

Document Control Report

Title			
Recording Clinical Evaluation and Dose - IR(ME)R 2017 Standard Operating Procedure			
Author		Author's job title	
		Senior Radiographer	
Directorate		Sub-directorate	Department
Operations		Diagnostics	Diagnostic Imaging
			Team/Specialty
			Radiology
Version	Date Issued	Status	Comment / Changes / Approval
0.1	May 2017	Draft	Initial version for consultation
0.2	June 2017	Revision	Checking text and amendments
1.0	Sept 2017	Final	Approved and signed off by the Lead Clinician for Radiology
1.1	Nov 2017	Final	Amendments to document made following CQC IR(ME)R inspection
2.0	Sept 2020	Final	Reviewed and amendments made to include updated regulations in both text and references.
Main Contact		Tel: Direct Dial –	
Principle Radiographer		Tel: Internal –	
Radiology Department		Email:	
North Devon District Hospital			
Raleigh Park			
Barnstaple, EX31 4JB			
Lead Director			
Lead Clinician in Clinical Radiology			
Document Class		Target Audience	
Standard Operating Procedure		REC team, referrers, practitioners and operators	
Distribution List		Distribution Method	
Practitioner Referrers Northern Devon Healthcare NHS Trust / Community Services		Trust's internal website	
Superseded Documents			
Issue Date		Review Date	Review Cycle
September 2020		September 2020	Three years
Consulted with the following stakeholders:		Contact responsible for implementation and monitoring compliance:	
<ul style="list-style-type: none"> • Clinical Audit Lead Radiology • Radiologists • Radiographers • Practitioner Referrers • Medical Physics 		Radiology Governance Lead	
		Education/ training will be provided by:	
		Radiology Governance Lead	
Approval and Review Process			
<ul style="list-style-type: none"> • Lead Clinician in Clinical Radiology 			

Local Archive Reference

G:\Radiology Public Drive

Local Path

Radiology Clinical Governance Folder /IR(ME)R

Filename

Recording of Clinical Evaluation and Dose Standard Operating Procedure V1.0 18Sep17

Policy categories for Trust's internal website

Radiology

Tags for Trust's internal website (Bob)Referral, Referrer, Practitioner, Operator,
Medical Physics,

CONTENTS

Document Control Report	1
1. Introduction	3
2. Purpose	3
3. Scope	3
4. Location	3
5. Equipment	4
6. Procedure	4
7. References	6
8. Associated Documentation	6

1. Introduction

The Ionising Radiation (Medical Exposure) Regulations {IR(ME)R} 2017 were introduced to protect patients against the hazards associated with the use of ionising radiation in medical settings. It is a requirement of IR(ME)R that the dose given for each examination and a clinical evaluation of each examination are recorded.

2. Purpose

The Standard Operating Procedure (SOP) has been written to:

- Ensure that the radiation dose for each examination is recorded.
- Ensure that the clinical evaluation of each examination is recorded.

3. Scope

This Standard Operating Procedure (SOP) relates to the following staff groups who may be involved in the making of or requesting ionising radiation exposures for diagnostic purposes:

- Radiographers (Operators)
- Radiologists (Practitioners)
- Referrers
- Medical Physics

4. Location

This Standard Operating Procedure applies to medical exposures being undertaken in the Radiology Departments at the North Devon District Hospital, Barnstaple; Bideford and District Hospital, Bideford; and Tyrell Hospital, Ilfracombe.

Staff undertaking ionising radiation exposures at these sites must be able to demonstrate competence as per the organisations policy on assessing and maintaining competence.

5. Equipment

All Radiology imaging equipment on the above sites including General and A+E x-ray units, AMX Mobile imaging machines, Dental imaging equipment, Mobile Image Intensifiers, Interventional fluoroscopy equipment, CT and DEXA.

6. Procedure

6.1. Radiographers

Radiographers are required to record the dose indication (DLP/DAP reading/ kV & mAs) for each examination on the Computerised Radiology Information System (CRIS). For radiographic examinations the dose indication for each projection must be recorded on CRIS.

Where DAP readings are not available, for example where imaging has been done using the mobile machine or mobile image intensifiers for theatre cases, then the exposure factors and screening time (for theatres) should be recorded.

Recording of exposure factors also applies when DAP meters are not functioning.

6.2. Referrers

It is the responsibility of the referrer (or nominated representative) to carry out and record a clinical evaluation of each examination in the patient's case-notes.

This must take place irrespective of whether a formal report has been issued by a Radiologist. Where Radiologist reports are available, they are entered onto CRIS where they are also visible on the PACS system.

In the event of an unexpected finding the advice should be sought from a Radiologist or specialist in the required medical speciality.

6.3. Skin Dose for Interventional Procedures

The Air Kerma at Patient Entrance Reference point is displayed on the interventional unit's TV monitors in units of mGy; on the Artis Zee this is located on the right hand side of the dose display screen. A value of 5000mGy could indicate a peak skin dose in excess of 2Gy and therefore skin injury (NCRP 168. Radiation Dose Management for Fluoroscopically Guided Interventional Medical Procedures, 2010).

Currently, such high values are rarely likely to be reached, but may be justifiable for very difficult cases. When a value of 2500mGy is reached the Interventional Radiographer, who is responsible for monitoring the patient doses, should warn the Radiologist.

The Radiologist should consider the likely radiation to complete the procedure. It may be possible and practicable to lower dose level and frame rate. Strong consideration should be given to changing the angle of the X-ray tube so that the same areas of skin are not continually irradiated, thereby reducing peak skin dose.

If the Air Kerma at the Patient Entrance Reference point exceeds 5000mGy the following procedure should be observed:

1. The Radiologist must advise the patient of the possibility of a skin injury. It should be explained to the patient that there may be some reddening of the skin a few hours after the procedure, but this will probably fade after a day or so.
2. The Radiologist must make an appointment to see the patient 2 to 4 weeks following the procedure to check for any skin injury.
3. If there is any evidence of skin injury the patient should be referred to a Dermatologist with the explanation that the patient is suffering from a radiation induced injury.

For patients where the Air Kerma at the Interventional Reference Point exceeds 2500mGy the Radiologist must record the value in the patient's notes also draw a diagram of where it is thought that significant doses were delivered.

If a repeat procedure is necessary the Radiologist should check the patient's notes for this record and plan the subsequent procedure accordingly. A delay between procedures is advisable if clinical circumstances permit.

After the skin is irradiated, DNA repair processes to cells that have suffered sub-lethal damage are essentially complete within 1 day of exposure. Cell repopulation, on the other hand, can take up to several months to complete, depending on the radiation dose. It is therefore advisable to wait at least 24 hours if clinical circumstances permit.

Advice can be sought from the Medical Physics Experts in the Diagnostic Radiology Section of the Medical Physics Department at Royal Devon and Exeter NHS Foundation Trust (RD&E). Medical Physics will audit the number of cases where an Air Kerma at the Patient Entrance Reference Point exceeds 2500mGy, an annual basis.

7. References

- Ionising Radiation (Medical Exposures) Regulations 2017. Statutory Instruments 2017 No 1322
http://www.legislation.gov.uk/ukxi/2017/1322/pdfs/ukxi_20171322_en.pdf
- Radiology authorisation and IRMER assessment working practice document.
- Ionising (Medical Exposures) Regulations 2000. Statutory Instruments 2000 No 1059 –
<http://www.opsi.gov.uk/si/si2000/20001059.htm>
- IRMER – Ionising Radiation (Medical Exposures) Amendment Regulations 2006
http://www.opsi.gov.uk/si/si2006/ukxi_20062523_en.pdf
- [\(NCRP 168. Radiation Dose Management for Fluoroscopically Guided Interventional Medical Procedures, 2010\).](#)

8. Associated Documentation

Northern Devon Healthcare NHS Trust Policies for:

- Northern Devon Healthcare NHS Trust Radiation Policy
- Northern Devon Healthcare SOP 'Making a Referral for Diagnostic Imaging'