

Shedding Light on **LASERS**

This emerging technology offers dentists a tool that can help reduce pain, speed healing and improve surgical accuracy

LASERS HAVE NOT YET MADE their way into most dentists' offices, but this revolutionary technology may aid future treatments for your teeth or gums.

Using lasers, dentists may be able to remove small cavities with no drilling or anesthesia. They can finish procedures with more precision and speed, reduce swelling and healing times, and help cut down on bacteria. Lasers can reduce the need for stitches and control bleeding during surgery. They can even enhance tooth whitening.

"It's a phenomenal surgical tool," says Robert M. Pick, D.D.S., a spokesman for the American Dental Association and co-author of the book *Lasers in Dentistry*. "Another powerful psychological advantage is that, without any noise such as a whirring drill, lasers make procedures that can be traumatic for many patients completely un-traumatic."

Dentists can use lasers for a wide range of surgical procedures on certain hard or soft

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tissues. For example, lasers may help a dentist fix speech problems caused by tissue that prevents free movement of the tongue. Lasers can uncover wisdom teeth that have emerged only partway. They can help remove decay from a cavity to prepare the tooth for a new filling. They can remove inflamed gum tissues and reduce the amount of bacteria in a periodontal pocket (the unhealthy gap that forms between a tooth and diseased gums).

There are two basic types of dental lasers: those that cut hard tissue, such as bone or teeth, and those used for soft tissue, such as gums. "Studies have shown that lasers can cut soft tissue more accurately and painlessly than a scalpel in elective surgery," says David Tecosky, D.M.D., a spokesman for the Academy of General Dentistry. "Very often, but not in all cases, hard-tissue lasers can cut tooth structure without anesthesia."



dental uses for lasers

According to the Academy of General Dentistry, lasers can be used to:

- Correct speech problems caused by a tongue-tie, which prevents normal tongue movement
- Uncover wisdom teeth that have emerged only partway
- Remove decay from cavities and prepare teeth for new fillings
- Remove muscle pulls seen in orthodontic patients
- Manage gum tissue while making impressions for crowns
- Remove swollen tissues caused by medications
- Perform biopsies (the removal of tissue for examination)
- Remove inflamed gum tissues and reduce bacteria in periodontal pockets
- Remove or reshape excess gum and bone tissues during crown-lengthening procedures
- Treat abscessed gums and infections in root canals
- Reduce the discomfort of canker and cold sores
- Activate whitening agents that are used to lighten teeth

With teeth, says Dr. Tecosky, the most common use of lasers today is removing tooth decay to prepare the tooth for a new filling. Lasers work best on small cavities, Dr. Pick adds.

For five years, Dr. Tecosky has used a laser for some soft tissue procedures. They include cauterizing ulcers, preparing the gums before removing a cavity at the gum line, reshaping overgrown gums and removing debris and bacteria in inflamed periodontal pockets.

Dr. Tecosky uses his laser to treat children who are literally “tongue-tied.” By cutting the tissue that runs from the base of the tongue to the lower front teeth, he improves tongue movement to

enhance speech, chewing and normal tooth positioning.

Dr. Pick uses a laser to remove tissue linking the upper lips to the front of the mouth that can cause a gap between the upper front teeth. According to research he is preparing, none of the 500 young patients undergoing this laser procedure required pain medication afterward. Only 27 percent of the 250 young patients whose “tied” tongues were freed required pain medication the evening after the procedure.

Use of the laser reduces bleeding during surgery, adds Dr. Pick, “so you can see what you’re doing without having to have the area suctioned. That significantly reduces the time the patient spends in surgery.”

If you undergo a laser treatment, you, your dentist and the dental staff will wear special glasses to protect the eyes.

Future dental laser uses, the dentists say, may include early detection of cavities. Lasers also may help prepare patients for a dental crown. As the laser pares down the diseased tooth, a special camera would take an electronic impression of the tooth’s shape so an identical crown could be made in a dental lab.

Many dental schools and associations offer dental laser education. The Academy of Laser Dentistry is the profession’s independent source for dental laser education and credentialing. ■