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Water-laser tool replaces dentist's drill

By JOSH RABE
SNS Staff Writer

Imagine a trip to the dentist with no high-pitched whining drills, no needles and no face-numbing anesthetic.

It's possible now that an innovative new instrument is making its way into the offices of more and more dentists.

The Waterlase by Biolase Technology, Inc., can perform a variety of dental procedures normally done with a dentist's drill without ever touching the patient's tooth and without the need for numbing local anesthetics.

The Waterlase combines a laser with an ultra-fine stream of water, which is capable of cutting into tooth, bone and soft tissues. As the stream of water flows into the laser beam, the water molecules become laser energized and create tiny explosions on impact with teeth or soft tissue.

Remarkably, the laser-cutting procedure remains painless due to a numbing effect that results when the laser impacts microscopic nerve endings.

Dr. Nan Shadid has been using the Waterlase in her local private practice since April. Her dental drill has been almost entirely out of use since she brought in the new piece of equipment.

The Waterlase doesn't seem to intimidate her patients -- most of whom are children.

"They love it," Shadid said.

The small, white plastic machine is known as "Oliver" in Shadid's office.

"We tell them it sounds like popcorn popping," Shadid said. "I ask the kids who have had both Oliver and the drill which one they like better and they all say 'Oliver.'"

Instead of a whining sound, the Waterlase produces a rapid series of quiet pops as the laser fires.



■ Dr. Nan Shadid, right, demonstrates a white filing procedure on dental assistant Joy Embry, center, while dental assistant Debra Gee assists. The new laser technology used by Shadid's clinic is proving to be a more pain-free approach than using the traditional drill. (Staff photo by Jennifer Pitts) ■

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"Ninety percent of the time I don't have to numb up my patients," Shadid said.

In a study at University of the Pacific, 98.5 percent of patients reported no discomfort during Waterlase procedures.

Shadid said the Waterlase at her clinic is one of only four such instruments in the state. With a price tag of \$50,000, the Waterlase may not make it into many smaller dental practices.

The Waterlase was approved for use on both hard and soft tissue in November 1998 by the Food and Drug Administration.

Waterlase procedures generally cost more than drill-based procedures. Many insurance companies do not yet recognize laser therapy surgeries, which may leave the additional cost of laser use up to the patient. So far, patients have been willing to pay for the difference in cost.

The new procedure also takes out the heat and vibration caused by metal drills.

It also requires less maintenance, said Shadid, who sends her drills off to have new turbines installed every six months.

The water-and-laser beam, however, is unable to cut through silver or amalgam dental fillings.

The Waterlase is finding use in dental procedures such as removal of tooth decay, cavity preparation, dental resurfacing and even a variety of uses on the mouth and gums.

Settings for two different laser wavelengths determine whether the laser will cut soft or hard tissue. When placed on the hard tissue setting, the Waterlase beam is harmless to skin and soft tissues.

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