



Cone Beam CT: A Paradigm Shift for Clinical Dentistry

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Abstract:

Radiology is important in the diagnostic assessment of the dental patient and guidelines for the selection of appropriate radiographic procedures for patients suspected of having dental and maxillofacial disease. Although combinations of plain x-ray transmission projections and panoramic radiography can be adequate in a number of clinical situations, radiographic assessment may sometimes be facilitated by multiplanar images including computed tomographs.

Advanced cross-sectional imaging techniques such as CT are used in dentomaxillofacial imaging to solve complex diagnostic and treatment-planning problems, such as those encountered in craniofacial fractures, endosseous dental-implant planning, and orthodontics, among others. For most dental practitioners, the use of advanced imaging has been limited because of cost, availability and radiation dose considerations; however, the introduction of cone-beam computed tomography (CBCT) for the maxillofacial region provides opportunities for dental practitioners to request multiplanar imaging. Most dental practitioners are familiar with the thin-slice images produced in the axial plane by conventional helical fan-beam CT.

With the advent of CBCT technology, cross-sectional imaging that had previously been outsourced to medical CT scanners has begun to take place in dental offices as CBCT allows the creation in “real time” of images not only in the axial plane but also 2-dimensional (2D) images in the coronal, sagittal and even oblique or curved image planes- a process referred to as multiplanar reformation (MPR). In addition, CBCT data are amenable to reformation in a volume, rather than a slice, providing 3-dimensional (3D) information.

The purpose of this case series paper is to provide an overview of the unique image display capabilities of maxillofacial CBCT systems and to illustrate specific applications in clinical practice like cleft palate, maxillofacial trauma, implant, TM Joint examination, orthodontic examination cyst as well as tumors of maxillo-facial region.



Biography:

Dr. Anuraag B. Choudhary is an Associate Professor, Department of Oral Medicine & Radiology. He has completed his Case series based research at VSPM Dental College, Nagpur, Maharashtra.

Publication of speakers:

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2. Thakur, Anup. (2020). Thakur A, Badyatya S, Choudhary V. Neonatal Seizures-Recent advances in Pediatrics vol 29. Editor Dr Suraj Gupte.
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Webinar On Food and Nutrition | November 09, 2020

Citation: Dr. Anuraag B. Choudhary; 1Associate Professor, Department of Oral Medicine & Radiology; Euro Nutrition 2020; November 09, 2020.