

Cone-Beam Computerized Tomography in the Dental Clinic: Where and When to Use?



Mardin Othman Rashid BDS, MSc (Oral and Maxillofacial Radiology)

Oral Diagnosis Department, College of Dentistry, University of Sulaimani.

Abstract

Background: The conventional two dimensional (2D) intra- and extra-oral radiography has limitations in providing satisfactory diagnostic information and thereby proper treatment planning. This has led to a revolution in three dimensional (3D) radiography of Multislice Computerized Tomography (MSCT). However, morbidity of high radiation doses, cost and technical limitations in the dental clinic are associated with MSCT. Through the invention of 3D Cone Beam Computed Tomography (CBCT) the limitations of MSCT were addressed and it represents a radical change for dental and maxillofacial radiology by involving, “most importantly”, lower radiation doses, minimal metal artifacts, lower costs, easier accessibility and smaller size machines than MSCT. Furthermore, being a 3D radiography, CBCT can overcome limitations associated with 2D radiography such as lack of superimposition, 1:1 measurements, absence of geometric distortions and 3D display. The updated version of CBCT was adjusted for dental clinics; thus, its application in dental fields has been of interest to many dental practitioners and researchers. Many articles have been published on the uses of CBCT in almost every dental field.

Aims: The purpose of this talk is to identify some of the evidence-based advantages of CBCT and its variable applications in dental fields.

Conclusion: This talk will guide general dental practitioners and researchers to recognize when and where to use CBCT and consequently guide the patients to the right way.