

Health and Safety Policy
Arrangements:
Radiation Protection Guidelines

Radiation Protection Guidelines

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Part 1 - Management of Exposure to Radiation

1.1 Introduction and Statement of Intent

Simply Teeth Dental Care is responsible for the implementation of the **Ionising Radiations Regulations 1999 (IRR99)** which relates principally to the protection of workers and the public and the **Ionising Radiation (Medical Exposure) Regulations 2000 (IR(ME)R2000)** which impose new requirements for patient protection. Full guidance is contained in the NRPB's **Guidance for Dental Practitioners on the Safe Use of X-ray Equipment**, published by the Department of Health in June 2001.

It is the policy of our dental practice to take all reasonable steps to ensure that any dose of ionising radiation received by staff and members of the public whilst on premises is as low as reasonably practicable and kept below acceptable dose limits.

1.2 Aims and Objectives of this Guidance

This guidance and procedures document has been developed to:

- a) To control the risks of working with x-ray equipment;
- b) To ensure, so far as is reasonably practicable, the health, safety and welfare of staff who work with x-ray equipment and patients who are being exposed to x-rays

1.3 Scope and Equality Impact Assessment Statement

This procedure document has been assessed for equality impact. The procedure is applicable to every member of staff within the practice irrespective of their race, ethnic origin, nationality, gender, culture, religion or belief, sexual orientation, age or disability.

This document is to be available to all employees working with x-ray equipment at all times. Managers must ensure that staff have read and are aware of the content of this policy document.

All new members of staff joining the Community Dental Service who are likely to work with x-ray equipment should be asked to read this Policy as part of their basic induction.

2.0 Notification of the Management

The managers must be notified of routine use of dental x-ray equipment and of any changes in equipment or location.

3.0 Legal Responsibility and Staff Appointments

The legal responsibility for ensuring that the radiation regulations are implemented lie with Simply Teeth Dental Care. To comply with the regulations a Radiation Protection Adviser and Radiation Protection Supervisor will be appointed and used by our dental practice.

Corporate and Individual Responsibility for Health and Safety is set out in the Health and Safety. As well as the duties set out in that document, the following individuals have specific duties of care relating to the safe use of radiological examination equipment

Radiation Protection Adviser (RPA)

The RPA will provide advice in relation to IRR99 including risk assessment, contingency plans, staff training and the Quality Assurance programme. The person or organisation that provides routine radiation surveys of the dental equipment is normally expected to act as the RPA.

Radiation Protection Supervisor (RPS)

The RPS will hold responsibility for supervising the work with radiation and ensuring that it is done in accordance with the local rules.

In addition all dental surgeons have been suitably trained to carry out the function of the RPS and can act as Referrers, Practitioners and Operators as described in the regulations. All have undertaken the IR(ME)2000 Core of Knowledge, Dental Radiography course and will undertake updating and retraining as advised by the RPA.

Operator

The Operator (IR(ME)R2000) is any person who is entitled to carry out all or part of the practical aspects associated with dental x-rays. All dentists act as Operators.

In addition, within the regulations, Dental Nurses can perform some of the functions of the Operator but must be adequately trained to undertake them.

Within our dental practice, the duties of dental nurses as Operators will be restricted to the following under the supervision of the RPS.

- Patient identification
- Pressing the exposure button
- Processing films
- Labelling and mounting of films
- Storage of films

4.0 Written Rules and Procedures

A Radiation Protection File will contain a copy of the local rules and written procedures for working instructions, contingency arrangements, dose investigation level, patient identification, staff appointments and accidental and/or unintended dose.

Risk Assessment (IRR99) should be carried out regularly.

A Quality Assurance programme will be in place to ensure consistently adequate diagnostic information.

5.0 Exposure and Dose Controls

A Controlled area must be designated for each x-ray set in consultation with the RPA.

staff dose levels will be regularly monitored. A level of no higher than 1mSv per year is recommended.

The staff are currently not monitored as the audit in previous years has identified that too few radiographs are taken to produce a significant enough dosage and risk to require constant monitoring.

A member of staff who is pregnant will be advised to reduce her involvement with dental x-rays to relieve any individual anxiety. It is recommended that the dose level should be less than 1mSv for the declared term of the pregnancy.

The taking of dental x-rays must be justified at all times and doses for patients kept as low as reasonably practicable.

Clinical audit will be carried out from time to time as deemed necessary. Last radiographic audit was run in 2008.

6.0 Equipment

An inventory of equipment will be kept up to date and available.

Maintenance and associated checks of X-ray equipment will be in accordance with the advice of the manufacturer, supplier and the RPA, particularly with regard to safety and warning features.

Critical examination and acceptance test reports (IRR99)

These must be obtained for new or significantly modified equipment. The acceptance test should include measurements to assess representative patient doses.

7.0 Training and CPD

Appropriate information, instruction and training must be provided for all persons directly associated with dental radiology.

Training will be provided to ensure that all dentists and dental nurses have updated knowledge and the skills required for their practice of dental radiology.

Continuing Professional Development (CPD) (IR(ME)R2000)

Dentists should devote at least twelve and a half hours to radiology and radiation protection within their five yearly recertification cycle. A formal radiation courses are regularly provided locally.

Dental nurses should devote at least five hours to radiology and radiation protection within their five yearly recertification cycle.

Part 2 - Employer's Procedures for Medical Exposures Dental X-Ray

These procedures are intended to meet the requirements of the **Ionising Radiation (Medical Exposure) Regulations 2000**, usually known as IRMER. These procedures are binding on the duty holders unless it is indicated otherwise. Where appropriate, reference is made to Regulations and Schedules in IRMER.

These procedures are to be followed by the Staff and as presented, relate to dental radiology only.

1.0 Identification of individual to be exposed.

The identification process is the responsibility of the operator undertaking the x-ray:

- For Patients, the identity of the patient must be checked before exposure to ionising radiation. Children and patients with language or learning difficulties or other sensory impairment must be identified by other corroborative evidence, e.g. by asking an accompanying parent or escort.

2.0 Duty Holders

Referrers are dental practitioners who are entitled to refer individuals for dental exposures to another practitioner or designated health care professional.

- For radiography within the practice, the referrer will usually be the dentist seeing the patient.
- Occasionally a dentist may refer a patient externally for a radiographic examination.

In these cases the referral must

- Uniquely identify the patient
- Contain sufficient clinical information to enable the exposure to be justified
- contain a signature identifying the referrer.

Practitioners are registered dental practitioners who are entitled to take responsibility for an individual exposure.

- All dentists have been adequately trained to act as practitioners.

Operators are those to whom any practical aspects of the exposure have been allocated.

- All dentists may act as Operators.
- In addition dental nurses may perform some of the functions of the Operator as described in the Radiation Protection Policy.

3.0 Medico-Legal Exposures

Referrals for medico-legal exposures will only be accepted by our practice from registered dental practitioners.

4.0 Quality Assurance Programmes

Within the practice the following records will be kept and will be audited.

- Lists of practitioners
- List of operators
- Authorisation of referrals
- Records of medico-legal, screening procedures

Records to enable estimation of patient dose and to demonstrate reference levels are not being consistently exceeded.

- Training records for practitioners and operators
- Equipment inventory
- Clinical evaluation of medical exposure
- Exposure protocols
- Incident reports

5.0 Assessment of patient dose

The following information will be recorded in the patient's record.

- As the X-ray setting are preset on the X-ray machines dosage will be monitored and recorded by the type of selection chosen by the operator and these must be recorded in patient records.

6.0 Diagnostic reference levels

DRLs are not applicable to exposures of patients taking place for medical research purposes. As there is no current research involving the taking of X-rays being undertaken by the practice, DRLs are applicable to all exposures. DRLs are dose levels for typical examinations for groups of standard sized patients or standard phantoms. The DRL should not be consistently exceeded for standard procedures when good and normal practice regarding diagnostic and technical performance is applied.

- For Simply Teeth, the RPA will formally assess the typical patient dose every two years and comparison made with diagnostic reference levels where they are available.

7.0 Evaluation and recording of exposure

For diagnostic procedures, the practitioner is responsible for ensuring that a clinical evaluation of the outcome of the exposure, takes place.

- The dentist must record the type of x-ray taken, the quality of the radiograph and the clinical findings on the patient's record card.

8.0 Reduction of accidental and unintended doses.

All practical aspects of dental exposures shall be conducted with due regard to minimising unintended doses to patients.

The following practises will be observed:

- Written protocols will be available for all surgeries and type of equipment in use.
- Patients, staff and escorts will be properly instructed in their roles before the x-ray is taken
- The field size will be limited to that necessary for the examination and film holders will be used where appropriate.

9.0 Training

All dentists and dental nurses will undergo appropriate training and will follow CPD. Training records will be kept and updated annually.

10. Incident reporting

- When a member of staff has reason to believe that a person has been exposed to a greater dose of ionising radiation than was intended, an incident form must be completed and the manager informed.
- The Manager will notify the RPA who together will carry out an immediate preliminary investigation.
- Unless the investigation shows beyond all reasonable doubt that no overexposure took place, the DOH inspector shall be informed immediately and our managers will initiate a detailed investigation.