Extraoral Imaging

Extraoral Exposure Positioning

- **Step 1:** Explain the procedure to patient, answering any questions.

- **Step 2:** Ask patient to remove anything that might cast a shadow or interfere with film exposure—such as eyeglasses, earrings, facial piercings, hairpins, and so on.

- **Step 3:** Place and secure a double-sided lead apron without a thyroid collar on the patient.

- **Step 4:** Ask patient to stand (or sit) as straight as possible.

- **Step 5:** Raise the machine to a level so that the patient can easily bite on the plastic bite block. Ask patient to slide his or her upper and lower teeth into the groove at the end of the bite block.

- **Step 6:** Position the *midsagittal plane* perpendicular to the floor; position the *Frankfort plane* parallel to the floor. Some panoramic machines have lights to assist in this positioning.

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**By doing so, the dental assistant ensures the correct positioning of the *occlusal plane***.

- **Step 7:** After positioning, ask patient to swallow, place the tongue on the roof of the mouth, and close the lips around the bite block. Instruct patient to remain still as the machine rotates during exposure.

- **Step 8:** After exposure, guide patient away from the panoramic machine and remove the lead apron.
Defining CBCT

Cone Beam Computed Tomography (CBCT) is three-dimensional (3-D) dental imaging. It brings the advantages of hospital-based computed tomography (CT) scanning to private dental practices. It provides digitized 3-D images of the face, mouth, and jaw from any direction, and software programs exist that make it possible to clearly view all anatomical structures—such as soft tissue. Some programs can even overlay the patient’s photo on top of the radiographic image. Dentists can manipulate these radiographic images and easily send them over the Internet for consultation and collaboration.

While panoramic images are two-dimensional and cannot provide information about lingual or buccal locations or widths, the 3-D aspect of CBCT enhances a dentist’s diagnostic capabilities by providing the exact locations needed for locating teeth or nerves for surgical placement or extraction. The training needed to use this technology is similar to that of taking panoramic images; additional training is required, however, to learn how to interpret the 3-D images or tomographic “slices.”

Key Terms

*Frankfort plane:* the imaginary line drawn from the middle of the ear just below the eye socket across the bridge of the nose; must be parallel to the floor

*Midsagittal plane:* the imaginary line that evenly divides the face into right and left sides; must be perpendicular to the floor

*Occlusal plane:* the imaginary surface that passes through the occlusal (biting) surfaces of the teeth; since these occlusal surfaces do not lie on a flat surface, the plane is an average