The Use of Lead Aprons in Dental Radiology
Position Statement

The Use of Lead Aprons in Dental Radiology

Radiological Protection Institute of Ireland
3 Clonskeagh Square
Dublin 14

Health Service Executive
Medical Exposure Radiation Unit
Mill Lane
Palmerstown
Dublin 20

June 2011
Background

Historically, many of the reasons for advocating the use of lead aprons in dental radiology relate to the protection of the patient from the harmful effects of ionising radiation and to allaying their anxieties. Similarly some staff operating dental X-ray units have also routinely worn lead aprons to ensure that they were adequately protected against exposure from the X-rays. The RPII1 and the Health Service Executive (HSE)2 have recently undertaken a review of the requirement for using lead aprons in dental radiology. The findings of this review are summarised in this statement.

RPII Position: (Protection of Staff)

Based upon the findings of its review, the RPII has now adopted the following position in relation to the use of lead aprons by staff working in dental radiology:

• The RPII will only require a dental practice to have a lead apron where the practice undertakes exposures that require staff to hold patients for the duration of the exposure. In these cases the person assisting the patient must wear an apron.

• In all other cases the RPII will not require dental practices to have lead aprons.

• By ensuring that operators of X-ray units adhere to safe working practices, e.g. by remaining at a distance of at least 2 m from the patient's head during exposures and not standing in the path of the primary beam, they will not be exposed to any risks from the routine operation of the units. In situations where the room is too small to permit the operator to stand at a distance of 2 m, the operator should stand behind a protective screen or outside the examination room.

• The scope of an RPII inspection will not include the use of lead aprons, except where staff are involved in the holding of patients.

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1 The RPII is the competent authority for ensuring that workers and members of the public are protected against the dangers associated with exposure to ionising radiation.

2 Responsibility for ensuring the protection of patients who are exposed to ionising radiation for either diagnostic or therapeutic purposes falls to the Minister of Health and the delegated HSE.
HSE Position: (Protection of the Patient)

Notwithstanding the RPII's statutory limitations in relation to the protection of the patient, the HSE's position in relation to the use of lead aprons in dental radiology is:

- There is no justification for the routine use of lead aprons for patients in dental radiography.
- There is no requirement to use a lead protective apron for pregnant patients.
- Thyroid collars should be used in the few examinations where the thyroid may be in the main primary beam and will not interfere with the image.
- Thyroid collars are inappropriate for panoramic radiography as they may interfere with the image.
- In cephalometric radiography thyroid collars should be used if beam collimation includes the thyroid gland.
- Due to the age related sensitivity of the thyroid to radiation, the use of thyroid collars must also be considered when intraoral radiographs are taken with circular collimators on persons under the age of 30 years.
- In all cases where a person (e.g. a family member) is holding/supporting patients during an exposure, a lead apron should be provided for their protection.

Further information may be obtained from the Medical Exposures Radiation Unit of the HSE at the following website

http://www.hse.ie/eng/about/Who/medexpradiatonunit/meru.html
Summary

There is no justification for the routine use of lead aprons for patients in dental radiography.

There is no requirement to use a lead apron for pregnant patients.

A lead apron must always be provided to any person, whether a member of staff or a family member/member of the public, who holds or supports a patient during a dental X-ray.

Where the thyroid will be exposed, special consideration should be given to the shielding of the thyroid. A thyroid collar may be required where intraoral radiographs with circular collimation are taken on persons under the age of 30 years.

This new policy on the requirement for lead aprons in dental radiology amends Sections 9 (v), (vi) and 10 (v) in the 1996 Code of Practice for Radiological Protection in Dentistry (RPII - 96/2) and will be included in the revised Code of Practice.
Mission Statement

"To ensure that people in Ireland are protected from the harmful effects of radiation"