CONTROLLED DOCUMENT

University Hospitals Birmingham
NHS Foundation Trust

Ionising Radiation (Medical Exposure) Regulations 2017

Procedure 7: The Use of Diagnostic Reference Levels

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

CATEGORY:	Procedure
CLASSIFICATION:	Health & Safety, Clinical Governance
PURPOSE:	For the use and review of such diagnostic reference levels as the employer may have established for radiodiagnostic examinations falling within regulation 3(a), (b), (e) and (f).
Controlled Document Number:	IMG007
Version Number:	2.0
Controlled Document Sponsor:	Chief Operating Officer
Controlled Document Lead:	Chair of the Radiation Safety Board
Approved On:	5th October 2022
Review Date:	5th October 2025
Distribution: • **Essential Reading for:**	Staff who are designated as an IR(ME)R operator. Staff in training to become an IR(ME)R operator Managers of IR(ME)R operators

• **Information for:**	Other IR(ME)R duty holders (referrers and practitioners) General managers of departments and areas that perform procedures involving ionising radiation

Contents

1 Procedure Statement

1.1 To establish Diagnostic Reference Levels (DRLs) for examinations applying to individuals undergoing:

- Medical diagnosis or radionuclide therapy.
- Health-screening programmes.
- Non-medical exposures.

1.2 To identify examination doses that fall outside of established diagnostic reference levels (DRLs) and to take corrective action.

2 Scope

2.1 All diagnostic, planning, screening, radionuclide therapy and non-medical exposures undertaken by the Trust.

2.2 Specific restrictions relating to exposures for medical and bio-medical research are covered in IR(ME)R Employer's Procedure 8.

2.3 Specific restrictions relating to exposures to carers and comforters are covered in IR(ME)R Employer's Procedure 14.

3 Responsibility

3.1 The Trust is responsible for the level at which DRLs are set.

3.2 The task of ratifying locally adopted DRLs and reviewing these periodically has been delegated to the Radiation Protection Committees.

3.3 For diagnostic X-ray imaging and radiotherapy localization the imaging modality leads are responsible for investigating doses that consistently exceed a DRL in conjunction with a Medical Physics Expert (MPE) and for implementing any necessary corrective action.

3.4 Nuclear Medicine operators administering radiopharmaceuticals should report to their line manager all administrations outside of the local DRL tolerance (+/- 10%) unless the higher activity has been justified in advance by an IR(ME)R license holder (ARSAC) or delegated operator.

4 Practice

4.1 DRLs are intended as an auditing tool. They are displayed in imaging rooms as a guide to 'normal exposure'.

4.2 Doses will be audited in each modality at least every 3 years or in response to new or modified equipment (including software) or techniques.

4.3 Local X-ray DRLs will be set after consideration of local dose values and national diagnostic reference levels where available.

4.4 For General Radiography, Mammography, CT, Fluoroscopy, Interventional Radiology and Cardiology; the Local Diagnostic Reference Levels will be set using the procedure held within the quality management system of the Regional Radiation Physics & Protection Service. These will be adopted formally via the relevant Radiation Protection Committee.

4.5 For diagnostic radiology, audit results will be reviewed in order to identify any that significantly exceed DRL values.

4.6 For dental radiology, the latest national DRLs (https://www.gov.uk/government/publications/diagnostic-radiology-national-diagnostic-reference-levels-ndrls/ndrl) have been adopted as local DRLs

4.7 In Nuclear Medicine, the DRLs in the latest edition of the ARSAC notes for Guidance (https://www.gov.uk/government/publications/arsac-notes-for-guidance) have been used as the basis for local DRLs. Where exceptions to this exist, formal ratification of the local DRL is made by IR(ME)R licence holders (ARSAC). All DRLs are specified within departmental SOPs. Administered activities will be reviewed monthly to check for any values outside the expected range.

4.8 DRLs are reviewed at the relevant Radiation Protection Committee meeting on a systematic basis. Where issues are highlighted these are investigated by Multidisciplinary image optimization teams (IOT) and where appropriate, corrective action is taken. These teams should consist of relevant staff including modality relevant radiographers (or technologists), radiologists (including IR(ME)R licence holders (ARSAC) for radiopharmaceutical administrations), interventionalists and MPEs

4.9 Periodic dose monitoring may be undertaken as part of National Programmes e.g. 50 women dose survey NHSBSP.

5 Contingencies

5.1 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.