HSE Mid West
Community Healthcare

Oral Health Services
Ionising Radiation Protection Management and Everyday Practice Guideline Part A2

HSE Mid West Community Healthcare

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MIDWEST PRIMARY CARE SERVICES

HSE Mid West Community Healthcare

MWCH Oral Health Services Ionising Radiation Protection Management and Every Day Practice Guideline Part A2

Policy [ ] Procedure [ ] Protocol [ ] Guideline [x]

Mid West Community Healthcare.

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ORAL HEALTH SERVICES IONISING RADIATION PROTECTION MANAGEMENT AND EVERY DAY PRACTICE GUIDELINE, PART A2

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1.1. PURPOSE

1.1.1. The purpose of this guideline is to assist the Designated Manager/RPO and Oral Health Services staff in the HSE Mid West Community Healthcare Oral Health Services to:

1.1.1.1. Ensure that Dental Radiography is performed in a manner which is consistent with good radiation protection practices,

1.1.1.2. Comply with relevant Irish legislation; in particular S.I. 30 of 2019 and S.I. 256 of 2018, the conditions of the licence and the Code of Practice issued by the EPA Office of Radiological Protection (ORP), to protect the public, staff and patients.

1.1.1.3. Adhere to any guidelines or regulations issued by the National Radiation Protection Committee, or the Dental Council and any other Statutory Body.

1.1.1.4. Adhere to any guidelines or regulations issued by the Government, HSA, HSPC and AMRIC.

1.1.1.5. Assist staff in understanding their role in, and the need to adopt, a consistent approach to ionising radiation protection.

1.1.1.6. Set out the systems and processes that are required to ensure that ionising radiation is managed consistently across the Mid West Oral Health Services.

1.1.2. This guideline and the protocols and procedures within, supports the purpose by:

1.1.2.1. Clearly defining the roles and responsibilities for ionising radiation protection.

1.1.2.2. Outlining a consistent process for the management of ionising radiation protection.

1.1.2.3. Seeking to embed ionising radiation protection as part of the normal day-to-day activities in delivering healthcare services.

1.1.2.4. Outlining the process for the safe delivery of ionising radiation in everyday practice.

1.1.2.5. Identifying the resources to support the implementation of this policy.

1.1.3. This guideline must be read and used in conjunction with the *MWCH Oral Health Services Ionising Radiation Protection Policy, Part A1 (2021).*

1.2. SCOPE

1.2.1. This guideline and the protocols and procedures within, applies to staff employed in the Mid West Oral Health Services which comprise of Dental Services, Orthodontic Services and Restorative Dentistry Services.

1.2.2. Dental services are provided to:

1.2.2.1. Children up to the age of 16 years.

1.2.2.2. Adults with special care needs.

1.2.2.3. Patients treated under the Dental Treatment Service Scheme.

1.2.2.4. Children and Adults Holding a European Health Insurance Card from another country requiring emergency dental care.

1.2.2.5. Any patient group or individual deemed eligible by the Minister for Health or CEO of the HSE.

1.2.2.6. All HSE Acute Hospital inpatients and residents of HSE maintained facilities have eligibility for dental services.

1.2.2.7. Private adult patients do not avail of the Mid West Dental Service.

1.2.3. Orthodontic services are provided to:

1.2.3.1. Children up to the age of 16 years provided they have been considered eligible for HSE orthodontic treatment in accordance with the Modified IOTN Eligibility Guidelines and their treatment may continue into adulthood.

1.2.3.2. Children and young adults holding a European Health Insurance Card from another country requiring emergency Orthodontic care.

1.2.3.3. Patients treated under the Dental Treatment Service Scheme are ineligible for HSE orthodontic treatment.

1.2.3.4. Any patient group or individual deemed eligible by the Minister for Health or CEO of the HSE.

1.2.3.5. Private adult patients do not avail of the Mid West Orthodontic Service.

1.2.4 Restorative Dental Services are provided to:

1.2.4.1 Children up to the age of 16 years with complex restorative treatment needs who have been referred from the HSE Orthodontic, Oral & Maxillofacial, Dental or Acute Hospital Services.

1.2.4.2 Adults with complex restorative treatment needs who have been referred from the Orthodontic, Oral & Maxillofacial, Dental & Acute Hospital Services.

1.2.4.3 Patients treated under the Dental Treatment Service Scheme who have been referred for complex restorative treatment.

1.2.4.4 Children and Adults Holding a European Health Insurance Card from another country requiring emergency restorative care.

1.2.4.5 Any patient group or individual deemed eligible by the Minister for Health or CEO of the HSE.

1.2.4.6 Private adult patients do not avail of the Mid West Restorative Dental Service.

1.2.5 Members of the public who attend with service users.

1.2.6 Third party companies who are appointed to facilitate the provision of a service to the MWCH.

1.3 GLOSSARY OF ABBREVIATIONS, TERMS AND DEFINITIONS

See Appendix II

1.4 GUIDELINE, PROTOCOLS AND PROCEDURES

1.4.1 Governance.

1.4.1.1 The Head of Service has sub-delegated the day-to day-"Holder/Undertaking" functions to the Principle Dental Surgeon and The Lead Orthodontist, both hereafter will be termed as the Designated Manager.

1.4.1.2 Each Designated Manager is the registered person with the Environmental Protection Agency (EPA) and is accountable as the Radiation Protection Officer (RPO), hereafter termed as the Designated Manager/RPO. As the registered person they act on behalf of the MWCH Oral Health Services and register the same as the Authorised Entity (Functional area) with the EPA. Their responsibilities are outlined in the *MWCH Oral Health Services Ionising Radiation Protection Policy (2021)* Appendix IV and the processes to ensure quality and safety are outlined in detail in this guideline.

1.4.1.3 The designated mangers/RPO's have sub- delegated the responsibilities for patient, staff and the public protection to the Practioner/Radiological Safety Officers in the outlying clinics. Their responsibilities are outlined in *MWCH Oral Health Services Ionising Radiation Protection Policy (2021)* Appendix IV and the processes to ensure quality and safety are outlined in detail within this guideline.

1.4.2 Environmental Protection Agency - Office of Radiation Protection and Environmental Monitoring.

1.4.2.1 Registration/Licensing

The use of oral radiology in Ireland is authorised in advance by the EPA through registration.

Forms of Authorisation (oral radiology), EPA, Code of Practice on the Application of the Ionising Radiation Regulations (IRR19) in Dentistry 2019

Registration (fixed x-ray equipment)		Licensing (hand held)
Duration of authorisation	Indefinite (unless surrendered or revoked)	10 years (renewable)
Documentation to be submitted with applications	• self-declaration confirming compliance with the requirements for registration	• risk assessment • additional safety procedures • other information as specified

All applications for an authorisation must be made through the online EDEN system. The information to be provided by the Designated Manager/RPO in an application includes:

1.4.2.1.1 The nature of the radiology activities for which authorisation is sought (these are referred to as practices in EDEN).

1.4.2.1.2 The legal details of the Midwest Oral Health Services.

1.4.2.1.3 The name of the Radiation Protection Adviser (RPA) consulted.

1.4.2.1.4 The address of the Midwest Oral Health Services and of the premises at which oral radiology is to be carried out.

1.4.2.1.5 Depending on the nature of the activities for which an authorisation is sought, the EDEN system will guide the manager through the registration or licensing process as appropriate.

1.4.2.2 For registration, the Designated Manager/RPO must self-declare that they have:

1.4.2.2.1 Completed a risk assessment in consultation with an RPA to identify any necessary protective measures.

1.4.2.2.2 Implemented the EPA Code and any additional measures identified in the risk assessment.

1.4.2.2.3 Declared themselves as the Radiation Protection Officer (RPO).

1.4.2.2.4 Provided staff with the appropriate training.

1.4.2.2.5 Developed procedures to be followed in the event of an incident liable to have radiation safety implications for workers and members of the public.

1.4.2.2.6 The Designated Manager/RPO holding an EPA registration must retain on file documentary evidence supporting the self-declaration.

1.4.2.2.7 An inventory of X-ray equipment used for authorised practices is maintained, see section 1.4.4 Quality Assurance Programme.

1.4.2.2.8 The EPA may at any stage following registration request copies of supporting documents for the purpose of verifying the self-declaration.

1.4.2.2.9 The Midwest Oral Health Services operates clinics across multiple premises, the requirements in relation to the risk assessment and additional safety procedures apply to each clinic. Each individual premises must be listed in the registration by the Designated Manager/RPO.

1.4.2.2.10 When a certificate of registration is granted this must be displayed publicly within each premises.

1.4.2.3 Amendments to an authorisation

1.4.2.3.1 Applications to amend an authorisation must be made by the Designated Manager/RPO through EDEN.

1.4.2.3.2 It is necessary for the Designated Manager/RPO to apply for amendment to an authorisation when it is intended to:

1.4.2.3.2.1 Add or remove dental premises under an existing registration.

1.4.2.3.2.2 Carry out an additional oral radiology practice not covered by an existing registration.

1.4.2.3.2.3 An amendment would be necessary, for example, before introducing cone beam CT in a clinic already registered for the use of intraoral or panoramic.

1.4.2.3.2.4 Removal of an oral radiology practice under an existing registration.

1.4.2.3.2.5 Make any changes to the schedule of X-ray equipment used for authorised practices.

1.4.3 Health Information and Quality Authority (HIQA).

1.4.3.1 HIQA have rolled out access to an online portal system to Oral Health Services which facilitates and streamlines information sharing.

1.4.3.1.1 The Chief Officer of MWCH has been identified by the HSE to HIQA as a key stakeholder for communications as part of the declaration process of undertakings that carry out medical exposure to ionising radiation under the European Union (Basic Safety Standards for Protection against Dangers Arising from Medical Exposure to Ionising Radiation) Regulations 2018 and 2019.

1.4.3.1.2 Accessing the online portal system.

1.4.3.1.2.1 Issuing to and submission of the Self-Assessment Questionnaire, (SAQ) by the Designated Manager/RPO.

1.4.3.1.2.2 Informing HIQA of any changes since submission of the declaration of undertaking, such as changes to contact details, or the types of services provided.

1.4.3.1.2.3 Submitting notifications on significant radiation incidents in any facility.

1.4.3.1.3 The rollout of access coincided with the release of the regulatory self assessment questionnaire.

1.4.3.1.4 To facilitate this transition to the online system, the Chief Officer has been assigned “super-user” access rights to a personalised Portal Account.

1.4.3.2 Setting up additional users on the portal system.

1.4.3.2.1 The Chief Officer has the authority to request rights to the portal system for an additional individual to become a sub-user.

1.4.3.2.2 Before requesting access for an authorised sub-user, the Chief Officer should ensure this individual has the sufficient knowledge and technical expertise to submit information such as incident notifications and questionnaires as required by HIQA on behalf of the facility.

1.4.3.2.3 HIQA portal access can only be granted if authorised by the Chief Officer through their super user portal access.

1.4.3.2.4 The Chief Officer has assigned the sub user accounts to the Designated Manager/RPO and their nominated delegates.

1.4.3.2.5 HIQA do not currently accept individual email requests or individual registrations through the portal.

HIQA can be contacted at either of the email addresses below for any queries or assistance: portalsupport@hiqa.ie for any issues in accessing the portal system radiationprotection@hiqa.ie for general regulatory queries.

1.4.3.3 Self-Assessment Questionnaire.

1.4.3.3.1 HIQA issues the Designated Manager/PRO with an Self-Assessment Questionnaire to assess regulatory compliance.

1.4.3.3.2 The Designated Manger/RPO must complete the Self-Assessment Questionnaire.

1.4.3.3.3 This Self-Assessment Questionnaire is a tool that allows the Designated Manager/RPO to self-appraise the level of compliance and helps to identify any possible risks or perceived gaps in the service.

1.4.3.3.4 It is a regulatory requirement for the Designated Manager/RPO to provide all information to HIQA when requested.

1.4.3.3.5 The Designated Manager/RPO is set up on the portal system access to facilitate communications between HIQA and the undertaking.

1.4.3.4 Inspection of oral health services.

HIQA may use announced or unannounced inspections.

1.4.3.4.1 An announced inspection means the relevant staff involved in carrying out medical exposure to ionising radiation are available to meet with the inspector and facilitate the inspection. This means the inspection findings are informed by the people working in the installation. A notice period of 10 working days is given for standard announced inspections.

1.4.3.4.2 A short notice announced inspection may be used. At least 48 hours' notice will be given of these inspections to facilitate meeting with the undertaking or the Designated Manager/RPO.

1.4.3.4.3 All communication from HIQA about an announced or short notice inspection will be communicated to the Designated Manager/RPO.

1.4.3.4.4 The Designated Manager/RPO will remain the point of contact for the undertaking (HSE National) at all stages of the inspection.

1.4.3.4.5 The undertaking will be copied on all correspondence and overall responsibility for compliance still remains with the undertaking.

1.4.3.4.6 When a standard announced inspection occurs, HIQA will issue the undertaking with a notification of inspection confirming the date of the announced inspection 10 working days before the inspection.

1.4.3.4.7 A proposed schedule outlining the inspection activities will also be included.

1.4.3.4.8 Every effort will be made by the Designated Manager/RPO to ensure relevant staff are on site on the day of inspection to meet with inspectors or to arrange for an alternative member of staff to be available should the relevant staff be unavailable.

1.4.3.4.9 A pre-inspection information request will also be sent to the Designated Manager/RPO. The purpose of this request is to provide information to HIQA on the governance arrangements and the safety systems and processes in place to support dental exposure to ionising radiation safety in the MWCH Oral Health Services.

1.4.3.4.10 The information must be returned by the Designated Manager/RPO to HIQA in soft copy within five working days.

1.4.3.4.11 An unannounced inspection may be carried out. This means that neither the undertaking nor the Designated Manager/RPO has been notified by HIQA in advance either formally or informally of the inspection. The inspectors simply turn up at the installation to carry out the inspection.

1.4.3.4.12 In the event of HIQA inspectors presenting at a site in the MWCH Oral Health Services it is essential that the receiving member of staff requests identification from the inspectors to validate their identity escorts them to the designated office, telephones the Principal Dental Surgeon/Senior Dental Surgeon Administrative/Lead Orthodontist/Consultant in Restorative Dentistry to inform them of the inspection.

1.4.3.4.13 The Principal Dental Surgeon/Senior Dental Surgeon Administrative /Lead Orthodontist/Consultant in Restorative Dentistry will inform all Designated Managers/RPOs in Oral Health Services who will inform the Head of Service Primary Care.

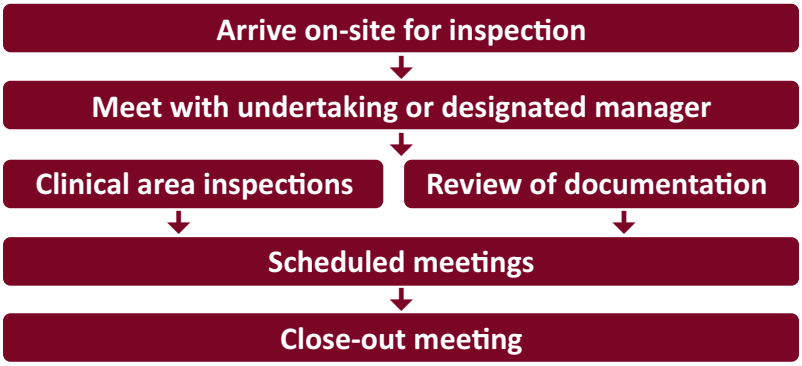
1.4.3.4.14 Further detailed guidance on preparation for inspection is available in *A guide to the inspection of dental services providing medical exposure to ionising radiation, (HIQA, September 2020).* https://www.hiqa.ie/reports-and-publications/guide/guide-inspection-dental-services-providing-medical-exposure-ionising

1.4.3.4.15 In most cases, inspectors will be on site for 3-4 hours, however, the inspection may take longer in certain circumstances, such as larger practices. During the inspection, inspectors will gather information relating to the systems and processes in place for:

- 1.4.3.4.15.1 The safe delivery of ionising radiation.
- 1.4.3.4.15.2 Risk management and incident reporting.
- 1.4.3.4.15.3 Communicating with staff about radiation protection arrangements.
- 1.4.3.4.15.4 Access to and use of policies, procedures and guidelines to support the safe use of dental exposure to ionising radiation.
- 1.4.3.4.15.5 Monitoring arrangements in place for ionising radiation.
- 1.4.3.4.15.6 Staff training and sharing of learning relevant to ionising radiation delivery.

1.4.3.4.15.7 The inspector will gather this evidence by talking with staff, visiting the clinical areas and reviewing documentation. They may also talk with service users.

Sample outline of an on-site inspection schedule



Reference; HIQA, A guide to the inspection of dental services providing medical exposure to ionising radiation, September 2020.

1.4.3.4.15.8 After an inspection, inspectors use their professional judgment and are guided by the Authority Monitoring Approach (AMA), the assessment-judgment framework and the guidance document to assess compliance with the regulations further detailed guidance is available at;

https://www.hiqa.ie/reports-and-publications/guide/assessment-judgment-framework-ionising-radiation

https://www.hiqa.ie/reports-and-publications/guide/guidance - assessing-compliance-ionising-radiation

1.4.3.4.15.9 Inspectors will judge whether the undertaking is compliant, substantially compliant or not compliant.

1.4.3.4.15.10 Inspectors will generate an individual report for each inspected Oral Health Service. The report will contain the inspection findings and judgments on the level of compliance.

1.4.3.4.15.11 Each inspection report goes through three main stages as it is prepared for publication.

1.4.3.4.16 Stage 1 inspection report: draft report issued to undertakings —the Designated Manager/RPO should check this version of the report for factual accuracy and can give general feedback.

1.4.3.4.16.1 HIQA aim to issue the report to the Oral Health Service within 20 working days of inspection.

1.4.3.4.16.2 A feedback form will also be attached with the stage-1 report.

1.4.3.4.16.3 Before returning the feedback form, the Designated Manager/RPO is encouraged to engage, by phone and or email, with the inspector to discuss any queries or specific concerns they may have regarding the stage-1 report.

1.4.3.4.16.4 Please note that feedback on the stage-1 inspection report and compliance plans are separate issues.

1.4.3.4.16.5 While the Designated Manager/RPO may submit feedback on the stage-1 report, the Designated Manager/RPO must submit a fully completed compliance plan and continue to take any necessary remedial actions required.

1.4.3.4.16.6 Both the feedback form and the compliance plan should be included in the same email to HIQA within 15 working days.

1.4.3.4.17 Stage 2 inspection report: draft report issued to undertakings only if they provided feedback on a stage-1 report. Undertakings can appeal judgments in this stage-2 report.

1.4.3.4.18 Stage 3 inspection report: final report, which may or may not be different from the stage-2 report is issued to the undertaking for information only and this is when HIQA's publication process begins. Once the stage-3 report is sent to the undertaking, HIQA's publication process begins and five working days' notice will be given to the undertaking before publication.

1.4.4 Quality Assurance Programme for Dental Radiological Equipment.

The Quality Assurance Programme is a continual process that involves collecting data to determine if dental radiological equipment is meeting the criteria of acceptability.

1.4.4.1 Risk Assessment:

1.4.4.1.1 The MWCH Oral Health Services has ensured that all exposures from radiological procedures under its control are optimised and kept As Low As Diagnostically Achievable Being Indication-oriented and Patient-specific (ALADAIP) for service users, staff and members of the public. The purpose of the risk assessment is to identify the protective measures needed to restrict exposures to radiation. The risk assessment is carried out by the Designated Manager/RPO in consultation with the MPE/RPA. In MWCH Oral Health Services the MPE/RPA furnishes the risk assessment to the Designated Manager/RPO.

1.4.4.1.2 The risk assessment must be:

1.4.4.1.2.1 Carried out prior to acquiring X-ray equipment.

1.4.4.1.2.2 Reviewed and maintained.

1.4.4.2 Carrying out the risk assessment :

1.4.4.2.1 Prior to acquiring X-ray equipment, the Designated Manager/RPO must make an assessment acceptable to the EPAORP of the nature and magnitude of the risks of exposure to ionising radiation for workers and members of the public.

1.4.4.2.2 The risk assessment must take account of the nature and magnitude of the risks of exposure to radiation for staff and members of the public from normal operation as well as from reasonably foreseeable incidents (such as equipment failure or operator errors). Specifically, the risk assessments should take account of:

1.4.4.2.2.1 The type of X-ray equipment.

1.4.4.2.2.2 The design and structure of the building.

1.4.4.2.2.3 Occupancy of adjoining areas.

1.4.4.2.2.4 The clinical layout routine and reasonably foreseeable workloads.

1.4.4.2.2.5 Other factors relevant to public/occupational exposure.

1.4.4.3 The purpose of this risk assessment is to determine:

1.4.4.3.1 Whether any additional shielding is required so that the dose to members of the public does not exceed 0.3 mSv per year.

1.4.4.3.2 If additional safety procedures are required.

1.4.4.3.3 If specific measures are necessary to prevent exposure in the event of reasonably foreseeable incidents during routine work.

1.4.4.3.4 If staff are liable to receive an annual radiation dose that is above the statutory limit for a member of the public. In such situations, staff will be categorised as exposed workers and classification of areas will be required in accordance with IRR19.2.

1.4.4.3.5 In most dental situations staff are unlikely to be categorised as exposed workers and therefore classification of areas is not normally required. Where there are exposed workers a risk assessment will determine the classification of areas.

1.4.4.4 Review and maintenance of the risk assessment:

1.4.4.4.1 The risk assessment must be reviewed at a minimum of every two years.

1.4.4.4.2 The risk assessment will be revised if necessary, under the following circumstances:

1.4.4.4.2.1 Where an increase to the workload is anticipated, or has taken place.

1.4.4.4.2.2 Where X-ray equipment has been modified, for example where a panoramic unit has been upgraded to cone beam CT.

1.4.4.4.2.3 In cases where the layout of the premises has changed and this may affect its shielding properties.

1.4.4.4.2.4 The relocation of dental X-ray equipment within the premises.

1.4.4.4.2.5 A change in occupancy or function of an adjoining room.

1.4.4.4.2.6 The acquisition of new X-ray equipment.

1.4.4.4.2.7 Other circumstances where it is reasonable to believe that the risk assessment is no longer appropriate.

1.4.4.5 Document Control of Risk Assessments.

1.4.4.5.1 The Designated Manager/RPO must retain the relevant risk assessment for the relevant clinic on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.5.2 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.6 Site Requirements.

1.4.4.6.1 Room design.

1.4.4.6.1.1 Room design and positioning of X-ray equipment are critical to the protection of services users, staff and public from any hazards associated with the use of ionising radiation.

1.4.4.6.1.2 The planning of the room layout takes place at an early stage and involve all key stakeholders such as the supplier/installer, MPE/RPA, Designated Manager/RPO and architect if relevant.

1.4.4.6.1.3 This is done in conjunction with the risk assessment.

1.4.4.6.1.4 No structural shielding is required if the workload is fewer than 20 intraoral exposures per week and the distance between the patient and the wall or other boundary is at least 2 metres. For all other circumstances the requirement for shielding should be determined from the risk assessment. Detailed guidance on room design is provided in the EPA's design code for diagnostic facilities.

1.4.4.6.2 General design considerations.

1.4.4.6.2.1 The room accommodating the equipment has been designed in consultation with the MPE/RPA, who has determined the shielding requirements considering: equipment type, reasonably foreseeable workloads, room layout and occupancy of adjacent areas.

1.4.4.6.2.2 The equipment has been installed and used so that the primary beam is not directed towards unshielded floors, ceilings, doors or windows if the space beyond them is occupied.

1.4.4.6.2.3 The operator is able to observe the patient and the X-ray tube exposure indicator during radiography procedures. If the X-ray equipment is controlled from outside the room, a shielded viewing panel or other appropriate has been provided.

1.4.4.6.2.4 The room layout is such that the dentist can control access while an X-ray is being taken. In designing the layout, particular care has been taken in situations where there are multiple points of access.

1.4.4.6.2.5 The exposure and isolation switches are located at a point more than 2 metres from the patient's head during exposure. They are clearly labelled and positioned to be easily accessible to the operator.

1.4.4.6.2.6 There are measures in place to prevent unauthorised exposures while the X-ray equipment is switched on or in an exposure-ready state. This is necessary where the operator exposure controls are located outside the room in a public area.

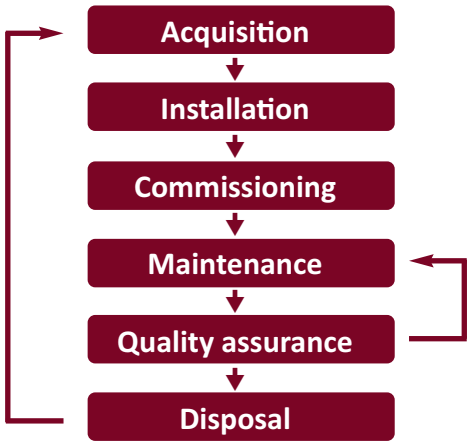
1.4.4.6.2.7 Where more than one X-ray unit is located in a room, it is not possible for the operator to inadvertently energise the wrong X-ray unit or to accidentally irradiate persons working independently in another part of the room.

1.4.4.7 Equipment.

1.4.4.7.1 Quality assurance programmes incorporate an agreed quality control plan to assess and monitor equipment. In the MWCH Oral Health a quality control plan is in place for the acquisition, installation, commissioning, maintenance, quality assurance, decommissioning and disposal of equipment.

EPA, Code of Practice on the Application of the Ionising Radiation Regulations (IRR19) in Dentistry 2019.

Equipment requirements



Equipment Life Cycle

1.4.4.7.2 The Quality Assurance Programme Inventory for each dental radiological installation (Appendix III) includes documentation on the radiographic equipment for the following:

1.4.4.7.2.1 Location of equipment
1.4.4.7.2.2 Risk Assessment
1.4.4.7.2.3 Type of unit
1.4.4.7.2.4 Make
1.4.4.7.2.5 Model
1.4.4.7.2.6 Serial number
1.4.4.7.2.7 Acquisition date
1.4.4.7.2.8 Manufacturers date
1.4.4.7.2.9 Installation date
1.4.4.7.2.10 Manual available
1.4.4.7.2.11 Commissioning date
1.4.4.7.2.12 Nominal replacement date
1.4.4.7.2.13 QA date
1.4.4.7.2.14 Age of equipment since manufacture
1.4.4.7.2.15 Maintenance date
1.4.4.7.2.16 Service date
1.4.4.7.2.17 QA audit log date
1.4.4.7.2.18 Decommissioning date
1.4.4.7.2.19 Disposal date

1.4.4.7.3 The Quality Assurance Programme Inventory for each dental radiological installation (Appendix III) includes documentation on the x ray developers for the following:

1.4.4.7.3.1 Location
1.4.4.7.3.2 Make
1.4.4.7.3.3 Model
1.4.4.7.3.4 Serial number
1.4.4.7.3.5 Manufacturers manual
1.4.4.7.3.6 Installation Date
1.4.4.7.3.7 Maintenance
1.4.4.7.3.8 Service Date
1.4.4.7.3.9 Disposal date

1.4.4.7.4 Acquisition of new equipment.

1.4.4.7.4.1 In specifying and acquiring new dental X-ray equipment, the Designated Manager/RPO has regard to the following:

1.4.4.7.4.1.1 All equipment must be CE marked and be approved for use under the medical devices regulations.

1.4.4.7.4.1.2 Account must be taken of any relevant advice or guidance issued by HIQA, the Health Products Regulatory Authority (HPRA), the Dental Council, the European Commission or other relevant authorities.

1.4.4.7.4.1.3 All equipment is purchased in compliance with HSE procurement framework and national financial regulations using the HSE tendering process.

1.4.4.7.5 Installation.

1.4.4.7.5.1 X-ray equipment is installed by suitably competent and qualified installers.

1.4.4.7.5.2 The installer provides a written installation report, which should include details of the safety checks carried out.

1.4.4.7.5.3 This report is retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.5.4 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.7.5.5 This report is available to the MPE/RPA and to an EPA or HIQA inspector on request.

1.4.4.7.5.6 These provisions also apply to X-ray equipment which is being relocated.

1.4.4.7.5.7 The Designated Manager/RPO must ensure that the manufacturer's manual is available on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.5.8 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.7.6 Commissioning.

1.4.4.7.6.1 Equipment is not used on patients until it has been successfully commissioned.

1.4.4.7.6.2 Commissioning is a set of acceptance tests carried out, independent of the installer, by a suitably qualified person on behalf of the Designated Manager/RPO in consultation with the MPE/RPA.

1.4.4.7.6.3 These tests are designed to ensure that the equipment is safe to use and to establish baseline values against which the results of routine quality assurance tests can be compared.

1.4.4.7.6.4 Commissioning reports are retained in accordance with Section 7 of the EPA Code IRR 2019 and must include:

1.4.4.7.6.4.1 The results of performance tests against the parameters listed in Appendix 1 of the EPA code.

1.4.4.7.6.4.2 A statement as to whether each test result falls within the acceptable criteria.

1.4.4.7.6.4.3 The Standards (EU, international, etc.) against which these results have been assessed.

1.4.4.7.6.5 These provisions also apply to X-ray equipment which is being relocated or has undergone major modifications affecting radiation output, such as the fitting of a new X-ray tube.

1.4.4.7.6.6 This report is retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.6.7 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.7.6.8 This report is available to the MPE/RPA and to an EPA or HIQA inspector on request.

1.4.4.7.6.9 The Designated Manager/RPO with the company providing the new equipment organises staff training on the use of the new equipment. This is entered on the Register of staff training on equipment.

1.4.4.7.6.10 This register is retained on the shared drive →Human Resources→Training→Ionising Radiation.

1.4.4.7.7 Maintenance and servicing of equipment.

1.4.4.7.7.1 All X-ray equipment is maintained in good working condition and serviced as per manufacturer's instructions.

1.4.4.7.7.2 Any defects in the equipment performance or safety are corrected as soon as possible by a suitably qualified and competent person.

1.4.4.7.7.3 Equipment deemed to have a fault that may impact on radiation protection and safety is taken out of service until the fault is rectified.

1.4.4.7.7.4 All staff must report a fault or defect in the equipment immediately to the Senior Dental Surgeon Administrative and the Designated Manager/RPO.

1.4.4.7.7.5 Maintenance reports are retained in accordance with Section 7 of the EPA code IRR 2019.

1.4.4.7.7.6 The advice of an MPE/RPA is sought on an appropriate preventive maintenance schedule taking account of the manufacturer's recommendations, workload, age of the equipment and other relevant factors.

1.4.4.7.7.7 This report is retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.7.8 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.7.7.9 This report is available to the MPE/RPA and to an EPA or HIQA inspector on request.

1.4.4.7.8 Quality assurance (QA).

1.4.4.7.8.1 All X-ray equipment is subject to quality assurance assessment every two years (24 months).

1.4.4.7.8.2 The parameters to be assessed and the acceptable tolerances are determined by the MPE/RPA considering international guidance, the manufacturer's recommendations and any relevant factors arising from the risk assessment.

1.4.4.7.8.3 In general, the parameters assessed as part of the quality assurance testing will be similar to those assessed during commissioning.

1.4.4.7.8.4 Quality assurance reports are retained in accordance with Section 7 of the EPA Code IRR 2019.

1.4.4.7.8.5 This report is retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.8.6 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.7.8.7 This report is available to the MPE/RPA and to an EPA or HIQA inspector on request.

1.4.4.7.9 Decommissioning and Disposal.

1.4.4.7.9.1 Prior to disposal, X-ray equipment is rendered permanently incapable of producing ionising radiation. X-ray equipment falls within the scope of the WEEE regulations and is disposed of accordingly.

1.4.4.7.9.2 A record is maintained of all X-ray equipment that has been decommissioned and disposed of in accordance with Section 7 of the EPA Code of Practice on the application of IRR19.

1.4.4.7.9.3 This report is retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.9.4 The Designated Manager/RPO must update the Quality Assurance Programme Inventory (Appendix III).

1.4.4.7.9.5 This report is available to the MPE/RPA and to an EPA or HIQA inspector on request.

1.4.4.7.10 Diagnostic Reference Levels, DRLs.

1.4.4.7.10.1 DRLs are dose levels set to aid optimisation of diagnostic and interventional medical exposures. They provide a standard for comparison to help ensure the radiation protection of patients undergoing these types of medical radiological procedures. DRLs help to ensure that the radiation dose received by patients for a specific type of medical radiological procedure is optimised.

1.4.4.7.10.2 HIQA Guidance on the establishment, use and review of diagnostic reference levels for medical exposure to ionising radiation, February 2020, National Adult DRLs.

Procedure/Clinical task	DRL Quantity	DRL
Intra oral	Ka,i	1.2 mGy
Panoramic	PKA	81 mGy.cm²
Lateral cephalometric radiograph	PKA	35 mGy.cm²
Dental CBCT (prior to placement of a maxillary molar implant)	PKA	265 mGy.cm²

1.4.4.7.10.3 The MPE/RPA must review local dental DRLs every two years or after the introduction of new equipment, software or techniques.

1.4.4.7.10.4 The Designated Manager/RPO will collate results of DRLs from all different types of equipment and types of radiographs and send this information to the MPE/RPA.

1.4.4.7.10.5 The actual DRL in mGy must be displayed on the wall above the exposure switch for each unit.

1.4.4.7.11 Estimation of population doses.

1.4.4.7.11.1 The Designated Manager/RPO must maintain a record of the quantity of each type of x ray taken each year by each machine in each clinic.

1.4.4.7.12 X ray Film Developers.

1.4.4.7.12.1 The Designated Manager/RPO must ensure that all X ray film developers are maintained in good working condition and serviced as per manufacturer's instructions.

1.4.4.7.12.2 Under the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001 it is the duty of the employer to identify the hazards and assess the risks associated with the use of chemical agents in the workplace. All risk assessments must be in writing and the necessary control measures to eliminate or minimise the risks documented and implemented.

1.4.4.7.12.3 A chemical register is available for each clinical site and a risk assessment has been completed for each chemical. The chemical risk assessments and safety data sheets for the fixer and developer are available on the shared drive → Health and Safety→Dental→Chemicals→ relevant clinical site.

1.4.4.7.12.4 All staff using the X ray film developer machines have read the risk assessments for the fixer and developer.

1.4.4.7.12.5 All staff must ensure that the chemicals are stored in a locked cupboard in a locked room.

1.4.4.7.12.6 Dental nurses must change the water, fixer and developer fluids every four weeks as follows;

1.4.4.7.12.6.1 Appropriate PPE as listed in the chemical risk assessment must be donned prior to and when changing the chemicals.

1.4.4.7.12.6.2 The chemicals and water must be drained and refilled as per the manufacturer's instructions.

1.4.4.7.12.6.3 Fixer and developer chemical waste must be drained into the labelled hazardous waste containers.

1.4.4.7.12.6.4 The X ray film developer chemical change, local maintenance and QA log, Appendix IV must be signed and dated by the dental nurse completing the change.

1.4.4.7.12.6.5 Cogs descaled according to manufacturer's instructions.

1.4.4.7.12.6.6 Step-wedge quality assurance test is used to establish when a chemical change is needed. This test must be carried out according to manufacturer's instructions and recorded on the local developer QA log, Appendix IV.

1.4.4.7.12.7 All staff must report a fault or defect in the X ray film developers immediately to the Senior Dental Surgeon Administrative and the Designated Manager/RPO.

1.4.4.7.12.8 All defects in the equipment performance or safety are corrected as soon as possible by a suitably qualified and competent person.

1.4.4.7.12.9 Acquisition records are retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.12.10 Maintenance reports are retained on the shared drive →Ionising Radiation →Quality Assurance Programme DRE →relevant clinical site.

1.4.4.7.12.11 X ray film developers that have been deemed no longer fit for purpose must be disposed of as Healthcare/Environmental risk waste and consigned to contracted waste disposal company for disposal.

1.4.4.7.12.12 Destruction certificates are accessible to the Designated Manager/RPO.

1.4.4.7.13 Safety & Security.

1.4.4.7.13.1 The MWCH Oral Health Services has suitable security arrangements in place to prevent, in so far as is possible, the loss of, theft of, unauthorised access to or unintended use of X-ray equipment.

1.4.4.7.13.2 All staff must ensure that access to radiological equipment is restricted to avoid the loss of, theft of, unauthorised access to or unintended use of X-ray equipment.

1.4.4.7.13.3 All staff must ensure that in the event of a safety or security incident the incident management process is followed as outlined in section 1.4.12.

1.4.4.7.13.4 X-ray units held in storage are clearly labelled and their presence confirmed on a monthly basis.

1.4.4.7.13.5 Particular care is taken in relation to the security of portable or hand-held X-ray equipment.

1.4.4.7.13.6 In the event that portable X-ray equipment is relocated it must be authorised by the Senior Dental Surgeon Administrative.

1.4.5 Dosimetry

1.4.5.1 In accordance with RPII guidelines of 2011, personal Dosimetry is not necessary in dental practices subject to the conclusions of a risk assessment which is conducted by the MPE/RPA in conjunction with the Designated Manager/RPO.

1.4.5.2 The MPE/RPA conducts a risk assessment at least once during a two year period (or a timeframe agreed by the IRPC), or more often in cases of increased X-ray workload or the introduction of new X-ray technology.

1.4.5.3 Unless the MPE/RPA risk assessment indicates otherwise, persons involved in dental radiography are unlikely to exceed annual public radiation dose limits and it is not necessary to designate workers as “Exposed Workers” as defined in S.I. 30 of 2019.

1.4.6 Lead Aprons and Thyroid Collars

1.4.6.1 Staff must ensure that lead aprons are hung on the hanger provided.

1.4.6.2 The Practitioner/RSO must check there are no cracks or faults in the lead apron prior to each use.

1.4.6.3 In the event that the Practitioner/RSO identifies a crack or fault in the lead apron he/she must take the apron out of use and inform the Senior Dental Surgeon Administrative/Lead Orthodontist/Consultant in Restorative Dentistry.

1.4.6.4 The Senior Dental Surgeon Administrative /Lead Orthodontist/Consultant in Restorative Dentistry must arrange for immediate replacement.

1.4.6.5 Staff must ensure that all thyroid collars are hung on the hanger provided in a collar fashion with the Velcro closed.

1.4.6.6 The Practitioner/RSO must check there are no cracks or faults in the thyroid collar prior to each use.

1.4.6.7 In the event that the Practitioner/RSO identifies a crack or fault in the thyroid collar he/she must take the thyroid collar out of use and inform the Senior Dental Surgeon Administrative/Lead Orthodontist.

1.4.6.8 All lead aprons and thyroid collars that have been deemed no longer fit for purpose must be disposed of as Healthcare/Environmental risk waste and consigned to Stericycle.

1.4.6.9 Aprons/collars should be checked to ensure they are not "lead free" before entering this disposal process

1.4.6.10 Destruction/disposal certificates will be accessible to the Designated Manager/RPO.

1.4.6.11 The Designated Manager/RPO will conduct an inspection of lead aprons and thyroid collars annually and this is documented and reported to the IRPC with a quality improvement plan.

1.4.7 Professional Registration, Delegation and Training.

1.4.7.1 All Dentists and Orthodontists and Consultant in Restorative Dentistry are on the live register of the Dental Council.

1.4.7.2 The Register of Dental Nurses with the Dental Council is a voluntary register. It is not mandatory to register as a dental nurse in order to practice in the Republic of Ireland. However, only registered dental nurses are permitted to take dental radiographs to the prescription of a dentist, having completed a Dental Council approved course in dental radiography.

1.4.7.3 All Dentists, Orthodontists, Consultant in Restorative Dentistry and Registered Dental Nurses with a Dental Council approved course in dental radiography must provide their annual Dental Council registration certificate to the Designated Manager/RPO by the 16th of March each year.

1.4.7.4 The Designated Manager/RPO makes a copy of all the registration certificates and these are on display to the public in the main clinics in each county. In all other clinics a list of the names of the Dentists, Orthodontists and Registered Dental Nurses is on display to the public.

1.4.7.5 The Designated Manager/RPO updates the Register of registration with the Dental Council as registration certificates are submitted as follows;

1.4.7.5.1 Enter the date of receipt by Designated Manager/RPO of registration certificate.

1.4.7.5.2 Select yes in the column indicating the delegation of the practical aspects of a dental exposure.

1.4.7.5.3 The Designated Manager/RPO completes the form "delegation of the practical aspects of a dental exposure S.I. 256 of 2018" Appendix V with the practitioner/operator and updates the register with the date.

1.4.7.5.4 The form is filed in the staff members Human Resources file.

1.4.7.5.5 Enter the date the delegation was signed.

1.4.7.5.6 For each Dentist and Orthodontist select yes for delegated radiation safety officer.

1.4.7.5.7 This register, when filtered provides a list of the following;

1.4.7.5.7.1 Persons delegated the practical aspects of a dental exposure.

1.4.7.5.7.2 Delegated Radiation Safety Officers.

1.4.7.6 The Head of Service Primary Care must organise and provide additional training as follows;

1.4.7.6.1 Legal responsibilities and duties of the Designated Manager/Radiation Protection Officer.

1.4.7.6.2 An understanding of relevant legislation.

1.4.7.6.3 An understanding of the conditions attached to the undertaking's authorisation.

1.4.7.7 The Designated Manager/RPO must organise and provide training to the practitioners and operators as follows;

1.4.7.7.1 The operational protection measures set out in this guide.

1.4.7.7.2 Skills and techniques in relation to dental exposures are continually updated and maintained, particularly when new technology becomes available.

1.4.7.7.3 The safety features of any X-ray equipment they may use during their work, including any specific procedures or precautions pertinent to their own protection.

1.4.7.7.4 Procedures to be followed following any equipment malfunction liable to have radiation safety implications.

1.4.7.7.5 Where appropriate, the possible risks to the foetus and any additional relevant protective measures during pregnancy.

1.4.7.7.6 Where the risk assessment indicates that staff should be classified as exposed workers, the following additional topics should be included:

1.4.7.7.6.1 General principles of radiation protection related to their working environment.

1.4.7.7.6.2 Health risks created by exposure to ionising radiation.

1.4.7.7.6.3 The importance of the risk assessment of the working environment and of operators' input to the developing and maintaining of this assessment.

1.4.7.7.7 The training is updated whenever there is a change to equipment or working conditions relevant to radiation safety.

1.4.7.7.8 The Designated Manager/RPO must also provide sufficient information to other persons who are working in the environment of ionising radiation to ensure their safety, and records of this information provision should be maintained.

1.4.7.7.9 Training is repeated at least every five years.

1.4.7.7.10 All Dental Nurses and Hygienists will receive training on this guideline and the following;

1.4.7.7.10.1 Use of the software of all digital radiographic machines available in the MWCH, Oral Health Services

1.4.7.7.10.2 Use of all types of chemical radiograph developers available for use in the MWCH, Oral Health Services

1.4.7.7.11 A record of all training is entered on the Register of staff training in ionising radiation, to include date of training, names of persons who have attended, who provided the training and topics covered are hyperlinked.

1.4.7.7.12 The register of training is maintained on the Shared Drive→Human Resources→Training→Ionising Radiation.

1.4.7.7.13 The Designated Manager/RPO must ensure that as new staff are inducted their name is entered on the relevant registers and the member of staff is inducted as per 1.4.7.1 to 1.4.7.7.11.

1.4.8 Pregnancy

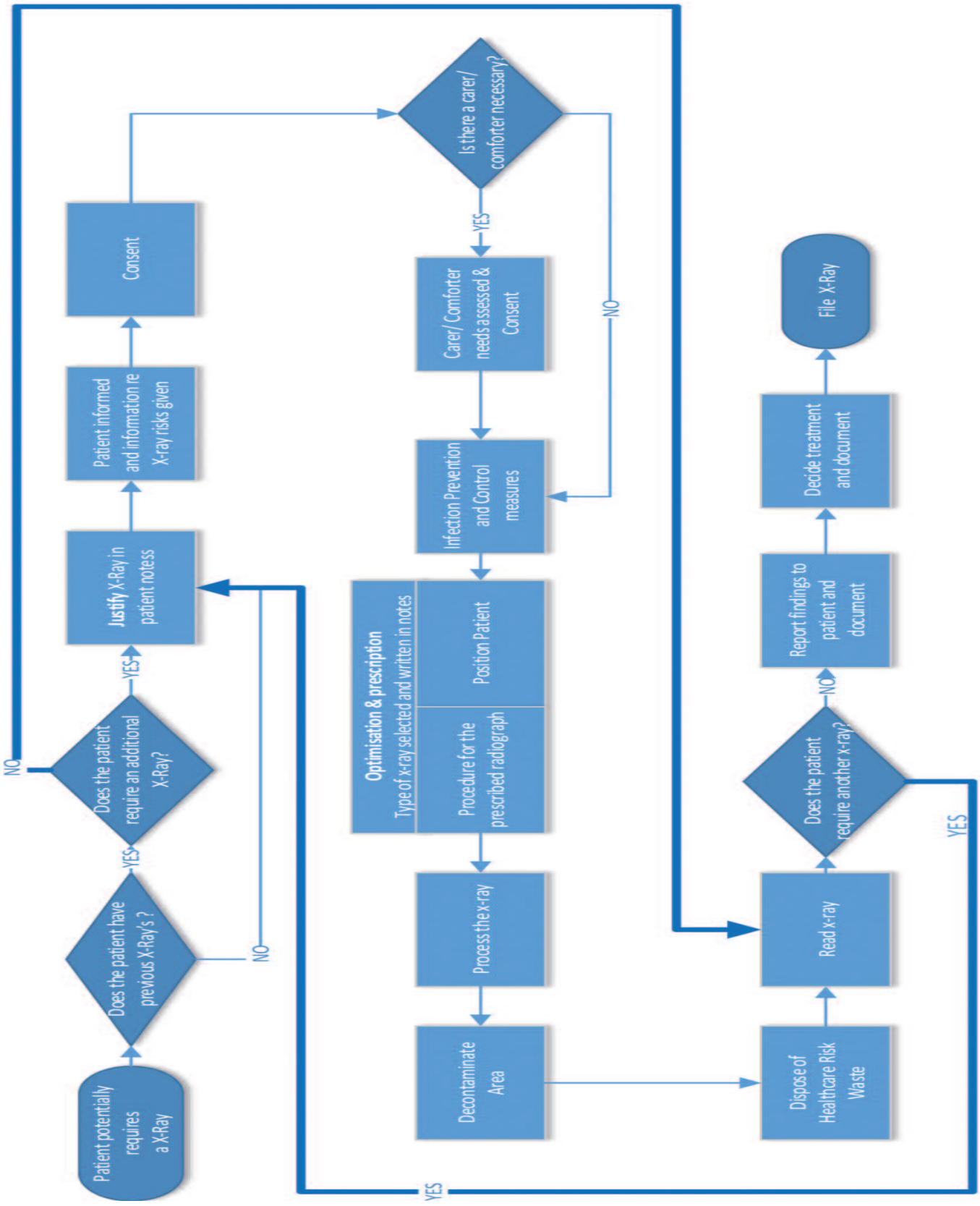
1.4.8.1 The Safety, Health and Welfare at Work (General Application) Regulations, 2007, requires that all hazards associated with pregnancy and the work be identified and any risk to the health and/or safety of the employee assessed. All risk assessments must be in writing and the necessary control measures to eliminate or minimise the risks documented and implemented.

1.4.8.2 As soon as a pregnant worker informs the Designated Manager/RPO of the pregnancy, the Designated Manager/RPO ensures that the protection of the unborn child is comparable with that provided for members of the public and completes the HSE pregnant employee risk assessment form.

1.4.8.3 The Designated Manager/RPO will ensure that the employment conditions for the pregnant worker are such that the equivalent dose to the unborn child is as low as reasonably achievable and unlikely to exceed 1 mSv during, at least, the remainder of the pregnancy.

1.4.8.4 The Designated Manager/RPO must ensure the risk assessment is reviewed throughout the pregnancy and same documented in the review section of the risk assessment.

1.4.9 Person Centred Care



1.4.9.1 Referrals.

1.4.9.1.1 In the Midwest Oral Health Services the Practitioner/RSO must ensure that referrals must;

1.4.9.1.1.1 Be recorded in the patients chart in SOEL Health or written in the patients notes.

1.4.9.1.1.2 Include the reason for the request.

1.4.9.1.1.3 Contain adequate medical information for justification assessment.

1.4.9.1.1.4 Contain evidence that the Practitioners/RSO has sought further medical data where necessary prior to the exposure taking place.

1.4.9.1.1.5 Include previous diagnostic information or medical records relevant to a planned exposure and consider these data to avoid unnecessary exposure.

1.4.9.1.2 The referrer is responsible for ensuring that sufficient details are included on the referral to enable the patient to be unambiguously identified.

1.4.9.1.3 The Practitioners/RSO or Operator initiating the exposure is responsible for making the final check on identifying the patient.

1.4.9.2 Justification.

1.4.9.2.1 The Practitioner/RSO must justify a dental exposure. The decision whether or not to carry out the dental exposure is on the basis that the exposure should do more good than harm.

1.4.9.2.2 Before a service user is exposed to ionising radiation, the practice of justification of that particular dental exposure should take place to determine if the procedure shows a sufficient net benefit.

1.4.9.2.3 This is done by weighing the total potential diagnostic or therapeutic benefits it produces, including the direct benefits to health of an individual and the benefits to society, against the individual detriment that the exposure might cause.

1.4.9.2.4 The Practitioner/RSO must also takes into account the efficacy, benefits and risks of available alternative techniques having the same objective but involving no or less exposure to ionising radiation.

1.4.9.2.5 The Practitioner/RSO must:

1.4.9.2.5.1 conduct a clinical examination.

1.4.9.2.5.2 assess the patient's ability to cooperate.

1.4.9.2.5.3 obtain information from previously taken radiographs.

1.4.9.2.5.4 consider the possibility of alternative non-radiographic examination options.

1.4.9.2.5.5 consider and reference the Protocols and Radiation Safety Procedures for Radiographs, Appendix VI.

1.4.9.2.6 The practitioner must take into account medical information about the patient and their individual characteristics, such as pregnancy status, when making the justification decision.

1.4.9.2.7 Justification must be recorded in the patients chart in SOEL Health or written in the patients notes.

1.4.9.2.8 Where a referral is received from another Practitioner/RSO employed in the MWHC Oral Health Services, the receiving Practitioner/RSO must review and appraise the referral as per 1.4.9.2.1 to 1.4.9.2.8

1.4.9.3 Consent.

1.4.9.3.1 The informed consent of an adult patient is needed before a dental radiograph is carried out. Each adult has to be informed about the aim and requirements of the chosen dental radiographic examination and the benefits and risks of the exposure. This is to ensure that patients are fully informed of potential side effects or outcomes from the exposure.

1.4.9.3.2 The informed consent of the responsible adult and child is needed before a dental radiograph is carried out. Each child has to be informed, in an age-appropriate way, about the aim and requirements of the chosen dental radiographic examination and the benefits and risks of the exposure. This is to ensure that patients are fully informed of potential side effects or outcomes from the exposure.

1.4.9.3.3 The patient and/or their responsible adult are given the Service User Leaflet for Oral Health Service X rays leaflet, Appendix VII.

1.4.9.3.4 Consent to take a radiograph must be recorded at each visit on SOEL Health or written in the patients' healthcare record.

1.4.9.4 Comforter/Carer.

1.4.9.4.1 In certain situations, holding or supporting of patients during procedures will be necessary to hold a patient during a radiology examination.

1.4.9.4.2 In general members of staff should not be assigned to perform such duties in order that one person does not regularly receive such exposures.

1.4.9.4.3 The Practitioner/RSO or Operator must provide the carer/comforter with adequate information relating to the benefits and risks associated with the radiation dose from the medical exposure.

1.4.9.4.4 The Practitioner/RSO or Operator must obtain written consent from the identified comforter/carer (Appendix VIII).

1.4.9.4.5 The Practitioner/RSO or Operator must ensure the comforter/carer is;

1.4.9.4.5.1 over 18 years of age.

1.4.9.4.5.2 not pregnant.

1.4.9.4.5.3 provided with protective aprons.

1.4.9.4.5.4 positioned so as to avoid being exposed to the primary beam

1.4.9.4.6 A record of such exposures must be maintained in the patient records on SOEL Health or written in the patients' healthcare record.

1.4.9.4.7 Any accompanying person who is not assisting in holding the patient must stand:

1.4.9.4.7.1 Next to the operator, or

1.4.9.4.7.2 In the room, behind the protective screen, or

1.4.9.4.7.3 Outside the room.

1.4.9.5 Identity Check.

1.4.9.5.1 Before proceeding with any radiograph, an identification check is required where the patient is asked to give their full name, date of birth and address.

1.4.9.5.2 These details must be checked against the referral and patient record.

1.4.9.5.3 For children under 16 years, the responsible parent or guardian must verify their identity.

1.4.9.5.4 If the patient is unable to respond to the above questions because of illness, language or learning difficulties etc., a comforter/carer must be able to verify the patient's identity, the method by which the patient is identified must be noted on SOEL Health or the patient healthcare record.

1.4.9.5.5 Staff should reference the X ray check list poster on display prior to taking a radiograph as an aide to assuring all pre x ray checks are complete. Appendix IX.

1.4.9.6 Optimisation.

1.4.9.6.1 The Practitioner/RSO must ensure that patient exposure is kept As Low As Diagnostically Achievable Being Indication-oriented and Patient-specific (ALADAIP) European Academy of Paediatric Dentistry EAPD (2019).

1.4.9.6.2 The Practitioner/RSO must consider the following to achieve optimisation;

1.4.9.6.2.1 The individual patient characteristics.

1.4.9.6.2.2 The kV for each radiograph.

1.4.9.6.2.3 Use of rectangular collimation.

1.4.9.6.2.4 Use of film holders incorporating beam-aiming devices. Film holders incorporating beam-aiming devices using the paralleling technique and facilitating rectangular collimation should be used for intraoral radiography wherever possible.

1.4.9.6.2.5 Limitation of field size to the area required for diagnosis, this should be used for panoramic radiography especially for children.

1.4.9.6.2.6 For intraoral radiography, only the fastest available (Group E or faster) films should be used, as they significantly reduce patient dose.

1.4.9.6.2.7 For extra oral radiography the fastest available rare-earth intensifying screen/film combination consistent with satisfactory diagnostic results should be used. The speed of the system should be at least 400.

1.4.9.6.2.8 Intraoral digital radiography offers a potential dose reduction.

1.4.9.6.2.9 The X-ray focus to skin distance should be at least 200 mm.

1.4.9.6.2.10 Use of the paralleling technique requires that the X-ray film is positioned parallel with the long axes of the teeth. The central ray of the X-ray beam passes at right angles, i.e. perpendicular, to the tooth being imaged.

1.4.9.6.2.11 Accurate positioning in panoramic radiography can be facilitated by using all available positioning aids correctly.

1.4.9.6.2.12 A cephalostat and a fixed X-ray source/patient/image receptor relationship should be used for cephalometric radiography.

1.4.9.6.3 The Practitioner/RSO or Operator must;

1.4.9.6.3.1 Ensure that the radiographic film/intra-oral sensor to be used is covered with a protective barrier.

1.4.9.6.3.2 Those films that do not come with a manufacturer's infection control barrier must be covered with a suitable barrier.

1.4.9.6.3.3 All equipment must be prepared in advance with suitable barriers.

1.4.9.6.3.4 These barriers must be changed after each patient.

1.4.9.6.3.5 X-ray holders must be reprocessed after each patient.

1.4.9.6.3.6 Staff must clean and disinfect as appropriate all parts of the x-ray machines used in the clinic according to the manufacturer's instructions and the National Oral Health Office Infection Protection and Control Guidelines, 2019 and HSPC guidance for COVID-19.

1.4.9.6.4 The Practitioner/RSO or Operator must take the radiograph in accordance with the Protocols and Radiation Safety Procedures, Appendix VI.

1.4.9.7 Developing the radiographic film using a chemical developer.

1.4.9.7.1 For intra oral x-rays introduce the radiograph into the developer through the guard sleeves.

1.4.9.7.2 For OPT's lift the lid of the entrance of the developer and place the cassette inside.

1.4.9.7.3 Close the lid ensuring no light gaps.

1.4.9.7.4 Open the cassette and remove the developed OPT film.

1.4.9.7.5 Remove the used barriers of the intra oral film and dispose of the covering in the hazardous waste bin.

1.4.9.7.6 Dispose of the lead foil covering in the lead foil disposal container.

1.4.9.7.7 Place the exposed film on the rollers of the developer and press the start button inside this area.

1.4.9.7.8 Place a new film in the OPT cassette and close firmly ensuring no gaps.

1.4.9.7.9 Remove the cassette from the developer.

1.4.9.7.10 Recover the developed radiograph from the exit of the machine.

1.4.9.8 Processing the intra oral radiograph using a scanner.

1.4.9.8.1 Remove the outer hygienic bag and dispose of this in the health care risk waste bin.

1.4.9.8.2 Place the phosphor plate on the receptacle of the scanner.

1.4.9.8.3 Initiate scanning to the software programme on the computer.

1.4.9.8.4 After scanning check for any faults or defects in the phosphor plate.

1.4.9.8.5 If the phosphor plate is damaged, it must be taken out of use.

1.4.9.8.6 The Designated Manager/RPO must be notified.

1.4.9.8.7 Replace the phosphor plate in the dedicated phosphor plate container.

1.4.9.9 Reading, recording, reporting findings and retaining radiographs

1.4.9.9.1 The Practitioner/RSO must check the image quality of the radiograph.

1.4.9.9.2 The clinic log of x rays Appendix XI taken must be completed.

1.4.9.9.3 If the radiograph is rejected and needs to be repeated the radiograph reject/repeat log Appendix XII must be completed and documented in the patient record in SOEL Health or written in the patient healthcare record.

1.4.9.9.4 The patient is informed and the Practitioner/RSO must repeat from 1.4.9.3 to 1.4.9.9.1.

1.4.9.9.5 If the image quality is diagnostically acceptable the Practitioner/RSO discloses the findings to the patient, discusses treatment options where applicable and formulates a treatment plan with the patient.

1.4.9.9.6 This must be documented on the patients on SOEL Health or written on the patients' healthcare record.

1.4.9.9.7 The digital radiograph is retained locally on the Romexis programme in each computer.

1.4.9.9.8 Each x ray film must be labelled individually with the practitioners name and SOEL ID.

1.4.9.9.9 Only the practitioner may open the Romexis programme.

1.4.9.9.10 Intra Oral;

- 1.4.9.9.10.1 Scan the intra oral phosphor plate as normal.
- 1.4.9.9.10.2 Click on DONE.
- 1.4.9.9.10.3 Click on OK when you are satisfied with rotation etc.
- 1.4.9.9.10.4 Single right click on x ray image.
- 1.4.9.9.10.5 Click on Show Properties.
- 1.4.9.9.10.6 Write practitioner name and SOEL ID in comments.
- 1.4.9.9.10.7 Click OK.

1.4.9.9.11 OPG;

- 1.4.9.9.11.1 Single right click on the x ray image.
- 1.4.9.9.11.2 Click on Show Properties.
- 1.4.9.9.11.3 Write practitioner name and SOEL ID in comments.
- 1.4.9.9.11.4 Click OK.

1.4.9.9.12 Always close the Romexis programme before logging off or shutting down the computer, failure to do this means the next person may not be able to log in to Romexis.

1.4.9.9.13 The developed radiographic film must be inserted into the dedicated pouch.

1.4.9.9.14 The patient's unique identifier from SOEL Health/orthodontic number, practitioner's name and date of x ray must be written on the pouch.

1.4.9.9.15 The pouch must be attached to the patient healthcare record or to an index card and filed.

1.4.10 Incident Management and Learning

1.4.10.1 MWCH Oral Health Services is committed to ensuring the safety of everyone who uses its services and to improving the quality of care to patients, staff and members of the public, through the consistent monitoring and review of incidents which result, or had the potential to result in injury, damage or other loss.

1.4.10.2 All staff must report incidents in line with the MWCH Incident Management Procedure (2018) and HSE Incident Management Framework 2020, complete the relevant NIMS form and submit it to their line manager.

1.4.10.3 In the event of an ionising radiation incident the Practioner/RSO or Operator must:

1.4.10.3.1 Minimise impact of the incident on person harmed.

1.4.10.3.2 Take any actions immediately required to prevent the risk of recurrence to others.

1.4.10.3.3 Identify and support the needs of persons affected.

1.4.10.3.4 Report incident in line with Incident Management Framework, 2020.

1.4.10.3.5 Factually document incident and care provided on NIMS form and in the patients' healthcare record.

1.4.10.3.6 Initiate Open Disclosure.

1.4.10.3.7 Assess and Categorise the incident.

1.4.10.4 The Practioner/RSO or Operator must report the following incidents in relation to ionising radiation immediately to the Designated Manager/RPO and complete the relevant NIMS form:

1.4.10.4.1 HIQA Notifiable Events

1.4.10.4.1.1 The Designated Manager/RPO must notify HIQA of significant events within three working days from discovery.

1.4.10.4.1.2 HIQA's online portal system (https://portal.hiqa.ie) facilitates the Designated Manager/RPO to communicate with HIQA. Notifiable incidents are submitted through this portal system. The notification forms are available on the website in PDF format.

1.4.10.4.1.3 The Designated Manager/RPO must reference the guidance in HIQA Statutory notifications for accidental or unintended medical exposures to ionising radiation (2019), see hyperlink below.

https://www.hiqa.ie/reports-and-publications/guide/guidance-radiation-incident-notifications

Guidance for undertakings carrying out medical exposures to ionising radiation on the statutory requirement to notify significant accidental or unintended exposure events to HIQA, September 2019.

1	Administration of a Reference Point Air Kerma (Ka,r) of 15 Gray (Gy) or greater as a result of a single interventional radiological procedure (including interventional cardiology) or a cumulative Ka,r dose of 15 Gy arising from a series of interventional radiological procedures carried out over a six month period.
2	Tissue reactions (deterministic effects) as a result of interventional radiology/cardiology.
3	Diagnostic overexposure of an adult of more than twice the exposure intended that leads to a dose that is greater than 10 millisievert (mSv) or 20 times the dose intended.
4	Diagnostic overexposure of a child of more than twice the exposure intended that leads to a dose that is greater than 3 millisievert (mSv) or 15 times the dose intended.
5	Dose given to comforters and carers greater than 3 millisievert (mSv) for adults under 60 years of age and 15 millisievert (mSv) for those over 60 years of age.
6	Dose to a breastfed child greater than 1 millisievert (mSv).
7	Inadvertent dose to a foetus greater than 1 milligray (mGy).
8	Incorrect anatomy greater than 1 millisievert (mSv).
9	Incorrect procedure greater than 1 millisievert (mSv).
10	Incorrect radiopharmaceutical.
11	Therapeutic dose given instead of diagnostic dose, for example, in the use of radioiodine.
12	Administered activity variation of 20% from intended dose during use of therapeutic nuclear medicine.
13	No dose intended/incorrect service user exposed to greater than 1 millisievert (mSv).
14	Radiotherapy dose or volume variation of 10% or greater from the total prescribed.
15	Radiotherapy dose or volume variation of 20% or greater from the fraction prescribed.
16	Unexpected tissue reactions (deterministic effects) as a result of radiotherapy treatment.
17	Any other radiation exposure incident considered to have serious service user safety implications, for example, multiple non-notifiable incidents of a similar nature.

1.4.10.4.2 EPA Notifiable Events.

1.4.10.4.2.1 Incidents must be reported by the Designated Manager/RPO to the EPA as soon as possible after they occur. Incidents should be reported by phone or email (RadiationIncidents@epa.ie) to the EPA, who will advise as to whether formal reporting and incident investigation.

EPA, Code of Practice on the Application of the Ionising Radiation Regulations (IRR19) in Dentistry 2019.

1	Any incident involving the exposure of any person arising from a design flaw malfunction or incorrect operation of X-ray equipment.
2	The theft or loss of X-ray equipment.
3	Any incident involving a dose, or suspected dose, in excess of any dose limits for staff and members of the public specified in IRR19.
4	Any inappropriate or unauthorised use of X-ray equipment.

1.4.10.5 The Designated Manager/RPO must notify the Head of Service, Primary Care and the MPE/RPA and the HSE National Radiation Protection Office.

1.4.10.6 The MPE/RPA will review and analyse the incident.

1.4.10.7 The MPE/RPA will conduct an investigation and furnish the Designated Manager/RPO with an investigation report to include corrective actions and recommendations.

1.4.10.8 The Designated Manager/RPO will implement the recommendations and share the learning from the incident with MWCH Oral Health Services staff and the HSE National Radiation Protection Office.

1.4.10.9 The Designated Manager/RPO will submit the investigation report to the relevant regulator within 120 days of the notification of the incident.

1.4.11 Healthcare Audit

1.4.11.1 Healthcare audit is the systematic review and evaluation of current practice against research based standards with a view to improving clinical care for service users.

1.4.11.2 The Designated Manager/RPO proactively measures the effectiveness and performance of healthcare against agreed standards for high quality.

1.4.11.2.1 Is committed to improving the quality of care provided to service users by identifying action to bring practice in line with these standards.

1.4.11.2.2 Providing the assurance of quality to service users, practitioners and to the health system as a whole.

1.4.11.3 The Designated Manager/RPO uses clinical audit as a way to assess and improve patient care, to uphold professional standards and 'do the right thing'.

1.4.11.4 Through clinical audit, the Designated Manager/RPO may identify and measure areas of risk within their service.

1.4.11.5 Regular audit activity creates a culture of quality improvement in the clinical setting in MWCH Oral Health Services.

1.4.11.6 The Designated Manager/RPO ensures clinical audit is undertaken in Oral Health Services with reference to the HSE Practical Guide to Clinical Audit (2013) available at: https://www.hse.ie/eng/about/who/qid/measurementquality/clinical-audit/

1.4.11.7 The Designated Manager/RPO schedules audits on an annual basis. See Appendix XI.

1.4.11.8 The audits are undertaken and the audit reports are communicated throughout the MWCH Oral Health Services and presented to the MWCH Oral Health Service Ionising Radiation Protection Committee.

1.4.11.9 The Designated Manager/RPO ensures quality improvement plans are prepared to action the recommendations from audit.

1.4.11.10 Quality improvement plans are formulated with due regard to the HSE People's Needs Defining Change - Health Services Change Guide (2018) which is the agreed approach to change signed off by; HSE Leadership and the Joint Information and Consultation Forum representing the Trade Unions. It complements other service, quality improvement and culture change programmes.

1.5 ROLES AND RESPONSIBILITIES

See MWCH Oral Health Services Ionising Radiation Protection Policy Appendix III

1.6 APPENDICES

Appendix I	Signature Sheet
Appendix II	Glossary of Abbreviations, Terms and Definitions
Appendix III	Quality Assurance Programme Inventory
Appendix IV	X ray film developer chemical change, local maintenance and QA log
Appendix V	Delegation of the practical aspects of a dental exposure
Appendix VI	Protocols and Radiation Safety Procedures for Radiographs,
Appendix VII	Leaflet “Your X ray and You”
Appendix VIII	Carer/Comforter consent form
Appendix IX	X ray check list poster
Appendix X	Radiograph reject and repeat log
Appendix XI	Audit Schedule for Ionising Radiation

APPENDIX I: SIGNATURE SHEET

I have read, understand and agree to the Mid West Oral Health Services Ionising Radiation Protection Policy, Part A1 & Ionising Radiation Protection Management and Everyday Practice Guideline Part A2.

Print Name	Signature	Area of Work	Date

APPENDIX II: GLOSSARY OF ABBREVIATIONS, TERMS AND DEFINITIONS

Abbreviation	
ALADAIP	As Low As Diagnostically Achievable being Indication-oriented and Patient-specific
AMRIC	Antimicrobial Resistance and Infection and Control Division
BSS	Basic Safety Standard
CT	Computed Tomography
DRL	Diagnostic Reference Level
EURATOM	European Atomic Energy Community Treaty
HIQA	Health Information and Quality Authority
HPRA	Health Products Regulatory Authority
HSA	Health and Safety Authority
HSE	Health Service Executive
HSPC	Health Protection Surveillance Centre
ICRP	International Commission for Radiological Protection
IRPC	Ionising Radiation Protection Committee
kV	Kilovolt
MED	Medical Exposure Directive
MERU	Medical Exposure Radiation Unit
mGy	Miligray
MPE	Medical Physics Expert
mSv	Millisievert
MWCH	Mid West Community Healthcare
NIMS	National Incident Management System
NOHO, HSE	National Oral Health Office, HSE
NRPC, HSE	National Radiation Protection Committee, HSE
NRPO, HSE	National Radiation Protection Office, HSE
NRSC	National Radiation Safety Committee
OPG/DPT	Orthopantomogram or also known as Dental Panoramic Tomograph
ORPEM/EPA	Office of Radiological Protection and Environmental Monitoring of the Environmental Protection Agency
RCSI	Royal College of Surgeons Ireland
RPA	Radiation Protection Advisor
RPO	Radiation Protection Officer
RSO	Radiation Safety Officers
SI	Statutory Instrument

Term	Definition	Reference
Accountability	Being answerable to another person or organisation for decisions, behaviour and any consequences.	HSE Incident Management Framework-Guidance 2020.
Authority	In the regulations, HIQA is defined as the competent authority for regulating medical exposure to ionising radiation in Ireland. The regulations extend HIQA's role and regulatory powers to include public and private radiological, radiotherapy, nuclear medicine and dental installations. HIQA's remit also extends to medical exposures to ionising radiation incurred by carers and comforters and by volunteers in medical or biomedical research. In related but separate legislation, the Environmental Protection Agency (EPA) Office of Radiation Protection and Environmental Monitoring is designated as the competent authority with responsibility for occupational and public exposures to ionising radiation.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018 S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Authorisation	The registration or licensing of a practice.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Carer and comforter	Individuals knowingly and willingly incurring an exposure to ionising radiation by helping, other than as part of their occupation, in the support and comfort of individuals undergoing or having undergone medical exposure.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Clinical Responsibility	Responsibility of a practitioner for individual medical exposures, in particular, justification; optimisation; clinical evaluation of the outcome; cooperation with other specialists and staff, as appropriate, regarding practical aspects of medical radiological procedures; obtaining information, if appropriate, on previous examinations; providing existing medical	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018

	radiological information or records to other practitioners or the referrer, as required; and giving information on the risk of ionising radiation to patients and other individuals involved, as appropriate.	
Compliance Notice	A notice served pursuant to Regulation 26; Where an authorised person is of the opinion that there is non-compliance with a requirement of SI 256 of 2018 Regulations, the authorised person may, following consultation with the Chief Executive Officer of the Authority or another officer of the Authority designated for that purpose, serve, or arrange to have served, on the undertaking or other person concerned a notice("compliance notice") in accordance with Regulation 26 , paragraph (2) of SI 256 of 2018.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Compliant	A judgment of compliant means the undertaking or other person is in full compliance with the relevant regulation.	HIQA, Guidance on the assessment of undertakings providing medical exposure to ionising radiation (2019).
Contamination	The unintended or undesirable presence of radioactive substances on surfaces or within solids, liquids or gases or on the human body.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Controlled area	An area subject to special rules for the purpose of protection against ionising radiation or preventing the spread of radioactive contamination and to which access is controlled.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Delegation	A person or group chosen to represent another or others.	Collins English Dictionary online accessed 20.01.2020.

Delegation/ Sub delegation order	Appropriate legal authority to carry out statutory functions. In the HSE a delegation or sub delegation is to be taken to include the delegation or sub-delegation of any duty or power incidental to or connected with the delegated/sub-delegation function. Any act or thing done by an employee of the HSE pursuant to a delegation/sub-delegation has the same force and effect as if done by the Director General.	HSE Delegation Framework and Governance Arrangements, version 5.1, 30th March 2015.
Diagnostic Reference Levels	Diagnostic reference levels are a benchmark of the typical dose levels for types of radiological and interventional practices. They provide a benchmark to compare doses received by individuals having the same procedures in different rooms, medical installations or organisations. This measurement represents a reference dose level as part of an optimisation process. They are based upon entrance dose surveys.	HIQA, Guidance on the assessment of undertakings providing medical exposure to ionising radiation (2019). EUROPEAN COMMISSION Radiation Protection 136 European guidelines on radiation protection in dental radiology *The safe use of radiographs in dental practice (2004).*
Disposal	In relation to radioactive waste, the emplacement of waste in a repository, or a given location, without the intention of retrieval.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Disposal facility	Any facility or installation the primary purpose of which is radioactive waste disposal.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Dosimetry	The science by which radiation dose is determined by measurement, calculation, or a combination of measurement and calculation. The technical name for radiation dose is “absorbed dose”; it is the amount of radiation energy that is deposited in tissue divided by the mass of the tissue.	Society of Nuclear Medicine and Molecular Imaging, 2019. S.I. No. 30 of 2019

Dose constraints for medical exposure	A constraint set as a prospective upper bound of individual doses, used to define the range of options considered in the process of optimisation for a given radiation source in a planned exposure situation.	RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Environmental monitoring	The measurement of external dose rates due to radioactive substances in the environment or of concentrations of radionuclides in environmental media.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Emergency Exposure Situation	A situation of exposure due to an emergency.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Emergency Occupational Exposure	Exposure received in an emergency exposure situation by an emergency worker.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Emergency Response Plan	Arrangements to plan for adequate response in the event of an emergency exposure situation on the basis of postulated events and related scenarios.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Emergency Worker	Any person having a defined role in an emergency and who might be exposed to radiation while taking action in response to the emergency.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Estimates of population dose	The dose the average adult is likely to receive from dental radiography in a calendar year.	Radiation Doses Received by the Irish Population EPA (2014)
Inspection	An investigation by or on behalf of the Agency to verify compliance with national legal requirements.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019

Inspector	A person appointed under Section 28 of the Principal Act to be an inspector for the purposes of that Act and orders or regulations made under it.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Ionising Radiation	Energy transferred in the form of particles or electromagnetic waves of a wavelength of 100 nanometres or less (a frequency of 3 × 1015 hertz or more) capable of producing ions directly or indirectly.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Irradiating Apparatus	An electrical apparatus capable of producing ionising radiation and containing components operating at a potential difference of more than 5kV.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Justification	Shows a sufficient net benefit, weighing the total potential diagnostic or therapeutic benefits it produces, including the direct benefits to health of an individual and the benefits to society, against the individual detriment that the exposure might cause, and takes into account the efficacy, benefits and risks of available alternative techniques having the same objective but involving no or less exposure to ionising radiation.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Licence	Permission granted in a document by the Agency to carry out a practice in accordance with specific conditions (if any) laid down in that document.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Medical Exposure	Exposure incurred by patients or asymptomatic individuals as part of their own medical or dental diagnosis or treatment, and intended to benefit their health, as well as exposure incurred by carers and comforters and by volunteers in medical or biomedical research.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018

	Exposure incurred by patients or asymptomatic individuals as part of their own medical or dental diagnosis or treatment, and intended to benefit their health, as well as exposure incurred by carers and comforters and by volunteers in medical or biomedical research.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Medical Physics Expert	An individual having the knowledge, training and experience to act or give advice on matters relating to radiation physics applied to medical exposure, whose competence in this respect is recognised by the Minister pursuant to Regulation 19(2).	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Members of the Public	Individuals who may be subject to public exposure.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Normal exposure	Exposure expected to occur under the normal operating conditions of a facility or human activity (including maintenance, inspection, decommissioning), including minor incidents that can be kept under control, that is to say, during normal operation and anticipated operational occurrences.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Notification	Submission of information to the Agency to notify the intention to carry out a practice within the scope of these Regulations.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Not compliant	A judgment of not compliant means the undertaking or other persons has not complied with a regulation and that considerable action is required to come into compliance.	HIQA, Guidance on the assessment of undertakings providing medical exposure to ionising radiation (2019).

Occupational Exposure	Exposure of workers, apprentices and students, incurred in the course of their work.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Occupational Health Service	A health professional or body competent to perform medical surveillance of exposed workers and whose capacity to act in that respect is recognised by the Agency.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Optimisation	All doses due to medical exposure for radio-diagnostic, interventional radiology, planning, guiding and verification purposes are kept as low as reasonably achievable consistent with obtaining the required medical information, taking into account economic and societal factors.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Practical aspects of medical radiological procedures	The physical conduct of a medical exposure and any supporting aspects, including handling and use of medical radiological equipment, the assessment of technical and physical parameters (including radiation doses), calibration and maintenance of equipment, preparation and administration of radio-pharmaceuticals, and image processing.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Practitioner/ Operator	A person, being a member of one of the classes of persons referred to in Regulation 5, who has clinical responsibility for an individual medical exposure.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018 S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019

Practitioner in Charge	The individual to whom the designated manager has sub delegated responsibility for radiation protection in a region.	HSE National Radiation Protection Office, v3 August 2019.
Protective Measures	Measures, other than remedial measures, for the purpose of avoiding or reducing doses that might otherwise be received in an emergency exposure situation or an existing exposure situation.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Public Exposure	Exposure of individuals, excluding any occupational or medical exposure.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Quality Assurance	All those planned and systematic actions necessary to provide adequate assurance that a structure, system, component or procedure will perform satisfactorily in compliance with agreed standards. Quality control is a part of quality assurance.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019 S.I. No. 30 of 2019
Quality Control	The set of operations (programming, coordinating, implementing) intended to maintain or to improve quality. It includes monitoring, evaluation and maintenance at required levels of all characteristics of performance of equipment that can be defined, measured, and controlled.	RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Radiation Protection Advisor	An individual or a body, having the knowledge, training and experience needed to give radiation protection advice in order to ensure the effective protection of individuals, which meets such criteria of competence as may from time to time be specified in writing by the Environmental Protection Agency.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019

Radiation Protection Officer	An individual who is technically competent in radiation protection matters relevant for a given type of practice to supervise or perform the implementation of the radiation protection arrangements.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Radiological Safety Officer	In each health centre with dental radiographic facilities a named dentist shall be nominated to act as Radiological Safety Officer. These Safety Officers shall assist the RPO in carrying out his/her responsibilities. In the Mid-West Oral Health Service each Practioner/Operator is designated to be a RSO.	Code of Practice for Radiological Practice in Dentistry 1996. RPII 96/2
Radiation Safety Procedures	Previously known as Local Rules. For the purpose of enabling work involving ionising radiation to be carried out in accordance with the requirements of the Regulations and, in particular, for the purpose of identifying the manner in which the safety, health and welfare of workers and other persons shall be secured, the undertaking shall, in respect of any controlled area or, where appropriate having regard to the nature of the work carried out there, any supervised area, prepare a statement in writing of such procedures referred to as “radiation safety procedures” it considers ought to be followed.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Radiation Source	An entity that may cause exposure, such as by emitting ionising radiation or by releasing radioactive material and encompasses radiation generator, radioactive material, radioactive source and radioactive substance.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Reference Level	In an emergency exposure situation or in an existing exposure situation, the level of effective dose or equivalent dose or activity concentration above which it is judged inappropriate to allow exposures to occur as a result of that exposure situation, even though it is not a limit that may not be exceeded.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019

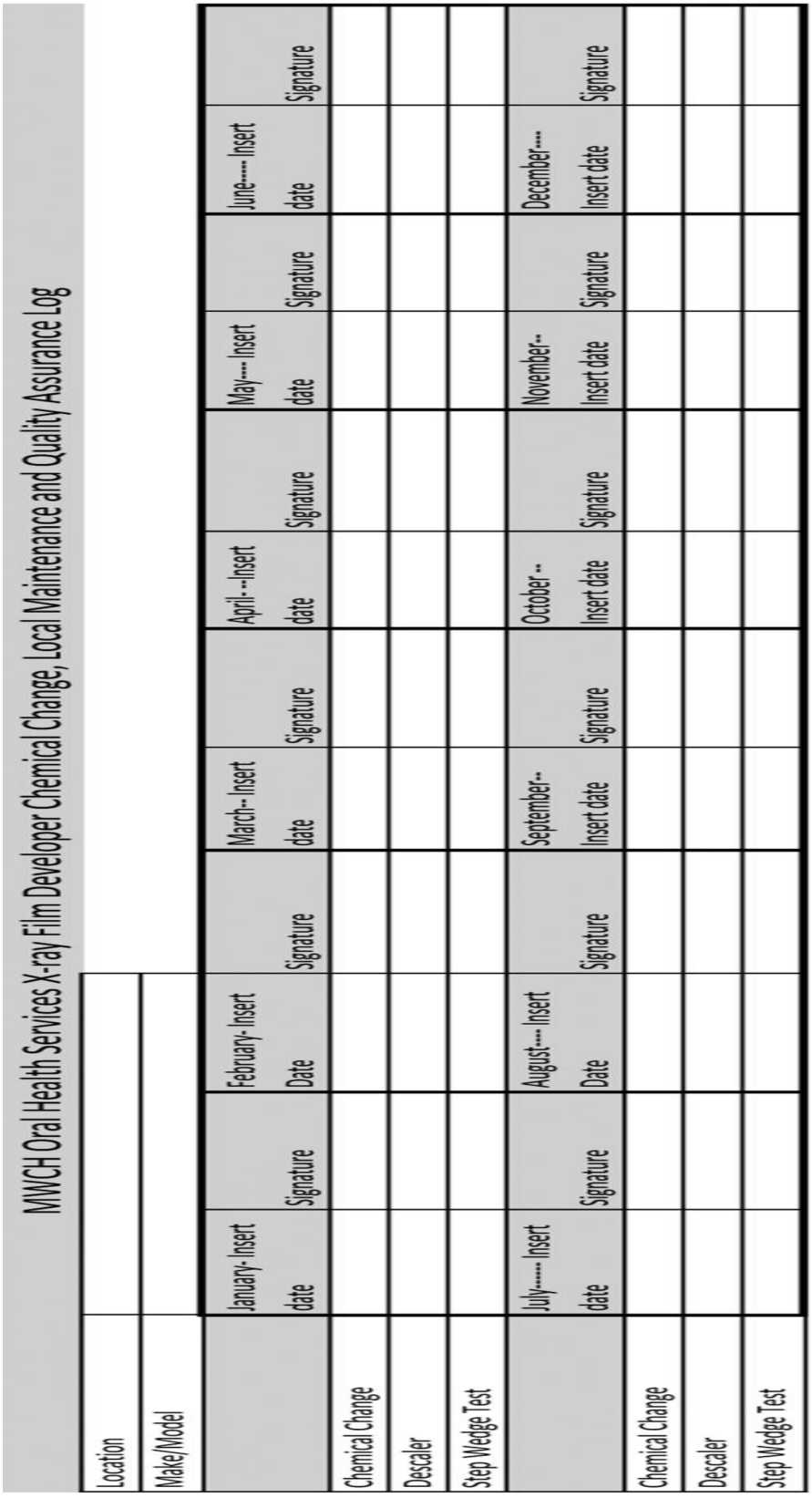
Referrer	A person, being a member of one of the classes of persons referred to in Regulation 4(1), who is entitled to refer an individual for medical radiological procedures to a practitioner.	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Register of Medical Physics Experts	The register established and maintained by the Minister pursuant to Regulation 19(1)(b).	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018
Registered person	A person to whom a registration is for the time being granted.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Registration	Permission granted in a document by the Agency, to carry out a practice in accordance with attached conditions (if any) for this type or class of practice.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Regulatory control	Any form of control or regulation applied to human activities for the enforcement of radiation protection requirements.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Responsibility	The ability or authority to act or decide on one's own, without supervision.	Collins English Dictionary online accessed 20.01.2020.
Role	A function or office assumed by someone.	Collins English Dictionary online accessed 20.01.2020.
Service Users	Service users include patients, asymptomatic individuals, carers and comforters and volunteers in medical or biomedical research.	HIQA, Guidance on the assessment of undertakings providing medical exposure to ionising radiation (2019).

Sievert (Sv)	Is the special name of the unit of equivalent or effective dose. One Sievert is equivalent to one joule per kilogram.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Supervised area	An area subject to supervision for the purpose of protection against ionising radiation.	S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019
Substantially compliant	A judgment of substantially compliant means that the undertaking or other person has generally met the requirements of the regulation but some action is required to be fully compliant.	HIQA, Guidance on the assessment of undertakings providing medical exposure to ionising radiation (2019).
Undertaking	A person or body who, in the course of a trade, business or other undertaking (other than as an employee), carries out, or engages others to carry out, a medical radiological procedure or the practical aspects of a medical radiological procedure. A natural or legal person who has legal responsibility under IRR 2019 for the carrying out of a practice, or for a radiation source (including cases where the owner or holder of a radiation source does not conduct related human activities).	S.I. No. 256 of 2018 EUROPEAN UNION (BASIC SAFETY STANDARDS FOR PROTECTION AGAINST DANGERS ARISING FROM MEDICAL EXPOSURE TO IONISING RADIATION) REGULATIONS 2018 S.I. No. 30 of 2019 RADIOLOGICAL PROTECTION ACT 1991 (IONISING RADIATION) REGULATIONS 2019

APPENDIX III: QUALITY ASSURANCE PROGRAMME INVENTORY

Location of Equipment	Risk Assessment	Type unit	Make	Model	Serial No	Acquisation Date	Manufacturers date	Installation Date	Manual Available	Commissioning Date	Nominal Replacement Date	Quality Assurance Date	Years since QA	QA required	Age of equip since manufacturer	Maintenance Date	Years since Maintained	Maintenance Call required	Service Date	Quality Assurance Audit log	Decommissioning Date	Disposal Date

APPENDIX IV: X RAY FILM DEVELOPER CHEMICAL CHANGE, LOCAL MAINTENANCE AND QA LOG



MWCH Oral Health Services X-ray Film Developer Chemical Change, Local Maintenance and Quality Assurance Log

Location													
Make/Model													
	January- Insert date	Signature	February- Insert Date	Signature	March-- Insert date	Signature	April- --Insert date	Signature	May---- Insert date	Signature	June---- Insert date	Signature
Chemical Change												
Descaler												
Step Wedge Test												
	July----- Insert date	Signature	August---- Insert Date	Signature	September-- Insert date	Signature	October -- Insert date	Signature	November-- Insert date	Signature	December--- Insert date	Signature
Chemical Change												
Descaler												
Step Wedge Test												

APPENDIX V: DELEGATION OF THE PRACTICAL ASPECTS OF A DENTAL EXPOSURE

Building a Better Health Service | Seirbhís Sláinte Níos Fearr á Forbairt

HSE Mid West Community Healthcare

Delegation of the practical aspects of a medical exposure
S.I. 256 of 2018

I, _____ being a practitioner, as defined by Regulation 5 of S.I. 256 of 2018; hereby delegate the following practical aspects of a medical exposure:

- ☐ Assembly of the film holder/image receptor
- ☐ Positioning of the patient
- ☐ Positioning of the image receptor in the patients mouth
- ☐ Positioning of the patient in the panoramic/cephalometric machine
- ☐ Positioning of the x-ray tube
- ☐ Selection of the exposure factors
- ☐ Conducting/initiating the exposure
- ☐ Developing/processing the acquired image

To _____ , who having completed the required course described in Regulation 22, and having been registered by one of the bodies listed in Regulation 10(4) is permitted to be delegated one or all of the practical aspects of the medical exposure (as defined by S.I. 256 of 2018). For a period of ____ year/s from the date of signing.

Signed _____ Practitioner

Date _____

Signed _____ Delegee

Date _____

APPENDIX VI: PROTOCOLS AND RADIATION SAFETY PROCEDURES FOR RADIOGRAPHS

These guidelines are intended to aid the clinician in their choice of radiographic examination based on the best available evidence.

1.0 Dental Panoramic Tomograph, DPT.

1.1 Protocol for Dental Panoramic Tomograph, DPT.

1.1.1 Patients who cannot tolerate intraoral imaging,

1.1.2 Following dento-maxillofacial trauma for the detection of mandible or condylar fractures.

1.1.3 Identifying generalized dental anomalies, e.g., hypo- or hyperdontia.

1.1.4 Genetically linked developmental disorders.

1.1.5 Pathological findings, e.g., cyst or tumour.

1.1.6 To provide an adjunct to clinical examination which suggests the presence of an anomaly and /or in treatment planning where interceptive or active orthodontic treatment is being considered.

1.1.7 Presence or absence of permanent teeth.

1.1.8 The presence or position of ectopic or supernumerary teeth.

1.1.9 The stage of development of permanent teeth.

1.1.10 The morphology of unerupted teeth.

1.1.11 The presence and extent of any developmental anomalies.

1.1.12 Assessment of third molars for extraction.

1.2 Procedure for DPT Radiographs.

1.2.1 Procedure for Digital DPT Radiograph.

1.2.1.1 The operator must wear PPE as per NOHO IPC, HSPC and AMRIC guidelines.

1.2.1.2 Ensure the patient has no removable metallic foreign bodies (e.g. earrings, spectacles, dentures) in his her mouth.

1.2.1.3 Switch on the power to the OPT machine; turn the indicator dial to select OPT.

1.2.1.4 Register the patient's details on the digital programme.

1.2.1.5 If already registered open the patients file on the programme.

1.2.1.6 Choose 2D imaging OPT exposure on the digital programme.

1.2.1.7 Choose Panoramic on the digital programme.

1.2.1.8 Wait for the computer screen to display "initiating".

1.2.1.9 Choose the appropriate size of patient from the control panel.

1.2.1.10 Choose the appropriate size of mandible from the control panel.

1.2.1.11 Adjust the height of the machine to the patient's height using the control panel to reduce the neck stretch.

1.2.1.12 Guide the patient into position with his/her chin on the chin rest, the bite block between the upper and lower anterior teeth and hands on the hand grips.

1.2.1.13 Align the patient's head to the centre using the temple guides.

1.2.1.14 Align the patient's ala-tragal line using the beam and control dial.

1.2.1.15 Advise the patient to keep tongue pressed to the roof of the mouth to reduce tongue shadow.

1.2.1.16 Advise the patient that although the machine moves around them, it will not touch them.

1.2.1.17 Advise the patient not to move while the machine is moving.

1.2.1.18 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

1.2.1.19 Ignite the firing button; hold it down for the entire exposure.

1.2.1.20 When the exposure has finished release the temple guides.

1.2.1.21 Ask the patient to open his/her mouth and step away from the machine.

1.2.1.22 Remove and dispose of the used bite block cover in healthcare risk waste.

1.2.1.23 The exposed radiograph will appear on the computer screen.

1.2.1.24 Record the patient's ID, date of radiograph and practitioners ID.

1.2.1.25 Complete the x-ray log.

1.2.1.26 Report the KV, MA, Speed and radiographic findings in the patient's chart/SOEL Health.

1.2.1.27 Turn off the isolation switch.

1.2.2 Procedure for DPT Radiographs using film.

1.2.2.1 The operator must wear PPE as per NOHO IPC guidelines.

1.2.2.2 Ensure the film is correctly place din the cassette with no light gaps.

1.2.2.3 Slide the cassette the entire way into the slot in the OPT machine with the correct side facing the tube.

1.2.2.4 Ensure the patient has no removable metallic foreign bodies (e.g. earrings, spectacles, dentures) in his her mouth.

1.2.2.5 Switch on the power to the OPT machine; turn the indicator dial to select OPT.

1.2.2.6 Choose the appropriate size of patient from the hand held or wall mounted control panel.

1.2.2.7 Adjust the height of the machine to the patient's height using the handle on the upright stand to reduce the neck stretch.

1.2.2.8 Guide the patient into position with his/her chin on the chin rest, the bite block between the upper and lower anterior teeth and hands on the hand grips.

1.2.2.9 Align the patient's head to the centre using the temple guides.

1.2.2.10 Align the patient's ala-tragal line using the beam and control dial.

1.2.2.11 Advise the patient to keep tongue pressed to the roof of the mouth to reduce tongue shadow.

1.2.2.12 Advise the patient that although the machine moves around them, it will not touch them.

1.2.2.13 Advise the patient not to move while the machine is moving.

1.2.2.14 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

1.2.2.15 Ignite the firing button; hold it down for the entire exposure.

1.2.2.16 When the exposure has finished release the temple guides.

1.2.2.17 Ask the patient to open his/her mouth and step away from the machine.

1.2.2.18 Remove and dispose of the used bite block cover in healthcare risk waste.

1.2.2.19 Develop the radiograph in the chemical developer.

1.2.2.20 Record the patient's ID, date of radiograph and practitioners ID.

1.2.2.21 Complete the x-ray log.

1.2.2.22 Report the KV, MA, SPEED and radiographic findings in the patient's chart/SOEL Health.

1.2.2.23 Turn off the isolation switch.

2.0 Bitewing Radiograph.

2.1 Protocol for a Bitewing Radiograph.

2.1.1 The clinical indicator for prescribing bitewing radiographs is the presence of active, non-cavitated as well as manifested carious lesions in the primary, mixed or permanent dentition.

2.1.2 The caries risk and activity should be assessed at regular time intervals and may influence the indication to prescribe initial and monitoring bitewing radiographs.

2.1.3 In high caries risk children there is good evidence to support taking posterior bitewing radiographs at the initial examination, even in the absence of clinically detectable decay.

2.1.4 Assessment of periodontal disease.

2.2 Procedure for Bitewing Radiographs.

2.2.1 The operator must wear PPE as per NOHO IPC guidelines.

2.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

2.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

2.2.4 Place the phosphor plate in a hygienic bag of similar size.

2.2.5 Choose a film holder and place the film or phosphor plate in the holder.

2.2.6 Film holders and beam aiming devices must be used for all bitewing radiographs, unless they cannot be tolerated by the patient.

2.2.7 A rectangular collimator should be used for all bitewing radiographs.

2.2.8 If using a circular collimator a thyroid collar must be used.

2.2.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

2.2.10 For adult dentition, the front edge of the film or plate should be placed to capture the mesial contact point of the first molar.

2.2.11 Move the tube head of the x ray machine in line with the guide arm of the film holder.

2.2.12 If there is no holder then align the tube head perpendicular to the film.

2.2.13 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

2.2.14 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

2.2.15 Fire the ignition button to take the radiograph.

2.2.16 When the exposure has finished remove the film/film holder from the patient's mouth.

2.2.17 Develop the film either in the digital scanner or the film processor as appropriate.

2.2.18 Record the patient's ID, date of radiograph and practitioners ID.

2.2.19 Complete the x-ray log.

2.2.20 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

2.2.21 Turn off the isolation switch.

3.0 Periapical Radiograph.

3.1 Protocols for Periapical Radiographs.

3.1.1 Root canal morphology.

3.1.2 Root development.

3.1.3 Configuration of the apical foramen.

3.1.4 Pathology, e.g., periapical or furcal periodontitis.

3.1.5 Traumatic dental injuries.

3.1.6 Inflammatory tooth resorption.

3.1.7 Replacement resorption or invasive cervical resorption.

3.1.8 To determine the presence and position of unerupted teeth.

3.1.9 Periapical views can form part of a parallax technique to determine the position of ectopically positioned teeth.

3.1.10 Presence or absence of apical disease.

3.1.11 Assessment of root morphology and root resorption.

3.1.12 During the operative stages of endodontics.

3.1.13 For oral implantology; height of alveolar bone, inter root width, proximity to vital structures.

3.2 Procedure for Periapical Radiographs.

3.2.1 The operator must wear PPE as per NOHO IPC guidelines.

3.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

3.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

3.2.4 Place the phosphor plate in a hygienic bag of similar size.

3.2.5 Choose a film holder and place the film or phosphor plate in the holder.

3.2.6 Film holders and beam aiming devices must be used for all periapical radiographs, unless they cannot be tolerated by the patient.

3.2.7 A rectangular collimator should be used for all periapical imaging radiographs.

3.2.8 If using a circular collimator a thyroid collar must be used.

3.2.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

3.2.10 Move the tube head of the x ray machine in line with the guide arm of the film holder.

3.2.11 If there is no holder then align the tube head perpendicular to the film.

3.2.12 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

3.2.13 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

3.2.14 Fire the ignition button to take the radiograph.

3.2.15 When the exposure has finished remove the film/film holder from the patient's mouth.

3.2.16 Develop the film either in the digital scanner or the film processor as appropriate.

3.2.17 Record the patient's ID, date of radiograph and practitioners ID.

3.2.18 Complete the x-ray log.

3.2.19 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

3.2.20 Turn off the isolation switch.

4.0 Maxillary Occlusal Radiograph.

4.1 Protocol for a Maxillary Occlusal Radiograph.

4.1.1 Identification of pathology or abnormality in the premaxilla.

4.1.2 Assessment of unerupted teeth.

4.1.3 Localising unerupted teeth using parallax.

4.1.4 Inability to tolerate smaller intraoral radiographs.

4.1.5 Assessment of trauma.

4.1.6 Trismus.

4.1.7 Assessment of the position of ectopically positioned teeth.

4.1.8 With the parallax technique, used in conjunction with a periapical or DPT radiograph, the bucco-palatal position of unerupted teeth can be determined.

4.1.9 Assessment of supernumerary/supplemental teeth.

4.1.10 Assessment of root morphology.

4.2 Procedure for taking a Maxillary Occlusal Radiograph.

4.2.1 The operator must wear PPE as per NOHO IPC guidelines.

4.2.2 Use of a thyroid collar is advised in patients less than 30 years of age to protect the thyroid gland.

4.2.3 Choose the correct size of radiographic film or phosphor plate to fit the patient.

4.2.4 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

4.2.5 Place the phosphor plate in a hygienic bag of similar size.

4.2.6 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

4.2.7 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

4.2.8 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

4.2.9 Move the tube head of the x ray machine to -65 degrees to the film or phosphor plate.

4.2.10 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

4.2.11 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

4.2.12 Fire the ignition button to take the radiograph.

4.2.13 When the exposure has finished remove the film/film holder from the patient's mouth.

4.2.14 Develop the film either in the digital scanner or the film developer as appropriate

4.2.15 Record the patient's ID, date of radiograph and practitioners ID.

4.2.16 Complete the x-ray log.

4.2.17 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

4.2.18 Turn off the isolation switch.

5.0 Mandibular Occlusal Radiograph.

5.1 Protocol for a Mandibular Occlusal Radiograph.

5.1.1 Identification of pathology or abnormality in the anterior mandible.

5.1.2 Assessment of unerupted teeth.

5.1.3 Localising unerupted teeth using parallax.

5.1.4 Inability to tolerate smaller intraoral radiographs.

5.1.5 Assessment of trauma.

5.1.6 Trismus.

5.1.7 Assessment of the position of ectopically positioned teeth.

5.1.8 With the parallax technique, used in conjunction with a periapical or DPT radiograph, the bucco-palatal position of unerupted teeth can be determined.

5.1.9 Assessment of supernumerary/ supplemental teeth.

5.1.10 Assessment of root morphology.

5.2 Procedure for taking a Mandibular Occlusal Radiograph.

5.2.1 The operator must wear PPE as per NOHO IPC guidelines.

5.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

5.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks, if there are any anomalies choose another plate.

5.2.4 Place the phosphor plate in a hygienic bag of similar size.

5.2.5 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

5.2.6 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

5.2.7 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

5.2.8 Move the tube head of the x ray machine to +45 degrees to the film or phosphor plate.

5.2.9 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

5.2.10 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

5.2.11 Fire the ignition button to take the radiograph.

5.2.12 When the exposure has finished remove the film/film holder from the patient's mouth.

5.2.13 Develop the film either in the digital scanner or the film developer as appropriate.

5.2.14 Record the patient's ID, date of radiograph and practitioners ID.

5.2.15 Complete the x-ray log.

5.2.16 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

5.2.17 Turn off the isolation switch.

6.0 Lateral Cephalometric Radiograph.

6.1 Protocol for Lateral Cephalometric Radiograph for orthodontic purposes.

6.1.1 To provide confirmation of the underlying skeletal and soft tissue relationship and the inclination of the labial segments.

6.1.2 To aid treatment planning in those patients for whom fixed appliances are to be used to produce labio-lingual movement of the incisors.

6.1.3 To aid treatment planning in those patients with a skeletal discrepancy for whom functional appliance therapy or orthognathic surgery is being considered.

6.1.4 To provide baseline data to monitor treatment progress. eg. to evaluate the effects of functional appliance therapy, pre-operative evaluation of the incisor inclination in patients for whom orthognathic surgery is planned.

6.1.5 Post-operative appraisal of the results of orthognathic surgery.

6.1.6 To assist in the location and assessment of unerupted, malformed and unerupted teeth.

6.1.7 To give an indication of upper incisor root length but should not be taken solely for this purpose.

*There is no evidence that a single Lateral Cephalometric radiograph is of use in the prediction of facial growth and should not be taken for this purpose. Where the incisal relationship does not require significant change, Lateral Cephalometric radiographs are not indicated *

6 Planmeca Pro Max.

6.2 Procedure for taking a Lateral Cephalometric Radiograph using Planmeca Pro Max with Romexis software.

6.2.1 The operator must wear PPE as per NOHO IPC guidelines.

6.2.2 Switch on the unit.

6.2.3 Remove temple support and chin support from the patient support table.

6.2.4 Select Cephalometric exposure on the Romexis programme.

6.2.5 Ask the patient to remove any spectacles, hearing aids or jewellery.

6.2.6 Select the Cephalometric programme on the touchscreen of the unit.

6.2.7 Select the patient size on the control panel.

6.2.8 Press the release lever on the ear post holders and the nasal positioners as far out as they will go.

6.2.9 Adjust the height of the Cephalostat by pressing the height adjustment buttons until the positioning cones at the end of the ear posts are level with the patient's ears.

6.2.10 Position the patient between the ear posts so that they face the opposite wall.

6.2.11 Press the release lever on the ear posts and very carefully slide the positioning cones so that they are just resting in the patient's ears.

6.2.12 Ask the patient to assume the natural head position with the posterior teeth in maximum intercuspation and the Frankfort plane horizontal.

6.2.13 Slide the nasal positioner until it touches nasion moving it up and down until the Frankfort plane is horizontal.

6.2.14 Select the forward icon on the control panel.

6.2.15 A green light will flash on the touchscreen when the machine is getting ready to take an exposure and will stop flashing and remain green when the system is ready to take an exposure.

6.2.16 Ask the patient to remain still with the teeth in maximum intercuspation.

6.2.17 Move to a protected area.

6.2.18 Hold down the exposure button for the duration of the exposure.

6.2.19 Accept the image on the Romexis programme.

6.2.20 Remove the nasal positioner and carefully slide the positioning cones of the ear posts out of the patient's ears.

6.2.21 Escort the patient away from the cephalostat.

6.2.22 Return the unit to panoramic mode.

6.2.23 Switch off the unit at the isolation switch.

6.2.24 Clean the nasal positioner, ear positioning cones and control touchscreen in accordance with NOHO IPC guidance.

6.2.25 Record the patient's ID, date of radiograph and practitioners ID.

6.2.26 Complete the x-ray log.

6.2.27 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

7.0 Planmeca Pro Max.

7.1 Procedure for Planmeca Pro Max OPT machine with Romexis software.

7.1.1 The operator must wear PPE as per NOHO IPC guidelines.

7.1.2 Ensure the patient has no removable metallic foreign bodies (e.g. earrings).

7.1.3 Switch on the power to the OPT machine; turn the indicator dial to select OPT.

7.1.4 Register the patient's details on the digital Romexis programme.

7.1.5 If already registered open the patients file on the Romexis programme.

7.1.6 Choose 2D imaging OPT exposure on the Romexis programme.

7.1.7 Wait for the computer screen to display "initiating".

7.1.8 Adjust the height of the machine to the patient's height using the control panel.

7.1.9 Guide the patient into position with his/her chin on the chin rest, the bite block between the upper and lower anterior teeth and hands on the hand grips.

7.1.10 Align the patient's head to the centre using the temple guides.

7.1.11 Advise the patient to keep tongue pressed to the roof of the mouth to reduce tongue shadow.

7.1.12 Advise the patient that although the machine moves around them, it will not touch them.

7.1.13 Advise the patient not to move while the machine is moving.

7.1.14 Use the control panel for the following;

7.1.15 Align the patient's ala-tragal line using the beam.

7.1.16 Choose the appropriate size of patient from the hand held control panel.

7.1.17 Choose the appropriate size of mandible from the hand held control panel.

7.1.18 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

7.1.19 Ignite the firing button; hold it down for the entire exposure.

7.1.20 When the exposure has finished ask the patient to open his/her mouth and step away from the machine.

7.1.21 Remove and dispose of the used bite block cover in healthcare risk waste.

7.1.22 Record the patient's ID, date of radiograph and practitioners ID.

7.1.23 Complete the x-ray log.

7.1.24 Report the KV, MA, SPEED and all radiographic findings in the patient's chart/ SOEL Health.

7.1.25 Turn off the isolation switch.

8.0 Planmeca Pro One.

8.1 Procedure for Planmeca Pro One OPT machine with Romexis software.

8.1.1 The operator must wear PPE as per NOHO IPC guidelines.

8.1.2 Ensure the patient has no removable metallic foreign bodies (e.g. earrings).

8.1.3 Switch on the power to the OPT machine; turn the indicator dial to select OPT.

8.1.4 Register the patient's details on the digital Romexis programme.

8.1.5 If already registered open the patients file on the Romexis programme.

8.1.6 Choose 2D imaging OPT exposure on the Romexis programme.

8.1.7 Wait for the computer screen to display "initiating".

8.1.8 Adjust the height of the machine to the patient's height using the control panel.

8.1.9 Guide the patient into position with his/her chin on the chin rest, the bite block between the upper and lower anterior teeth and hands on the hand grips.

8.1.10 Align the patient's head to the centre using the temple guides.

8.1.11 Advise the patient to keep tongue pressed to the roof of the mouth to reduce tongue shadow.

8.1.12 Advise the patient that although the machine moves around them, it will not touch them.

8.1.13 Advise the patient not to move while the machine is moving.

8.1.14 Use the control panel for the following.

8.1.15 Align the patient's ala-tragal line using the beam.

8.1.16 Choose the appropriate size of patient from the hand held control panel.

8.1.17 Choose the appropriate size of mandible from the hand held control panel.

8.1.18 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

8.1.19 Ignite the firing button; hold it down for the entire exposure.

8.1.20 When the exposure has finished ask the patient to open his/her mouth and step away from the machine.

8.1.21 Remove and dispose of the used bite block cover in healthcare risk waste.

8.1.22 Record the patient's ID, date of radiograph and practitioners ID.

8.1.23 Complete the x-ray log.

8.1.24 Report the KV, MA, SPEED and all radiographic findings in the patient's chart/ SOEL Health.

8.1.25 Turn off the isolation switch.

9.0 Belmont OPT.

9.1 Procedure for using the Belmont OPT machine.

9.1.1 The operator must wear PPE as per NOHO IPC guidelines.

9.1.2 Switch on the power to the OPT machine; turn the indicator dial to select OPT.

9.1.3 Adjust the height of the machine to the patient's height using the handle on the upright stand.

9.1.4 Guide the patient into position with his/her chin on the chin rest, the bite block between the upper and lower anterior teeth and hands on the hand grips.

9.1.5 Align the patient's head to the centre using the temple guides.

9.1.6 Align the patient's ala-tragal line using the beam and control dial.

9.1.7 Advise the patient to keep tongue pressed to the roof of the mouth to reduce tongue shadow.

9.1.8 Advise the patient that although the machine moves around them, it will not touch them.

9.1.9 Advise the patient not to move while the machine is moving.

9.1.10 Choose the patient appropriate Kv, MA and speed from the machine mounted control panel.

9.1.11 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

9.1.12 Ignite the firing button; hold it down for the entire exposure.

9.1.13 When the exposure has finished release the temple guides.

9.1.14 Ask the patient to open his/her mouth and step away from the machine.

9.1.15 Remove and dispose of the used bite block cover in healthcare risk waste.

9.1.16 Develop the radiograph in the chemical developer.

9.1.17 Record the patient's ID, date of radiograph and practitioners ID.

9.1.18 Complete the x-ray log.

9.1.19 Report the KV, MA, SPEED and all radiographic findings in the patient's chart/ SOEL Health.

9.1.20 Turn off the isolation switch.

10.0 Gendex Orthoralix.

10.1 Procedure for using the Gendex Orthoralix OPT machine.

10.1.1 The operator must wear PPE as per NOHO IPC guidelines.

10.1.2 Switch on the power to the OPT machine.

10.1.3 Adjust the height of the machine to the patient's height using the handle on the upright stand.

10.1.4 Guide the patient into position with his/her chin on the chin rest, the bite block between the upper and lower anterior teeth and hands on the hand grips.

10.1.5 Align the patient's head to the centre using the temple guides.

10.1.6 Align the patient's ala-tragal line using the beam and control dial.

10.1.7 Advise the patient to keep tongue pressed to the roof of the mouth to reduce tongue shadow.

10.1.8 Advise the patient that although the machine moves around them, it will not touch them.

10.1.9 Advise the patient not to move while the machine is moving.

10.1.10 Choose the appropriate size of person from the machine mounted control panel.

10.1.11 Choose the patient appropriate Kv, MA and speed from the machine mounted control panel.

10.1.12 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

10.1.13 Ignite the firing button; hold it down for the entire exposure.

10.1.14 When the exposure has finished release the temple guides.

10.1.15 Ask the patient to open his/her mouth and step away from the machine.

10.1.16 Remove and dispose of the used bite block cover in healthcare risk waste.

10.1.17 Develop the radiograph in the chemical developer.

10.1.18 Record the patient's ID, date of radiograph and practitioners ID.

10.1.19 Complete the x-ray log.

10.1.20 Report the KV, MA, SPEED and all radiographic findings in the patient's chart/ SOEL Health.

10.1.21 Turn off the isolation switch.

11.0 Plameca Pro X Intra Oral Radiographs.

11.1 Procedure for Bitewing Radiographs with Planmeca Pro X intra oral with Romexis software.

11.1.1 The operator must wear PPE as per NOHO IPC guidelines.

11.1.2 Choose the correct size of phosphor plate to fit the patient.

11.1.3 Check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

11.1.4 Place the phosphor plate in a hygienic bag of similar size.

11.1.5 Choose a film holder and place the phosphor plate in the holder.

11.1.6 Film holders and beam aiming devices must be used for all bitewing radiographs, unless they cannot be tolerated by the patient.

11.1.7 A rectangular collimator should be used for all bitewing and radiographs.

11.1.8 If using a circular collimator a thyroid collar must be used.

11.1.9 Place the plate in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

11.1.10 Move the tube head of the x ray machine in line with the guide arm of the film holder.

11.1.11 If there is no holder then align the tube head perpendicular to the film.

11.1.12 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

11.1.13 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

11.1.14 Fire the ignition button to take the radiograph.

11.1.15 When the exposure has finished remove the plate holder from the patient's mouth.

11.1.16 Develop the film either in the digital scanner.

11.1.17 Record the patient's ID, date of radiograph and practitioners ID.

11.1.18 Complete the x-ray log.

11.1.19 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

11.2 Procedure for taking a Periapical Radiograph with Planmeca Pro X intra oral with Romexis software.

11.2.1 The operator must wear PPE as per NOHO IPC guidelines.

11.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

11.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

11.2.4 Place the phosphor plate in a hygienic bag of similar size.

11.2.5 Choose a film holder and place the film or phosphor plate in the holder.

11.2.6 Film holders and beam aiming devices must be used for all periapical radiographs, unless they cannot be tolerated by the patient.

11.2.7 A rectangular collimator should be used for all periapical imaging radiographs.

11.2.8 If using a circular collimator a thyroid collar must be used.

11.2.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

11.2.10 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

11.2.11 Move the tube head of the x ray machine in line with the guide arm of the film holder.

11.2.12 If there is no holder then align the tube head perpendicular to the film.

11.2.13 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

11.2.14 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

11.2.15 Fire the ignition button to take the radiograph.

11.2.16 When the exposure has finished remove the film/film holder from the patient's mouth.

11.2.17 Develop the film either in the digital scanner or the film developer as appropriate.

11.2.18 Record the patient's ID, date of radiograph and practitioners ID.

11.2.19 Complete the x-ray log.

11.2.20 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

11.3 Procedure for taking a Maxillary Occlusal Radiograph with Planmeca Pro X intra oral with Romexis software.

11.3.1 The operator must wear PPE as per NOHO IPC guidelines.

11.3.2 Use of a thyroid collar is advised in patients less than 30 years of age to protect the thyroid gland.

11.3.3 Choose the correct size of radiographic film or phosphor plate to fit the patient.

11.3.4 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

11.3.5 Place the phosphor plate in a hygienic bag of similar size.

11.3.6 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

11.3.7 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

11.3.8 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

11.3.9 Move the tube head of the x ray machine to -65 degrees to the film or phosphor plate.

11.3.10 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

11.3.11 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

11.3.12 Fire the ignition button to take the radiograph.

11.3.13 When the exposure has finished remove the film/film holder from the patient's mouth.

11.3.14 Develop the film either in the digital scanner or the film developer as appropriate.

11.3.15 Record the patient's ID, date of radiograph and practitioners ID.

11.3.16 Complete the x-ray log.

11.3.17 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

11.4 Procedure for taking a Mandibular Occlusal Radiograph with Planmeca Pro Xintra oral with Romexis software.

11.4.1 The operator must wear PPE as per NOHO IPC guidelines.

11.4.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

11.4.3 If using a phosphor plate, check the phosphor plate for indentations or marks, if there are any anomalies choose another plate.

11.4.4 Place the phosphor plate in a hygienic bag of similar size.

11.4.5 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

11.4.6 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

11.4.7 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

11.4.8 Move the tube head of the x ray machine to +45 degrees to the film or phosphor plate.

11.4.9 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

11.4.10 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

11.4.11 Fire the ignition button to take the radiograph.

11.4.12 When the exposure has finished remove the film/film holder from the patient's mouth.

11.4.13 Develop the film either in the digital scanner or the film developer as appropriate.

11.4.14 Record the patient's ID, date of radiograph and practitioners ID.

11.4.15 Complete the x-ray log.

11.4.16 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

12.0 Carestream 2200 Intra Oral Radiographs.

12.1 Procedure for Bitewing Radiographs using the Carestream 2200 Intra Oral.

12.1.1 The operator must wear PPE as per NOHO IPC guidelines.

12.1.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

12.1.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

12.1.4 Place the phosphor plate in a hygienic bag of similar size.

12.1.5 Choose a film holder and place the film or phosphor plate in the holder.

12.1.6 Film holders and beam aiming devices must be used for all bitewing radiographs, unless they cannot be tolerated by the patient.

12.1.7 A rectangular collimator should be used for all bitewing radiographs.

12.1.8 If using a circular collimator a thyroid collar must be used.

12.1.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

12.1.10 Move the tube head of the x ray machine in line with the guide arm of the film holder.

12.1.11 If there is no holder then align the tube head perpendicular to the film.

12.1.12 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

12.1.13 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

12.1.14 Fire the ignition button to take the radiograph.

12.1.15 When the exposure has finished remove the film/film holder from the patient's mouth.

12.1.16 Develop the film either in the digital scanner or the film processor as appropriate.

12.1.17 Record the patient's ID, date of radiograph and practitioners ID.

12.1.18 Complete the x-ray log.

12.1.19 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

12.2 Procedure for taking a Periapical Radiograph using the Carestream 2200 Intra Oral.

12.2.1 The operator must wear PPE as per NOHO IPC guidelines.

12.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

12.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

12.2.4 Place the phosphor plate in a hygienic bag of similar size.

12.2.5 Choose a film holder and place the film or phosphor plate in the holder.

12.2.6 Film holders and beam aiming devices must be used for all periapical radiographs, unless they cannot be tolerated by the patient.

12.2.7 A rectangular collimator should be used for all periapical imaging radiographs.

12.2.8 If using a circular collimator a thyroid collar must be used.

12.2.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

12.2.10 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

12.2.11 Move the tube head of the x ray machine in line with the guide arm of the film holder.

12.2.12 If there is no holder then align the tube head perpendicular to the film.

12.2.13 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

12.2.14 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

12.2.15 Fire the ignition button to take the radiograph.

12.2.16 When the exposure has finished remove the film/film holder from the patient's mouth.

12.2.17 Develop the film either in the digital scanner or the film developer as appropriate.

12.2.18 Record the patient's ID, date of radiograph and practitioners ID.

12.2.19 Complete the x-ray log.

12.2.20 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

12.3 Procedure for taking a Maxillary Occlusal Radiograph using the Carestream 2200 Intra Oral.

12.3.1 The operator must wear PPE as per NOHO IPC guidelines.

12.3.2 Use of a thyroid collar is advised in patients less than 30 years of age to protect the thyroid gland.

12.3.3 Choose the correct size of radiographic film or phosphor plate to fit the patient.

12.3.4 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

12.3.5 Place the phosphor plate in a hygienic bag of similar size.

12.3.6 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

12.3.7 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

12.3.8 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

12.3.9 Move the tube head of the x ray machine to -65 degrees to the film or phosphor plate.

12.3.10 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

12.3.11 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

12.3.12 Fire the ignition button to take the radiograph.

12.3.13 When the exposure has finished remove the film/film holder from the patient's mouth.

12.3.14 Develop the film either in the digital scanner or the film developer as appropriate

12.3.15 Record the patient's ID, date of radiograph and practitioners ID.

12.3.16 Complete the x-ray log. Report the KV, MA, SPEED and all radiographic findings in the patient's chart

12.4 Procedure for taking a Mandibular Occlusal Radiograph using the Carestream 2200 Intra Oral.

12.4.1 The operator must wear PPE as per NOHO IPC guidelines.

12.4.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

12.4.3 If using a phosphor plate, check the phosphor plate for indentations or marks, if there are any anomalies choose another plate.

12.4.4 Place the phosphor plate in a hygienic bag of similar size.

12.4.5 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

12.4.6 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

12.4.7 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

12.4.8 Move the tube head of the x ray machine to +45 degrees to the film or phosphor plate.

12.4.9 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

12.4.10 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

12.4.11 Fire the ignition button to take the radiograph.

12.4.12 When the exposure has finished remove the film/film holder from the patient's mouth.

12.4.13 Develop the film either in the digital scanner or the film developer as appropriate.

12.4.14 Record the patient's ID, date of radiograph and practitioners ID.

12.4.15 Complete the x-ray log.

12.4.16 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

13.0 Salatec X Mind Intra Oral Radiographs.

13.1 Procedure for Bitewing Radiographs using the Salatec X Mind Intra Oral.

13.1.1 The operator must wear PPE as per NOHO IPC guidelines.

13.1.2 Choose the correct size of radiographic film to fit the patient.

13.1.3 Choose a film holder and place the film in the holder.

13.1.4 Film holders and beam aiming devices must be used for all bitewing radiographs, unless they cannot be tolerated by the patient.

13.1.5 A rectangular collimator should be used for all bitewing radiographs.

13.1.6 If using a circular collimator a thyroid collar must be used.

13.1.7 Place the film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

13.1.8 Move the tube head of the x ray machine in line with the guide arm of the film holder.

13.1.9 If there is no holder then align the tube head perpendicular to the film.

13.1.10 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

13.1.11 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

13.1.12 Fire the ignition button to take the radiograph.

13.1.13 When the exposure has finished remove the film/film holder from the patient's mouth.

13.1.14 Develop the film either in the film processor as appropriate.

13.1.15 Record the patient's ID, date of radiograph and practitioners ID.

13.1.16 Complete the x-ray log.

13.1.17 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

13.2 Procedure for taking a Periapical Radiograph using the Salatec X Mind Intra Oral.

13.2.1 The operator must wear PPE as per NOHO IPC guidelines.

13.2.2 Choose the correct size of radiographic film to fit the patient.

13.2.3 Choose a film holder and place the film or phosphor plate in the holder.

13.2.4 Film holders and beam aiming devices must be used for all periapical radiographs, unless they cannot be tolerated by the patient.

13.2.5 A rectangular collimator should be used for all periapical imaging radiographs.

13.2.6 If using a circular collimator a thyroid collar must be used.

13.2.7 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

13.2.8 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

13.2.9 Move the tube head of the x ray machine in line with the guide arm of the film holder.

13.2.10 If there is no holder then align the tube head perpendicular to the film.

13.2.11 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

13.2.12 Select the appropriate exposure factors from the control panel60 or 70 KV, MA and speed depending on the size of the patient.

13.2.13 Fire the ignition button to take the radiograph.

13.2.14 When the exposure has finished remove the film/film holder from the patient's mouth.

13.2.15 Develop the film either in the digital scanner or the film developer as appropriate.

13.2.16 Record the patient's ID, date of radiograph and practitioners ID.

13.2.17 Complete the x-ray log.

13.2.18 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

13.3 Procedure for taking a Maxillary Occlusal Radiograph using the Salatec X Mind Intra Oral.

13.3.1 The operator must wear PPE as per NOHO IPC guidelines.

13.3.2 Use of a thyroid collar is advised in patients less than 30 years of age to protect the thyroid gland.

13.3.3 Choose the correct size of radiographic film to fit the patient.

13.3.4 Choose a film holder, if using one, and place the film or in the holder.

13.3.5 Place the film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

13.3.6 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

13.3.7 Move the tube head of the x ray machine to -65 degrees to the film or phosphor plate.

13.3.8 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

13.3.9 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

13.3.10 Fire the ignition button to take the radiograph.

13.3.11 When the exposure has finished remove the film/film holder from the patient's mouth.

13.3.12 Develop the film either in the film developer.

13.3.13 Record the patient's ID, date of radiograph and practitioners ID.

13.3.14 Complete the x-ray log.

13.3.15 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

13.4 Procedure for taking a Mandibular Occlusal Radiograph using the Salatec X Mind Intra Oral.

13.4.1 The operator must wear PPE as per NOHO IPC guidelines.

13.4.2 Choose the correct size of radiographic film to fit the patient.

13.4.3 Choose a film holder, if using one, and place the film in the holder.

13.4.4 Place the film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

13.4.5 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film place.

13.4.6 Move the tube head of the x ray machine to +45 degrees to the film.

13.4.7 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

13.4.8 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

13.4.9 Fire the ignition button to take the radiograph.

13.4.10 When the exposure has finished remove the film/film holder from the patient's mouth.

13.4.11 Develop the film in the film developer.

13.4.12 Record the patient's ID, date of radiograph and practitioners ID.

13.4.13 Complete the x-ray log.

13.4.14 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

14.0 Trophy Elitys Intra Oral Radiographs.

14.1 Procedure for Bitewing Radiographs using the Trophy Elitys Intra Oral.

14.1.1 The operator must wear PPE as per NOHO IPC guidelines.

14.1.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

14.1.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

14.1.4 Place the phosphor plate in a hygienic bag of similar size.

14.1.5 Choose a film holder and place the film or phosphor plate in the holder.

14.1.6 Film holders and beam aiming devices must be used for all bitewing radiographs, unless they cannot be tolerated by the patient.

14.1.7 A rectangular collimator should be used for all bitewing radiographs.

14.1.8 If using a circular collimator a thyroid collar must be used.

14.1.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

14.1.10 Move the tube head of the x ray machine in line with the guide arm of the film holder.

14.1.11 If there is no holder then align the tube head perpendicular to the film.

14.1.12 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

14.1.13 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

14.1.14 Fire the ignition button to take the radiograph.

14.1.15 When the exposure has finished remove the film/film holder from the patient's mouth.

14.1.16 Develop the film either in the digital scanner or the film processor as appropriate.

14.1.17 Record the patient's ID, date of radiograph and practitioners ID.

14.1.18 Complete the x-ray log.

14.1.19 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

14.2 Procedure for taking a Periapical Radiograph using the Trophy Elitys Intra Oral.

14.2.1 The operator must wear PPE as per NOHO IPC guidelines.

14.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

14.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

14.2.4 Place the phosphor plate in a hygienic bag of similar size.

14.2.5 Choose a film holder and place the film or phosphor plate in the holder.

14.2.6 Film holders and beam aiming devices must be used for all periapical radiographs, unless they cannot be tolerated by the patient.

14.2.7 A rectangular collimator should be used for all periapical imaging radiographs.

14.2.8 If using a circular collimator a thyroid collar must be used.

14.2.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

14.2.10 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

14.2.11 Move the tube head of the x ray machine in line with the guide arm of the film holder.

14.2.12 If there is no holder then align the tube head perpendicular to the film.

14.2.13 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

14.2.14 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

14.2.15 Fire the ignition button to take the radiograph.

14.2.16 When the exposure has finished remove the film/film holder from the patient's mouth.

14.2.17 Develop the film either in the digital scanner or the film developer as appropriate.

14.2.18 Record the patient's ID, date of radiograph and practitioners ID.

14.2.19 Complete the x-ray log.

14.2.20 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

14.3 Procedure for taking a Maxillary Occlusal Radiograph using the Trophy Elitys Intra Oral.

14.3.1 The operator must wear PPE as per NOHO IPC guidelines.

14.3.2 Use of a thyroid collar is advised in patients less than 30 years of age to protect the thyroid gland.

14.3.3 Choose the correct size of radiographic film or phosphor plate to fit the patient.

14.3.4 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

14.3.5 Place the phosphor plate in a hygienic bag of similar size.

14.3.6 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

14.3.7 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

14.3.8 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

14.3.9 Move the tube head of the x ray machine to -65 degrees to the film or phosphor plate.

14.3.10 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

14.3.11 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

14.3.12 Fire the ignition button to take the radiograph.

14.3.13 When the exposure has finished remove the film/film holder from the patient's mouth.

14.3.14 Develop the film either in the digital scanner or the film developer as appropriate.

14.3.15 Record the patient's ID, date of radiograph and practitioners ID.

14.3.16 Complete the x-ray log.

14.3.17 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

14.4 Procedure for taking a Mandibular Occlusal Radiograph using the Trophy Elitys Intra Oral.

14.4.1 The operator must wear PPE as per NOHO IPC guidelines.

14.4.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

14.4.3 If using a phosphor plate, check the phosphor plate for indentations or marks, if there are any anomalies choose another plate.

14.4.4 Place the phosphor plate in a hygienic bag of similar size.

14.4.5 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

14.4.6 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

14.4.7 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

14.4.8 Move the tube head of the x ray machine to +45 degrees to the film or phosphor plate.

14.4.9 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

14.4.10 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

14.4.11 Fire the ignition button to take the radiograph.

14.4.12 When the exposure has finished remove the film/film holder from the patient's mouth.

14.4.13 Develop the film either in the digital scanner or the film developer as appropriate.

14.4.14 Record the patient's ID, date of radiograph and practitioners ID.

14.4.15 Complete the x-ray log.

14.4.16 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

15.0 Belmont Searcher Intra Oral Radiographs.

15.1 Procedure for Bitewing Radiographs using the Belmont Searcher Intra Oral.

15.1.1 The operator must wear PPE as per NOHO IPC guidelines.

15.1.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

15.1.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

15.1.4 Place the phosphor plate in a hygienic bag of similar size.

15.1.5 Choose a film holder and place the film or phosphor plate in the holder.

15.1.6 Film holders and beam aiming devices must be used for all bitewing radiographs, unless they cannot be tolerated by the patient.

15.1.7 A rectangular collimator should be used for all bitewing radiographs.

15.1.8 If using a circular collimator a thyroid collar must be used.

15.1.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

15.1.10 Move the tube head of the x ray machine in line with the guide arm of the film holder.

15.1.11 If there is no holder then align the tube head perpendicular to the film.

15.1.12 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

15.1.13 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

15.1.14 Fire the ignition button to take the radiograph.

15.1.15 When the exposure has finished remove the film/film holder from the patient's mouth.

15.1.16 Develop the film either in the digital scanner or the film processor as appropriate.

15.1.17 Record the patient's ID, date of radiograph and practitioners ID.

15.1.18 Complete the x-ray log.

15.1.19 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

15.2 Procedure for taking a Periapical Radiograph using the Belmont Searcher Intra Oral.

15.2.1 The operator must wear PPE as per NOHO IPC guidelines.

15.2.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

15.2.3 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

15.2.4 Place the phosphor plate in a hygienic bag of similar size.

15.2.5 Choose a film holder and place the film or phosphor plate in the holder.

15.2.6 Film holders and beam aiming devices must be used for all periapical radiographs, unless they cannot be tolerated by the patient.

15.2.7 A rectangular collimator should be used for all periapical imaging radiographs.

15.2.8 If using a circular collimator a thyroid collar must be used.

15.2.9 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

15.2.10 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

15.2.11 Move the tube head of the x ray machine in line with the guide arm of the film holder.

15.2.12 If there is no holder then align the tube head perpendicular to the film.

15.2.13 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

15.2.14 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

15.2.15 Fire the ignition button to take the radiograph.

15.2.16 When the exposure has finished remove the film/film holder from the patient's mouth.

15.2.17 Develop the film either in the digital scanner or the film developer as appropriate.

15.2.18 Record the patient's ID, date of radiograph and practitioners ID.

15.2.19 Complete the x-ray log.

15.2.20 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

15.3 Procedure for taking a Maxillary Occlusal Radiograph using the Belmont Searcher Intra Oral.

15.3.1.1 The operator must wear PPE as per NOHO IPC guidelines.

15.3.1.2 Use of a thyroid collar is advised in patients less than 30 years of age to protect the thyroid gland.

15.3.1.3 Choose the correct size of radiographic film or phosphor plate to fit the patient.

15.3.1.4 If using a phosphor plate, check the phosphor plate for indentations or marks; if there are any anomalies choose another plate.

15.3.1.5 Place the phosphor plate in a hygienic bag of similar size.

15.3.1.6 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

15.3.1.7 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

15.3.1.8 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

15.3.1.9 Move the tube head of the x ray machine to -65 degrees to the film or phosphor plate.

15.3.1.10 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

15.3.1.11 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

15.3.1.12 Fire the ignition button to take the radiograph.

15.3.1.13 When the exposure has finished remove the film/film holder from the patient's mouth.

15.3.1.14 Develop the film either in the digital scanner or the film developer as appropriate.

15.3.1.15 Record the patient's ID, date of radiograph and practitioners ID.

15.3.1.16 Complete the x-ray log.

15.3.1.17 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

15.4 Procedure for taking a Mandibular Occlusal Radiograph using the Belmont Searcher Intra Oral.

15.4.1 The operator must wear PPE as per NOHO IPC guidelines.

15.4.2 Choose the correct size of radiographic film or phosphor plate to fit the patient.

15.4.3 If using a phosphor plate, check the phosphor plate for indentations or marks, if there are any anomalies choose another plate.

15.4.4 Place the phosphor plate in a hygienic bag of similar size.

15.4.5 Choose a film holder, if using one, and place the film or phosphor plate in the holder.

15.4.6 Place the plate or film in the patients mouth facing the area under investigation, the patient will then bite on the film holder if in use.

15.4.7 If the patient cannot tolerate a film holder then the patient's own finger or the finger of a carer/comforter may be used to hold the film or phosphor plate in place.

15.4.8 Move the tube head of the x ray machine to +45 degrees to the film or phosphor plate.

15.4.9 When firing the ignition button the operator must be positioned at the location shown on the local risk assessment.

15.4.10 Select the appropriate exposure factors from the control panel; size of patient, teeth to be exposed.

15.4.11 Fire the ignition button to take the radiograph.

15.4.12 When the exposure has finished remove the film/film holder from the patient's mouth.

15.4.13 Develop the film either in the digital scanner or the film developer as appropriate.

15.4.14 Record the patient's ID, date of radiograph and practitioners ID.

15.4.15 Complete the x-ray log.

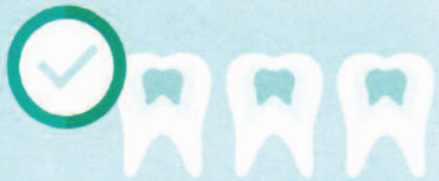
15.4.16 Report the KV, MA, SPEED and all radiographic findings in the patient's chart.

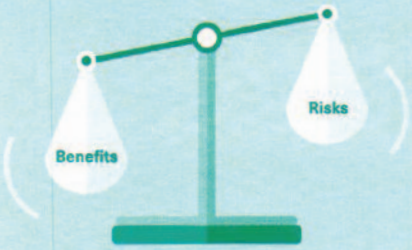
APPENDIX VII: SERVICE USER POSTER FOR ORAL HEALTH SERVICES X RAYS

Dental X-rays

Your health

- Dental X-rays help with making a diagnosis, planning treatment or monitoring the health of your teeth.
- They involve the use of ionising radiation (X-rays) to produce detailed images of teeth, gums and jaws.





Radiation

- Everyone receives ionising radiation every day from radioactivity in the air, food we eat and even from space.
- The amount of radiation used for dental X-rays is similar to your everyday exposure over a few days, so the risks associated with them are very low for both adults and children.
- The main benefit of the X-ray is making the correct diagnosis or plan, or ensuring your teeth are healthy, so you can get the treatment that's right for you. The X-ray will have been approved by a specialist (usually your dentist) who has agreed that the benefit is far greater than the small risk from X-rays.

Our staff and equipment

- Staff are trained to take the best possible images using the lowest amount of radiation.
- Equipment is regularly checked to make sure the test is safe and effective.

Your test

- You may have your X-ray taken during your dental examination or you may need to go to an X-ray room, depending on the type of exam required to get the appropriate information.
- You will normally be informed of the outcome of the X-ray before you leave. If not, our staff will tell you when and how you will be told the outcome of your X-ray.

If you have any questions, please ask

Produced by the **Clinical Imaging Board**, a collaboration between the Institute of Physics and Engineering in Medicine, The Royal College of Radiologists and the Society and College of Radiographers.

IPEM Institute of Physics and Engineering in Medicine

Clinical Radiology The Royal College of Radiologists

SCoR

APPENDIX VIII: SERVICE USER LEAFLET FOR ORAL HEALTH SERVICES X RAYS

APPENDIX IX: CARER/COMFORTER CONSENT FORM"

HSE Mid West Community Healthcare

Dental X-rays and Your Consent As a Comforter/Carer.

1. Patient well-being.

   A dentist can only learn a certain amount by looking directly at the teeth the mouth. About 60% of the tooth is hidden below the gum line, and is only visible by taking an X-ray. A dental X-ray is taken to assess and monitor teeth, jaw bone structure and gums to plan treatments. It will also show if there are any problems hidden from view.

   A dental X-ray is painless. It is a type of photograph, however there is no "flash" like an ordinary camera. We will explain to you how the information gained will help improve diagnosis or treatment.

   Please inform the person taking the x ray if you are pregnant as you are then not eligible to assist.

   You must be over 18 years of age to assist with an x ray.

2. Our Standards.

   We are registered with the EPA and HIQA. Our x-ray equipment is well maintained and regularly checked by appropriately qualified staff. This ensures that the amount of radiation we use is kept as low as possible to get the pictures we need.

   Our main concern is to ensure that when an X-ray is taken, the benefits from making a diagnosis or providing the correct treatment far outweigh the very low negligible risk involved with the X-ray itself. We make sure that this is the case before you assist with the X-ray.

3. About X-rays and Radiation in general.

   We are all exposed to a small amount of natural background radiation every day of our lives. This radiation comes from our environment, the air we breathe, food we eat and even from outer space.

   X-ray machines use a small amount of radiation to generate the "pictures" we need for diagnosis and treatment and to monitor progress.

4. Putting it in perspective.

   Each dental X-ray gives a small additional amount of radiation on top of natural background. The X-ray you are assisting with carries a very low negligible risk.

5. Consent.

   Please feel free to ask the Dentist if you have any further questions or concerns.

   You may refuse to assist with the X-ray taken if you feel you do not have sufficient information.

WRITTEN CONSENT

As part of the dental assessment or treatment we may need to take X-rays. The amount of radiation from a dental X-ray is about the same as one of two days of natural radiation that we are all exposed to as part of our daily life.

I confirm I am over 18 years of age. Yes / No

I consent to assist with X-rays being taken? Yes / No

Signed by Comforter/Carer: ……..

Date: ……

Dentist Signature: ……

APPENDIX X: X RAY CHECK LIST POSTER

HSE Dental and Orthodontic Services

X-RAY Check List

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Personal details

I. Ask the patient to supply personal details. Three point identification is required, Name, Address and DOB.
II. Confirm that you have the correct clinical notes for this patient.

Have you fitted a collimator and used shielding as appropriate

Patient Record check

I. Check the x-ray referral and confirm that justification is present.
II. Confirm that the patient has an appointment to see their referring dentist to report on the X-Ray taken if applicable.
III. Record consent to take the x-ray in question on the patient record.

Have you got the x-ray machine at the right setting for the tooth being taken?

Barriers to good images

I. Has the patient removed all relevant jewellery, earrings, necklace, hair clips etc?
II. Has the patient taken out any removable dental prosthesis/orthodontic brace?

Make sure only designated people are in the room before taking the x-ray?

Taking the X-ray

I. Check again the image that is required:
   a. Which tooth
   b. Which side
   c. Correct x-ray holder

Don't forget to save all X-Rays correctly with appropriate patient identifiers on your system and make sure it is secure.

APPENDIX XI: LOG OF X RAYS TAKEN

HSE Mid West Community Healthcare

MWCH Oral Health Services, Record of Radiographs Taken

CLINIC / X-RAY ROOM_____

ONE ROW PER EXPOSURE

Date	Chart No	Comforter/Carer, Y/N**	TYPE of X-RAY	KV	MA	Speed	Rectangular Collimation Y/N	Film holder, beam aiming device used Y/N	Extra orals, was Field Limitation used Y/ N/NA	Image grade. 1, 2, or 3*	Repeat Necessary Y/N *	Referred By	Taken By

- *If Grade 3 (reject) or if repeat necessary (Y) please fill out the Reject/Repeat log.
- ** If Y Comforter/Carer please record consent in SOEL using consent item.

APPENDIX XII: RADIOGRAPH REJECT AND REPEAT LOG

HSE Mid West Community Healthcare

MWCH Oral Health Services, Reject and Repeat X ray Log

Location:

Date	Patient Identifier	Reason for Reject	Repeat necessary Y/N	Referred By	Taken By

APPENDIX XIII : AUDIT SCHEDULE FOR IONISING RADIATION

Audit Scope	Scheduled	Person Responsible
EDEN registration with EPA		
Quality Assurance Program.		
Patient Dose.		
Dose constraints.		
Professional registration and delegation		
Training		
Justification		
Referrals		
Optimization		
PPPG's for each standard exposure		
Image Quality Audit		
Image interpretation		
Rejects and Repeats log		
Processing		
Audits to demonstrate practice with children (HIQA reports)		
Risk Management		
Incident Management		

HSE Mid West
Community Healthcare

Our Services:

- Primary Care
- Mental Health
- Older Persons
- Disabilities
- Health & Wellbeing

HSE Mid West Community Healthcare delivers its services to people in local communities, as close as possible to people's homes