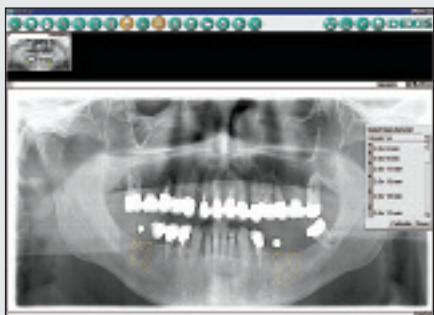


Software aid in implant planning.

Features

- General enhancement tools—zoom, invert, colorize, relief—improve diagnostics and visualization
- DEXimplant component's comprehensive library includes all popular implant manufacturers
- Calibration feature compensates for distortion
- Highly accurate



DEXIS Digital X-ray LLC
www.dexray.com
888-88DEXIS

Select 12.

Implant planning

Digital radiography simplifies sinus augmentation

By Dr. Jennifer Cha, Las Vegas, NV. Information provided by DEXIS.

Developed by Dr. Leon Chen as an option for sinus augmentation, Hydraulic Sinus Condensing (HSC) is performed through the same osteotomy site where the implant is to be placed. The procedure involves gently elevating the sinus membrane by condensing a combination of demineralized freeze-dried bone allograft and bovine bone with platelet-rich plasma in small increments. The implant, which is placed at the same time, acts as a pillar, tenting the membrane into place; as the bone solidifies, it simultaneously integrates the implant.

Appropriate even if there is only 1 mm of native bone, HSC eliminates the need for subsequent surgical procedures, thus dramatically reducing healing time.

The success of HSC requires proper treatment planning and post-surgical monitoring, both of which are simplified by using digital radiography. And the successful procedure is highly predictable and minimally invasive.

Here is a step-by-step description of performing HSC with the help of the **DEXIS Digital X-ray** system.

Assessing bone

With the initial digital x-ray, the thickness of the existing bone is documented with the system software's measuring tool.

1. Calibrate the image to compensate for distortion by dragging the length of a known measurement, the radiographic marker, and entering the actual distance and diameter (Fig. 1).
2. Click on a start and end point on the image,

then click on Record (Fig. 2).

3. Click on saved measurement lines to retrieve the distances (Fig. 3).

Implant selection

1. Open the implant software and then drag and position implant models onto the image (Fig. 4).
2. Click on saved implant models to retrieve the manufacturer, model, and size (Fig. 5).

Placement

Upon completion of the surgery, once the implant is placed, digital x-rays are taken that serve as the benchmark for comparison to future images. Bone density increase and healing can be accurately monitored.

Follow-up monitoring

Healing is monitored monthly with intraoral or panoramic images. Progressively increasing bone density is assessed for the entire post-surgical area and around the implant itself. Enhancement tools are used to improve visualization of increased radiopacity.

1. Open the enhancement screen for the intraoral or extraoral image.
2. Click on each of the modes: Invert (Fig. 6), Relief (Fig. 7) and Color (Fig. 8). Drag the cursor on the image to adjust brightness and contrast.
3. Click on the Zoom tool to enlarge specific areas of the image (Figs. 6 and 7).



Fig. 1 The image is calibrated and bone thickness measurements entered.

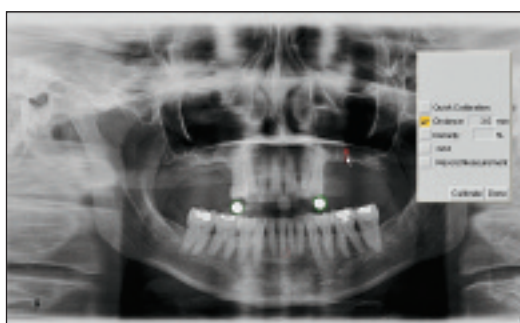


Fig. 2 Click on a start and end point on the image, then click Record.

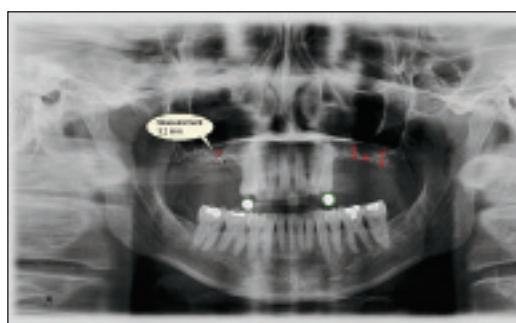


Fig. 3 Distances are retrieved by clicking on saved measurement lines.

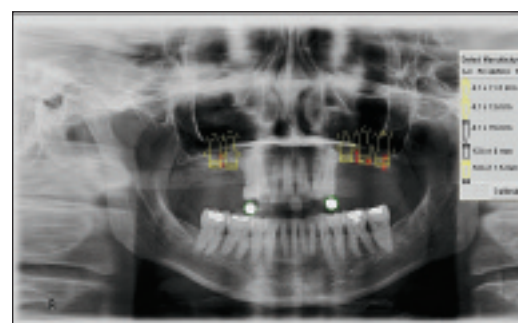


Fig. 4 Chosen implant models are positioned onto the image.

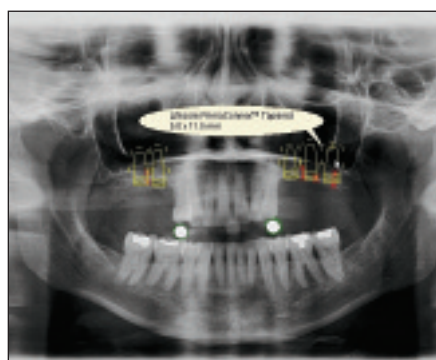


Fig. 5 Clicking on the saved implant models retrieves the manufacturer, model, and size.

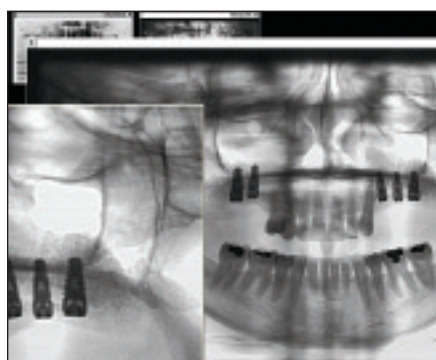


Fig. 6 After implants are placed, images can be inverted and magnified...

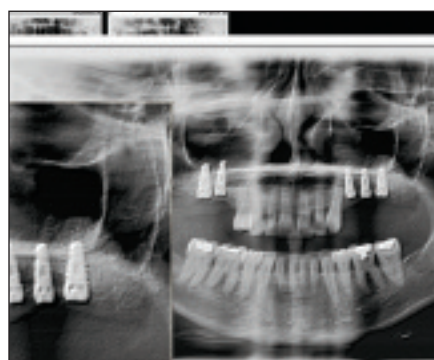


Fig. 7 ...viewed in Relief mode and magnified...

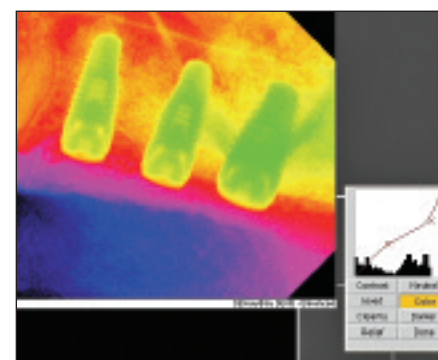


Fig. 8 ...and colorized to assess healing and bone density.