

The Potential utilization of Cone-Beam Computed Tomography in the administration of endodontic complications.

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Cone beam computed tomography (CBCT) produces undistorted three-dimensional information of the maxillofacial skeleton, including the teeth and their surrounding tissues. Cone beam computed tomography (CBCT) is a contemporary, radiological imaging system designed specifically for use on the maxillo-facial skeleton. The system overcomes many of the limitations of conventional radiography by producing undistorted, three-dimensional images of the area under examination. These properties make this form of imaging particularly suitable for use in endodontics. The clinician can obtain an enhanced appreciation of the anatomy being assessed, leading to an improvement in the detection of endodontic disease and resulting in more effective treatment planning. CBCT scans also are desirable to assess posterior teeth prior to periapical surgery, as the thickness of the cortical and cancellous bone can be accurately determined as can the inclination of roots in relation to the surrounding jaw. The relationship of anatomical structures such as the maxillary sinus and inferior dental nerve to the root apices may also be clearly visualized.

To provide core information on cone beam computed tomography (CBCT) technology and its potential applications in endodontic practice

Endodontic treatment records, digital intraoral radiographs (when present), and CBCT images were reviewed.

In cases of increased difficulty or intraoperative complications such as complex anatomy, dystrophic calcifications, root resorptions, perforations, and root fractures, it is prudent to consider the use of CBCT with its inherent diagnostic value and limited radiation exposure.

A high-resolution 3D technique can be of value for diagnosis of endodontic problems.