

### **THE REAL GUIDE: CBCT/THE BRAIN BEHIND CBCT?**

CBCT (Cone Beam Computed Tomography) has become increasingly important in treatment planning and diagnosis in various specialties of not only dentistry, but also of ENT, orthopedics, and interventional radiology (IR). It is because of the increasing access to technology, CBCT scanners are now finding many uses in dentistry, such as in the fields of oral surgery, endodontics and orthodontics. Integrated CBCT is also an important tool for patient positioning and verification in image-guided radiation therapy (IGRT).

During dental/orthopedic imaging, the CBCT scanner rotates around the patient's head, obtaining up to nearly 600 distinct images. For interventional radiology, the patient is positioned offset to the table so that the region of interest is centered in the field of view for the cone beam. A single 200 degree rotation over the region of interest acquires a volumetric data set. The scanning software collects the data and reconstructs it, producing what is termed a *digital* volume composed of three-dimensional voxels of anatomical data that can then be manipulated and visualized with specialized software. However, we cannot rely upon the intricacies of this machinery alone for the precision of the diagnostic criterion. It is prudent to be able to judge and make proper diagnosis relying on our knowledge base. Best stated as, it is not the machine, but, the man behind the machine who is important.

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