## CBCT (Cone Beam Dental CT Scan)
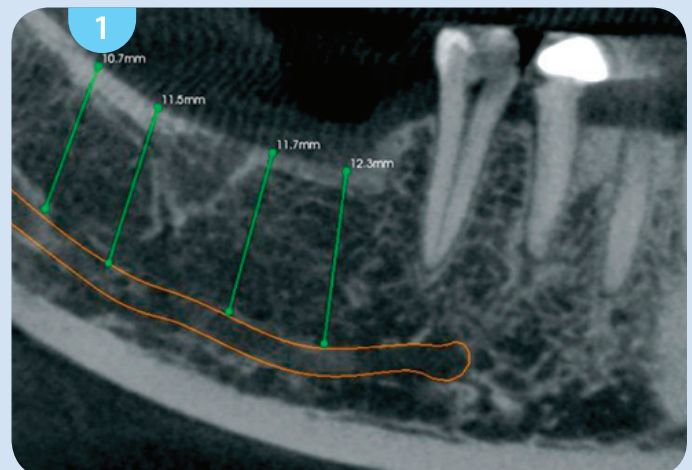
Our practice utilizes state-of-the-art, CBCT (Cone Beam CT) imaging technology with <u>machines in both offices</u>. This special imaging technique provides highly accurate 3-D radiographic images for the diagnosis, and treatment planning of dental implant surgery- including computer guided dental surgery. Three-dimensional images enable a level of anatomical accuracy and predictability to patient care not possible with older 2-D technologies.
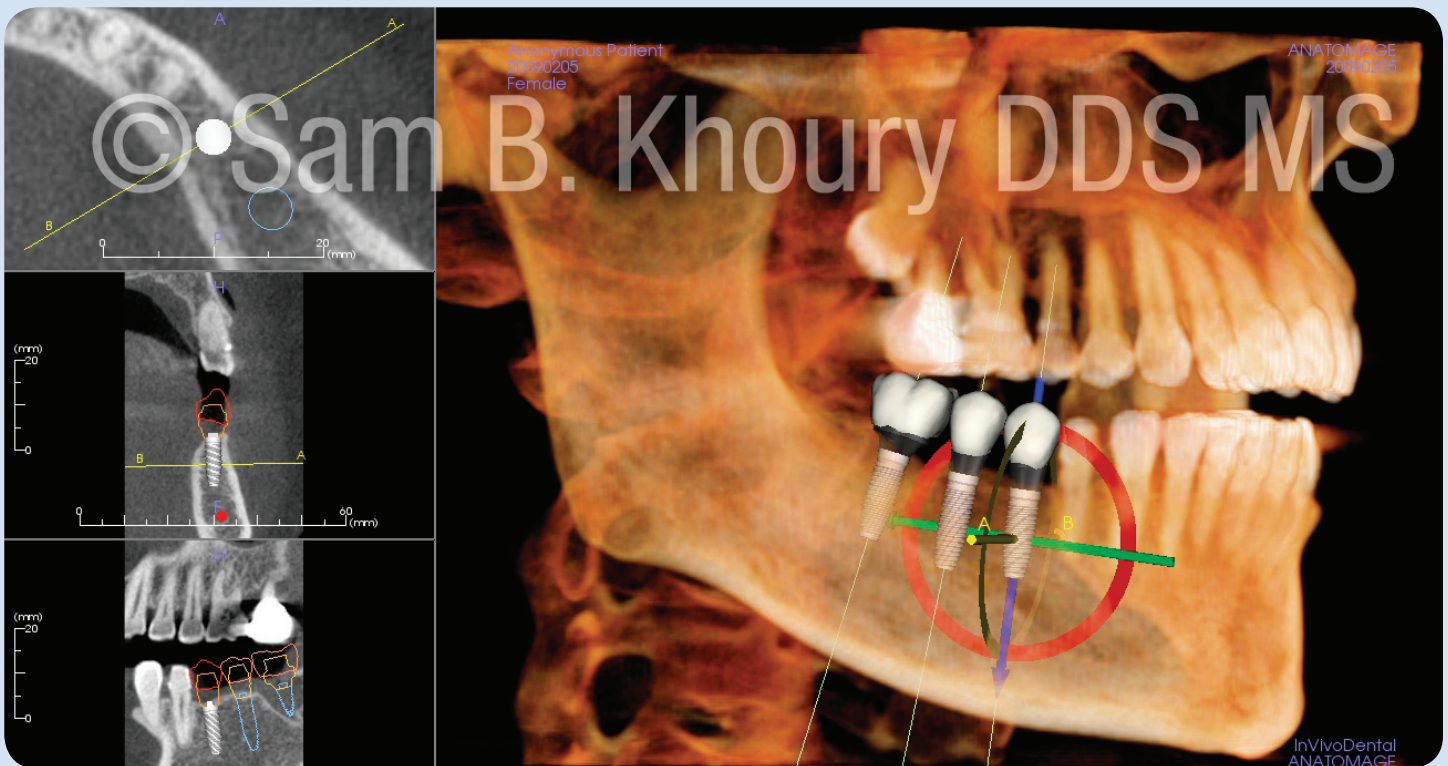
***Placing dental Implants without a CBCT or making guides is like walking in a cave with no light.

Advantages:

1. Visualization of sensitive anatomical structures such as nerve locations as well as the sinus anatomy. Knowing how deep the nerves are, allows the surgeon to avoid getting close to them, thus avoiding any temporary or permanent nerve damage and numbness (**See Image 1**).

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2. Knowing the sinus anatomy, size, volume and amount of bone under the sinus is used to avoid perforating "creating a hole in" the sinus.

3. The CBCT produces cross sections of the jaw bone every 1 mm allowing for the surgeon to view and measure the width and height of the jaw at any point. In the lower jaw, it allows us to locate the nerve location "red circle" and any pathology or concavity (**Image 2**).

4. In the upper jaw, the 3D data allows us to visualize the location of a tooth within the bone (**Image 3**). Also, prior to dental implants, the 3D data allows us to visualize the empty bone, measure the width and height of the bone as well as the location the sinus (**Image 4**), and finally plan the dental implant virtually (**Image 5**).

5. The CBCT data is used to plan and then make surgical guides that are used for accurate dental implant surgery. Dental Implants are planned in a software that reads the CBCT data and then a surgical guide is made by lab or printed by a 3-D printer in the office (**Image 6**).