



**Health
Information
and Quality
Authority**

An tÚdarás Um Fhaisnéis
agus Cáilíocht Sláinte

Health Information and Quality Authority

Report of the assessment of compliance with medical exposure to ionising radiation regulations

Name of Medical Radiological Installation:	Carrigtwohill Dental Practice
Undertaking Name:	Richard Browne
Address of Ionising Radiation Installation:	36 Main Street, Carrigtwohill, Cork
Type of inspection:	Announced
Date of inspection:	25 January 2023
Medical Radiological Installation Service ID:	OSV-0006461
Fieldwork ID:	MON-0038979

About the medical radiological installation:

Carrigtwohill Dental Practice provides a full range of dental services since 2001. This includes the use of intra oral x-rays to assess, diagnose and treat patients. The practice has one intraoral x-ray unit.

How we inspect

This inspection was carried out to assess compliance with the European Union (Basic Safety Standards for Protection against Dangers Arising from Medical Exposure to Ionising Radiation) Regulations 2018 and 2019. The regulations set the minimum standards for the protection of service users exposed to ionising radiation for clinical or research purposes. These regulations must be met by each undertaking carrying out such practices. To prepare for this inspection, the inspector¹ reviewed all information about this medical radiological installation². This includes any previous inspection findings, information submitted by the undertaking, undertaking representative or designated manager to HIQA³ and any unsolicited information since the last inspection.

As part of our inspection, where possible, we:

- talk with staff to find out how they plan, deliver and monitor the services that are provided to service users
- speak with service users⁴ to find out their experience of the service
- observe practice to see if it reflects what people tell us
- review documents to see if appropriate records are kept and that they reflect practice and what people tell us.

About the inspection report

In order to summarise our inspection findings and to describe how well a service is doing, we describe the overall effectiveness of an undertaking in ensuring the quality and safe conduct of medical exposures. It examines how the undertaking provides the technical systems and processes so service users only undergo medical exposures to ionising radiation where the potential benefits outweigh any potential

¹ Inspector refers to an Authorised Person appointed by HIQA under Regulation 24 of S.I. No. 256 of 2018 for the purpose of ensuring compliance with the regulations.

² A medical radiological installation means a facility where medical radiological procedures are performed.

³ HIQA refers to the Health Information and Quality Authority as defined in Section 2 of S.I. No. 256 of 2018.

⁴ Service users include patients, asymptomatic individuals, carers and comforters and volunteers in medical or biomedical research.

risks and such exposures are kept as low as reasonably possible in order to meet the objectives of the medical exposure.

A full list of all regulations and the dimension they are reported under can be seen in Appendix 1.

This inspection was carried out during the following times:

Date	Times of Inspection	Inspector	Role
Wednesday 25 January 2023	12:00hrs to 12:50hrs	Noelle Neville	Lead

Summary of findings

An inspection of Carrigtwohill Dental Practice was carried out by an inspector on 25 January 2023 to assess its compliance with the regulations. As part of this inspection, the inspector spoke with staff and management, reviewed documentation and visited the dental practice's clinical room. Carrigtwohill Dental Practice had returned a regulatory self-assessment questionnaire (SAQ) in June 2022 which had been issued by HIQA to determine the dental practice's perceived compliance with the regulations. The inspector validated the SAQ findings and noted that Carrigtwohill Dental Practice demonstrated compliance with each regulation reviewed, namely Regulations 4, 5, 6, 8, 10, 11, 13, 14, 17, 19, 20 and 21, which was consistent with the information provided in the submitted SAQ.

Overall, the inspector was satisfied that the undertaking, Richard Browne, had systems in place to ensure the safe and effective delivery of medical radiological exposures at Carrigtwohill Dental Practice and a commitment to the radiation protection of service users was evident from discussions with staff and management and a review of documentation.

Regulation 4: Referrers

From a discussion with management and a review of documentation at Carrigtwohill Dental Practice, the inspector was satisfied that referrals were from staff working within this dental practice, where the referrer and practitioner was the same person and entitled to act as referrer and practitioner as per the regulations. The dental practice did not accept referrals for medical radiological procedures from external sources at the time of the inspection.

Judgment: Compliant

Regulation 5: Practitioners

The inspector was satisfied that only those entitled to act as practitioner had taken clinical responsibility for medical exposures conducted at Carrigtwohill Dental Practice.

Judgment: Compliant

Regulation 6: Undertaking

There was a clear allocation of responsibilities to ensure safe and effective care for those undergoing exposure to ionising radiation as required by Regulation 6(3). The inspector reviewed a document titled *Radiation Safety Procedures for Dental Radiological Practice, June 2021* which outlined the allocation of responsibilities and structure in place for radiation protection of service users at the dental practice. This document outlined the roles and responsibilities of Carrigtwohill Dental Practice medical physics expert (MPE) and also noted that dentists at the dental practice acted as referrer and practitioner.

Judgment: Compliant

Regulation 8: Justification of medical exposures

From a sample of referrals reviewed, the inspector was satisfied that referrals were available in writing, stated the reason for the request and were accompanied by sufficient medical data. Staff informed the inspector that previous diagnostic information from procedures was also reviewed if available. Information relating to the benefits and risks associated with radiation was available to service users and displayed on posters in the dental practice.

Judgment: Compliant

Regulation 10: Responsibilities

The inspector was satisfied that a practitioner took clinical responsibility for all medical exposures to ionising radiation at Carrigtwohill Dental Practice. In addition, the inspector was satisfied that the optimisation process included the practitioner and MPE and the justification process for all medical radiological procedures carried out at Carrigtwohill Dental Practice involved the referrer and practitioner.

Judgment: Compliant

Regulation 11: Diagnostic reference levels

The inspector was satisfied that Carrigtwohill Dental Practice had established, regularly reviewed and used DRLs as required by Regulation 11. These local DRLs were available for both adult and paediatric service users and were displayed

prominently in the dental practice.

Judgment: Compliant

Regulation 13: Procedures

Written protocols for every type of standard dental radiological procedure were available at Carrigtwohill Dental Practice as required by Regulation 13(1). These protocols can provide assurance that medical radiological procedures are carried out in a safe and consistent manner. Information relating to the medical exposure as required by Regulation 13(2) was available in a sample of reports reviewed. The inspector was satisfied that referral guidelines were available at the dental practice as required by Regulation 13(3). In addition, the inspector reviewed evidence of clinical audit carried out at Carrigtwohill Dental Practice which allows for the identification of areas of good practice and areas of improvement to ensure the safe delivery of medical radiological exposures to service users.

Judgment: Compliant

Regulation 14: Equipment

The inspector was satisfied that equipment was kept under strict surveillance at Carrigtwohill Dental Practice as required by Regulation 14(1). The dental practice had radiation safety procedures which outlined the quality assurance programme in place for equipment. The inspector received an up-to-date inventory of medical radiological equipment in advance of the inspection and noted that an appropriate quality assurance programme was in place for equipment at Carrigtwohill Dental Practice as required by Regulation 14(2). In addition, the inspector reviewed records of performance testing and was satisfied that testing was carried out on a regular basis as required by Regulation 14(3).

Judgment: Compliant

Regulation 17: Accidental and unintended exposures and significant events

The inspector reviewed documentation outlining the process for the management of accidental and unintended exposures of significant events. Management explained the radiation incident management process to the inspector and a template for recording incidents was available for review. Although no incidents relating to accidental or unintended exposure had been identified or reported at Carrigtwohill

Dental Practice, the inspector was satisfied that systems and awareness of staff were adequate to manage an incident or near miss should one occur.

Judgment: Compliant

Regulation 19: Recognition of medical physics experts

The inspector was satisfied from speaking with management and reviewing documentation that adequate processes were in place to ensure the continuity of medical physics expertise at Carrigtwohill Dental Practice as required by Regulation 19.

Judgment: Compliant

Regulation 20: Responsibilities of medical physics experts

The inspector reviewed the professional registration certificate of the MPE at Carrigtwohill Dental Practice and was satisfied that an MPE gave specialist advice, as appropriate, on matters relating to radiation physics as required by Regulation 20(1). The inspector noted involvement in radiation protection by the MPE across a range of responsibilities as outlined in Regulation 20(2) at the dental practice. The MPE took responsibility for dosimetry, gave advice on medical radiological equipment and contributed to the definition and performance of a quality assurance programme. The MPE was involved in optimisation including the application and use of DRLs. In addition, the MPE contributed to the training of staff in relation to radiation protection. The inspector noted that the MPE also acted as the radiation protection adviser for Carrigtwohill Dental Practice and therefore satisfied the requirements of Regulation 20(3).

Judgment: Compliant

Regulation 21: Involvement of medical physics experts in medical radiological practices

The inspector was satisfied that an MPE was appropriately involved at Carrigtwohill Dental Practice, with the level of involvement commensurate with the radiological risk posed by the dental practice as required by Regulation 21.

Judgment: Compliant

Appendix 1 – Summary table of regulations considered in this report

This inspection was carried out to assess compliance with the European Union (Basic Safety Standards for Protection against Dangers Arising from Medical Exposure to Ionising Radiation) Regulations 2018 and 2019. The regulations considered on this inspection were:

Regulation Title	Judgment
Summary of findings	
Regulation 4: Referrers	Compliant
Regulation 5: Practitioners	Compliant
Regulation 6: Undertaking	Compliant
Regulation 8: Justification of medical exposures	Compliant
Regulation 10: Responsibilities	Compliant
Regulation 11: Diagnostic reference levels	Compliant
Regulation 13: Procedures	Compliant
Regulation 14: Equipment	Compliant
Regulation 17: Accidental and unintended exposures and significant events	Compliant
Regulation 19: Recognition of medical physics experts	Compliant
Regulation 20: Responsibilities of medical physics experts	Compliant
Regulation 21: Involvement of medical physics experts in medical radiological practices	Compliant