

Trust Standard Operating Procedure

Radiation Safety Training Procedure under the Ionising Radiations Regulations 2017

Issue Date	Review Date	Version
April 2020	April 2025	1

Purpose

This document outlines the mandatory training required for all staff who are engaged in work with ionising radiation or are directly concerned with work with ionising radiation. It includes guidance on where the training can be accessed and how often it should be completed. It does not concern training in relation to the safety of patients undergoing medical exposures.

Who should read this document?

Employer, Line Manager(s), Service Lines

Key Messages

This procedure reflects the legal requirements of the Ionising Radiations Regulations 2017 and the associated Approved Code of Practice (ACOP). Adherence to this procedure will ensure compliance with these regulations with regard to the training of personnel carrying out services within University Hospitals Plymouth NHS Trust required under regulation 15 of IRR17. Where persons are providing services in another employer's controlled or supervised area and are therefore deemed outside workers suitable cooperation between employers is required to ensure staff are suitably trained prior to commencing. Please refer to Trust SOP for Outside Workers and Cooperation between Employers.

Core accountabilities		
Owner	Clinical and Radiation Physics	
Review	Radiation Safety Committee	
Ratification	Radiation Safety Committee	
Dissemination (Raising Awareness)	Radiation Safety Committee	
Compliance	Radiation Safety Committee	
Links to other policies and procedures		
Radiation Safety Policy : Standard Operating Procedure for Outside Workers		
Version History		
1	September 2019	SOP produced

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.**

Standard Operating Procedures are designed to promote consistency in delivery, to the required quality standards, across the Trust. They should be regarded as a key element of the training provision for staff to help them to deliver their roles and responsibilities.

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Standard Operating Procedure (SOP)

Ionising Radiation Training

1 Introduction

The employer has a responsibility to ensure that all staff who work with ionising radiation are adequately trained in radiation safety practices to a level commensurate with their role, whether working independently or under supervision.

Regulation 15 of the Ionising Radiation Regulations 2017 (IRR17) states that:

Every employer must ensure that those of its employees who are engaged in work with ionising radiation are given appropriate training in the field of radiation protection and receive such information and instruction as is suitable and sufficient for them to know:

- The risks to health created by exposure to ionising radiation
- The radiation protection procedures and precautions which should be taken
- The importance of complying with the medical, technical and administrative requirements of these Regulations
- that adequate information is given to other persons who are directly concerned with the work with ionising radiation carried on by the employer to ensure their health and safety so far as is reasonably practicable.

Training requirements for staff involved in medical exposures are also required by regulation 17 of the Ionising Radiation (Medical Exposure) Regulations 2017 which states that a practitioner or operator must not carry out any exposure or any practical aspect without having been adequately trained. Schedule 3 of IR(ME)R 2017 outlines the areas of theoretical and practical training that would be expected to be covered in order to deem training as adequate. Service Lines must ensure such staff are adequately trained as per Trust Standard Operating Procedure No.427 Procedure for Medical Exposures.

2 Definitions

1.2.1 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.

1.2.2 A “Radiation Protection Adviser” (RPA) is defined by 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.

1.2.3 “Classified Person” is a person designated as such under regulation 21(1) of IRR17. It is determined based upon radiation risk assessment.

1.2.4 “Outside Worker” means a classified or non-classified person who carries out services in the controlled area of any employer other than their own. Refer to Radiation Safety Policy: SOP for Outside Workers

1.2.5 Carrying out services implies providing a benefit to the employer responsible for the controlled or supervised area.

1.2.6 The purpose of the “Radiation Protection Supervisor” (RPS) role is to aid the employer in ensuring local rules are adhered to. Specific training for the RPS is required dependent upon the complexity of the work being carried out.

3 Regulatory Background

The purpose of this procedure is to ensure that, in its use of ionising radiation and the associated exposure of its employees, the Trust is compliant with IRR17 regulation 15.

4 Key Duties

Employer	Ensuring staff are suitably trained in work with ionising radiation Co-operating with other employers as necessary.
Line Manager	Ensuring staff have access to the appropriate training and are given sufficient time to complete training
Radiation Protection Adviser	To advise on the suitability and frequency of training provided to employees.
Radiation Protection Supervisor	Ensuring only personnel authorised to enter controlled areas do so and all personnel adhere to the Local Rules

5 Procedure to Follow

General

Employees

Clinical

All clinical staff must receive basic radiation protection training via an eLearning package as part of their Trust Induction and annual refresher training. Whilst these staff may not work in controlled or supervised areas it is recognised that a general awareness of the use of ionising radiation within the Trust including signage and access restrictions is required to aid the prevention of inadvertent exposure. Staff routinely working in controlled areas receive Local Rules briefings by the appropriate RPS and, depending upon their role.

Non Clinical

Non-clinical staff must receive basic radiation protection training via an eLearning package as part of their Trust Induction and annual refresher training. Whilst these staff may not work in controlled or supervised areas it is recognised that a general awareness of the use of ionising radiation within the Trust including signage and access restrictions is required to aid the prevention of inadvertent exposure.

Medical

Classroom training is delivered to all clinical staff as part of their Trust Induction and is delivered by members of the Clinical and Radiation Physics team. The training was developed by the Trust's lead Radiation Protection Adviser (RPA) and is reviewed periodically by the Trust's Radiation Safety Expert's Forum (RSEF). In addition, these staff also receive basic radiation protection training via an eLearning package as part of their Trust Induction and annual refresher training.

Classified Persons

Where staff from the above groups are classified persons they must be trained in the following:

- the requirements for a medical review or examination.
- The use of passbooks.
- The requirement to cooperate with their employer with regard to the additional requirements associated with classification.
- Timely and adequate communication of concurrent employment.

Managers

In addition to the Trust induction radiation protection training package employees performing a managerial role are also provided with a managers' eLearning training package with regard to radiation protection. This provides instruction and information relating to staff pregnancy, dosimetry, employee responsibilities, concurrent employment and risk assessment.

Students

Students are supervised at all times during their placement by qualified and appropriately trained staff. They must be given sufficient training, information and instruction by the RPS to enable them to work safely in radiation areas. A local Rules briefing by the RPS is deemed sufficient in these circumstances. This must be documented within their training record.

Agency/Contractors/Volunteers

Agency staff should receive the same standard of training relevant to staff undertaking the same or similar role.

Contractors should be provided with Outside Worker Briefing Notes and be supervised whilst undertaking work in Trust controlled areas.

Volunteer staff should receive the same standard of training relevant to staff undertaking the same or similar role. Volunteer staff are provided with information pertaining to the use of ionising radiation within the Trust and awareness of the signage in place to prevent unauthorised access into controlled areas as part of their basic induction pack.

Training Syllabus

Trust Induction

- Regulatory Background
- Basic Radiation Physics
- Health Risks
- Medical Applications of Ionising Radiation
- Protection Measures
- Dosimetry
- Role of the RPA/RPS/Employer
- Employee Responsibilities

The Trust induction is developed, maintained and delivered by the Clinical & Radiation Physics team.

Local Training

Staff should also receive area specific training. The complexity of the training depends upon the role being performed and the type of radiation hazard i.e. x-ray generator or radioactive source.

For example,

- Theatre staff – General
- Theatre staff – Patients injected with radioactive materials
- Ward Staff – I-131 treatments
- Interventional Radiology
- Cardiology
- Transport of Radioactive Material
- High-Activity Sealed Sources (HASS)

This training should be delivered by the RPS as part of the local rules training or through clinical educators trained in delivering radiation protection training (this is provided by C&RP) through area specific local inductions.

Where personnel are required to operate x-ray equipment for the purpose of medical exposures they are given suitable and sufficient training as required under the Ionising Radiation (Medical Exposures) Regulations 2017 (IRMER17) which includes being able to

safely operate the equipment. A record is maintained of personnel authorised to operate medical imaging equipment using ionising radiation.

Briefing Notes

It is recognised that due to the nature of the work performed within the Trust there are occasions where clinical and medical staff may be required to work in controlled areas at very short notice to ensure appropriate patient safety. Briefing notes have been provided for all areas using ionising radiation to enable the basic radiation safety training to these personnel applicable to the area they will be working in. These briefing notes are underpinned by the risk assessment and local rules applicable to the relevant controlled area. The operator should ensure all personnel remaining within the controlled area during exposures have read and understood the relevant briefing notes.

Additional Training

Additional training may be required following changes in practice, introduction of new equipment and for other reasons identified via radiation risk assessment. It also may be identified via the radiation protection assurance programme and any incident investigations relating to radiation protection. This training should be disseminated in the appropriate means as advised by the Trust RPA with the approval of the Radiation Safety Committee. Where deemed appropriate this training should be added to the formal training structure.

Specialist Roles

Radiation Protection Supervisor

RPS should receive training in both the legislative requirements surrounding the role of the RPS as well as training in the hazards and methods for restriction of exposure specific to their area of work i.e. dental, radiography, cardiac catheter laboratory etc.

They should receive refresher training on at least a 3 yearly basis. This training should include any updates to legislation, ACOP and guidance and be applicable to their area of work.

Radiation Protection Adviser

RPAs appointed by the Trust are required to maintain sufficient CPD to maintain their RPA certification as defined by RPA2000.

Training Intervals

All staff working in controlled areas should be given appropriate radiation protection training commensurate with their role prior to working in controlled areas. This basic

understanding training should be repeated at least 3 yearly or where there are changes to national legislation and guidance or local policies and procedures.

Area specific training should be delivered at least 3 yearly and where changes to the working arrangements to restrict exposure are amended following a review of a radiation risk assessment. For example, this may be due to a change in clinical practice, controlled area demarcation, dosimetry requirements etc.

Main step 4

Training Review

Training content should be reviewed periodically, 3 yearly is deemed sufficient, or where there are changes in working arrangements to restrict exposure resulting from radiation risk assessment review. The Trust induction training, both face to face and eLearning packages should be reviewed by the Radiation Safety Experts Forum (RSEF) and any changes ratified by the Radiation Safety Committee.

Local area specific training should be reviewed by the relevant service line with support from the Trust Radiation Protection Adviser.

Main step 5

Keeping and Maintaining Records

Records of training delivered through Trust mandatory training programmes should be recorded kept and maintained by the Trust Learning and Organisational Development Department. Area specific training delivered within service lines should be kept and maintained by the relevant service line. This should be done such that requirements for refresher training can be identified and to aid management and the radiation safety assurance programme in identifying compliance with staff training requirements

6 Document Ratification Process

The design and process of review and revision of this procedural document 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 Executive Director for Health and Safety.

Non-significant amendments to this document may be made, under delegated authority from the C&RP Manager, by the nominated author. These must be ratified by the Executive Director for Health and Safety and should be reported, retrospectively, to the Radiation Safety Committee.

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 named groups, or grades who are directly affected by the proposed changes.

7 Dissemination and Implementation

Following approval and ratification, this procedural document 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 author(s) will be responsible for agreeing the training requirements associated with the newly ratified document with the C&RP Manager and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

8 Monitoring and Assurance

Training requirements are reviewed and advised upon by the Trust RPAs as required by the Radiation Safety Committee. Training records are monitored by the Trust's learning and organisation development team and service line area specific training is audited through the radiation protection assurance programme.

9 Reference Material

- Ionising Radiations Regulations 2017
- Ionising Radiations Regulations Approved Code of Practice (L121)
- Ionising Radiation (Medical Exposures) Regulations 2017
- Trust Standard Operating Procedure No. 427 Procedure for Medical Exposures

Required documentation

Electronic processes and records

Specialised processes