Ionising Radiation (Medical Exposures) Regulations 2017

Information for DXA and Osteoporosis Services

NHS Greater Glasgow and Clyde

What is IRMER?

IRMER is legislation designed to safeguard the health and safety of patients and other persons receiving a medical exposure to ionising radiation (e.g. as part of research or screening), and persons acting as their Carers and Comforters.

Documents called the *Employers Procedures* (EPs) outlines how to comply with legislation across all of the Health Board, and are legally binding. These are available on Q-pulse and the intranet. IRMER is enforced by Health Improvement Scotland (HIS).

Duty Holders

The regulations impose duties to those involved in a patient's exposure:

- *Employer* – has the overall responsibility, provides a framework of compliance, sets out referral criteria and entitles other duty holders
- *Referrer* - supplies sufficient personal and clinical information to allow the Practitioner to justify the exposure and for the patient and type of exposure (e.g. medical, research) to be identified. A non-medical Referrer must have approval via an Imaging Approval Panel within the Health Board
- *Practitioner* - justifies (and authorises) each exposure, considering benefits and risk of exposure, and other available imaging modalities
- *Operator* – anyone who carries out a practical aspect (eg ID, pregnancy checks, making an exposure, reporting the DXA scan, QA). May authorise exposure in certain circumstances.
- Medical Physics Expert – gives advice on matters pertaining to IRMER

Examples of Duty Holders

Employer – Chief Executive

Referrer – GMC-registered doctor or dentist, Non-Medical Referrer following approval (e.g. Osteoporosis Nurse Specialist)

Practitioner – Endocrinologist, Radiologist, Radiographer

Operator – Radiographer, DEXA Technologist, Nurse or Medic (e.g. Osteoporosis Nurse Specialist)

MPE – Clinical Scientist (Nuclear Medicine, Diagnostic Radiology/Health Physics)

Training, Entitlement and Scope of Practice

Staff must be trained and entitled *before* they can carry out role of Referrer, Practitioner or Operator

Entitlement – agreement that an individual is competent to fulfil the specified role(s) of Referrer, Operator, Practitioner

Scope of Practice – clearly states what role(s) the individual can perform and tasks that they can carry out. Limited to those competencies for which they have been properly trained. Must be agreed with the service and individual.

Training - must be recorded and reviewed regularly. Includes theoretical and practical training as appropriate. Training of Practitioners/Operators is outlined in schedule 3 of IRMER, whereas training programme for Referrers is decided locally.

Entitlement Process

Must be in *writing*

Entitlement of Duty Holders for Medical Exposures is described in EP-1

IRMER Policy lead entitles GMC registered doctors as Referrers and Operators for clinical evaluation, as per EP-Guidance-003

Non-Medical Referrers must apply to the Imaging Approval Panel (Role Specific)

Operator/Practitioner entitled by Clinical Director or General Manager.

Justification, Authorisation and Optimisation

Exposures cannot proceed if clinical evaluation (reporting) will not take place, if duty holders are not entitled or if the exposure is not justified/authorised. All exposures must be optimised.

Justification – ensures sufficient net benefit to individual (or society).

Authorisation - demonstration that justification has been carried out before the exposure takes place
- can be direct (Practitioner reviews referral and authorises) or indirect (Practitioner provides criteria/guidance that referral can be accepted under and an Operator authorises that the referral complies with these criteria). It must be clearly documented when Operator authorisation can be carried out and who is entitled to carry out the authorisation.

Optimisation - the radiation dose of all exposures must be as low as reasonably practicable, whilst giving sufficient image quality to gain diagnosis.

Quality assurance

Includes document control, review and audit, and testing of equipment.

Clinical audit must be carried out routinely to verify that practices, procedures and results are carried out in accordance to agreed standards. This can improve precision and maintain quality
e.g. checking referrals against agreed criteria, checking images against image quality criteria, assessing patient positioning and operator analysis technique

Dose and Risk

Factors relating to patient dose (e.g. DAP) must be recorded on CRIS, and dose audits carried out routinely.

Benefit and risk must be communicated to the patient

Any unintended or accidental exposures must be reported on Datix and MPE informed (e.g. wrong patient exposed).