

advancements in dentistry

Innovations in dental care are interconnected in the effort to maintain oral hygiene and health throughout one's life.

by elaine stevens

In the hilarious classic *The Dentist* (1932), the sight of W.C. Fields attempting to yank a bad tooth while the patient is being dragged around with the dentist's pliers still attached is sure to build anxiety. Fortunately, those days are gone. There are many high-tech techniques available today to remedy even the most dramatic problems. These advancements in dentistry have eased the pain and cost of repeated dental visits, offering patients comfort, efficiency, and durability.

LASER PERIODONTAL SURGERY is a minimally invasive alternative to traditional gum surgery, whereby a digital dental laser—intense light energy—is used to remove harmful bacteria and diseased tissue from the gum pocket by passing a laser light between the gum and tooth.

Statistics reveal that by age 45 approximately 80% of Americans will be plagued by periodontal disease and that the majority of those will remain unaware that they have it. Periodontist Wayne Aldredge, president of the American Academy of Periodontology, says, “The value of being able to chew and smile for a lifetime is at the core of the various treatment therapies a periodontist provides.”

Laser treatment is often the best option for patients with bleeding problems or other health conditions. Though not scientifically proven to be better than conventional surgeries, laser periodontal therapies are far more comfortable for the patient. The cost of the procedure varies, and check with your insurance provider to determine if the procedure is covered.

The key to successful laser periodontal surgery is the training and skill of the specialist performing the procedure. “If too much light energy is used, the gum tissue can be damaged,” states Aldredge.

How do you know when you need laser periodontal surgery or any gum treatment therapies? Pain and discomfort, bleeding gums, shifting or moving teeth, and bad breath are the usual indicators. However, a high percentage of periodontal disease is due to several risk factors. Smokers and diabetics are more likely to have the more severe types of gum disease. Genetics can play a major role as well. General dental hygiene applies: Brush, floss, rinse at least twice daily, and get regular cleanings.



In Laser Periodontal Surgery, intense light energy is used to remove harmful bacteria and diseased tissue from the gum pocket.

CEREC Everyone wants to have a perfect celebrity smile. That's why tooth whitening, cosmetic dentistry, and plastic surgery have become more popular in our culture today. Technology has adapted to the market with the development of CEREC: Chair-side Economical Restoration of Esthetic Ceramics, or ceramic reconstruction, or as it called in a popular television commercial, "single visit dentistry."

At the University of Zurich in 1980, W. Mormann and M. Brandestini originated CEREC for the purpose of creating durable dental restorations. Described by dentists as a "sound restorative option" and the "most researched dental technologies ever," CEREC is a cost-effective timesaver for patients and doctors.

CEREC, a method of CAD/CAM (computer-aided design and computer-aided manufacturing) dentistry, has many advantages:

- Allows precise shapes and sizes for the fabrication of restorations
- Same coefficient of thermal expansion
- Same translucency as teeth
- Generally made in one visit
- No temporary crowns while you wait 1-2 weeks for the lab work
- The "impression" is made in two ways. With the CEREC Bluecam, Optispray coats the tooth surface in order to create the digital impression, whereas the CEREC Omnicam uses an intraoral, handheld camera to capture life-like images of teeth in natural color
- No more biting for six minutes on unpleasant impression material
- More natural tooth is preserved than the alternatives and the tooth is strengthened

Patients with many large fillings, those who are considering crowns, or want a single treatment should consider CEREC. The cost varies, but as a general rule, it costs more than fillings, but is comparable to crowns and bridgework.



Gone are the days of sticky powders for teeth impressions. The Omnicam captures digital impressions of teeth without the use of powders, creating a 3-D image in natural color.

BONE GRAFTING/IMPLANTS When a dental patient hears, "You require a bone graft so that your dental implant surgery will be successful," the reaction is often fear and anxiety. However, with today's advancements, bone grafting for dental implants is considered routine, predictable, and often painless. And the results are a lot more efficient than the archaic alternative of dentures. The dental implant, a surgical element, which connects with the bone of the jaw to support a dental prosthesis or crown, usually replaces a missing tooth.

Periodontist and implant specialist Wayne Aldredge says implant dentistry requires additional training. A periodontist receives three additional years of post-dental school specialty training because it is a very exacting scientific process. "The periodontist can take a special X-ray to reveal the volume of bone, thus determining if the patient is a good candidate for dental implants." Aldredge describes the bone graft in this way: "The bone socket is like an ice cream cone with no ice cream. We must push the gums back, evaluate all the bone, and place the graft in the tooth extraction socket with special covers on it and then suture it up." He explains that the procedure is "giving back what nature has taken away." Aldredge adds that human bone is not always the answer. "Typically we use FDA-approved bone grafting substitutes, like processed bone that has been harvested from animals, usually cows." Aldredge confirms, "Using bovine bones as a graft material has become commonplace in most oral surgical offices today and has been a tried and proven technique for many years." With any bone graft procedure, patient factors such as uncontrolled diabetes, smoking, and other medical disorders could inhibit the healing process. "A periodontist

takes these into account when planning treatment to ensure the best outcome.”

All of the areas of dental advancements discussed are currently available in Mississippi. Of course, doing your own research and consulting with your physician if you have existing medical conditions or are taking certain medications prior to any treatments are highly recommended. ¶



Implants replace missing teeth while conserving tissue in the mouth, providing normal use and motion. Bone grafts are sometimes necessary to build the area around where the implant will be placed.

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