

Radiation Policy

**Policy on safe working practices for radiographers employed by Jennie Reeves
Radiographers Agency**

I have read understood and agree to work in accordance with this policy

Candidate Name:

Date:

Signature:

INTRODUCTION

Jennie Reeves Radiographers Agency (JRRA) is committed to the principle of protecting the safety of its radiographers as well as that of other workers, patients and members of the public that they may come into contact with, from the potentially harmful effects of exposure to ionising radiation by ensuring that such exposures are kept as low as reasonably practicable and in accordance with relevant legislation, standards and guidance. All Jennie Reeves radiographers working with radiology equipment in the hospitals, clinics or other establishments in which they are placed, shall read this policy and sign the statement on page 1 to indicate that they have understood and agree to work in accordance with it.

IONISING RADIATIONS USED IN MEDICINE

Ionising radiations are used in medicine and clinical settings for diagnosis and treatment of diverse illnesses and disease as well as for research and teaching purposes. Ionising radiations commonly used in medicine include X-rays, gamma rays and alpha and beta particles. Exposure to ionising radiation may come directly from an X-ray generator set (such as radiographic, fluoroscopic, CT and radiotherapy equipment) or by the inhalation, ingestion, injection or insertion of radioactive materials. Such exposure may be intentional or unintentional, controlled or accidental.

RADIATION PROTECTION ADVISER (RPA)

Jennie Reeves Radiographers Agency shall appoint an RPA certified by an approved body such as RPA2000 to advise on all aspects of safety with ionising radiations and on compliance with legislation, standards and guidance relating to this work.

The appointed RPA is:
The Radiological Protection Centre
St. George's Hospital NHS Trust
Unit 5 The Observatory
24 Deer Park Road
London
SW19 3UA

Tel. 020 8725 1050

RADIATION EMPLOYER

The Radiation Employer appointed under the Ionising Radiations Regulations 2017 (IRR17) is an establishment such as a hospital, clinic, university, laboratory etc that uses equipment capable of producing ionising radiation. Jennie Reeves Radiographers Agency is not a Radiation Employer but supplies qualified radiographers to establishments that are.

CONTROLLED AREA

An area in which it is necessary for any individual to follow special procedures designed to restrict significant exposure to ionising radiations or limit the probability and magnitude of radiation accidents or their effects shall be designated a Controlled Area under IRR17. Radiographic rooms, fluoroscopic rooms, CT scanner rooms, dental rooms, DEXA rooms, isotope injection rooms, operating theatres, wards and recovery areas in which equipment capable of producing ionising radiation is used, shall be designated as permanent or temporary controlled areas according to local policy. This shall be indicated by displaying radiation-hazard warning signs and / or lights at the entrances to each controlled area. JRRA radiographers shall observe these signs at all times and should only enter a controlled area if their presence is required to perform or assist in the performance of a radiological examination.

LOCAL RULES

The safe systems of work within each Controlled Area are interpreted by a written set of Local Rules which identify the key working instructions designed to restrict exposure in each Controlled Area as required by IRR17. Local Rules are written by each Radiation Employer and shall be short, concise and specific to the area to which they apply. All JRRR radiographers shall read the Local Rules pertaining to the Controlled Areas in which they work and shall indicate to the employer that they have done so and agree to work in accordance with them.

RADIATION PROTECTION SUPERVISOR (RPS)

The activities within each Controlled Area shall be supervised by the RPS appointed under IRR17 by the Radiation Employer. The RPS is normally a senior radiographer with appropriate training and is responsible for ensuring, on behalf of the Radiation Employer, that safe systems of work including the Local Rules are in place and observed by all staff. There may be one or more RPS in each establishment or department in which JRRR radiographers are placed.

EQUIPMENT USED IN CONNECTION WITH MEDICAL & NON-MEDICAL EXPOSURE

IRMER17 requires equipment used in connection with medical exposure to be tested prior to its first clinical use and subject to a programme of routine quality assurance (QA) testing at suitable intervals during its lifetime in order to ensure that it is working safely and within specified limits. JRRR radiographers may be required to participate in such QA programmes in which case they shall be familiar with the methods and equipment used to carry out the tests.

MEDICAL & NON-MEDICAL EXPOSURES

The Ionising Radiations (Medical Exposure) Regulations 2017 (IRMER17) require the Radiation Employer to ensure that medical exposures using ionising radiation are performed within a framework of written procedures and protocols. All JRRR radiographers shall be familiar with and work in accordance with the procedures and protocols pertaining to their specific duties which shall include reference to the following IRMER2000 requirements:

- Medical and non-medical exposures shall only be performed upon written request from a state registered medical or non-medical referrer. A list of the names of all qualified referrers to each department shall be maintained by the RPS.

A medical exposure is defined as an exposure :-

- (a) to patients as part of their own medical diagnosis or treatment;
- (b) to individuals as part of health screening programmes;
- (c) to patients or other persons voluntarily participating in medical or biomedical, diagnostic or therapeutic, research programmes;
- (d) to carers and comforters;
- (e) to asymptomatic individuals;

A non-medical exposure is defined as any deliberate exposure of humans for imaging purposes where the primary intention of the exposure is not to bring a health benefit to the individual being exposed such as exposures required for legal purposes (formerly medico-legal imaging)

- A medical exposure shall only be performed if it provides sufficient net benefit to the exposed individual and is justified and authorised by the Practitioner. A list of the names of all qualified Practitioners in each department shall be maintained by the RPS.
- No medical exposure shall be performed without prior justification and authorisation.

- Non-medical exposures shall only be performed if they are permitted and justified in accordance with the employers' procedures.
- Exposures on pregnant woman shall be avoided if possible by application of the local pregnancy rule on women of child-bearing age, unless justified in cases of known pregnancy.
- Medical and non-medical exposures shall be performed by adequately trained individuals who shall be capable of selecting equipment and methods to ensure that the dose of ionising radiation to the individual undergoing the exposure is As Low As Reasonably Practicable (ALARP) and consistent with the intended diagnostic purpose. These individuals shall be identified by the Radiation Employer as Operators. A list of the names of all adequately trained Operators in each department shall be maintained by the RPS or radiology manager along with evidence of their equipment-specific training.
- Operators shall take responsibility for every aspect of each medical or non-medical exposure they are required to carry out.
- Operators shall perform medical and non-medical exposures in accordance with written protocols specific to each piece of equipment. All Jennie Reeves radiographers shall be familiar with the exposure protocols pertaining to the equipment they are required to use.

With respect to optimisation and dose limitation, Operators shall pay special attention to the following:

(a) medical exposures of children;

(b) medical exposures as part of a health screening programme;

(c) medical exposures involving high doses to the individual being exposed;

(d) where appropriate, individuals in whom pregnancy cannot be excluded and who are undergoing a medical exposure, in particular if abdominal and pelvic regions are involved, taking into account the exposure of both the individual and any unborn child; and

(e) where appropriate, individuals who are breastfeeding and who are undergoing a medical exposure involving the administration of radioactive substances, taking into account the exposure of both the individual and the child.

CONTINGENCY PLANS AND EMERGENCY PROCEDURES

Contingency plans and emergency procedures describing actions to be taken in the event of an incident, accident or emergency involving radiological equipment shall be in place in every department. JRRA radiographers shall be familiar with and work in accordance with the contingency plans and emergency procedures within the departments in which they are placed. If a Jennie Reeves radiographer is involved in a suspected case of exposure greater than intended to a patient, member of staff or member of the public, they shall report it to the RPS and radiology manager immediately and an investigation shall be carried out according to the local procedure. The investigation shall be lead by the radiology manager and / or the RPS. All JRRA radiographers shall co-operate fully with such investigations.

FAULTY EQUIPMENT

JRRA radiographers shall not use any piece of radiological equipment which they suspect may be faulty and report immediately such faults to the RPS and radiology manager in the departments in which they are placed.

PERSONAL DOSIMETRY

Jennie Reeves Radiographers Agency shall issue its radiographers with whole body personal radiation monitors and maintain a permanent record of their doses. Employees shall ensure that the monitors are worn at all times and in the appropriate manner (normally at waist level beneath the lead apron) when working in the establishments in which they are placed. If the Radiation Employer deems it necessary for extremity monitors to be worn to monitor finger, eye or thyroid doses, these shall be supplied by the Agency and worn accordingly. Employees shall look after their badges appropriately, not deliberately damage them or expose them to ionising radiation and return them in a timely manner according to the specified changeover frequency.

In the event of a JRRA candidate exceeding any of the monthly, quarterly or annual dose investigation levels specified by the Radiation Employer (normally a fraction of the annual dose limits to the whole body, eyes or extremities) an investigation shall be carried out by the Radiation Employer with assistance from the Agency and the full co-operation of the employee.

JRRA radiographers shall inform the Agency and the Radiation Employer immediately if they suspect that they are pregnant or are breast-feeding. A risk assessment shall be performed by the Radiation Employer in order to determine whether or not the employee is able to continue with normal duties in order to ensure that the unborn or breast-feeding child is not exposed to significant levels of ionising radiation.

IRR17(16) CO-OPERATION BETWEEN EMPLOYERS

Where work with ionising radiation undertaken by one employer is likely to give rise to the exposure to ionising radiation of the employee of another employer, the employers concerned must co-operate by the exchange of information or otherwise to the extent necessary to ensure that each such employer has access to information on the possible exposure of their employees to ionising radiation and to ensure that the dose limits are applied to the total dose received by the worker.

JRRA may, therefore, be required to provide personal radiation dosimetry data for its staff to other radiation employers upon request to enable that employer to comply with the requirements of this regulation. Similarly, JRRA shall endeavour to obtain and maintain personal radiation dosimetry data relating to its staff from other employers where the radiation monitors are provided by that employer in addition to those provided by JRRA.

SUMMARY OF JRRA RADIOGRAPHERS MAIN DUTIES

1. Be familiar with and work in accordance with the Radiation Employer's Local Rules.
2. Be familiar with and work in accordance with the Radiation Employer's procedures and protocols relating to medical exposures.
3. Observe radiation hazard warning signs / lights at the entrances to Controlled Areas.
4. Stand behind protective barrier or wear PPE provided by the employer when working in Controlled Areas.
5. Do not knowingly expose themselves or any other person to ionising radiation to an extent greater than is necessary.

6. Only carry out medical and non-medical exposures upon written request after they have been justified and authorised by the Practitioner.
7. Carry out medical and non-medical exposures using equipment on which they have been adequately trained and in accordance with written protocols specific to each piece of equipment.
8. Ensure that the doses arising from all medical exposures are As Low As Reasonably Practicable (ALARP) and consistent with the intended purpose.
9. Do not knowingly expose pregnant women to ionising radiation by application of the local pregnancy rule unless the exposure has been justified by the referring clinician.
10. Wear radiation monitors provided by the Agency at all times when working with ionising radiation and return the monitor to the Agency in a timely manner.
11. Inform JRRRA if they are issued with a personal radiation monitor by another employer in addition to the one/s provided by JRRRA and to assist JRRRA in the sharing of personal dosimetry data under the requirement for co-operation of employers as necessary.
12. Inform JRRRA and the Radiation Employer immediately if they suspect that they are pregnant or are breast-feeding.
13. Be familiar with and work in accordance with the employer's Contingency Plans and Emergency Procedures.
14. Report immediately any suspected faulty radiological equipment to the radiology manager / RPS.
15. Report immediately any incidents in which a patient, member of staff or member of the public may have been exposed to ionising radiation to an extent greater than intended to the radiology manager / RPS.
16. Take part in and contribute as appropriate to radiation equipment quality assurance programmes if instructed by the employer.
17. Take part in and contribute as appropriate to clinical audits including patient dosimetry, reject analysis, referral form audits, image peer review etc if instructed to by the employer.

REFERENCES

The main regulations and guidance used in the formulation of this policy are listed below:

Great Britain. Ionising Radiations Regulations 2017, SI 2017/1075, UK 201711291001 12/2017 19585 (<http://www.legislation.gov.uk/id/uksi/2017/1075>)

Great Britain. Ionising Radiation (Medical Exposure) Regulations 2017, SI 2017/1322, UK 201712211003 12/2017 19585 (<http://www.legislation.gov.uk/id/uksi/2017/1322>)

Great Britain. Environmental Permitting Regulations 2010 (England and Wales) SI2010/675 ISBN 978 0 11149142 3 (<http://www.legislation.gov.uk/ukdsi/2010/9780111491423/contents>), Her Majesty's Stationery Office (HMSO) 2010

Medical and Dental Guidance Notes: A good practice guide on all aspects of ionising radiation protection in the clinical environment, IPEM 2002 ISBN 1 903613 09 4 (awaiting revision)

Guidance Note PM77 (3rd edition): Equipment Used in Connection with Medical Exposure, The Health and Safety Executive March 2006 <http://www.hse.gov.uk/pubns/guidance/pm77.pdf>. (awaiting formal revocation)

Notes for Guidance on the Clinical Administration of radiopharmaceuticals and use of Sealed radioactive Sources, Administration of Radioactive Substances Advisory Committee, March 2018 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/694951/ARSAC_notes_for_guidance.pdf)

Great Britain. The Personal Protective Equipment Regulations 2002. SI 2002/1144, ISBN 0-11-039830-0 (<http://www.legislation.gov.uk/uksi/2002/1144/contents/made>)

Great Britain. The Provision and Use of Work Equipment Regulations 1998. SI 1998/2306 (<http://www.legislation.gov.uk/uksi/2002/2677/contents/made>)

The Management of Health and Safety at Work Regulations 1999 (as amended by MHSW 2006). SI 1999/3242 (<http://www.legislation.gov.uk/uksi/1999/3242/contents/made>)