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## The impact of cone beam computed tomography on endodontics

**Samira Al-Salehi**

Mohammed Bin Rashid University of Medicine and Health Sciences, UAE

The use of Cone Beam Computed Tomography (CBCT) is rapidly increasing as it provides valuable 3D information of the area under investigation in a matter of minutes. The radiation dosage associated with CBCT images is, however, about an order of magnitude higher than that of conventional radiographic images. The dosage is still considered relatively small but due to the cumulative nature of radiation it is advisable that CBCT should be used only in cases where clinically indicated. 35 patients were selected, from primary care referrals to a specialist endodontic unit in a leading UK dental hospital, for a clinical study. Ethical approval was obtained from the appropriate UK body. For each patient, a dental and medical history, a color photographic intraoral image, parallax periapical radiographs and CBCT image data set were taken (case scenario). Observers were recruited to assess the data. One observer, subsequently, dropped out of the study and was not included in the results. A questionnaire was designed for the observers aimed to address parts III and IV of the Fryback and Thornbury model dealing with diagnostic thinking and treatment outcomes. The information for all the 35 patients was examined by the observers on two separate dates about 3 months apart. On one date, all the information was given to them but, on the other the CBCT images were withheld. The null hypothesis "there is no significant difference in treatment planning/outcome with or without CBCT images" was tested. The results showed that the availability of CBCT images made no significant difference to the observers' judgment. In complex cases such as resorptive lesions, however, the availability of CBCT was very helpful in their diagnosis. It was concluded that CBCT images are vital for certain complex endodontic treatments but should not be used routinely for all endodontic cases.

### Biography

Samira Al-Salehi graduated from Manchester University Dental School, UK. She was awarded PhD degree from Sheffield University, for her work on bleaching, where she received Certificate of Completion of Specialist Training (CCST). For a short time, she was Consultant at Barts and The London School of Medicine and Dentistry before taking up a Senior Lecturer/Honorary Consultant post at Manchester University Dental School. For the last 5 years, she has been working in Dubai. She is currently a Professor and Endodontic Program Director at Hamdan Bin Mohammed College of Dental Medicine.

Samira.AISalehi@mbru.ac.ae

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