

Breast Imaging Service

Local Rules(Abridged) to ensure compliance with IRR 2017

<https://www.gov.uk/government/publications/ionising-radiation-medical-exposure-regulations-2017-guidance>

Complete Local Rules location: M:\TeamShare\TS0040_BreastImaging\Radiation Protection

Responsibilities relating to Breast Imaging Local Rules:	
Ensuring the required Local Rules are in place	Worcestershire Acute Hospitals NHS Trust (WAHT)
Authorisation of Breast Imaging Local Rules	Clinical Director of Breast Imaging
Development, review and amendment to this document	Superintendent Radiographer
Assisting in development, review and amendment to this document	Radiation Protection Supervisors
Governance pathway:	
Medical Physics Expert review (IRS)	30.8.2022
Submission to Breast Directorate for approval	11.1.2023
Circulation to Women and Children Division for information	1.3.2023
Circulation to Radiation Protection Committee for information	28.4.2023
Authorised by Clinical Director of Breast Imaging	1.3.2023

Version No	Reviewed	Action	Next Review Date
1	30.8.22 IRS	Revision of format and IRR compliance audit	1.3.2026
2	1.5.2024 JB	Updated with new equipment and changes to LDRL	1.5.2026
3	13.1.2025	Clarification of contingency procedure	13.1.2026

Author(s): D.Fox J.Broomer	Authorised by: Dr P.Haggett	Issue Date: 1.3.2023	Review date: 13.1.2026
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Controlled Areas Detailed Appendix 1

Mammography room – entire room is a controlled area when X- ray equipment is turned on, indicated by illuminated yellow warning light.

Faxitron – controlled area is within the machine

System of work:

- Any person entering the controlled area must comply with this system of work.
- No person should enter the controlled area unless it is essential to do so.
- Access to the controlled area is prohibited when the red “Do Not Enter” sign is illuminated.
- Persons who are not trained in the use or maintenance of X-ray equipment (members of the public or staff) must not enter a Controlled Area, except under the supervision of an appropriately trained person.
- Dosimeters must be worn by members of staff.
- During an exposure all persons must remain behind the protective screen.

Operation of X ray equipment:

- Exposures should only be made by Mammographers, Physicists and Engineers who are suitably trained or appropriately supervised trainees.
- The operator must ensure all doors to the X-ray room are closed during exposure.
- The operator must ensure the X-ray set is functioning correctly in line with QC protocol
- The operator must ensure correct exposure mode is selected.
- The operator must have a clear view of the patient during the exposure.

Local investigation level for staff involved in mammography: 1mSv in a year

Persons supporting patient during an exposure:

- Must be over 18 years of age
- Must not be pregnant
- Must wear a lead apron and a dosimeter
- Must remain as far away from the primary beam as is practicable.

Contingency:

- **All staff who operate the X-ray equipment must establish the location of the main power switch before using the equipment.**
- A warning indicator on the control panel and an audible signal will indicate that X-rays are being emitted.
- It is unnecessary to rehearse these contingency arrangements.

1 If you suspect the X-ray set is producing X-rays at a time when X-ray emission is not intended you must:

- **Switch off power to the unit immediately** using emergency stop or mains isolator from behind the control panel.
- Attach a notice to the control panel saying that it must not be used
- Inform the RPS or your manager as soon as possible

2 If you have any doubt regarding the safe exposure of an X-ray set

- Stop using the equipment immediately seek advice from the RPS or your manager. Do not use the equipment clinically until advised that it is safe to do so.
- If the unit produces diagnostic error messages, provided it is safe do **not** to turn off the equipment until the fault has been discussed with the service engineers and if appropriate the Medical and healthcare Products Regulatory Agency (MHRA).

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3 These incidents may need to be reported - see separate Procedure for radiation incidents

Pregnant Workers

The IRR 2017 require employers to inform all staff who are engaged in work with ionising radiation of the possible hazards arising from radiation exposure, particularly to an unborn child. If your work involves the use of X-rays and you have to be in a controlled or supervised area you must notify your Departmental Manager (and hence your employer) in writing as soon as possible if you become pregnant.

Once notified, your manager must take steps to ensure that the dose to your baby from radiation received at work is as low as reasonably practicable and does not exceed 1 mSv. In most cases you will be able to continue your normal duties. You should not take on any extra duties that would increase your whole body dose during pregnancy.

Further information is available in the HSE leaflet: [Working safely with ionising radiation \(hse.gov.uk\)](https://www.hse.gov.uk/working-safely-with-ionising-radiation/) Guidelines for expectant or breastfeeding individuals.

Maintenance and radiation survey of X-ray equipment

Engineers or Physicists carrying out work on the equipment must follow the documented procedure for Handover of X-ray equipment, assuming responsibility for radiation safety and the controlled area.

Equipment is serviced every 6 to 12 months in line with manufacturer's recommendations.

Cleaning and General Maintenance of X-ray room

- When the room in use light is not illuminated indicating that the electricity supply to the equipment is disconnected (or a room in use light, if present, is not illuminated), access is no longer restricted and it is no longer a Controlled Area
- If it is necessary for cleaning or maintenance to be carried out while the electricity supply to the X-ray equipment is still connected, suitably trained staff must give clear guidance to avoid inadvertent initiation of exposure.

Environmental monitoring is performed a minimum of every 5 years

Faxitron

To be operated by appropriately trained staff

Appendix I – Controlled Areas and Local Diagnostic Reference Levels

Site	Location	Equipment	LDRL mGy	NDRL
Worcestershire Breast Unit	Room 1	GE Senographe Essential	1.65	2.5mGy
	Room 2	GE Senographe Pristina 2D + 3D	2.0	
	Room 3	GE Senographe Pristina 3D + CESM	2.0	
Alexandra Hospital Breast Imaging Suite	Mammography room	GE Senographe Pristina 3D + CESM	2.0	
Kidderminster Breast Imaging department	Mammography room	GE Senographe Pristina 2D	2.0	
Mobile Units	Molly	GE Senographe Pristina	2.0	
	Pippin	GE Senographe Pristina	2.0	
	Bluebell	GE Senographe Pristina	2.0	
Faxitron specimen cabinets	WBU: Room 3 KTC: theatre Alex Breast unit + theatre	Controlled area contained within the machine		

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Appendix II - Appointed Officers

Radiation Protection Supervisor	Danielle Wade	Breast Imaging Department, Worcestershire Breast Unit Worcestershire Royal Hospital Charles Hastings Way Worcester WR5 1DD
	Cathryn Standen	
	Briony Edwards	
Radiation Protection Advisor	Integrated Radiological Services (IRS) Ltd Unit 188, Century Building Tower Street, Liverpool. L3 4BJ Phone: 0151 709 6296 www.irs-limited.com	

Appendix III

IRR 2017

<https://www.gov.uk/government/publications/ionising-radiation-medical-exposure-regulations-2017-guidance>

[Working safely with ionising radiation \(hse.gov.uk\)](http://www.hse.gov.uk/working-safely-with-ionising-radiation/)

Full set of local rules is available on the WAHT intranet Breast Imaging key document page and Breast Imaging Team

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