

General Local Rules for Diagnostic and
Interventional uses of X-rays

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1. Introduction

These local rules have been drawn up in accordance with Regulation 18 of the Ionising Radiations Regulations 2017 (hereafter referred to as the Regulations) and the 'Approved Code of Practice' (thereafter referred to as ACOP).

All persons involved with the use of ionising radiations within areas covered by the Local Rules must be familiar with the relevant sections and must ensure that they are observed.

2. Responsibilities

The holders of the following posts have responsibilities under the requirements of the Regulations and the ACOP.

The Chief Executive - (University Hospitals Plymouth NHS Trust)

It is the overall responsibility of the employer to ensure compliance with the requirements of the Regulations. The employer is responsible for notifying any contractor of all relevant safety information.

Radiation Protection Adviser (RPA)

The RPA provides expert advice to the employer to ensure that work is conducted in accordance with the Regulations.

A Trust RPA may be contacted via the Clinical & Radiation Physics Service via Ext 3110/39664/39669/52281 and plh-tr.rpa-rwa@nhs.net

Radiation Protection Supervisors (RPS)

The RPS is appointed to secure compliance with the regulations and to ensure the requirements of the Local Rules are observed.

The appointed RPS for each area are in the Special Local Rules.

3. Application

These Local Rules apply to all uses of Diagnostic and Interventional Uses of X-rays by the Trust with the following exceptions:

- West Devon & East Cornwall Breast Screening

Version Number		Reviewed Date	March 2024
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General Local Rules for Diagnostic and Interventional uses of X-rays

Document Not Controlled When Printed

- Restorative Dentistry, L7 Derriford Hospital
- Bone Densitometry, Level 2, and mobile
- X-Ray Test Facility Level 3
- Diagnostic energy x-rays for concomitant exposures in Oncology

4 Training

Persons required to work in Controlled Areas must receive appropriate training and instruction in order for them to work safely and adhere to Local Rules and System of Work.

Staff whose work requires them to work regularly within Controlled Areas must read these Local Rules and applicable Special Local Rules and sign the declaration (Appendix 2) or via acknowledgement process on Qpulse.

Briefing notes should be used to provide appropriate instruction when any person requires access to a Controlled Area on the first occasion including outside workers (see Section 15). These should be delivered to the individual concerned by the Operator in charge of the room at the time.

5 Designation Of Controlled & Supervised Areas, Systems of Work and Contingency Plans

Described in the Special Local Rules for each area.

6 Occupational monitoring

Personal radiation monitoring devices issued to staff must be worn in accordance with the instructions provided by the dosimetry service.

All staff have a statutory duty to take care of their issued personal monitors and return them promptly at the end of the monitoring period. Loss or damage to personal monitors must be reported to the Lead Radiographer.

Dose investigation levels are set as follows:

Monthly monitoring period

Whole-Body Dose:	1 mSv in any calendar year
Extremity Dose:	100 mSv in any calendar year
Dose to Lens of the Eye:	10 mSv in any calendar year

Quarterly monitoring period

Three Month Whole-Body Dose: 0.3 mSv in any calendar year

Version Number		Reviewed Date	March 2024
----------------	--	---------------	------------

General Local Rules for Diagnostic and Interventional uses of X-rays

Document Not Controlled When Printed

Where a dose investigation level is exceeded, the line manager will carry out a formal investigation with the assistance of the RPS. The RPA will advise on any necessary action.

The following Action Levels apply. Where exceeded in a monitoring period, the RPS must investigate to ensure exposure is restricted ALARP.

Monthly monitoring period

Whole-Body Dose:	0.5 mSv
Extremity Dose:	10 mSv
Dose to Lens of the Eye:	1 mSv

Quarterly monitoring period

Whole-Body Dose:	-
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7 Accidental Exposure

Where it is suspected that a person has been subject to an accidental exposure or other occurrence, this must be immediately informed to the Modality Lead Radiographer and RPS and through the Trust incident reporting process (via Datix). This includes partial whole body exposure such as fingers in the primary beam. The Trust incident reporting process must be followed using Datix and advice sought from the RPA.

8 Employees Supporting Patients During Medical Exposures

Support (physical or for comfort) may be required for a patient undergoing a medical exposure.

Employees acting in a supporting role is not permitted in Interventional Radiology or Cardiology.

Physical support must wherever possible be achieved by the use of mechanical devices.

Patient support should normally be by the patient’s comforter or carer and the procedure detailed in accordance with the relevant IRMER Employers Procedures.

Patient support by a Trust employee, or another person acting as part of their employment, they may incur a small exposure as a result of acting in this capacity, and this is an occupational exposure.

Version Number		Reviewed Date	March 2024
----------------	--	---------------	------------

General Local Rules for Diagnostic and Interventional uses of X-rays

Document Not Controlled When Printed

A dose constraint of 0.3 mSv for any occasion and 1 mSv for a calendar year is applied.

In most circumstances the dose received will be much lower than 0.1 mSv. Where an individual is involved in supporting patients on a regular basis this should be identified to the Modality Lead Radiographer and RPS and the risk assessment reviewed.

9 Pregnant and Breastfeeding Staff

Any member of staff who is pregnant and working within Controlled Areas must inform their employer in writing, through their line manager or RPS.

The risk to the foetus for work in diagnostic Controlled Areas is likely to be very small and no change to practice required (see relevant risk assessment).

For work in Interventional Radiology where there is potential for higher doses, the dosimetry results should be reviewed by the Modality Lead Radiographer and RPS and should the dose received by a pregnant member of staff exceed 1 mSv a review of working arrangements should be conducted. The RPA should be consulted in such circumstances.

No change to practice is required for breastfeeding staff because of this work with ionising radiation.

10 Persons Under 18 and Trainees age 16 to 18

Persons under the age of 18 should not normally be involved in work with ionising radiations. The RPA must be consulted before any person under the age of 18 is allowed to carry out work in a Controlled Area.

Work experience students under the age of 18 on short placements may enter Controlled Areas under direct supervision of a trained member of staff.

11 X-ray Equipment

In the event of equipment malfunction (e.g. where a fault or error code displayed) equipment must not be used until it has been confirmed it is safe to do so. Procedures for fault and error management are detailed in the IRMER procedures and must be followed.

No person should attempt to use or interfere with x-ray equipment unless they are specifically trained to do so, and it is part of their duties.

Version Number		Reviewed Date	March 2024
----------------	--	---------------	------------

General Local Rules for Diagnostic and Interventional uses of X-rays

Document Not Controlled When Printed

12 Testing and Maintenance of Engineering Controls

The RPS must ensure that programmes of testing of engineering controls and safety features must be in place including warning lights and emergency off switches and maintaining appropriate records.

13 Outside Workers

An Outside Worker is any employee of another organisation who carries out services in a Controlled or Supervised Area. **When any such person requires access to a Controlled or Supervised Area prior arrangements must be made before access is granted (refer to the Radiation Safety Policy: Standard Operating Procedure for Outside Workers)**

Examples of Outside Workers include

- Locum Staff
- Visiting staff carrying out proctoring
- Company representatives providing instruction and training
- Students on Placement
- External maintenance engineers (where the Controlled or Supervised Area is not under the Company's control)

Access to any Controlled or Supervised Area by an Outside Worker may only be granted once Clinical & Radiation Physics have been provided with the necessary Outside Worker access forms and have conducted the necessary prior arrangements as detailed in the Outside Worker SOP.

Arrangements for access will always include the need to provide instruction and training as required for safe work in the Area.

Where the Outside Worker is a Classified Person additional arrangements are required prior to entry as detailed in the Classified Persons SOP. These personnel must provide the Trust with their passbook details prior to entry. Entries to Passbooks can only be made by staff trained to do so.

It is recognised that on occasion an Outside Worker may require access at short notice. **This must be considered an exceptional circumstance where for urgent patient care there is likely to be significant detriment to the individual patient if access is not granted. This does not include any planned or elective work..**

Version Number		Reviewed Date	March 2024
----------------	--	---------------	------------

General Local Rules for Diagnostic and Interventional uses of X-rays

Document Not Controlled When Printed

In such circumstances, for the benefit of the individual patient concerned, access to the Controlled Area may be granted for that individual patient's treatment. Appropriate instruction and training must be given and recorded, using the briefing notes, and the individual supervised at all times when working in the Controlled Area.

In such circumstances a Datix incident must be raised as this situation will not be fully compliant with the requirements of the regulations

14 Access for Maintenance and Testing by Medical Physics and Engineers

All maintenance and testing by Medical Physics staff and x-ray engineers must follow formal handover procedures.

Unless otherwise specified, all maintenance and testing is conducted under these Local Rules.

Where access to the Area is required by a third party, e.g. OEM equipment engineer, the Area will be handed over to the third party employer for their control. In such circumstances the third party employer will be responsible for the Controlled Area and for safe working, including the display of appropriate signage.

Prior cooperation is expected with all such employers including exchange of risk assessment and local rules etc.

Where any member of staff requires access to the area when under the control of a third party they are considered as Outside Workers and must comply with arrangements in place by that third party. The third party employer must ensure arrangements for access are in place and communicated in each circumstance.

Handover of Controlled Area must be formally agreed – usually using the AXREM form.

Version Number		Reviewed Date	March 2024
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Appendix 1 Employee Declaration

Every individual working with radiation sources has a duty to protect him/herself and others from any hazard arising from his work. It is therefore essential (and a requirement of the Ionising Radiation Regulations, 2017) that the individual is familiar with the responsibilities and precautions imposed by the Regulations through Local Rules.

Your *Radiation Protection Supervisor* is responsible for ensuring that protection measures required by the Regulations are fully observed. If you have any queries about radiation protection you should contact him/her or your Head of Department.

When you understand your responsibilities, you must sign the Declaration below

Declaration on Radiation Protection

I have read and undertake to act in accordance with the Local Rules for Diagnostic and Intervention Uses of X-rays within Plymouth Hospitals Trust, and Special Local Rules for areas in which I regularly work.

Name (Block Capitals)

Department

Signed

Date

When signed, the declaration must be returned to your *Radiation Protection Supervisor*.

Version Number		Reviewed Date	March 2024
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