

Headline: 3-D Scan Improves Diagnostic Picture

Subhead: Dentists Can See Precise Cross-Sections Of Teeth, Jaw

Reporter: Paul R. Kopenkoskey / The Grand Rapids Press

**A trip to the dentist can be less of a nail-biter with dental CT scans.**

The scans provide three-dimensional X-rays of the teeth and jaw, enabling dentists to reduce patient’s pain and get more accurate results.

Dr. Schondelmayer, who recently opened a practice in Grand Rapids, is one of only six dentists in Michigan licensed to track the exact location of patient’s pain and get more accurate results.

“Three-dimensional CT scans enable dentists to see cross-sections of the patient’s teeth and bone from an infinite number of directions,” said Schondelmayer, who also operates a White Cloud dentistry practice. “Everything you could always do with traditional two-dimensional radiography you can do better with three-dimensional CT imaging, with the exception of diagnosing cavities in the teeth when metals are present nearby.” CT images arm dentists with detailed information critical in planning complex procedures, such as dental implants, impacted tooth surgery and major oral surgery, Schondelmayer said. The 3-D images also help decrease occasions of dentists unintentionally causing illness in patients when performing a medical procedure.

“To do dental implants carefully, the dentist needs to know the precise angle, location and depth (for drilling), so, for example, the implant isn’t put into the mandibular nerve,” Schondelmayer said. “Dentists want to avoid drilling into that particular nerve because damaging it could cause lasting numbness to the patient’s lip and chin.”

**Additional benefits of 3-D imaging include:**

-Letting dentists show patients the exact surgical plan.

-Less need to cut into a patient’s gum, reducing the need for prescription pain medications.

-Ability to make similar incisions.

-20 to 90 times less radiation than conventional CT scans.

“A certain amount of damage to healthy tissue is always incurred when treating the target tissue,” Schondelmayer said. “When better imaging is used, better surgical planning is the result.” Schondelmayer added patients should not be alarmed if their dentist still uses standard two-dimensional X-rays.

“Traditional 2-D X-rays are fine for a great many situations in the dental office,” he said. “The 2-D X-rays are now thought of as scout radiographs to determine when advanced 3-D CT imaging is needed.” But don’t expect a raft of the state’s 6,455 licensed dentists to purchase 3-D CT scanners anytime soon, said Dr. Sharon Brooks, professor of oral and maxillofacial radiography at the University of Michigan School of Dentistry.

The machines are pricey, costing $180,000 to $250,000, Brooks said. She was Michigan’s first medical professional to test a prototype of 3-D CTs in 2004, according to Larry Horvath, manager of the state’s certificate of need, the gatekeeper of tomography licenses.

“Michigan regulates these heavily; it’s not easy to get one,” Brooks, who uses a digital CT scan to teach students.

“All of the people who have one got it before the state decided these machines need to be regulated. Going through all the paperwork is painful.”

Among the requirements is filling-out a 96-page application, along with a check for $1,500. “That’s a little off-putting,” Brooks said. “Back in the 1970’s, the federal government mandated a certificate-of-need program to control health care costs. The majority of states, two-thirds of them, discontinued the program and another one-third have a limited amount of control. Michigan, for whatever reason, has an extreme amount of control.”

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Publication: GRAND RAPIDS PRESS Edition: All Editions Section: E1