work being performed and the degree of hazard involved and to satisfy legal requirements. Records of training will be maintained. Appropriate training requirements are set out in Appendix I.

3.9. **Incidents**

3.9.1. All radiation incidents will be reported in accordance with the Trust's

[2] Classified persons are defined in the Ionising Radiations Regulations as employees who are likely to receive a dose more than three-tenths of the employee dose limits (or 15mSv to the eye). Radiation monitoring and medical surveillance must be undertaken for Classified persons.

Incident Reporting system.

3.9.2. In addition some incidents may need to be reported to external agencies. The RPA or MPE (as appropriate) will give advice when this is necessary.

4. Compliance with the latest EA "Exemption Guidance Medical and Veterinary Uses of Radioactive Sources"

Environmental Permitting (England and Wales) Regulations

4.1. All in-patients administered with radioactive substances at Imaging Centres (e.g. Shrewsbury & Telford Hospitals NHS Trust) and returning to the Community Hospitals will excrete a percentage of the administered dose.

4.2. Records must be kept for each hospital to comply with the limit of 10GBq of Tc-99m per annum and 5GBq of other radionuclides per annum.

4.3. The information that each Community Hospital ward should receive with each patient is:

Date
Patient's Name
Hospital No.
Radioactive Substance e.g. Technetium
Administered Activity (MBq)
Activity to Sewers (MBq)– applying suitable excretion factors as given by the Environment Agency (IPEM)
Hospital that patient is returning to
Total Activity Administered (MBq)

4.4. Records need to be kept at each hospital – they should also be kept centrally by the Chair of the Radiation Protection Group.

5. Duties

5.1 Trust Chief Executive

The Trust will implement this policy through the following organisational arrangements and responsibilities in order to effectively manage and control the risk from ionising and non-ionising radiation. The Chief Executive, as the employer, remains responsible in law for making sure these arrangements are in place.

5.2 Director of Nursing, Quality and Clinical Delivery

Overall responsibility for ensuring that an appropriate management structure is maintained to implement, monitor and review the radiation protection policy will lie with the director of nursing, quality and clinical delivery. They will ensure that the Trust:

5.2.1 Appoints Radiation Protection Advisers (RPAs) and Medical Physics Experts (MPEs), with appropriate experience and qualifications, to advise on all matters concerning the use of ionising and non-ionising radiations.

5.2.2 Appoints the Chair of the Radiation Protection Committee which reports through the Quality and Safety group on all matters concerning the use of ionising and non-ionising radiation and the use of lasers.

5.2.3 establishes standard operating procedures and protocols that meet the requirements of the Ionising Radiation (Medical Exposures) Regulations 2017 (IRMER2017)

5.2.4 Ensures that the relevant Inspectorate or Agency and Chief Executive are notified of any incident involving ionising or non-ionising radiation as required and ensures that there are adequate arrangements in his / her absence.

5.2.5 informs the Health and Safety Executive (HSE) of the intention to start work with ionising radiation, obtaining notification, registration and/or consent as appropriate to the types of work being performed.

5.2.6 informs the HSE of any significant changes to the work involving ionising radiation or to the Trust (for example change of name or main address)

5.3 Radiation Protection Group Chair

Overall responsibility for arranging the RPC group meeting, creating actions and delegating these actions from this group and monitoring and reporting the group's activity to the Quality and Safety Group. They will ensure that the Trust:

5.31 Establishes good communications and co-operation between managers and the Advisers and will give the Advisers, in conjunction with management, power to inspect and perform such tests as they may think appropriate.

5.3.2 Formally appoints new radiation protection supervisors and laser protection supervisors.

5.3.3 Monitors and audits the arrangements to check that staff and facilities are complying with this Policy.

5.3.4 Details as necessary responsibilities under this policy in staff job descriptions.

5.3.5 Ensures that this policy is reviewed at least every 3 years.

5.4 Departmental/Service Manager

Responsibility for the provision of radiation protection, staff and patient dose monitoring and radiation equipment quality assurance programmes within each Department will lie with the Departmental Manager using the services of RRPPS. The Departmental Manager will ensure that:

5.4.1 Local rules and written systems of work have been drawn up with approval by the appropriate RPA and are reviewed appropriately.

5.4.2 The necessary staff are provided with personal radiation monitors in accordance with advice from the RPA, staff wear these monitors appropriately and return them for evaluation at the required intervals.

5.4.3 Staff carrying out work with ionising or non-ionising radiation are appropriately trained and that records of this training are kept.

5.4.4 Work with ionising radiation is carried out in accordance with 'local rules' (under the supervision of the local supervisors) and staff are notified of any changes in these local rules.

5.4.5 The necessary risk assessments are completed before carrying out work with ionising or non-ionising radiation.

5.4.6 The risk assessments are reviewed every year or whenever there is a significant change in working practice.

5.4.7 Any special measures required to restrict doses to staff, particularly for pregnant staff, are implemented.

5.4.8 Risk/benefit information is provided to patients before exposure to ionising radiation wherever practical

5.4.9 Dose constraints and appropriate guidance are established for exposure of carers and comforters

5.4.8 An investigation is carried out whenever a member of staff receives a dose of ionising radiation exceeding the local investigation level set in the local rules and any necessary action is taken to reduce doses in the future.

5.4.9 All medical radiation exposures carried out in their Department will be carried out in accordance with the Trust's Procedures for IR(ME)R 2017.

5.4.10 Any equipment or apparatus used in connection with medical exposures will, as far as reasonably practicable, be selected, installed and maintained so that it is capable of restricting the exposure of the patient in accordance with the intended clinical purpose.

5.4.11 An inventory of their own ionising radiation equipment is kept and all such equipment both satisfies radiation safety requirements and is also included in appropriate replacement programmes.

5.4.12 Quality assurance tests are carried out at the appropriate intervals on all equipment involved in patient exposure with ionising and non-ionising radiation. See Appendices F and G.

5.4.13 Incidents, which could require notification to the relevant inspectorate or agency[3] are reported to the RPA immediately in addition to following the normal incident reporting process. (The RPA will advise whether the relevant inspectorate or agency requires notification).

5.4.14 The appropriate RPA is consulted when the department is considering using ionising or non-ionising radiation for the first time or will be implementing a change in practice.

5.4.15 An appropriate RPA is notified when new ionising or non-ionising radiation equipment is installed so that the appropriate commissioning tests and critical examinations are undertaken before use. N.B. Critical examinations are the responsibility if the equipment installer.

5.4.16 Equipment is not brought on to site for demonstration, trial or testing purposes without prior consultation with an RPA and consideration of indemnity.

5.4.17 All instruments used for monitoring levels of ionising radiation in controlled and supervised areas are tested and examined annually by the RRPPS Instrument Calibration Service.

5.4.18 Arrangements within the department are monitored and audited to ensure that staff and facilities comply with the policy.

5.4.19 Local arrangements and responsibilities for the local RPS are detailed in Appendix C.

5.4.20 Recommendations made following inspections of their radiation facilities (equipment and building) are followed up and actioned as necessary

1.1.1. [3] For example doses above legal limits have to be notified to the Health & Safety Executive (HSE). Doses to patients much greater than intended have to be notified to the Care Quality Commission.

5.5 Radiation Protection Advisers (RPAs)

5.5.1 Responsibility for advising the Trust managers, staff and the public on radiation matters will lie with the Radiation Protection Advisers (RPA).

5.5.2 The RPA will be involved in the planning of all new radiation facilities and any changes to existing facilities.

5.5.3 RPAs have a duty to keep up to date with radiation safety requirements and maintain their competence in order to maintain their certification as advisers.

5.6 Radiation Protection Supervisors (RPS)

5.6.1 The RPS should be familiar with the requirements of the local rules and relevant parts of the Ionising Radiations Regulations 2017 {IRR 17} and the Approved Code of Practice. The RPS assists the line manager in ensuring that the local rules are read, understood, and, as far as possible, are followed by the relevant staff.

5.6.2 Other tasks that are carried out by the RPS are given in the appropriate local rules. Responsibility for these tasks remains with the Senior Dental Officer, Senior Radiographer (X-Ray), Senior Physiotherapist (Lasers).

5.7 Consultant Occupational Health Physician

Designated classified workers are required under IRR17 to be under the medical supervision of a relevant doctor. This could be an Appointed Doctor recognised by the HSE or an employment medical adviser. Medical examinations are required when first classified and for periodic health reviews at least yearly. Details must be maintained in the employee's health record.

For non-classified workers responsibility for medical supervision of staff in respect of radiation exposure will lie with a Occupational Health Physician.

5.8 Qualified Person (as defined within the Ionising Radiations Regulations) is responsible for completing appropriate tests and examinations on radiation monitoring equipment.

5.9 Employees - This includes staff not directly employed by the Trust e.g. Dental GDPs or staff employed in commissioned services

It is the responsibility of **every employee** working with ionising or non-ionising radiation to be aware of the local rules and precautions necessary to carry out their work in a safe manner. It is their responsibility:

5.9.1 Not to expose themselves or any other person to radiation to a greater extent

than is reasonably necessary for the purpose of their work, and to exercise reasonable care while carrying out the work.

5.9.2 To report incidents or defects in equipment in accordance with the Trust's reporting procedure.

5.9.3 To follow any local rule or procedures and thus comply with relevant legislation.

5.9.4 To use and look after any protective equipment that is provided.

5.9.5 To use, look after and return a personal dosemeter, if supplied, at all times during occupational exposure.

5.9.6 To inform the employer in writing if they are pregnant.

5.9.7 Significant deliberate contravention of the Local Rules will lead to disciplinary action being taken.

5.9.8 The staff of any commissioned service working at Trust premises will work to their own IR(ME)R procedures.

5.9.9 The overall management structure is given in Appendix H.

5.10 Medical Exposures

The Ionising Radiation (Medical Exposure) Regulations {IR(ME)R} 2017 and the associated amendment regulations 2018 require that all medical exposures involving the use of ionising radiation will be carried out within a management framework defined by the Standard Operating Procedures (SOPs) and Protocols. SOPs and Protocols have been prepared by the Trust.

IR(ME)R 2017 define certain duty holders associated with the process of carrying out medical exposures. These are:

5.10.1 Referrer

The referrer is responsible for supplying the practitioner with sufficient medical data to enable the practitioner to justify the exposure.

5.10.2 Practitioner

The practitioner is responsible for justifying the exposure and, within the extent of their involvement, keeping the dose to the patient as low as reasonably practicable consistent with the intended purpose.

5.10.3 Operator

Operators are staff who carry out practical aspects of the exposure, including calibration, quality assurance or maintenance of the equipment used. They are

responsible for ensuring that, within the extent of their involvement, they keep the dose to the patient as low as reasonably practicable consistent with the intended purpose.

5.10.4 Medical Physics Expert (MPE)

The Medical Physics Expert carries out and gives advice (as appropriate) on patient dosimetry, dose optimisation, clinical radiobiology, radiation risk assessment, quality assurance relating to the development and use of techniques and equipment for medical ionising radiation exposures.

The Trust has entitled certain staff to carry out these roles (local Radiation protection/Laser protection advisors) as described within its IR(ME)R procedures. All staff acting as operators or practitioners must (legally) follow the IR(ME)R procedures laid down by the Trust and must take legal responsibility for those parts of any procedure for which they are responsible.

6. Implementation and Monitoring

6.1. Implementation

6.1.1. This Policy will be available on the Trust's Intranet Site. The policy will also be disseminated through the management structure within the Trust.

6.1.2. Managers will ensure that radiation protection responsibilities are included in personal development review and personal objectives of their staff.

6.2. Monitoring

6.2.1. Appendix D provides full details on how the policy will be monitored.

7. References

7.1. Ionising Radiations

7.1.1. Regulations

Environmental Permitting (England & Wales) Regulations 2016. (SI 2016 No 475) and (Amendment) Regulations 2018 (SI 2018 No 110) and (Amendment) (No 2) Regulations 2018 (SI 2018 No 428)

The Ionising Radiations Regulations 2017 (SI 12017 No 1075).

The Ionising Radiation (Medical Exposure) Regulations 2017 (SI 2017 No 1322).
The Ionising Radiation (Medical Exposure) (Amendment) Regulations 2018 (SI 2018 No 121).

The Justification of Practices involving Ionising Radiation Regulations 2004 (SI 2004 No 1769)

The Justification of Practices involving Ionising Radiation (Amendment) Regulations 2018 (SI 2018 No 430)

The Ionising Radiation (Basic Safety Standards) (Miscellaneous Provisions) Regulations 2018 (SI 2018 No 482)

7.1.2. Codes of Practice, Guidance Notes, Health Service Guidance etc.

IPEM (2002) — The Medical and Dental Guidance Notes. A good practice guide to implement ionising radiation protection in the clinical environment. Institute of Physics in Engineering & Medicine, York

HSE (2018) — Approved Code of Practice and Guidance, Work with Ionising Radiation, The Ionising Radiations Regulations 2017. Second Edition, London.

HSE (Third Edition) — Fitness of Equipment used for medical exposure to ionising radiation. Health and Safety Executive Guidance Note PM77 http://www.hse.gov.uk/pubns/guidance/pm77.pdf

HPA (2009) — Protection of Pregnant Patient during Diagnostic Medical Procedures to Ionising Radiation. Health Protection Agency Joint Guidance from HPA, CoR, RCR. Doc HPA, RCE-9 2009

NPL (2014) — The examination, testing and calibration of portable radiation protection instruments. Measurement Good Practice Guide 14. National Physical Laboratory, Teddington, London.

HSE (2015) Working Safely with ionising radiation: Guidelines for expectant or breastfeeding mothers. Health & Safety Executive INDG334 (rev1).

EA (2011) Exemption Guidance. Medical and veterinary uses of radioactive sources (Version 1, September 2011)

HSE/DH (2001) The regulatory requirements for medical exposure to ionising radiation. An employer's overview. Health and Safety Executive and Department of Health. HSE Books HSG223.

SAUE (2019) Significant Accidental and Unintended Exposures under the Ionising Radiation (Medical Exposure) Regulations.

https://www.cqc.org.uk/sites/default/files/20190603_significant_accidental_and_unintended_exposures_guidance.pdf

7.2. **Non-ionising Radiations**

7.2.1. Regulations

Management of Health & Safety at Work Regulations 1999 (SI 1999 3242)

Control of Artificial Optical Radiation at Work Regulations 2010 (SI 2010 1140)

General

HSE (2000) Approved Code of Practice & Guidance on The Management of Health & Safety at Work Regulations 1999., Health and Safety Executive, HSE Books L21

8. Associated Policy and Procedural Documentation

8.1. Local rules and working instructions are available for staff in individual departments using potentially hazardous radiation equipment

8.2. The Trust IRMER procedures, protocols and justification criteria describing the framework for the management of medical exposures undertaken for imaging

are available on the Trust intranet.

8.3. The Trust IRMER procedures relating to therapeutic uses of ionising radiation are accessible by the appropriate staff on the Trust intranet.

8.4. The Trust Procedure for the Reporting of Incidents.

8.5. The Trust Procedure for the Reporting and Management of Incidents including Serious Incidents Requiring Investigation.

8.6. The Trust Waste Policy.

8.7 the Trust's Management of Medical Devices Policy

Appendix A – Services which the Trust Provides and is Responsible For

- The community dental service (x-ray)
- Bridgnorth Community Hospital (x-ray and ultrasound)
- Ludlow Community Hospital (x-ray)
- Whitchurch Hospital (xray equipment)
- Oswestry Health Centre (x-ray equipment)
- The mobile ultrasound scanner use in Telford Musculoskeletal service.

Appendix B – Commissioned Services

- X-ray services at Whitchurch Hospital are provided by Shrewsbury & Telford Hospitals Trust (SaTH) from Princess Royal Hospital, Telford. The Radiation Protection Advice for this service is provided by the University Hospital of North Staffs. Staff employed by SaTH will work to SaTH's Radiation Safety Policy, local rules and IR(ME)R procedures.

- X-ray service at Oswestry Health Centre is provided by The Robert Jones & Agnes Hunt Orthopaedic and District Hospital NHS Trust. The radiation protection advisory service for this service is provided by RRPPS.

- Mobile Lithotripsy Service at Bridgnorth Hospital provided by SaTH

Appendix C - Responsibilities of Local Site Managers

Area	Local LPA	Responsibilities
Community Hospitals (excluding x ray services at Whitchurch Community Hospital and Oswestry Primary Care Centre)	**Dental** – Clinical director Dental services **Community Hospitals-** Locality Clinical Manager for the Community Hospital using the services of RRPPS (University Hospitals Birmingham Foundation Trust).	• The necessary staff are provided with personal radiation monitors in accordance with any advice from the RPA. Staff wear these monitors appropriately and return them for evaluation at the required intervals. • An investigation is carried out whenever a member of staff receives a dose of ionising radiation exceeding the local investigation level set in the local rules and any necessary action is taken to reduce doses in the future. • All medical radiation exposures carried out in their Service / Hospital will be carried out in accordance with the Trust's Procedures for the Ionising Radiation (Medical Exposure) Regulations {IR(ME)R} 2017. • Adequate training is made available for all staff carrying out work with ionising or non-ionising radiation. This will include: • General training in the safe use of radiation facilities • Staff acting as operators or practitioners under IR(ME)R 2017. • Staff whose work involves the keeping/ disposal of radioactive material. • Records of this training are kept. • Any equipment or apparatus used in connection with medical exposures will, as far as reasonably practicable, be selected, installed and maintained so that it is capable of restricting the exposure of the patient in accordance with the intended clinical purpose.

		• An inventory of their own ionising or non-ionising radiation equipment is kept and all such equipment both satisfies radiation safety requirements and is also included in appropriate replacement programmes. • Arrangements in their service or department are monitored and audited to check that the staff and facilities are complying with this policy. • Necessary responsibilities under this policy are included in the job descriptions of their staff. • Quality assurance tests are carried out the appropriate intervals on all equipment involved in patient exposure with ionising and non-ionising radiation. See Appendices F and G. • Incidents, which could require notification to the relevant inspectorate or agency[4] are reported to the RPA immediately. (The RPA will advise whether the relevant inspectorate or agency requires notification.) • The appropriate RPA is consulted when the department is considering using ionising or non-ionising radiation for the first time or will be implementing a change in practice. • The appropriate RPA is notified when new ionising or non-ionising radiation is installed so that the appropriate commissioning tests and critical examinations are undertaken before use.

1.1.2. [4] For example doses above legal limits, doses to patients much larger than intended due to equipment failure and significant releases of radioactive material have to be notified to the Health & Safety Executive (HSE). Doses to patients (i) much larger than intended or (ii) to the wrong anatomical site, where both (i) and (ii) are due to procedural errors, have to be notified to the Healthcare Commission. Lost or stolen radiation sources have to be reported to the Environment Agency and the police (and possibly the HSE).

		• Equipment is not brought on to site by staff or manufacturers etc for demonstration, trial or testing purposes without prior consultation with a Radiation Protection Adviser and consideration of indemnity. [5] For example, the NHS Purchasing and Supply Agency Form of Indemnity [A] should be completed. This form can be found at:http://nww.pasa.nhs.uk/PASAWeb/Guidance/Indemnity.htm • In liaison with the Purchasing/ Supplies Service, appropriate maintenance contracts are in place for all radiographic/laser equipment
Whitchurch Community Hospital Oswestry Primary Care Centre	Radiology Manager Shrewsbury and Telford NHS Trust (SATH)(using the services of the radiation protection service from University Hospital North Staffordshire) Radiology Manager Robert Jones and Agnes Hunt NHS Trust (RJAH) (using the services of the radiation protection service from University Hospital Birmingham)	• Local rules and written systems of work and Risk Assessments have been drawn up as part of SaTH's/RJAH's Radiation Safety requirements with approval by the RPA as appropriate and are reviewed annually, and whenever a significant change occurs. Copies of these local rules and Radiation Safety Policy are retained within the X-Ray department at Whitchurch Hospital/ Oswestry Health Centre. • All medical radiation exposures carried out at Whitchurch Hospital X-Ray/ Oswestry Health Centre department will be carried out in accordance with SaTH's/RJAH's Procedures for the Ionising Radiation (Medical Exposure) Regulations {IR(ME)R} 2017.training is made available for all staff carrying out work with ionising or non-ionising radiation so that they can be adequately trained. This will include: • General training in the safe use of radiation facilities • Training for staff acting as operators or practitioners under IR(ME)R 2017. • Records of this training are kept and are available within the department.

[5] This is so that the relevant statutory provisions such as notification to HSE, prior risk assessments can be satisfied. The supplier of the equipment is responsible for providing details concerning the necessary safety arrangements including (a) documentation proving that the equipment is safe to use and describing the necessary safe working procedures, (b) testing and maintenance requirements of the equipment whilst on loan and (c) any additional personal safety equipment and staff training that might

	For assurance around maintenance contracts- Locality Clinical Manager for Whitchurch Community Hospital	• An inventory of their own ionising, or non-ionising, radiation equipment is kept and all such equipment both satisfies radiation safety requirements and is also included in an appropriate replacement programme. • Incidents, which could require notification to the relevant Inspectorate are reported to the RPA immediately. (The RPA will investigate and if appropriate advise the Director of Nursing and Quality that the relevant Inspectorate requires notification.). The staff of commissioned services providing an X-ray service to the Trust will work to their own IR(ME)R procedures, but will report any incidents to the Trust in accordance with the Trust's Incident Reporting Procedure • The appropriate RPA is consulted when the Service/Hospital is considering using ionising or non-ionising radiation for the first time or will be implementing a change in practice. • After liaison with the supplier, arrangements are in place to enable the safe use of any equipment on trial and testing. For example, the NHS Purchasing and Supply Agency Form of Indemnity[A] should be completed. • The Locality Clinical Manager, In liaison with the Purchasing/Supplies service, ensure appropriate maintenance contracts are in place for all radiographic/laser equipment.

Physiotherapy Departments Dental clinics Radiology departments	Relevant Senior manager of Musculoskeletal physiotherapy Department Senior Dental Officer Senior Radiographer (x ray)	The relevant individual will be responsible for ensuring that: • Staff carrying out work with ionising or non-ionising radiation are appropriately trained or that training requirements are notified to the Clinical Director Dental/ Clinical Services Manager. • Work with ionising radiation and lasers is carried out in accordance with 'local rules' (under the supervision of the local supervisors) and staff are notified of any changes in these local rules. • The necessary risk assessments are completed before carrying out work with ionising or non-ionising radiation. • The risk assessments are reviewed every year or whenever there is a significant change in working practice. • In conjunction with the Clinical Director Dental / Locality Clinical Manager, any special measures required to restrict doses to staff , including pregnant staff, are implemented.
Telford Musculoskeletal Service (TeMS)	Service Manager for TeMS Relevant extended scope physiotherapist	• In relation to the ultrasound machine in Telford, at Wrekin Community Clinic, Euston House, the machine has one probe and is multi- frequency 10-16mHz and use non-ionising radiation. • The relevant extended scope Physiotherapist will be responsible for the machine at Euston House.

		• The relevant individual will be responsible for ensuring that: • Staff carrying out work with the ultrasound scanner are appropriately trained or that training requirements are notified to the Service Manager. • Work with ionising radiation and lasers is carried out in accordance with 'local rules' (under the supervision of the local supervisors) and staff are notified of any changes in these local rules. • The necessary risk assessments are completed before carrying out work with ionising or non-ionising radiation. • The risk assessments are reviewed annually. • In conjunction with the Service Manager, any special measures required to restrict doses to staff, including pregnant staff, are implemented.

Appendix D – Monitoring of the Policy

MONITORING OF IMPLEMENTATION	MONITORING LEAD	REPORTED TO PERSON/GROUP	MONITORING PROCESS	MONITORING FREQUENCY
Summaries of significant non-compliances and incidents with respect to the relevant legislation.	Clinical Director Dental Services/ Clinical Services Managers /Relevant Radiation Protection Supervisor	Chair of Radiation Protection Committee	Verbal report to RPC (RPC members) or written report (non attending RPSs).	Annual
Written report – Patient Safety issues	Chair of Radiation Protection Committee	Quality & Safety operational Group	Provide Quality & Safety operational Group with a report highlighting by exception any Patient Safety issue that need to be addressed by the Trust	As appropriate
Written report – Health and Safety Issues	Chair of Radiation Protection Committee	Quality & Safety operational Group	Provide a report highlighting by exception any Health and Safety issues that need to be addressed by the Trust	As appropriate
Programme of radiological equipment performance and radiation protection surveys	Clinical Director Dental Services/ Clinical Services Managers	Chair Radiation Protection Committee	Review of written reports issued by Medical Physics and local quality assurance tests.	Annual
Periodic reviews of radiation protection programme including, e.g. action on survey recommendations, occupational and patient doses, and radiation incidents.	Chair Radiation Protection Committee	Quality & Safety operational Group	Minutes of RPC	Annual

Appendix E – Standards

No	Standard	Responsibility
1.	The radiation protection group (RPC) will meet quarterly	Chair of RPC
2.	This policy will be reviewed every 3 years	RPG
3.	Local rules will be reviewed three yearly and whenever any significant changes occur	Clinical Director Dental Service/ Locality Clinical Managers/ SaTH Radiology Manager
4.	Radiation risk assessments will be carried out before any new facility or technique is brought into use and reviewed annually	Department Manager
5.	An investigation will be carried out whenever personal monitoring reveals that any member of staff has received a dose exceeding the local action level stated in the local rules.	Clinical Director Dental Service/ locality Clinical Manager
6.	Procedures and Protocols for the Ionising Radiation (Medical Exposures) Regulations {IR(ME)R} 2017 will be reviewed annually or whenever significant changes occur.	Task delegated to staff as listed in the relevant imaging procedure.
7.	An investigation will be carried out whenever it is suspected that a patient has received a dose much larger than intended and appropriate corrective action will be taken	As specified in the relevant imaging procedure.

Appendix F - Quality Assurance Programme (Ionising radiation)

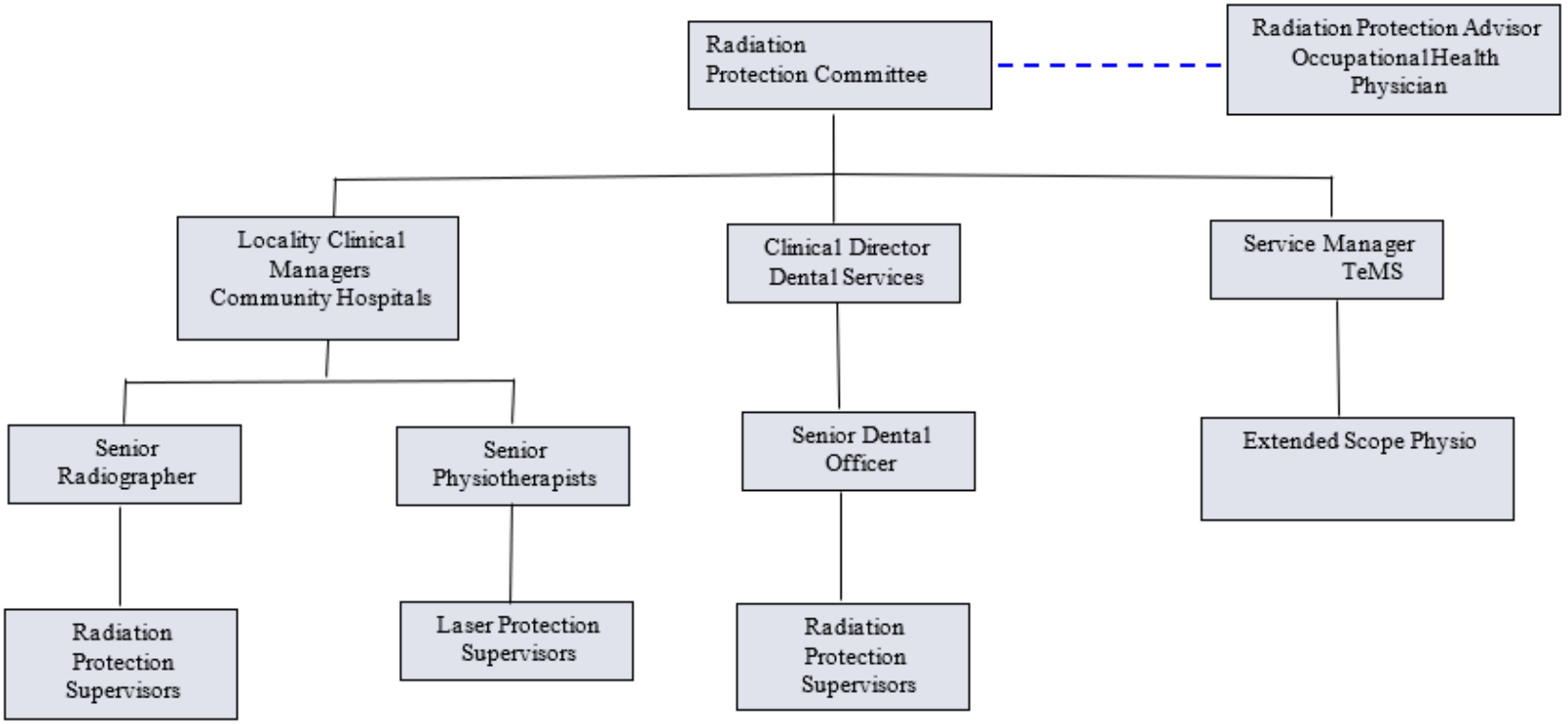
Task	Responsibility	Frequency
Preventative maintenance	Manufacturer/ Outside Service Contractor	As recommended
Radiation Protection & equipment performance Survey	Radiation Protection Service	Community dental: 3 yearly (intra-oral) Community dental: annually (OPG) Community Hospitals/Health Centre x-ray: annually
Quality assurance test by department	Department Manager	As determined by local protocols
Commissioning test/critical examinations	RPA (after notification) by department manager	Before use on patients
Personnel Monitoring	Assessment by RRPPS	Hospitals/ Health Centre: continuous, staff monitored as required in conjunction with RPA

	Review by department manager/RPS	

Appendix G - Quality Assurance Programme (Ultrasound)

Task	Responsibility	Frequency
Preventative maintenance	Manufacturer/ Outside Service Contractor	As recommended
Radiation Protection & equipment performance Survey	Radiation Protection Service	Annually
Quality assurance test by department	Department Manager	As recommended by Adviser
Commissioning test	RPA (after notification)	Before use on patients

Appendix H- Trust Organisation for the Radiation Safety Programme



Appendix I – Training Requirements

Activity	Training Requirement
General Safety Awareness	All staff working with ionising or non-ionising radiation must be trained to follow the relevant local rules and safe working instructions in their department.
Medical exposures	All Practitioners and Operators must have received adequate training as required by the Ionising Radiation (Medical Exposure) Regulations (IRMER17). They must have received adequate instruction, including practical experience, in the techniques being used.