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The Use of Cone-Beam Computed Tomography in The Graduate Orthodontic Program at The University of British Columbia Faculty of Dentistry

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Introduction: Cone-beam computed tomography (CBCT) was commercially available nearly 20 years ago and has since applied to almost every area of dental practice. This is due to its better spatial resolution (image detail), lower radiation dose, smaller foot print and lesser operating requirements than medical computed tomography. Currently, PubMed has over 3600 hits, however, Dr. Horner (UK "high quality research evidence is needed, particularly with regard to assessing whether using CBCT improves patient outcomes"). This is important because although almost every current CBCT unit imparts a much lower radiation dose to the patient; this is still much higher than the standard conventional 2D dental imaging. Since there is no known safe lower radiation dose limit, then radiation must be 'as-low-as-reasonably-achievable' (ALARA).

Aim: to profile the Orthodontic patient pool since the inception of the Orthodontics graduate program at UBC to determine the number, reason and the parameters for whom CBCT was prescribed.

Methods: *R*eview the CBCT database of the Graduate Orthodontic Program from the 1st September 2010 until the 26th January 2018 under ethics certificate H18-00271.

Results: the review revealed 35 prescribed CBCTs. These were mostly taken to investigate impacted teeth (29 cases). Their ages range from 11 to 24 years old. The vast majority of patients were in the 11-20 age group.

Conclusions: The number of prescribed CBCT images in the Graduate Orthodontic Program at UBC's Faculty of Dentistry is low due to the fact that the program policy follows the "image gently" guide lines and the ALARA principles.