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Orthodontic radiographs. Guidelines, 3rd edition (2008)

Authors: K. G. Isaacson, A. R. Thom, K. Horner and E. Whaites Publisher: British Orthodontic Society, London, UK Price: £15.00 ISBN: 1-899297-07-3

This is the third edition of the orthodontic radiographic guidelines first published in 1994 and is an update on the recommendations for the safe practice of requesting and taking radiographs for orthodontic purposes. The preamble is designed to educate and stresses the damaging effects of ionizing radiation and that its use is governed by criminal law in the United Kingdom (UK). This law requires that the prescription of radiographs, either for routine diagnostic purposes or for treatment planning and evaluation, must have valid justification. It is further stated in the preface that the existence of the guidelines does not mean that compliance is necessary and non-compliance does not necessarily equate with negligence. On the surface, it appears as though mixed messages are being delivered but ultimately the guidelines serve to recommend best practice and patient selection criteria to comply with the Ionizing Radiation (Medical Exposure) Regulations 2000.

To fulfil the stated aims of radiation protection which serve to prevent the deterministic (certainty) effects of radiation by basing rules on scientific evidence, and to limit the stochastic (random) effects, the guidelines provide an overview of the UK legislation and the dosage complications encountered in practice. It is indicated that some information and exposure risks in orthodontic practice are based on old data which needs updating. However, the risk of cancer is indicated to be very low for 'routine' radiographs (bitewing, panoramic, and lateral head) but rises significantly if computerized tomography is used.

There are excellent descriptions on safe procedures to be followed for the use of imaging equipment and patient protection which is essential information for practitioners who possess and use radiographic facilities. Of importance, however, are the patient selection criteria which provide acceptable and hopefully, non-contestable reasons for routine orthodontic radiographs and when those radiographs might be taken. For clarity, these justifications are graphically represented as flow charts for various patient ages and stages of orthodontic care. The listing of the times when there are no orthodontic indications for the taking of radiographs will likely provide the area of greatest controversy.

These guidelines are required reading for practitioners involved in the prescription or imaging of patients for orthodontic purposes. As the guidelines conclude, radiation exposure is an invasive procedure and a sensible risk/ benefit balance for the patient needs to be established. In essence, the guidelines suggest that generally the benefits of diagnostic radiology outweigh the risks but there should be sound clinical justification exercised in prescription requests.

Craig Dreyer

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