

Ionising Radiation (Medical Exposure) Regulations 2017

Procedure 10: Clinical Evaluation of Exposures to Ionising Radiation

Required under IR(ME)R 2017 Regulation 6 & Schedule 2 (j)

CATEGORY:	Procedure
CLASSIFICATION:	Health & Safety, Clinical Governance
PURPOSE:	For the carrying out and recording of an evaluation for each exposure including, where appropriate, factors relevant to patient dose.
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Distribution:	
<ul style="list-style-type: none"> Essential Reading for: 	<p>Staff who are designated as an IR(ME)R duty holder, defined as referrer, practitioner and/or operator.</p> <p>Staff in training to become an IR(ME)R duty holder</p>

	Managers of IR(ME)R duty holders
	General managers of departments and areas that refer for or perform procedures involving ionising radiation
<ul style="list-style-type: none"> • Information for: 	All staff working in departments that perform procedures involving ionising radiation.

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1 Procedure Statement

- 1.1 To ensure that the outcome of every medical exposure (except exposures to carers and comforters) and non-medical imaging exposure is clinically evaluated and recorded.
- 1.2 The evaluation may be in the form of:
 - A formal report by a radiologist or reporting radiographer, technologist or clinical scientist
 - An assessment by the referrer, such as a Medical Practitioner in the Emergency Department or ITU
 - Use of images for planning of treatment or intervention such as radiotherapy planning and setup verification, localisation and positioning of stents, as part of a pathway
- 1.3 In specific situations, listed in 5, a procedure will be “auto reported” by the operator on the Radiology Information System (RIS). The referrer is then responsible for the full clinical evaluation of the exposure.

2 Scope

- 2.1 All medical exposures (excluding those to carers and comforters) and non-medical imaging exposures carried out by the Trust.
- 2.2 Practitioners and operators cannot justify or authorise a medical exposure if it is known that clinical evaluation will not take place.

3 Responsibility

- 3.1 The Relevant General Manager is responsible for ensuring that staff follow this procedure and must therefore ensure that everyone affected by the procedure are aware of the associated responsibilities.
- 3.2 Individuals with responsibility for the clinical evaluation of exposures and for ensuring that a record of this is made are listed in Appendix 1.

4 Practice: General

- 4.1 Individuals listed as responsible in Appendix 1 must evaluate the outcome of each medical exposure, including procedures that are not completed.
- 4.2 The evaluation should include details of diagnostic findings or therapeutic implications and should be documented.
- 4.3 Where a full radiological report of images or other examinations has not been undertaken, there will be a clear indication in the ‘auto report’ in order to notify the referring clinician of the need for a full evaluation.
- 4.4 For therapeutic radionuclide exposures, the report sent from Nuclear Medicine stating that the activity has been administered, states that the

patient's consultant is responsible for ensuring that the therapeutic implications are clinically evaluated.

- 4.5 For Radiotherapy exposures, evaluation consists of the use of images for pre- treatment planning, and to ensure patient set-up verification during treatment. An end of treatment record is also produced. Records are held within the electronic patient record.
- 4.6 The record of the evaluation should be documented in the location given in Appendix 1
- 4.7 Where relevant, factors relevant to the delivered radiation dose should be recorded in accordance with IR(ME)R Employer's Procedure 6
- 4.8 None of the above precludes further discussions between Clinician and Radiologist

5 Practice: Breast Screening Unit

- 5.1 Exposure evaluation will be made and recorded in accordance with the requirements of the NHS Breast Screening Programme

6 Practice: Unexpected findings, changes to reports, and discrepancies

- 6.1 Unexpected critical or urgent significant radiological findings are communicated to the referrer via the RadAlert system in accordance with the Standard Operating Procedure held within the relevant department's quality management system. Where clinical urgency dictates, the reporter will contact the referrer directly.
- 6.2 Where there has been a significant clinical change or addendum to a report, the individual reporting the examination must contact the referrer directly or their clinical team.
- 6.3 When a potential discrepancy is highlighted, this will be referred formally to the discrepancy Clinical Lead for further discussion at the Radiology Events And Learning Meetings (REALM)

7 Practice: Follow-up Actions

- 7.1 It is the responsibility of the referring clinician/clinical team, to ensure that the recorded evaluation of the exposure is acted upon, for example where a radiological report highlights a disease or injury the referrer must ensure that this is treated appropriately.

8 Practice: Non-conformance

- 8.1 Any instances when a clinical evaluation is not made must be reported via the Trust's incident reporting procedure.

9 Contingencies

- 9.1 Any failure in compliance with this procedure must be reported to the relevant Divisional General Managers or Medical Physics Expert in their absence. Failure to comply with the above procedure may result in the Trust's Disciplinary Policy being invoked.

Appendix 1. Tables of Responsibilities

Table 1. Radiology procedures where evaluation is provided by Imaging

Procedure	Person responsible for clinical evaluation	Expected level of training	Location of record of clinical evaluation
Plain film examinations	Radiologist	FRCR (or DMRD)	RIS and/or PACS.
	Radiographer Advanced Practitioners within agreed individual scope of practice	HCPC Registered plus PgC reporting qualification	
	Outsourced reporting	As above	
	For cases listed in Table 2 only: Referring Clinician	State Registered and Appropriate Royal College Fellowship	Individual's clinical or surgical notes
Emergency Department (ED) – all plain films.	Immediate interpretation: ED Referrer.	FRCR (or DMRD)	Individual's clinical or surgical notes.
	Full report by: Radiologist Radiology SpR subject to adequate appraisal and according to regional training scheme protocol. Radiographer Advanced Practitioners within agreed individual scope of practice		HCPC Registered plus PgC reporting qualification
CT examinations	Radiologist Radiology SpR subject to adequate appraisal and according to regional training scheme protocol.		RIS and/or PACS

CT Head Examinations	<p>Radiologist</p> <p>Radiology SpR subject to adequate appraisal and according to regional training scheme protocol.</p> <p>Radiographer Advanced Practitioners within agreed individual scope of practice</p>	<p>HPCP Registered plus PgC reporting qualification</p>	RIS and/or PACS
Diagnostic fluoroscopic procedures	<p>Radiologist</p> <p>Radiology SpR subject to adequate appraisal and according to regional training scheme protocol.</p> <p>Radiographer Advanced Practitioners within agreed individual scope of practice.</p>	<p>FRCR</p> <p>FRCR</p> <p>HPCP Registered plus PgC reporting qualification</p>	RIS and/or PACS
Fluoroscopic-guided interventional and surgical procedures	<p>Radiologist</p> <p>Radiology SpR subject to adequate appraisal and according to regional training scheme protocol.</p> <p>Radiographer Advanced Practitioners within agreed individual scope of practice.</p>	<p>FRCR</p> <p>HPCP Registered plus PgC reporting qualification</p>	<p>Individual's clinical/surgical notes</p> <p>and</p> <p>Auto reported on RIS</p>
X-ray guided screening or endoscopy procedures performed in the x-ray department by other clinicians ¹	<p>Radiologist (if taking part)</p> <p>or</p> <p>Operating physician or surgeon</p>	FRCR (or DMRD)	<p>Individual's clinical/surgical notes</p> <p>and</p> <p>Auto reported on RIS</p>

¹ e.g. urodynamics, transbronchial biopsy etc.

Table 2. Nuclear Medicine

Procedure	Person responsible for clinical evaluation	Expected level of training	Location of record of clinical evaluation
BMD: Nuclear Medicine	Clinical Scientist in charge of service Registered clinical scientist with experience in BMD Advanced Practitioner or Clinical technologists	HCPC registered HCPC registered State/ Voluntary register plus in house training.	RIS and PACS
Diagnostic scans (including PET/CT, excluding SLN Breast)	IR(ME)R License holder (ARSAC) Radiologists, Cardiologists, registered clinical scientists or other staff approved by the IR(ME)R License holder (ARSAC) for specified examinations within local protocols (e.g. cardiologist/clinical cardiologist for heart scan).	Approved by ARSAC committee	RIS and PACS PET scans reported outside the Trust are marked as such on RIS. For SLN Breast, no imaging is undertaken therefore outcomes are entered into the patient notes.
Nuc Med Chest CT, Calcium Scoring	Radiologist Cardiologist	FRCR (or DMRD) MRCP, CCT + in - house training	Patient's notes / Concerto, CRIS and PACS
Sentinel Lymph Node Breast procedures	Surgeon performing the procedure	FRCS	Individual's surgical notes (exposure used to guide surgery)
Therapies	IR(ME)R License holder (ARSAC) Registrar or consultant at follow up External Consultant	Approved by ARSAC committee	Patient notes.

Table 3. Radiological procedures performed and evaluated outside of Imaging

Examination	Person responsible for clinical evaluation	Expected level of training	Location of record of clinical evaluation
All cardiac diagnostic and interventional procedures e.g. angiography, pacemaker insertion etc.	Cardiologist	MRCP, CCT + in-house training	Individual's clinical/surgical notes and Autoreported on RIS
Screening procedures performed in operating theatres using Fluoroscan (mini – C-arm).	Requesting / operating surgeon	FRCS (Orthopaedics) FRCS (Plastic surgery)	Individual's clinical/surgical notes
Breast Imaging Services: Mammographic examinations	Radiologist Advanced Practitioner within their agreed individual scope of practice.	FRCR (or DMRD) State Registered plus PGC reporting qualification	CRIS, PACS, individual's clinical or surgical notes
Wellcome Trust Clinical Research Facility (WTCRF): All cardiac screening procedures	Cardiologist	MRCP, CCT + in-house training	WTCRF Study Notes
WTCRF: X-ray Guided screening or endoscopy procedures e.g. transbronchial biopsy	Operating physician or surgeon	FRCP	WTCRF Study Notes
Maxillofacial: Dental X-ray Films	Registered Dentists Maxillofacial Consultant ENT Consultant	 Fellow of appropriate college	Individual's clinical notes
Maxillofacial: Cone Beam CT	Maxillofacial Consultant ENT Consultant	Fellow of appropriate college	Patient Notes
Lithotripter: X-ray visualisation of stones	Consultant Urologist	MD FRCS – Urology	Lithotripter Documentation

Table 4. Radiotherapy

Exposure	Person responsible for clinical evaluation	Expected level of training	Location of record of clinical evaluation
CT localisation (Pre-treatment)	Clinical Oncologist	FRCR	Electronic patient record
	Clinical Oncology SpR	FRCR	
	Therapy Radiographer within their individual scope of practice	HCPC registered + in-house training	
Treatment Set-up and verification imaging	Clinical Oncologist	FRCR	Electronic patient record
	Clinical Oncology SpR	FRCR	
	Therapy Radiographer within their individual scope of practice	HCPC registered + in-house training	
	Clinical Scientist within their individual scope of practice	HCPC registered + in-house training	
Treatment exposures	Clinical Oncologist	FRCR	Electronic patient record
	Clinical Oncology SpR	FRCR	
	Therapy Radiographer within their individual scope of practice	HCPC registered + in-house training	

Table 5 Auto Reporting

Procedure	Person responsible for Evaluation	Location of record of clinical evaluation
Theatre (films and fluoroscopy)	Referring clinician	Individual's clinical or surgical notes
Plain film abdomens for urology	Referring urologist	Individual's clinical or surgical notes
Chest x-ray examinations referred by thoracic surgery and Intensive care	Referring clinician	Individual's clinical or surgical notes
Chest Clinic	Referring clinician (radiology report is generated upon request for agreed clinicians)	PACS/RIS Individual's clinical or surgical notes
Dental Referrals - Not ED	Referring Clinician	Individual's clinical or surgical notes
Post Reduction POP images.	Referring ED or Orthopaedic clinician.	Individual's clinical or surgical notes
Orthopaedic follow up from fracture clinic.	Referring Orthopaedic clinician	Individual's clinical or surgical notes
Orthopaedic Inpatients- Except Chest and Abdomen x-ray examinations	Referring Orthopaedic clinician	Individual's clinical or surgical notes
Foot Health	Referring clinician	Individual's clinical or surgical notes