##

Dental IR(ME)R Procedures (2)

For Dental Practices where dentists undertake their own dental radiographs and where dental radiographs are also undertaken by other dental professionals

It is intended that these procedures are to be read in conjunction with the associated document, IR(ME)R, an Explanation Guide for Dental Practices. This explanation guide contains a summary of the legislation and outlines the requirements of the regulations.

As the use of ionising radiation within dental practices largely falls into 2 categories, so two sets of example procedures have been developed to correspond with each scenario.

1. Where only dentists undertake radiographs on their own patients
2. Where, as well as dentists undertaking their own radiographs, other staff groups such as dental nurses or hygienists may also take radiographs

These example dental IR(ME)R procedures and their appendices are intended as a guide only, to demonstrate the variations and areas of practice which need to be considered when writing IR(ME)R procedures. Whilst attempts have been made to ensure they are comprehensive, there will always be local variations which must be taken into account. For example, some sites use radiographic film and processors to obtain images whereas other practices may have digital radiography.

Therefore, **all** the suggested text and examples must be carefully adapted to ensure they match local practice. Any text displayed in red will need to be carefully considered to demonstrate local ownership and practice. The most successful way to write IR(ME)R procedures is to think about what happens within the practice and start by writing down ‘what you do’. Procedures should standardise practice and ensure that all dental staff are working to the same standards.

It is important to note that, as definitive interpretation of law can only be established in the courts, the advice given here should be regarded as an expression of professional opinion rather than an absolute statement on the legal position. These procedures are intended to demonstrate one approach towards compliance which you may wish to take. It does not represent the only way to achieve this.

In addition to these Employer’s Written Procedures, the employer must also provide written protocols describing clinical practice, for example, a ‘Protocol for OPG’.

|  |
| --- |
| ………… Dental Practice Employers Procedures**Written Procedures for Medical Exposures** |
| Author |  |
| **Version No.** |  |
| Authorised by | Signature of Employer |
| **Implementation Date** |  |
| Reviewer |  |
| **Next Review Date** | Date + 2 years |

IR(ME)R Employer’s procedures

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| EP 1 | Entitlement of Duty Holders | XXXXX Dental Practice |

## 1. Objectives

* To outline the method for entitling individuals as duty holders under IR(ME)R
* To ensure that each duty holder has appropriate registration, qualifications, experience and training (as appropriate) for their entitlement
* To clarify who holds the training records for each duty holder

# 2. Responsibilities

# The employer will ensure that structures are in place for entitlement of IR(ME)R duty holders, and will maintain agreed records of qualifications, experience and training required for individuals to perform the roles of duty holders for all types of dental exposures (Appendix 1).

………….. (the Entitler) will entitle persons to act as IR(ME)R duty holders.

The Entitler will decide whether the evidence presented is sufficient for each individual to be entitled in the role of practitioner, operator, and/or referrer for dental exposures. They will maintain an up-to-date record of qualifications, training, and tasks for each entitled practitioner and operator.

……………. will agree the range of tasks for staff under their management, which is appropriate and supported by verifiable training and experience, and this will be the duty holder’s scope of practice.

Each Duty Holder is responsible for maintaining their own personal training record containing their evidence of training and continuing professional development.

All practitioners and operators must comply with the employer’s procedures.

### 3. The Process of Entitlement

Entitlement is demonstrated by the Entitler signing an individual’s competence document (Appendix 2). Duty holders themselves must have agreed and signed this document as well. If this is the same person it will only be signed once as the Entitler. The agreed competence for each individual will create their own scope of entitlement which they must adhere to.

The competence document will evolve and be updated as an individual’s scope of entitlement changes without the need to be resigned by the Entitler.

Competence will be assessed for each practitioner and operator by an appropriately trained person. A Competence assessor may assess their own competence.

The Medical Physics Expert (MPE) will be entitled on appointment. They should only be appointed if they are adequately trained for this specific role.

Medical Physicists/Technologists will be entitled as an operator and their training records must be provided to the employer on request.

**Appendix 1**

Agreed qualifications, experience and training required for individuals to perform each duty holder role

|  |  |  |
| --- | --- | --- |
| **Registrant Group** | **IR(ME)R Duty Holder** | **Qualifications/Training/Experience required** |
| **Dentist** | Referrer | Registration with GDC  |
| Practitioner | Registration with GDC and undergraduate dental degree |
| Operator | Undergraduate dental degree andlocal equipment training |
| **Dental Nurse** | Operator | Diploma or certificate in Dental nursing (including radiography if taking radiographs) *and* local equipment training |
| **Clinical Dental Technician** | Operator | Appropriate qualification e.g. Diploma in clinical dental technology and local equipment training |
| **Dental Hygienist** | Referrer | Registration with GDC and appropriate qualification e.g. Diploma in Dental Hygiene and Dental Therapy with additional skills development |
| Operator | Appropriate qualification and local equipment training |
| **Dental Therapist** | Referrer | Registration with GDC and appropriate qualification e.g. Diploma in Dental Hygiene and Dental Therapy with additional skills development |
| Operator | Appropriate qualification and local equipment training |
| **Medical Physics Expert** | Operator | Science degree or equivalentExperience in the application of physics, within dental use of ionising radiationClear appointment to this role |
| **Medical Physicist/Technologists** | Operator | Appropriate qualification |

**Appendix 2**

Tasks for entitlement as a Duty Holder under IR(ME)R at Belhaven Dental Practice

|  |  |
| --- | --- |
| Name of Duty Holder **.** | Job Title **Dentist** |
| Qualification(s) and date obtained **.** |  |
|   |  |
|   |  |
| Registration Number **.** | Date last checked **.** |
| Training records held by **Duty Holder in Personal CPD file** |  |

|  |  |
| --- | --- |
| **Referrer tasks at ………….. Dental Practice** | **Assigned as competent** |
| **Date & signature/initials of duty holder and assessor** |
| Refer for all dental examinations |   |
| Refer for intra oral examinations |   |
| Refer for OPG / Lat Ceph examinations |   |
| Refer for Cone Beam CT dental examinations |   |

|  |  |
| --- | --- |
| **Practitioner tasks at . Dental Practice** | **Assigned as competent** **Date & signature/initials of duty holder and assessor** |
| Competent to justify requests for all dental examinations |  |
| Competent to justify requests for intra oral examinations |  |
| Competent to justify requests for OPG / Lat Ceph examinations |  |
| Competent to justify requests for cone beam CT dental examinations |  |

|  |  |  |
| --- | --- | --- |
| **Operator tasks at Belhaven Dental Practice** | **In training** | **Assigned as competent** |
| **Date & signature/initials of duty holder and assessor** | **Date & signature/initials of duty holder and assessor** |
| Competent to carry out patient identification |   |   |
| Competent to authorise all dental exposures for which guidelines have been provided by a practitioner |   |   |
| Competent to undertake all dental examinations |   |   |
| Competent to undertake intra oral examinations |   |   |
| Competent to undertake OPG / Lat Ceph examinations |   |   |
| Competent to undertake cone beam CT dental examinations |   |   |
| Competent to process dental films |   |   |
| Competent to change chemicals in a dental processor |   |   |
| Competent to process CR plates |  |  |
| Competent to process a digital image |   |   |
| Competent to clinically evaluate all dental examinations undertaken at the practice |   |   |
| Competent to clinically evaluate all dental examinations undertaken outwith the practice |   |   |
| Competent to clinically evaluate cone beam CT dental examinations |   |   |
| Competent to carry out quality assurance on equipment |   |   |

|  |  |
| --- | --- |
| Entitled by |  Date  |
| Name of Entitler . |  Date  |
| Signature of Duty Holder (DH) |  Date  |
| IR(ME)R procedures read by DH | Date |

Tasks for entitlement as a Duty Holder under IR(ME)R at Belhaven Dental Practice

|  |  |
| --- | --- |
| Name of Duty Holder **.** | Job Title **Dentist** |
| Qualification(s) and date obtained **.** |  |
|   |  |
|   |  |
| Registration Number **.** | Date last checked **.** |
| Training records held by **Duty Holder in Personal CPD file** |  |

|  |  |
| --- | --- |
| **Referrer tasks at …………. Dental Practice** | **Assigned as competent** |
| **Date & signature/initials of duty holder and assessor** |
| Refer for all dental examinations |   |
| Refer for intra oral examinations |   |
| Refer for OPG / Lat Ceph examinations |   |
| Refer for Cone Beam CT dental examinations |   |

|  |  |
| --- | --- |
| **Practitioner tasks at ……………… Dental Practice** | **Assigned as competent** **Date & signature/initials of duty holder and assessor** |
| Competent to justify requests for all dental examinations |  |
| Competent to justify requests for intra oral examinations |  |
| Competent to justify requests for OPG / Lat Ceph examinations |  |
| Competent to justify requests for cone beam CT dental examinations |  |

|  |  |  |
| --- | --- | --- |
| **Operator tasks at Belhaven Dental Practice** | **In training** | **Assigned as competent** |
| **Date & signature/initials of duty holder and assessor** | **Date & signature/initials of duty holder and assessor** |
| Competent to carry out patient identification |   |   |
| Competent to authorise all dental exposures for which guidelines have been provided by a practitioner |   |   |
| Competent to undertake all dental examinations |   |   |
| Competent to undertake intra oral examinations |   |   |
| Competent to undertake OPG / Lat Ceph examinations |   |   |
| Competent to undertake cone beam CT dental examinations |   |   |
| Competent to process dental films |   |   |
| Competent to change chemicals in a dental processor |   |   |
| Competent to process CR plates |  |  |
| Competent to process a digital image |   |   |
| Competent to clinically evaluate all dental examinations undertaken at the practice |   |   |
| Competent to clinically evaluate all dental examinations undertaken outwith the practice |   |   |
| Competent to clinically evaluate cone beam CT dental examinations |   |   |
| Competent to carry out quality assurance on equipment |   |   |

|  |  |
| --- | --- |
| Entitled by |  Date  |
| Name of Entitler  |  Date  |
| Signature of Duty Holder (DH) |  Date  |
| IR(ME)R procedures read by DH | Date |

Tasks for entitlement as a Duty Holder under IR(ME)R at Belhaven Dental Practice

|  |  |
| --- | --- |
| Name of Duty Holder  | Job Title **Dentist** |
| Qualification(s) and date obtained  |  |
|   |  |
|   |  |
| Registration Number  | Date last checked  |
| Training records held by **Duty Holder in Personal CPD file** |  |

|  |  |
| --- | --- |
| **Referrer tasks at …………….. Dental Practice** | **Assigned as competent** |
| **Date & signature/initials of duty holder and assessor** |
| Refer for all dental examinations |   |
| Refer for intra oral examinations |   |
| Refer for OPG / Lat Ceph examinations |   |
| Refer for Cone Beam CT dental examinations |   |

|  |  |
| --- | --- |
| **Practitioner tasks at ……………. Dental Practice** | **Assigned as competent** **Date & signature/initials of duty holder and assessor** |
| Competent to justify requests for all dental examinations |  |
| Competent to justify requests for intra oral examinations |  |
| Competent to justify requests for OPG / Lat Ceph examinations |  |
| Competent to justify requests for cone beam CT dental examinations |  |

|  |  |  |
| --- | --- | --- |
| **Operator tasks at Belhaven Dental Practice** | **In training** | **Assigned as competent** |
| **Date & signature/initials of duty holder and assessor** | **Date & signature/initials of duty holder and assessor** |
| Competent to carry out patient identification |   |   |
| Competent to authorise all dental exposures for which guidelines have been provided by a practitioner |   |   |
| Competent to undertake all dental examinations |   |   |
| Competent to undertake intra oral examinations |   |   |
| Competent to undertake OPG / Lat Ceph examinations |   |   |
| Competent to undertake cone beam CT dental examinations |   |   |
| Competent to process dental films |   |   |
| Competent to change chemicals in a dental processor |   |   |
| Competent to process CR plates |  |  |
| Competent to process a digital image |   |   |
| Competent to clinically evaluate all dental examinations undertaken at the practice |   |   |
| Competent to clinically evaluate all dental examinations undertaken outwith the practice |   |   |
| Competent to clinically evaluate cone beam CT dental examinations |   |   |
| Competent to carry out quality assurance on equipment |   |   |

|  |  |
| --- | --- |
| Entitled by |  Date  |
| Name of Entitler . |  Date  |
| Signature of Duty Holder (DH) |  Date  |
| IR(ME)R procedures read by DH | Date |

|  |  |  |
| --- | --- | --- |
| EP 2 | Referrals for Dental examinations | …………. Dental Practice |

# Objectives

* To outline how a referral may be made for a dental radiograph examination
* To ensure that the referrer provides sufficient information for the patient and the referrer to be identified and sufficient clinical information for the exposure to be justified and authorised by a practitioner or authorised by an operator.

# 2. Responsibilities

The employer shall establish recommendations concerning referral criteria for dental exposures and shall ensure that these are available to the referrer. These should include an indication of the typical effective dose to the patient for each type of radiographic examination.

When appropriate, the referrer shall supply the practitioner with sufficient medical data (such as previous diagnostic information or medical records) relevant to the dental exposure to enable the practitioner to decide on whether there is sufficient net benefit for the exposure to be justified.

### 3. The Process of Referral

A clinical assessment of every patient’s dental anatomy should be performed prior to requesting any radiographs.

####  3.1 When the Referrer is also the Practitioner and Operator

Where the referrer also acts as the practitioner and operator for a dental exposure, he/she must ensure that the request for the radiograph is documented within the patient’s dental record. Within this entry the clinical indications for the radiograph should be clear, fit with the referral criteria, and the referrer must be identifiable.

#####  3.2 Referring to a different Operator

If a different entitled operator is to carry out the dental radiograph then a note within patients dental record must be completed legibly by the referrer and be available before the dental exposure can be carried out. Each dental request must be justified and authorised prior to an exposure (see EP3).

The essential information required on each request is listed below.

* + Patients full name, date of birth and address
	+ Dental examination requested
	+ Sufficient clinical information relevant to the dental exposure requested
	+ Signature of Referrer – Computer record will include referrer’s electronic personal code
	+ Name of Referrer (Printed)
	+ Date of referral

**3.3 Incomplete referrals**

Any referral to another practitioner or operator found to be incomplete shall be returned to the referrer and the examination shall not be undertaken until all essential information has been entered.

**4. Referral Criteria**

The referral criteria used at this Practice is Faculty of General Dental Practitioners “Selection Criteria for Dental Radiography” and copies of this document are made available to the referrers in Belhaven Dental Practice.

|  |  |  |
| --- | --- | --- |
| EP 3 | Justification and Authorisation | …………………….. Dental Practice |

## Objectives

* To ensure that every dental exposure is justified and authorised

# 2. Responsibilities

It is the responsibility of the entitled dentist to justify each individual dental exposure taking the following into account

* the specific objectives of the exposure and the characteristics of the individual involved
* the total potential diagnostic benefits, including the direct health benefits to the individual and the benefits to society, of the exposure
* the individual detriment that the exposure may cause
* the efficacy, benefits and risk of available alternative techniques having the same objective but involving no or less exposure to ionising radiation

**Operators cannot undertake justification**. However, in the absence of an entitled practitioner, authorisation may be undertaken by a properly entitled operator, in accordance with written guidelines provided by a practitioner. The responsibility for justification remains with the practitioner who has provided the guidelines, but the operator is responsible for the proper interpretation of these guidelines.

If the practitioner is aware, at the time of authorisation, that a recorded clinical evaluation shall not result from the exposure, then the exposure must not be authorised and cannot take place.

### 3. The Process for Justification and Authorisation

####  3.1 When the Referrer is also the Practitioner and Operator

As the dentist is acting as entitled referrer, IR(ME)R practitioner and operator, the referrer’s electronic personal code in the clinical notes next to the request for an x-ray will demonstrate authorisation of the exposure.

#####  3.2 When the Referrer is also the Practitioner but not an Operator

If the referrer is also acting as the IR(ME)R practitioner, then the electronic record provided to the operator must also be authorised to demonstrate that justification for the exposure has been carried out.

Authorisation for the exposure is taken to be the electronic personal code in the patient’s dental notes against the referral for radiography.

* 1. **When the Referrer is not the Practitioner**

If the referrer is entitled as a referrer but not practitioner (e.g. Hygienist), then the request for a dental radiograph must be either:-

1. **Justified and authorised by an entitled Practitioner**

The practitioner must state where on the referral or electronic record to demonstrate authorisation if they are satisfied that the exposure is justified or;

1. **Authorised by an entitled Operator using guidelines**

Entitled operators may undertake authorisation using specific guidelines. Entitled operators must check the clinical details against the appropriate guideline and, if the details match a criterion, the operator initials or signs the referral (state where on the referral or electronic record) to designate that the dental exposure has been authorised.

Referrals which do not fall within the guidelines issued by the practitioner cannot be authorised by an operator and must be referred to a practitioner for justification.

**4. Special Attention for Justification**

Special attention for justification is required for the justification of the following types of exposure

1. exposures on medico-legal grounds
2. exposures that have no direct benefit for the individuals undergoing the exposure

*It is unlikely that special attention needs to be given to these groups during the justification of dental exposures. However they will need to be considered if these exposures are undertaken at the dental practice.*

**5. Special circumstances regarding authorisation**

Authorisation should be carried out in advance of any dental exposure.

However, it has been recognised that in some specific exceptional circumstances, it may not be feasible for a dentist to carry out authorisation in advance of an exposure. This may occur during treatments where it is not in the best interests of the patient for the dentist to leave them to document the authorisation in the patient’s dental record e.g. an unplanned radiograph due to a complication mid-procedure.

Should this situation arise then the Dentist justifying the exposure should be present in the room whilst the radiograph is carried out and authorisation of the exposure must occur as soon as possible within the same episode of care.

This deviation from normal procedure should be documented within the patient’s dental record by the dentist.

|  |  |  |
| --- | --- | --- |
| EP 4 | Patient Identification | ………………….. Dental Practice |

## Objectives

* To ensure that each authorised dental exposure is delivered by the entitled operator to the intended patient

# 2. Responsibilities

The operator who undertakes the exposure is responsible for ensuring that the correct patient receives the correct examination.

### 3. The Process for Patient Identification

#### 3.1When the patient is already in the dental chair

When the patient is already in the dental chair it is not practical, or suggested, that they should be asked to formally identify themselves again.

When a patient is called into the dental examination room their identity should be confirmed prior to the dental examination starting using the method outlined in 3.2. If an operator, other than the dentist, e.g. dental nurse, carries out this identification there should be a verbal handover confirming ID to the dentist prior to the clinical examination starting.

For follow up patients, a dental chart would also be held which may act as an additional check to ensure that the person being examined is the correct patient.

In this situation if the referrer, practitioner and operator are the same person, then the operator may be confident that they have the correct patient for the correct radiograph.

If another operator already in the room, such as a dental nurse, is to undertake the exposure on behalf of the referrer, then they must also be positive that they have the correct patient and correct examination.

The personal electronic code of the operator undertaking the exposure must be recorded on the referral.

####  3.2 When the Operator undertaking the exposure is not the Referrer

When a patient is called from a waiting area or room by an entitled operator who was not the referrer, the following identification process must be carried out.

Where possible, the operator must ask the patient to give the 3 identifiers. The procedure must be positive and active i.e.

“What is your name?”

“What is your address?”

“What is your date of birth?”

If the patient is deaf these questions can be asked using written cards.

On completion of this the operator must verify that this patient identification procedure has taken place by entering their nameto enable them to be identified.

If the patient through illness, physical or mental disability, or language barrier is not able to confirm

his/her identity:

* Always treat them with dignity and respect
* A carer or relative may be asked to identify the patient if they are escorted
* Examine any personal photographic identification they may have such as a passport or photocard driving licence
* For patients with language difficulties, the operator may identify the patient through an interpreter if one is available
* When possible, the referrer may be asked to confirm the identify of the patient

When the patient is unable to identify themselves the method used to confirm patient identity should be recorded. The operator must verify the patient identification procedure as above adding which method of identification was used.

If there is any doubt about the patient's identification, the operator must not carry out the radiation exposure.

####

**4. Differences between patient identifiers**

If one aspect of the patient identifiers does not correspond between the referral and the information obtained, but the operator is sure it is the correct patient, e.g. one digit different in date of birth or different address (old address), then the operator may use their professional judgement and the details may be changed. Clerical staff should be informed of the change to allow this to be changed on the patient’s dental record.

If there is any doubt about the patient's identification, the operator must not carry out the radiation exposure.

|  |  |  |
| --- | --- | --- |
| EP 5 | Pregnancy Enquiries | …………………… Dental Practice |

## Objectives

* To outline the requirements for pregnancy enquiries prior to a dental exposure

### 2. Scope

####

Within ………….. Dental Practice, we currently do not undertake any radiographic examinations where the foetus will be exposed to the primary beam of radiation.

Dental radiographic imaging is by general professional consensus not damaging to a developing foetus. Consequently no formal pregnancy enquiries are required under IR(ME)R.

If a pregnant patient is particularly concerned about the potential for the radiograph to damage her unborn child, and is not reassured by the dentist, counsellor or radiation protection advisor, then the dentist may delay the radiograph if it is in the best interests of the patient.

This decision should be documented with the patient’s dental record.

|  |  |  |
| --- | --- | --- |
| EP 6 | Assessment of Patient Dose | ………………….. Dental Practice |

## Objectives

* To enable assessment of patient dose for any dental exposure to be undertaken by accurately recording such exposures to ionising radiation

# 2. Responsibilities

The operator undertaking the exposure must ensure that data required to assess patient dose is recorded, as outlined below.

The employer will implement a programme for carrying out patient dose surveys and will consult with the Medical Physics Expert (MPE).

### 3. The process for recording factors relevant to dose

### All operators initiating a dental exposure should adhere to the standard settings as laid out in the Dental practices written protocols, unless further optimisation is possible or necessary. Only if these standard settings are deviated from is it necessary that the actual settings used be individually recorded e.g. kV and time (s).

### These, along with the total number of exposures, must be recorded in the electronic record*.* This will include the reason for carrying our any repeat exposures. In addition the reasons for significantly exceeding any DRLs should be recorded (see EP7)

### If there has been a variation in standard settings the operator must also record within the patient’s electronic record the following details

* Dose Area Product (DAP) value
* Dose Width Product (DWP) value
* Other dose indicator e.g. exposure or sensitivity index for digital images

The operator undertaking the exposure will be aware of the range of doses or DRLs that result from the exposure factors set within the protocols.

|  |  |  |
| --- | --- | --- |
| EP 7 | Diagnostic Reference Levels | ………………… Dental Practice |

## Objectives

* To ensure that diagnostic reference levels (DRLs) for the common dental exposures performed are in place
* To ensure that there is an assessment of compliance with these DRLs
* To ensure that where it is known that DRLs are consistently exceeded a review and corrective action shall be taken

# 2. Responsibilities

#### The employer is responsible for establishing diagnostic reference levels and undertaking appropriate reviews whenever DRLs are consistently exceeded and for ensuring that corrective action is taken where appropriate.

The operator undertaking the exposure must ensure that data to assess patient dose is recorded, in line with EP6.

The medical physics expert (MPE), as laid out within their contract, may use dose survey results to create and review local DRLs having regard for any available national or European DRLs *every 3 years*.

When a DRL is consistently exceeded, the MPE should be involved in the review as deemed appropriate by the named person.

### 3. The Process of establishing DRLs

DRLs provide standard values of dose that are derived from a dose audit. They are set in terms of measurable dose-related quantities such as patient entrance dose (PED) or dose area product (DAP) values for typical examinations of average size patients.

* The DRLs will be prepared by the Medical Physics Expert, as laid out within their contract/based on recent national dose surveys and will be subject to an audit every 3 years
* Current DRLS will be made available in the Radiation Protection File
* Once set, these DRLs are not expected to be exceeded when good and normal practice regarding diagnostic and technical performance is applied

#### 4. Using DRLs

#### The operator undertaking the exposure, when possible, must ensure that after each exposure any dose information is considered in relation to the DRL.

####  4.1 Dose information available

#### If following each exposure, the dental x-ray machine provides a DAP value or some other dose indicator this should be reviewed by the operator with regard to the appropriate DRL. This dose value will be recorded in the patient’s electronic record in line with EP6.

#### If the DRL is exceeded it should be recorded along with any extenuating circumstances in the electronic record. If the DRL is found to be consistently exceeded the reasons must be investigated immediately. The operator must inform named person as soon as they are aware that the DRL is being consistently exceeded.

**4.2 No dose value available**

#### If following each exposure, the dental x-ray machine does not provide a DAP value or other dose indicator, it is not possible to consider the dose with regard to the DRL. However there are some reassurances that the intended dose has been given depending on the image acquisition method.

**Film**

The amount of radiation reaching the film may be assessed by evaluating the image quality. If the chemistry is known to be correct and the film is too dark, then it may be that too much radiation is being emitted and therefore the DRL may be exceeded. The lead dentist will be informed and further tests may be made if necessary.

### 5. Reviewing DRLs that are consistently exceeded

#### The MPE, RPS or operator must inform the employer as soon as they are aware that the DRL is being consistently exceeded.

If the DRL is believed to be consistently exceeded (either as identified by the MPE, operator or RPS) the reasons must be investigated immediately by the named person so that corrective action may be taken.

Any corrective action should be documented and communicated to relevant staff.

|  |  |  |
| --- | --- | --- |
| EP 8 | Clinical Evaluation | ………………….. Dental Practice |

## Objectives

* To ensure every dental exposure undertaken within Belhaven Dental Practice has a recorded clinical evaluation

# 2. Responsibilities

An entitled operator is responsible for ensuring that a clinical evaluation is recorded in the patient’s electronic record.

### 3. The Process of recording a clinical evaluation

Following a dental exposure each image must be clinically evaluated by an operator so entitled, usually a dentist, and the findings documented in the patient’s electronic record.

This evaluation of the whole image shall include:

* The personal electronic code of the operator undertaking the evaluation
* The details of all findings including
	+ Charting of caries
	+ Findings relevant to the patients management or prognosis
	+ In the case of a pre-extraction radiograph, it may be sufficient to record either ‘root form simple’ or nothing abnormal diagnosed

|  |  |  |
| --- | --- | --- |
| EP 9 | Training and Education | …………………….. Dental Practice |

## Objectives

* To ensure all entitled practitioners and operators have received adequate training for the duties they are undertaking, and that records of such training are maintained and reviewed
* To ensure that entitled practitioners and operators undertake continuing professional education and training after qualification including, in the case of clinical use of new techniques, training related to these techniques and the relevant radiation protection requirements

# Responsibilities

The employer will ensure that arrangements are in place to maintain an up to date list of qualifications and duties for each duty holder (see EP1 Appendix 2).

The employer is responsible for ensuring that the training records are reviewed on an annual basis and that this review is used to define a duty holder’s scope of practice.

Practitioners and operators shall satisfy themselves that they have appropriate training and experience to undertake duties that they are entitled to perform, and shall maintain a personal portfolio of their education, training, experience and competence. They must not carry out any duty for which they have not been trained and entitled.

### 3. Process

The basic requirements for entitlement as a duty holder are listed in EP1 Appendix 1

Each duty holder’s personal portfolio should demonstrate the nature of any training and the date on which training was completed. For registration with the GDC, verifiable radiation protection training is required, currently 5 hours in any 5 year period.

Annual appraisals will include checks of ongoing relevant professional education are undertaken for each duty holder by the duty holder’s line manager. Each duty holder should provide their own personal training records for this appraisal to ensure that a maintained competence for each duty holder role can be demonstrated.

##  The named person must check the registration for all referrers and practitioners on an annual basis. A record of such registration and the date checked is held within the individual’s competence document.

On induction, and with the implementation of any new radiation equipment or equipment software, there must be associated training which must be documented within the duty holder’s training record. Their scope of practice should also be reassessed by an appropriate person.

**4. Third party training records**

Where the employer enters into a contract with another to engage a practitioner or operator (e.g. agency staff or medical physicists), the latter (e.g. the agency) shall be responsible for keeping their records and shall supply such records to the employer forthwith upon request.

**5. Students**

An operator or practitioner who is assigned as ‘In Training’ for any particular competence may undertake any aspect of that function, as part of practical training, provided if this is done under the supervision of a person who is themselves adequately trained and entitled for that duty.

This is expected to be ‘direct’ supervision and the supervisor shall take responsibility for the activity as if they had carried it out themselves.

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| EP 10 | Incident Reporting | XXXXX Dental Practice |

## Objectives

* To ensure that incidents and near misses involving patient overexposures are properly investigated and recorded
* To ensure that reportable radiation incidents are reported to the appropriate statutory authority promptly
1. **Responsibilities**

The individual who identifies the error is responsible for recording the available data on the incident and for informing Named person e.g. Radiation Protection Supervisor (RPS) or employerwithin one working day.

Named person is responsible for carrying out an investigation of the incident and when necessary, liaising with the Radiation Protection Adviser (RPA) or Medical Physics Expert (MPE) regarding the patient dose as soon as possible.

The MPE or RPA is responsible for making an assessment of the dose to the patient and for advising (Named person e.g. RPS or employer)on whether an incident needs to be reported to the relevant statutory authority or if any other steps need to be taken.

Named person will inform the statutory authorities of any reportable incidents **within 3 weeks**of the incident occurring.

The dental practitioner must decide on whether to inform the patient or not. This must be documented in the patient’s electronic records. The patient should be informed unless it is deemed not to be in their best interests. If the patient is not informed of the incident, the reasons why should also be documented.

The referrer, when they were not also acting as the practitioner and operator, will provide a written explanation of the reason for any incorrect referral, and the action they have taken to avoid similar errors in the future.

### 3. Internal reporting

If it is suspected that an unintended patient exposure, overexposure or near miss has occurred, the duty holder shall record onan incident formand provide it to the employer/RPS:

* The age and demographic details of the patient
* The x-ray machine settings, dose area product (DAP), the kV and mAs (if known)
* Any other relevant information e.g. error codes, time for which the exposure appeared to continue, or unusual signals
* What happened and why
* Any other relevant information

If it is suspected that the incident is due to an equipment malfunction, the equipment must be withdrawn from use and other staff notified*.* Warning signs must be placed on the faulty equipment. The equipment must not be reused until the reason for the incident has been clarified.Call the equipment service engineer or RPA for assistance if necessary.

**4. Investigation**

Named personshall assemble evidence to determine what events led to the near miss or incident and to allow the dose to be calculated in consultation with the MPE or RPA. The report from this investigation shall include details of what happened, the dose assessment, whether the patient has been informed, what actions have been taken to minimise the risk of a similar incident occurring in the future and any recommendations.

If advised that the incident is reportable by the MPE or RPA, Named personwill inform the Scottish Ministers.

Regulations require that incidents involving a exposure of a patient to a radiation dose ‘much greater than intended‘ are reported to the Health and Safety Executive (HSE) if they are due to an equipment fault (IRR99) or the Scottish Ministersif they result from an error or procedural failure (IR(ME)R). For medical exposures in dentistry; see the HSE and DH website or consult your RPA or MPE, for information on what constitutes much greater than intended.

**5. Records and feedback**

Named personshall place copies of the incident report in the Radiation Protection file and the patient’s electronic records. This report shall be retained for at least 2 years if it was not much greater than intended. If the incident was reportable to the Scottish Ministers a record must be kept for at least 11 years. For incidents reported to HSE a record must be kept for at least 50 years.

Any lessons arising or changes to practice following the investigation will be implemented to ensure that the risk is minimised in the future. Relevant staff will be informed of all incidents, any lessons arising from the investigation and any changes to practice by staff meeting.

**Incident reporting flowchart**

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| EP 11 | Reducing the Probability andMagnitude of unintentional exposures | ……………………… Dental Practice |

## Objectives

* To ensure that the probability and magnitude of unintentional exposures is kept as low as reasonably practicable
1. **Responsibilities**

The employer will ensure that an equipment inventory is kept on all radiation equipment and that the equipment is maintained in accordance with manufacturer’s instructions

All duty holders shall comply with the employer’s procedures.

Practitioners and operators shall ensure that the doses arising from an exposure are kept as low as reasonably practicable consistent with the intended purpose.

### 3. Process

The Belhaven Dental Practice will reduce the risk of unintentional exposures by adopting the following

* Employers procedures and protocols will be in place and regularly reviewed to ensure they match local practice
* All equipment will regularly undergo quality assurance to ensure it is functioning correctly
* Additional equipment QA checks carried out if over 10% of images are deemed unacceptable
* Staff feedback given following incidents
* Training and competence assessments will be undertaken including when new equipment and procedures are introduced
* Induction programmes for new staff
* Grading and review of dental images
* Clinical audit
* Audit of procedures
* Good practice and technique applied
* Investigation of near miss incidents
* Peer review of images – looking at image quality to include positioning, collimation, density, sharpness and exposure

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| EP 12 | Document Quality Assurance | ………………… Dental Practice |

## Objectives

* To ensure appropriate document control for all IR(ME)R documents
1. **Responsibilities**

The employer will ensure that the Employer’s Written Procedures and Employer’s Written Protocols are reviewed every 2 years or sooner if practice changes or new equipment is installed. These will have unique numbers, for Employer’s Written Procedures EP1 etc., and for Employer’s Written Protocols PRO1 etc.

If a procedure or protocol changes it is the responsibility of the Authoriser to inform all relevant staff.

The author of a document is responsible for the content whilst the Authoriser is responsible for ensuring the document is in place

### 3. Document control

Each document shall be uniquely identified.

**3.1 Employer’s procedures** will display the following front page

|  |
| --- |
| ………………. Dental Practice Employers Procedures**Written Procedures for Medical Exposures** |
| Author |  |
| **Version Number** |  |
| Authorised by |  |
| **Issue Date** |  |
| Reviewer |  |
| **Review Date** |  |

 Each individual procedure will display a header e.g.

|  |  |  |
| --- | --- | --- |
| EP 1 | Entitlement of Duty Holders | ………………….. Dental Practice |

Each individual procedure will also display a footer of

IR(ME)R Employers procedures Version 1 Page 26 of 30

**3.2 Written protocols and other IR(ME)R documents**

These will display a header and footer, examples given below.

**Header**

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| --- | --- | --- |
|  PRO1 | Protocols for dental radiographs | ………………… Dental Practice |

**Footer**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Issue Date:  | Version No.  | Authorised by  | Author  | Review date:  | Page 2 of 4 |

* 1. **Document holding and control**

All Employer’s Written Procedures and written protocols shall be held on the practice intranet, and shall be available to all practice staff. These electronic documents shall be watermarked ’Uncontrolled when printed’ to indicate that these are the only controlled versions of these documents.

All duty holders must comply fully with Employer’s Written Procedures**,** and appropriately with **w**ritten protocols (allowing appropriate latitude for professional judgement), so each employee is responsible for ensuring that they are working to the current version of these procedures and protocols (which may be printed for convenience).

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| EP 13 | Audit | XXXXX Dental Practice |

## Objectives

* To ensure that clinical audit is undertaken
* To ensure that the content of the written procedures are audited to ensure compliance by the duty holders
1. **Responsibilities**

The employer will ensure that *annual* audit is undertaken with a consistent approach and that the outcome of all audits will be fed back to relevant staff.

### 3. Process

The employer will ensure that an audit program is in place to outline the methods to be used to carry out each audit. The audit program will describe the person responsible for carrying out each of the audits, the standards, criteria, timescales and details of the audit process.

The audit programs can be found in the audit file.

The following audits shall be undertaken at Belhaven Dental Practice:

1. Assurance that all procedures and protocols are within date and will be reviewed by the review date
2. An audit of duty holders’ entitlement along with their supporting qualifications and training. This audit should ensure that their entitlement matches the duties performed and that it is supported with evidence of training and continuing professional development
3. An audit of referrals to ensure that they have been made according to EP2 and that a clinical evaluation has been carried out in line with EP8. This will ensure that the referrer, practitioner and operator(s) for each exposure can be identified
4. An audit of referrals to ensure that they have been justified and authorised in line with EP3 and that the practitioner can be identified
5. An audit to ensure that the patients are identified in line with EP4 and the operator can be identified
6. An audit of patient dose should be undertaken 3 yearly by the MPE.
7. An audit of operator compliance with EP6, should also be undertaken
8. An overview of all near miss and incidents reported in the last 12 months including outcomes
9. Review of image quality and repeat exposures
10. An audit to ensure that research exposures have been taken in line with EP14
11. An audit to ensure that medico-legal exposures have been taken in line with EP15

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| EP 14 | Research Exposures | ……………………. Dental Practice |

## Objectives

No research exposures are currently undertaken at Belhaven Dental Practice

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| EP 15 | Medico-Legal and Occupational Health Exposures | …………………….. Dental Practice |

## Objectives

No medico-legal or occupational health exposures are undertaken at Belhaven Dental Practice