IONISING RADIATION (MEDICAL EXPOSURE) REGULATIONS 2000 (IRMER)

This document contains those written procedures required by IRMER that apply within the Medical Physics Department in NHS Lothian. They have been prepared in accordance with NHS Lothian Policy for the Implementation of the Ionising Radiation (Medical Exposure) Regulations 2000. They are additional to the NHS Lothian Level 1 Employer’s Procedures.

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<td>Recording factors relevant to patient dose</td>
<td>Schedule 1(j)</td>
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<td></td>
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</table>
Introduction

The Medical Physics Department provides a range of services associated with medical exposures. These can be divided into two broad categories:

- Those carried out by Operators employed by Medical Physics. These are:
  - DEXA
  - PQCT
  - 131-I therapies

- Those carried out by staff from other Directorates for which Medical Physics staff carry out certain practical aspects of the exposure for which they are entitled as Operators. These are:
  - GFR
  - X-ray examinations
  - PET/CT

In addition, the Medical Physics Department employs Clinical Scientists with appropriate knowledge and experience for appointment as Medical Physics Experts (MPE) to be involved in standardised therapeutic nuclear medicine and diagnostic nuclear medicine practices, and for diagnostic radiological practices using X-rays including interventional radiology in accordance with the requirements of IRME Regulation 9

Table 1 lists those types of medical exposure for which Medical Physics staff may be entitled as IRMER duty holders. It represents the scope of the Level 2 procedures that apply to the Department of Medical Physics.

Table 1: Medical exposures for which Medical Physics staff may be entitled as an IRMER duty holder.

<table>
<thead>
<tr>
<th>Medical Exposure</th>
<th>Referrer</th>
<th>Practitioner</th>
<th>Operator</th>
<th>MPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEXA</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>p-QCT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>GFR</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>131-I Therapy</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Gamma Camera</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PET/CT</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>X-ray examinations</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
EP2/DMP/01: The identification of non-medical or non-dental healthcare professionals entitled to act as Referrer

Objective

- To identify individual healthcare professionals or groups of healthcare professionals who are not doctors or dentists who are entitled to act as Referrers to the Medical Physics Department
- To establish the process by which they are entitled to act as a Referrer
- To set out the scope of entitlement for each such individual or group

To be read by

All entitled Referrers, Operators and Practitioners in the Nuclear Medicine Physics Section.

Procedure

The procedure applies to bone density examinations carried out in Medical Physics using either DEXA or pQCT.

1. Medical practitioners are entitled as Referrer in accordance with IRMER Level 1 Procedure EP1-1

2. The Head of Medical Physics may entitle the following non-medical staff in Medical Physics as Referrers for the DEXA/pQCT service:
   - Osteoporosis Nurse Specialists.
   - Medical Physicists (Nuclear Medicine Physics).

3. The Head of Medical Physics hereby entitles other non-medical healthcare professionals as Referrers to the DEXA/pQCT service (including nurse practitioners and physiotherapists) whose duties include co-ordination of written clinical protocols and pathways that are associated with the osteoporosis service.

4. Requirements for referrals for DEXA or pQCT are set out in EP2/DMP/04. The Referrer is responsible for ensuring that the request complies with these requirements. Requests will not be accepted unless they include the minimum data set including name, address, date of birth, identification of ward or clinic, name of consultant, in-patient or out-patient status, ambulatory status and relevant clinical data.
EP2/DMP/02: The identification of individuals entitled to act as Referrers for therapeutic exposures, and as Practitioners or Operators for all medical exposures

Objective

- To identify those individuals who may be entitled to act as Referrer for therapeutic medical exposures carried out in Medical Physics
- To identify those individuals who may be entitled to act as Practitioner and/ or Operator for the medical exposures carried out in Medical Physics
- To establish the process by which they may be entitled to act as Practitioner and/ or Operator
- To set out the scope of entitlement for Practitioners and Operators entitled in accordance with this procedure

To be read by

- All entitled Referrers, Operators and Practitioners in Medical Physics.
- Lead Consultant for Endocrinology

Procedure

The procedure applies to all medical exposures listed in Table 1 in the Introduction to these procedures. The procedure sets out the arrangements for the entitlement of duty holders employed by Medical Physics and for those Practitioners who justify radionuclide therapies that are administered by Operators employed in Medical Physics.

General

1. The IRMER Policy Lead has authorised the Head of Medical Physics to entitle the duty holders in Medical Physics.
2. The Head of Medical Physics authorises the Head of the Radiological Physics & Radiation Protection (RPRP) Section in Medical Physics to entitle Medical Physicists and Medical Physics Technicians working in that Section as Operators and as MPEs for duties concerned with diagnostic X-rays.
3. Table 2 lists approved competencies for duty holders in Medical Physics. Procedure EP2/DMP/03 provides forms on which the relevant competencies for each individual must be recorded and for which evidence of competency can be confirmed by a competency assessor. The authorised entitler must sign the competency record to confirm entitlement for a scope of entitlement that is evidenced by the competency assessment. The form should be countersigned by the duty holder to confirm that they have been informed of their scope of entitlement.

Practitioners

4. The Head of Medical Physics may entitle Medical Physicists as Practitioner for DEXA and pQCT examinations
5. The Head of Medical Physics entitles Osteoporosis Nurse Specialists and the Lead Osteoporosis Physician as Practitioners for DEXA studies.
6. The IRMER Policy Lead has authorised the Clinical Director of the Edinburgh Cancer Centre (ECC) to entitle ARSAC certificate holders as Referrers and Practitioners for radioiodine therapy. The entitlement procedure is described in the Level 2 procedures for ECC. The Clinical Director of ECC must provide the Head of Medical Physics with copies of the entitlement letters.

7. The IRMER Policy Lead has authorised the Clinical Director of the Acute Medicine Directorate to entitle consultants as Referrers and Practitioners for radioiodine therapy. The Clinical Director has authorised a Lead Consultant in that Directorate to assess Consultants and entitle them on his behalf. To be entitled the Consultant must have a valid ARSAC certificate. The Lead Consultant must confirm entitlement and the scope of entitlement in writing with copies sent to the Clinical Directors and the Head of Medical Physics. The Lead Consultant must review entitlements annually.

8. The Head of Medical Physics as RPA retains copies of ARSAC certificates. He must check that the certificates held by him are valid for the scope of entitlement provided above and must inform the relevant Clinical Director if that is not the case. He must provide Operators in Medical Physics entitled for Iodine-131 therapies with a list of Practitioners for this service.

9. Certain Consultants in the Acute Medicine Directorate are based at St John’s Hospital where the administration of the therapy is carried out by Operators in Radiology. The Head of Medical Physics must provide copies of the entitlement letters for those Consultants to the Radiology Manager at St Johns Hospital.

10. Practitioners for GFR studies are entitled in accordance with Level 2 procedures for the Radiology Directorate.

Operators

11. For any medical exposure overall responsibility for ensuring that the examination or administration is carried out in accordance with the relevant standard operating procedure rests with the Operator.

12. The Head of Department may entitle Medical Physicists, Medical Physics Technicians or Radiographers with duties in the Nuclear Medicine Physics Section as Operators for DEXA, pQCT, Gamma Cameras, PET/CT, I-131 therapy or GFR in accordance with the competencies set out in Table 2.

13. The Head of the RPRP Section may entitle Medical Physicists and Medical Physics Technicians working in this Section for the relevant competencies set out in Table 2.

14. The Head of Department in his role as Head of the Nuclear Medicine Physics Section and the Head of the RPRP Section may entitle Medical Physics Experts in their respective areas of responsibility.

15. Trainees Medical Physicists and Medical Physics Technicians may carry out practical aspects of medical exposures provided that it is under the direct supervision of an Operator entitled in accordance to the procedure set out above.
**Table 2: Competency list for Medical Exposures in Medical Physics.**

Note that training requirements are those additional to core qualifications required at appointment

<table>
<thead>
<tr>
<th>Medical Exposure</th>
<th>Competency</th>
<th>IRMER Role</th>
<th>Training/ experience required</th>
<th>Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEXA/ pQCT/ I-131 therapy</td>
<td>Check patient ID</td>
<td>Operator</td>
<td>Induction training</td>
<td></td>
</tr>
<tr>
<td>I-131 therapy</td>
<td>Check pregnancy status</td>
<td>Operator</td>
<td>Induction training</td>
<td></td>
</tr>
<tr>
<td>DEXA</td>
<td>Authorisation in accordance with justification guidelines</td>
<td>Operator</td>
<td>In house training; NOS Certificate in Bone Densitometry</td>
<td></td>
</tr>
<tr>
<td>DEXA</td>
<td>Perform examination and prepare report</td>
<td>Operator</td>
<td>In house training; NOS Certificate in Bone Densitometry</td>
<td></td>
</tr>
<tr>
<td>DEXA/ pQCT</td>
<td>Requesting examinations</td>
<td>Referrer</td>
<td>HPC/ NMC/ GMC Registration</td>
<td></td>
</tr>
<tr>
<td>DEXA/ pQCT</td>
<td>Justification of requests</td>
<td>Practitioner</td>
<td>HPC/ NMC/ GMC Registration</td>
<td></td>
</tr>
<tr>
<td>DEXA/ pQCT</td>
<td>QA of equipment</td>
<td>Operator</td>
<td>In house training</td>
<td>State any specific inclusions if applicable</td>
</tr>
<tr>
<td>I-131 therapy/ GFR</td>
<td>QA of isotope calibrator</td>
<td>Operator</td>
<td>In house training</td>
<td></td>
</tr>
<tr>
<td>GFR</td>
<td>Preparation of administered activity, processing samples, report</td>
<td>Operator</td>
<td>In house training</td>
<td></td>
</tr>
<tr>
<td>I-131 Therapy</td>
<td>Checking and administering activity</td>
<td>Operator</td>
<td>In house training</td>
<td></td>
</tr>
<tr>
<td>Gamma Camera</td>
<td>QA of equipment</td>
<td>Operator</td>
<td>In house training</td>
<td></td>
</tr>
<tr>
<td>Gamma Camera</td>
<td>Equipment acceptance tests</td>
<td>Operator</td>
<td>Extended experience in performance checks</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Activity</td>
<td>Role</td>
<td>Training</td>
<td>Inclusions</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>Equipment performance checks</td>
<td>Operator</td>
<td>In house training</td>
<td>State specific inclusions, e.g. CT, CR, Fluoroscopy, display monitors</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>Equipment acceptance tests</td>
<td>Operator</td>
<td>Extended experience in performance checks</td>
<td>State specific inclusions</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>Critical examinations</td>
<td>Operator</td>
<td>RPA certification</td>
<td>State specific inclusions</td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>Patient dose audit</td>
<td>Operator</td>
<td>In house training</td>
<td>State specific inclusions</td>
</tr>
<tr>
<td>PET/CT</td>
<td>QA of equipment</td>
<td>Operator</td>
<td>In house training</td>
<td></td>
</tr>
<tr>
<td>PET/CT</td>
<td>Equipment acceptance tests</td>
<td>Operator</td>
<td>Extended experience in performance checks</td>
<td></td>
</tr>
<tr>
<td>PET/CT</td>
<td>Preparations of administered activity</td>
<td>Operator</td>
<td>In house training</td>
<td></td>
</tr>
<tr>
<td>Diagnostic Radiology</td>
<td>Expert advice</td>
<td>MPE</td>
<td>At least 4 years post Registration experience</td>
<td>State specific inclusions</td>
</tr>
<tr>
<td>Nuclear Medicine (General)</td>
<td>Expert advice</td>
<td>MPE</td>
<td>At least 4 years post Registration experience</td>
<td>State specific inclusions</td>
</tr>
<tr>
<td>PET/CT</td>
<td>Expert advice</td>
<td>MPE</td>
<td>At least 4 years post Registration experience</td>
<td>State specific inclusions</td>
</tr>
</tbody>
</table>
EP2/DMP/03: Training and training records of entitled Practitioners and Operators

**Objective**

To ensure that individuals entitled to act as Practitioners and Operators for those medical exposures that are carried out in Medical Physics have had adequate training as specified in Schedule 2 of IRMER.

**To be read by**

- All entitled Practitioners and Operators in Medical Physics.

**Procedure**

1. On appointment it is the responsibility of the Recruitment Office and Recruitment Team to check the qualifications and registrations of candidates prior to appointment in accordance with the NHS Lothian General Recruitment and Selection Guidance Pack. In addition to checking the general qualifications required for the post the chair of the appointment panel is responsible for checking any additional specialist qualification certificates or experience that the candidate may require for the particular duties of the post. Copies are kept in the individual’s personal file that is kept by the Head of Department.

2. Line managers must periodically verify the registration of those Clinical Scientists and other registered healthcare professionals they manage in accordance with the NHS Lothian Verification of Registration Policy and Procedure. Each registered member of staff is accountable for ensuring that they fulfil the criteria for periodic registration renewal including undertaking CPD.

3. It is the responsibility of the relevant Head of Section to ensure that newly appointed Medical Physicists and Medical Physics Technicians undergo an induction programme in all areas of the Department in which they will be working. Evidence of successful completion must be recorded and placed in the training records.

4. The Head of Department has authorised the Heads of the Nuclear Medicine Physics and Radiological Physics & Radiation Protection Sections to oversee training in the relevant areas of work. The Heads of Sections must determine at what stage the member of staff is competent and entitled to take responsibility as an Operator for specific aspects of studies.

16. For each Physicist and Technician a competency record must be completed. A record form is attached to this procedure. Part 1 must be completed after appointment to record basic qualifications for the post and registration details. The relevant line manager must complete Part 2 of the form to indicate the competences required by the post-holder to perform his or her duties. The chart must identify the stages of training or competency achieved. These will be identified as:

- In training or induction period;
- Competent to practice
- Competent to train and to sign off competency records for other staff.
17. The level of competence must be signed off by the appropriate Section Head, Medical Physicist or Medical Physics Technician responsible for that area of work. The signature confirms that any relevant certificate of training has been inspected and that the assessor is satisfied that the person meets the competency requirements. The record must also be signed by the individual member of staff to confirm that they understand and agree the level of competency achieved. The competency record should be retained in the individual's personal file.

18. Induction training should include familiarisation with IRMER procedures, standard operating protocols, Local Rules and any other relevant procedures and protocols. The various elements of the induction training should be signed off in accordance with standard induction procedures.
**Staff competency records**

**Part 1: To be completed after appointment**

<table>
<thead>
<tr>
<th>Name</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td>Start date</td>
</tr>
<tr>
<td>Basic qualification</td>
<td>Qualification obtained from</td>
</tr>
<tr>
<td>Date obtained</td>
<td>HPC Registration no</td>
</tr>
</tbody>
</table>

**Part 2: Competency records and scope of entitlement**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Training Requirement</th>
<th>Induction/ training</th>
<th>Competent to Practice</th>
<th>Competent to Train</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Date</td>
<td>Sign off</td>
<td>Date</td>
</tr>
<tr>
<td>From Table 2 in EP2/DMP/02</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

... add additional rows as required

**Part 3: Entitlement and competency review**

<table>
<thead>
<tr>
<th>Date</th>
<th>HPC/VRCT Registration</th>
<th>Competency review</th>
<th>Sign off</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

..... add additional rows as required
EP2/DMP/04: Justification and authorisation of medical exposures.

Objective
To ensure that

- All requests for medical exposures carried out in Medical Physics have been justified by an entitled Practitioner as showing sufficient net benefit taking account of the objectives of the exposure, the potential diagnostic or therapeutic benefits to the individual, the individual detriment that the exposure may cause, and the efficacy, benefits and risk of any available alternative technique.
- The Practitioner pays special attention to: exposures on medico–legal grounds; exposures that have no direct health benefit to the individual; the urgency of exposure in those cases where the patient may be pregnant or (in the case of radionuclide therapy) is breastfeeding
- For any guidelines that may be used for the justification of medical exposure, the guidelines are clearly identified as the responsibility of a named, entitled Practitioner and that authorisation of an exposure made in accordance with these guidelines is by an Operator entitled to act for this

To be read by

- All entitled Operators and Practitioners in the Nuclear Medicine Physics Section
- Trainee Operators in the Nuclear Medicine Physics Section

Procedure

Requests

1. DEXA referrals by General Practitioners must be made on a Lothian Osteoporosis Service request form, official headed paper or submitted by standard electronic referral. Referral forms incorporate the normal referral criteria.

2. Hospital referrals for DEXA must be made on a DEXA Bone Density Request form, on official headed paper or submitted by standard electronic referral. The request form incorporates the normal referral criteria.

3. Requests shall not be accepted unless they include the minimum data set including name, address, date of birth, identification of ward or clinic, name of consultant, in-patient or out-patient status, ambulatory status and relevant clinical data.

Authorisation by an entitled Practitioner (DEXA and pQCT)

4. On receipt of an appropriately completed request form or letter, an entitled Practitioner must use his/ her professional knowledge to determine whether the examination requested is justified as giving sufficient net benefit to the patient taking account of the potential radiation risk. If the request is justified, then the Practitioner must authorise the request by signing the card.

5. For pQCT only appropriately entitled Medical Physicists may act as Practitioner.

6. If the Practitioner considers the examination not to be justified, he/ she should contact the referring clinician and explain why the request was not authorised.
Generic justification guidelines (DEXA)

7. DEXA examinations may be authorised in accordance with written justification guidelines. In those circumstances it is the responsibility of an appropriately entitled Operator to authorise the request provided that it complies with the guidelines.

8. The guidelines are the responsibility of an entitled Practitioner who must be a Medical Physicist.

9. The Practitioner is responsible for ensuring that the guidelines include:
   • A description of the clinical circumstances in which the medical exposure may be authorised
   • A statement to require that standard operating procedures are used

10. The justification guidelines must be appended to the relevant standard operating protocol.

11. Authorisation in accordance with justification guidelines must only apply for those requests on a standard Lothian Osteoporosis Service form, DEXA Bone Density Request form or GP electronic referral letter. Referrals made on official headed paper will not be treated as an approved protocol and must be justified and authorised by a Practitioner.

12. Correctly completed request forms where a generic justification is indicated will be treated as an approved protocol and will be authorised by an entitled who must initial the form.

13. For research studies approved by a Research Ethics Committee an Operator may authorise the procedure provided the referral is from the Principal Investigator or a Clinical Facilitator (e.g. Research Nurse) whose duties include co-ordination of the study.

14. If the request does not match the requirements of the justification outlines, the Operator must refer it to an entitled Practitioner. If a Practitioner is not available, the Operator should contact the referring clinician and explain why the request was not authorised.

Iodine-131 Therapy

15. Entitled Operators may only administer Iodine-131 for therapy if the request has been authorised by an ARSAC certificate holder who has been entitled to act as Practitioner. Justification guidelines must not be used for the authorisation of any therapy request.

16. The activity to be administered must be that which has been requested by the Practitioner.

17. The ARSAC certificate holder must ensure all the relevant sections of the Iodine-131 Therapy Referral Form are completed.
EP2/DMP/05: The correct identification of individuals to be exposed to ionising

Objective
To ensure that the medical exposure is carried out on the individual for which it was intended.

To be read by
• All entitled Operators in the Nuclear Medicine Physics Section
• Trainee Operators in the Nuclear Medicine Physics Section

Procedure
For every medical exposure, the Operator must ensure that the correct patient is exposed to ionising radiation. In general this is achieved by asking the patient for information that can be matched to the information provided by the Referrer. This procedure must be carried out immediately prior to the examination and in the case of a radionuclide therapy procedure, immediately prior to the administration of the radiopharmaceutical.

1. The Operator must ask the patient to state:
   • Their first and second name
   • Their date of birth
   • Their address

2. This information should be checked against the data on the referral and if the information matches the medical exposure may go ahead. The Operator must record that the procedure has been carried out either by signing in the space provided for the Operator’s signature or initialling the request card in the space provided for patient identification.

3. When more than one member of staff is involved the Operator who initiates the exposure must be certain that the patient identification procedure has been carried out.

4. The details provided by the patient may differ by a small extent from those provided by the Referrer. The Operator should discuss these with the patient to see whether the differences can be reconciled, for example a recent change in address or name could be confirmed by the patient. If the differences can be reconciled then the medical exposure may go ahead. In such situations the Operator must use their judgement to determine whether it is the correct patient. Provided the Operator is satisfied that the correct patient has been identified, any change to the details given on the request form (e.g. recent change of address) must be recorded on the form and initialled by the Operator.

5. There are exceptions where it may not be possible for the patient to be directly identified, therefore the patient must be indirectly identified.
   • For those in-patients for whom this procedure is difficult to implement the patient must be identified using the details on the patient’s wrist identification band.
   • For a patient unable to communicate due to disability or language difficulties, it is the responsibility of the Operator to correctly identify the patient by asking the carer or translator.
• In the case of a young child the parent or other accompanying person should be asked to identify the patient.

6. The Operator initiating the exposure can proceed with the study or therapy administration only when the identification procedure has been completed.
EP2/DMP/06: Establishing whether female patients may be pregnant or breastfeeding

Objective

To ensure that:

- Medical exposures are not justified and authorised for women for whom pregnancy cannot be excluded without due consideration of the possible detriment to both the woman and the unborn child
- Medical exposures involving the administration of a radioactive material are not justified and authorised for a woman who is breastfeeding without due consideration of the possible detriment to both the woman and the child.

To be read by

- All entitled Operators in the Nuclear Medicine Physics Section
- Trainee Operators in the Nuclear Medicine Physics Section

Procedure

The procedure in regard to patients who may be pregnant is based on advice from the HPA/CoR/RCR (Protection of Pregnant Patients during Diagnostic Medical Exposures to Ionising Radiation, HPA 2009). The procedure in regard to women who may be breastfeeding is based on the ARSAC notes for guidance.

It applies to:

- Female patients between the ages of 12 and 55 who are having radioiodine therapy

DEXA

1. The procedure is not required for DEXA since the dose is less than 0.1mGy in accordance with NHS Lothian IRMER Policy Appendix 2 on the requirements for Level 2 Employer’s Procedures.

2. If the patient volunteers the information that she is pregnant and that she has concerns over the radiation risk, the Operator should ask an entitled Practitioner in Medical Physics to discuss the risks with the patient and the options that are available to her.

I-131 Therapy

3. The patient’s pregnancy status and whether she is breastfeeding should be discussed with her at the time of the referral consultation. However, the ultimate responsibility for checking that she is not pregnant and for checking that she is not or is no longer breastfeeding rests with the Operator administering the activity. These checks must be carried out immediately prior to administration/exposure.

4. For female patients check whether she is between 12 and 55 years old. If she is outside that age range proceed with the administration.

5. For a female patient in this age range, ask her: Are you or might you be pregnant? The patient should be asked to confirm her answer by signing the back of the request form.
6. Should the patient answer directly that she is not pregnant and that she considers that there is no possibility of pregnancy, then the administration can proceed.

7. If the patient answers 'yes' she is definitely or probably pregnant then the administration must not proceed until the justification has been reviewed with the Practitioner.

8. If the patient states that she might be pregnant then the administration must not proceed until the justification has been reviewed with the Practitioner.

9. For children under the age of 16, the Operator must comply with the NHS Lothian policy on consent for medical or surgical treatment and/or examination. A child under 16 years of age is legally entitled to consent to treatment on their own behalf if the qualified professional attending is of the opinion that they understand and can give informed consent. In the application of this procedure, the Operator is responsible for making this judgement.

10. For female patients between 12 and 55 years it is the responsibility of the Operator to find out from the patient whether she is breastfeeding. The patient should be asked to confirm her answer by signing the back of the request form. When more than one member of staff is involved in the administration the Operator who administers the Iodine-131 is responsible for ensuring that this procedure has been carried out.

   (a) Ask the patient: Are you breastfeeding at the present time?

   (b) If the answer is ‘no’, then proceed with the administration.

   (c) If the answer is ‘yes’ then the administration must not proceed and advice from the Practitioner (ARSAC certificate holder) must be sought.
EP2/DMP/07: Carrying out and recording an evaluation of medical exposures

Objective
To ensure that an evaluation is recorded for every medical exposure by an Operator entitled for that purpose.

To be read by
- All entitled Operators in the Nuclear Medicine Physics Section
- Trainee Operators in the Nuclear Medicine Physics Section

Procedure
If the Practitioner or Operator knows that no clinical evaluation will be recorded, then the exposure cannot be justified and the request must not be authorised.

1. DEXA scans must be analysed by an entitled Operator and the results archived using the DEXA Hologic software. The Operator will produce a hardcopy of the analysis and generate a report that includes diagnosis, fracture risk assessment and treatment recommendations. A copy of the report will be sent to the Referrer and an electronic copy filed.

2. pQCT analysis is automatically generated by the equipment and a copy must be sent to the Referrer.

3. The results from the GFR study must be prepared by an entitled Operator. The results must be sent to the person who authorised the procedure (Practitioner or Operator in accordance with justification guidelines).

4. For an Iodine-131 therapy the Operator administering the dose must record the administered activity on the Iodine-131 Therapy Referral form as defined in the Iodine-131 Therapy Procedure. The Operator must generate a treatment report with the administered activity as defined in the Iodine-131 Therapy Procedure. A copy of the report will be sent to the Practitioner and one will be filed in Medical Physics together with the request form.
EP2/DMP/08: Recording factors relevant to patient dose

Objective

- To ensure that for every medical exposure factors are recorded that are relevant to patient dose.
- To specify those situations for which the recording of factors relevant to patient dose do not require to be recorded for the individual patient due to the standardisation of the particular irradiation technique for which the dose is predetermined by the relevant standard operating protocol.

To be read by

- All entitled Operators in the Nuclear Medicine Physics Section
- Trainee Operators in the Nuclear Medicine Physics Section

Procedure

1. The effective dose from DEXA varies from 2-6 µSv depending on the site scanned. The total effective dose is typically 13 µSv. The dose depends on the scanning mode and the area scanned. This information is available from the stored images from which the effective dose may be calculated if required. No further information needs to be recorded.

2. For pQCT the dose is determined by the protocol and the protocol used is sufficient record of the dose.

3. For Iodine-131 therapies, the Operator administering the dose must record the administered activity. The method by which the activity is assessed and the form used for recording must be set out in the relevant standard operating procedure.