

## Ionising Radiations Safety Policy

Issue Date	Review Date	Version
November 2019	November 2024	8

### Purpose

To ensure that University Hospitals Plymouth NHS Trust (the Trust) complies with all relevant legislation with regard to the use of ionising radiation and to ensure that adequate protection from ionising radiation is in place for

- Staff
- Members of the Public
- Patients
- The Environment

### Who should read this document?

All employees of the Trust involved in the use of ionising radiation including contractors, voluntary workers, supernumerary staff, students, locum and agency staff, and to individuals holding honorary employment contracts, all managers with responsibility for staff working with ionising radiations.

### Key Messages

This policy and supporting procedures are intended to ensure all work with ionising radiations conducted within the Trust is performed in accordance with relevant statutory requirements and is restricted as low as reasonably practicable.

Following the policy and procedural processes will ensure work with ionising radiations is safe.

### Core accountabilities

<b>Owner</b>	Radiation Safety Committee
<b>Review</b>	Radiation Safety Committee
<b>Ratification</b>	Peter Wright - Director of Healthcare Science and Technology
<b>Dissemination (Raising Awareness)</b>	Trust Document Controller
<b>Compliance</b>	Radiation Safety Committee

### Links to other policies and procedures

Supporting Procedures as listed in Appendix 3

### Version History

1	February 2001	Published document
2	February 2005	IRMER procedures now in separate policy. Ionising radiation and non-ionising radiation separate sections in policy

3	May 2007	Document reviewed. Minor changes
4	April 2009	Amended by Radiation Safety Committee
4	November 2009	Minor spelling/grammar changes following EIA
6	April 2015	Extended by Medical Director to August 2015
6.1	January 2016	Extended by Director of Corporate Business to January 2017
7	August 2016	Document reviewed. Minor changes including change of committee name. Approved by Radiation Safety Committee
8	November 2019	Reviewed & updated for Ionising Radiations Regulations 2017

*The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.*

**An electronic version of this document is available on Trust Documents.  
Larger text, Braille and Audio versions can be made available upon  
request.**

## Contents

<b>Section</b>	<b>Description</b>	<b>Page</b>
1	Introduction	
2	Purpose, including legal or regulatory background	
3	Definitions	
4	Duties	
5	Main Body of Policy	
6	Overall Responsibility for the Document	
7	Consultation and Ratification	
8	Dissemination and Implementation	
9	Monitoring Compliance and Effectiveness	
10	References and Associated Documentation	
Appendix 1	Dissemination Plan and Review Checklist	
Appendix 2	Equality Impact Assessment	

## 1 Introduction

- 1.1 The Trust uses ionising radiations from X-ray and Radiotherapy equipment, and radioactive substances. It does so in order to benefit patients directly through diagnostic X-ray tests, Nuclear Medicine and Radiotherapy services, and indirectly in the maintenance and calibration of associated equipment, and research and development.
- 1.2 The general principles by which the Trust manages risk are set out in the Trust's Risk Management Policy. This policy supports, supplements and clarifies those principles in relation to the use of ionising radiation. It is supported by a number of procedures that give detailed instruction on the means whereby risks from exposure to ionising radiations are managed.
- 1.3 This policy excludes workplace exposure to Radon (gas) in the workplace which is covered by a separate Trust Policy.

## 2 Purpose

- 2.1 Together with the supporting procedures it provides the framework for compliance with statutory legislations concerning uses of Ionising Radiations, principally  
The Ionising Radiations Regulations 2017.  
The Ionising Radiation (Medical Exposure) Regulations 2017.  
The Environmental Permitting (England and Wales) Regulations 2016.

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 20093	<b>Definitions</b>
---	--------------------

- 3.1 The term “**ionising radiation**” includes the radiation from external X-ray and electron beam generating equipment as well as radiopharmaceuticals and other sealed or unsealed ionising radiation sources.
- 3.2 A “**Radiation Protection Adviser**” (RPA) is defined by the Ionising Radiations Regulations 2017 (IRR17) as an individual who meets the criteria of competence specified by the health and safety executive, and holds a certificate of competence issued by a body approved by the Health & Safety Executive.
- 3.3 A “**Medical Physics Expert**” (MPE) is defined in the Ionising Radiation (Medical Exposure) Regulations 2017 (IRMER 17) as an individual or a group of individuals, having the knowledge, training and experience to act or give advice on matters relating to radiation physics applied to exposure, whose competence in this respect is recognised by the Secretary of State.
- 3.4 A “**Radiation Protection Supervisor**” (RPS) is appointed by The Trust for the purpose of securing compliance with IRR17 in respect of work carried out in any area made subject to local rules.

- 3.5 A “**Radioactive Waste Adviser**” (RWA) is appointed by the Trust for the purpose of securing compliance with Environmental Permitting (England and Wales) Regulations 2016 (EPR16) with regard to the handling, storage and disposal of radioactive waste.
- 3.6 A “**Dangerous Goods Safety Advisor**” (DGSA) is appointed by the Trust for the purpose of securing compliance with ‘The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009’.

## 4 Duties

- 4.1 Managerial responsibilities are described in Procedure 425 – Managerial Responsibilities for Radiation Safety.
- 4.2 General staff responsibilities for radiation safety are detailed below
- 4.3 Specific staff responsibilities in various areas of radiation safety are detailed in the supporting procedures to this policy

<b>Trust (Chief Executive)</b>
<ul style="list-style-type: none"> <li>Overall statutory responsibility for safe use of Ionising Radiations in compliance with relevant legislation and for ensuring exposures are restricted as low as reasonable practicable</li> </ul>
<b>Radiation Safety Committee</b>
<ul style="list-style-type: none"> <li>The Radiation Safety Committee acts as the lead executive forum for maintaining compliance with legislation and best practice regarding the use of ionising radiations within the premises of the Trust. These responsibilities relate to patients, staff, contractors, visitors, the general public and the environment. See Terms of Reference.</li> </ul>
<b>Radiation Protection Advisers</b>
<ul style="list-style-type: none"> <li>Are appointed by the Chief Executive and have a duty to provide advice to the Trust in accordance with Regulation 14 and Schedule 4 of the IRR17 and the relevant Approved Code of Practice and guidance published by the HSE.</li> </ul>
<b>Radiation Protection Supervisors</b>
<ul style="list-style-type: none"> <li>Responsible for monitoring and securing compliance with Local Rules and safety procedures in the areas which they are appointed as detailed in the relevant job descriptions [Ionising Radiation Safety Policy: Responsibilities of Radiation Protection Supervisors].</li> </ul>
<b>Radioactive Waste Advisers</b>
<ul style="list-style-type: none"> <li>Are appointed by the Chief Executive and have a duty to provide advice to the Trust in accordance with EPR2016 with regard to the handling, storage and disposal of radioactive waste.</li> </ul>
<b>Medical Physics Experts</b>

- Medical Physics Experts have duties under the regulations to both act and provide advice
- Medical Physics Experts must: -
  - a) be closely involved in every radiotherapeutic practice other than standardised therapeutic nuclear medicine practices;
  - b) be involved in practices including standardised therapeutic nuclear medicine practices, diagnostic nuclear medicine practices and high dose interventional radiology and high dose computed tomography;
  - c) be involved as appropriate for consultation on optimisation, in all other radiological practices not mentioned (b) and (c);
  - d) give advice on:-
    - (i) dosimetry and quality assurance matters relating to radiation protection concerning exposures;
    - (ii) physical measurements for the evaluation of dose delivered;
    - (iii) medical radiological equipment.
- A Medical Physics Expert must also contribute to the following matters:-
  - a) optimisation of the radiation protection of patients and other individuals subject to exposures, including the application and use of diagnostic reference levels;
  - b) the definition and performance of quality assurance of the equipment;
  - c) acceptance testing of equipment;
  - d) the preparation of technical specifications for equipment and installation design;
  - e) the surveillance of the medical radiological installations;
  - f) the analysis of events involving, or potentially involving, accidental or unintended exposures;
  - g) the selection of equipment required to perform radiation protection measurements;
  - h) the training of practitioners and other staff in relevant aspects of radiation protection;
  - i) the provision of advice to an employer relating to compliance with these Regulations.
- The Medical Physics Expert must, where appropriate, liaise with a Radiation Protection Adviser and a Radioactive Waste Adviser

### **Dangerous Goods Safety Adviser**

Responsible for

- monitoring compliance with the requirements governing the carriage of dangerous goods (class 7 only)
- advising the Trust on the carriage of dangerous goods (class 7 only)
- preparing an annual report, to be provided to the RSC, on the Trust's activities in relation to the transport of class 7 goods.

### **Employees**

Responsible for ensuring that in any work they undertake with or in areas utilising ionising radiations they;

- Comply with the Trust policies and procedures and local DOP.
- Comply with all requirements placed on them as duty holders under IRMER17 and as detailed in written procedures under those regulations
- Attend training programmes as required by the Trust and maintain own competence

via recognised programmes of CPD.

- Only undertake work for which they have been adequately trained and are entitled to do so.
- Never use equipment on which they have not been trained.
- Must wear as directed, and return as required, any personal dose meter issued.
- Report any incident immediately following the recognised Trust procedure.
- Co-operate fully with any investigation conducted in association with uses of ionising radiations
- Do not recklessly endanger the safety of others

## **5 Main Body of Policy**

- 5.1 The Trust Board is committed to minimising risks to patients, staff, visitors and contractors and the environment from any of the Trust's uses of ionising radiations.
- 5.2 To this end the Board will ensure that structures and systems and processes are in place, and regularly reviewed, in order to ensure that;
- 5.2.1 All radiation sources are used appropriately and safely and that the Trust complies with current legislation and best practice.
- 5.2.2 Any new or changed use of ionising radiation is subject to suitable and sufficient radiation risk assessment as detailed in the Approved Code of Practice which accompanies IRR17 (and as detailed in the separate procedure for radiation risk assessment).
- 5.2.3 The risk resulting from an exposure to radiation is exceeded by the benefit it produces i.e. only justified practices are undertaken.
- 5.2.4 The dose from any diagnostic medical exposure is kept as low as is reasonably practicable (ALARP), consistent with the required clinical purpose.
- 5.2.5 All exposures of target volumes for therapeutic radiology are individually planned, taking into account that doses to non-target values and tissues shall be kept ALARP, consistent with the intended therapeutic purpose.
- 5.2.6 All exposures to members of the public, staff and contractors will be ALARP, and constrained in accordance with best practice.
- 5.2.7 All its employees are appropriately trained and undergo relevant continuous training and development.
- 5.2.8 The Trust will co-operate with other employers to ensure the safety of any third party staff working with ionising radiations under the control of the Trust.
- 5.2.9 A radiation protection management structure is developed and maintained.
- 5.3 The Radiation Safety Committee is responsible for providing assurance to the Trust as to the level of compliance with radiation protection legislation within the organisation. Its reporting arrangements are detailed in its Terms of Reference
- 5.4 All written procedures relating to radiation work must have controlled documentation within an appropriate quality system, with a version, issue date and authorising signature on them. For high risk areas external accreditation of the quality system is desirable .

- 5.5 All written procedures relating to work with ionising radiations must be reviewed at least once every three years.

## **6 Overall Responsibility for the Document**

- 6.1 The Radiation Safety Committee is responsible for the development, implementation and review of this procedure.

## **7 Consultation and Ratification**

The design and process of review and revision of this policy will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the Radiation Safety Committee and ratified by the nominated Director (Executive Director with responsibility for Health and Safety).

Non-significant amendments to this document may be made, under delegated authority from the Director, by the nominated owner. These must be ratified by the Director.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to the Radiation Safety Exerts Forum and key stakeholders.

## **8 Dissemination and Implementation**

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Formal Documents.

The document owner will be responsible for agreeing the training requirements associated with the newly ratified document with the Director and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

## **9 Monitoring Compliance and Effectiveness**

- 9.1 The Radiation Safety Committee is responsible for providing assurance to the Trust concerning safe uses of Ionising Radiations.
- 9.2 All Service Lines involved in the use of ionising radiation will be required to undertake audit and provide assurance as required by the Radiation Safety Committee and to co-operate with any aspects of audit conducted on behalf of the Radiation Safety Committee.

## **10 References and Associated Documentation**

- 1.1 The Ionising Radiation Regulations 2017

- 1.2 The Ionising Radiation (Medical Exposure) Regulations 2017
- 1.3 The Environmental Permitting (England and Wales) Regulations 2016
- 1.4 The High Activity Sealed Radioactive Sources and Orphan Sources Regulations 2005
- 1.5 The Radiation (Emergency Preparedness and Public Information) Regulations 2019
- 1.6 The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009
- 1.7 'Work with ionising radiation' (L121) – Approved Code of Practice for the Ionising Radiations Regulations 2018
- 1.8 Notes for Guidance on the Clinical Administration of Radiopharmaceuticals and Use of Sealed Radioactive Sources – January 2019

Dissemination Plan			
<b>Document Title</b>	Ionising Radiations Safety Policy		
<b>Date Finalised</b>	Trust document controller		
Previous Documents			
<b>Action to retrieve old copies</b>	Trust documents, Q Pulse Trust document controller, update on Q Pulse		
Dissemination Plan			
Recipient(s)	When	How	Responsibility
All Trust staff		Vital Signs	Information Governance Team

Review Checklist		
<b>Title</b>	Is the title clear and unambiguous?	✓
	Is it clear whether the document is a policy, procedure, protocol, framework, APN or SOP?	✓
	Does the style & format comply?	✓
<b>Rationale</b>	Are reasons for development of the document stated?	✓
<b>Development Process</b>	Is the method described in brief?	✓
	Are people involved in the development identified?	✓
	Has a reasonable attempt has been made to ensure relevant expertise has been used?	✓
	Is there evidence of consultation with stakeholders and users?	✓
<b>Content</b>	Is the objective of the document clear?	✓
	Is the target population clear and unambiguous?	✓
	Are the intended outcomes described?	✓
	Are the statements clear and unambiguous?	✓
<b>Evidence Base</b>	Is the type of evidence to support the document identified explicitly?	✓
	Are key references cited and in full?	✓
	Are supporting documents referenced?	✓
<b>Approval</b>	Does the document identify which committee/group will review it?	✓
	If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?	✓
	Does the document identify which Executive Director will ratify it?	✓
<b>Dissemination &amp; Implementation</b>	Is there an outline/plan to identify how this will be done?	✓
	Does the plan include the necessary training/support to ensure compliance?	✓
<b>Document Control</b>	Does the document identify where it will be held?	✓
	Have archiving arrangements for superseded documents been addressed?	✓
<b>Monitoring Compliance &amp; Effectiveness</b>	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	✓
	Is there a plan to review or audit compliance with the document?	✓
<b>Review Date</b>	Is the review date identified?	✓
	Is the frequency of review identified? If so is it acceptable?	✓
<b>Overall Responsibility</b>	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	✓

<b>Core Information</b>	
<b>Date</b>	3 October 2019
<b>Title</b>	Ionising Radiations Safety Policy
<b>What are the aims, objectives &amp; projected outcomes?</b>	To comply with the statutory requirements in the safe use of Ionising Radiations
<b>Scope of the assessment</b>	
Ionising Radiations Safety Policy	
<b>Collecting data</b>	
<b>Race</b>	No
<b>Religion</b>	No
<b>Disability</b>	No
<b>Sex</b>	No
<b>Gender Identity</b>	No
<b>Sexual Orientation</b>	No
<b>Age</b>	No
<b>Socio-Economic</b>	No
<b>Human Rights</b>	No
<b>What are the overall trends/patterns in the above data?</b>	N/A
<b>Specific issues and data gaps that may need to be addressed through consultation or further research</b>	No data has been collected during this review

<b>Involving and consulting stakeholders</b>				
<b>Internal involvement and consultation</b>	Radiation Safety Experts Forum, Radiation Safety Committee			
<b>External involvement and consultation</b>				
<b>Impact Assessment</b>				
<b>Overall assessment and analysis of the evidence</b>	This document provides a comprehensive policy to ensure working with Ionising Radiations is safe.			
<b>Action Plan</b>				
<b>Action</b>	<b>Owner</b>	<b>Risks</b>	<b>Completion Date</b>	<b>Progress update</b>