

Protocols for Standard Radiological Practice

Under Section 11(2) of Statutory Instrument 478 of 2002 “The European Communities (Medical Ionising Radiation) Regulations” the Dental Council is required to establish written protocols for every type of standard radiological practice.

Individual doses in basic dental radiography (intra-oral, panoramic and cephalometric) are low, being equivalent to those associated with a few days of background radiation. The Council recognizes that the individual risks in dental radiography are small but are greater in the younger age groups. To meet its requirement under the regulations the Dental Council has approved the following protocol in relation to intra-oral, panoramic and cephalometric radiological practice.

1. All radiographic examinations must be justified on an individual patient basis by demonstrating that the benefits to the patient outweigh the potential detriment;
2. No radiographs should be selected unless a history and clinical examination have been performed;
3. When referring a patient for a radiographic examination, the dentist should supply sufficient clinical information (based upon a history and clinical examination) to allow the practitioner taking clinical responsibility for the X-ray exposure to perform the justification process;
4. At all times the practitioner must follow the principles of justification and optimisation;
5. The patient dose must be “as low as reasonably achievable” (ALARA);
6. Film holders incorporating beam-aiming devices using the paralleling technique and facilitating rectangular collimation should be used for intra-oral radiography wherever possible;
7. Rectangular collimation is a highly effective means of dose reduction in intra-oral dental radiography. It should be used in combination with film holders incorporating beam-aiming devices. In those cases where film holders are not possible, rectangular collimation should still be considered;
8. For intra-oral radiography, only the fastest available (Group E or faster) films should be used, as they significantly reduce patient dose;
9. For extra-oral radiography the fastest available rare-earth intensifying screen/film combination consistent with satisfactory diagnostic results should be used;
10. If available, limitation of field size to the area required for diagnosis should be used for panoramic radiography;
11. Accurate positioning in panoramic radiography can be facilitated by using all available positioning aids correctly and by adequate training of users;
12. A cephalostat and a fixed X-ray source/patient/image receptor relationship should be used for cephalometric radiography;
13. Where possible, lateral cephalograms should be collimated to limit the field to the area required for diagnosis.