

# Eliminate the Silent Dental Destroyer

**Periodontal disease can affect the entire body. Fortunately, thanks to dental laser treatment, it can now be gently defeated, stopping the bacteria dead in their tracks without destroying the gum line.**

Robert Genesse's gums were receding.

"A couple of my teeth were loose," confides the New Hampshire snow-bird, "and my gums would bleed when I flossed. My teeth were also becoming very, very sensitive. It was mentally draining on me. I'm fifty-eight years old, athletic, and fairly healthy. I've always been very conscious of my gums and teeth. I flossed every day and used Listerine, but it didn't seem to help.

"Three years ago, while I was up north, I had a deep cleaning, but it had absolutely no impact. I was very disappointed.

"Then I saw an article on a laser treatment for periodontal disease, and it mentioned the name of Dr. Farag."

Joseph H. Farag, DMD, has a comprehensive dental practice in Port Charlotte.

"Periodontal disease is an infection of the tissues that support the teeth," describes Dr. Farag. "It can be both a chronic and an acute problem.

"This disease is an inflammatory process. At its initial stage, called gingivitis, it affects only the gums. Patients may experience some red, swollen, tender gums that appear puffy and bleed easily, or they may experience no warning signs at all."

Healthy gums adhere closely to the teeth, supporting them so they don't become loose in the jawbone. As periodontal disease progresses, the bone is lost around the tooth and the pockets around the teeth get deeper. If left untreated, gingivitis may lead to a second, more serious stage, which is called periodontitis.

"In its more destructive stage, bacteria and plaque migrate more deeply into the tissues on the root surfaces of the teeth," informs Dr. Farag. "The gums pull away from the teeth, producing areas of periodontal pockets. This layer of tissue becomes chronically inflamed and when disturbed, may easily bleed."

Neither floss nor the bristles on a toothbrush can reach more than two or three millimeters into the pocket of a periodontal patient, so beyond that, bacteria are multiplying, creating infection which will eventually make the tooth loose.

"The bacteria that colonize on the tartar in those pockets, *anaerobic* bacteria, are sensitive to oxygen, so we find that the deeper into the gums they grow, the better they thrive," says Dr. Farag. "It is these bacteria that produce the toxins that irritate the body and destroy the bone. Over time, as the tooth becomes detached from the gum and becomes more coated with tartar, the body tries to eject it. The body gives up on it and the teeth may become loose."

## Other effects on the body

Several researchers are working on establishing the links between periodontal infections and other health-related issues.

"The bacteria related to periodontal disease are in a cluster form, usually called a complex, and they release toxic products," points out Dr. Farag. "These toxins can then affect other areas of the body.

"The number one correlation appears to be cardiovascular disease. Additional conditions include respiratory infections,

## JOSEPH H. FARAG, DMD



Robert Genesse

PHOTOS COURTESY OF DR. FARAG



## QUICK HEALING



osteoporosis, diabetes, pre-term births, pancreatitis, and high white blood cell counts, among others.

"The relationship between these health issues and periodontal disease is not yet totally understood, but researchers have found clinical correlations that point to a connection between gum disease and systemic health. They are now trying to understand the full nature of that relationship.

"I have had patients with high blood cell counts or diabetes who have had periodontal surgery," notes Dr. Farag. "Following their surgeries, many diabetics have required considerably less medication to control their blood sugars, and patients with high white blood cell counts saw them reduced."

Other research has concluded that periodontal disease is spread horizontally.

"In laboratory settings when rats with periodontal disease are introduced to a cage with otherwise healthy lab rats, over time, they will all develop the disease," observes Dr. Farag. "It is a communicable bacterium, just like any bacterium. Sharing eating utensils or toothbrushes can absolutely pass on the infection if the bacterium is not put in check either by the body's immune system or by dental treatment."

## LANAP

In the past, traditional gum treatment for periodontal disease involved cutting away the infected gum tissue with a scalpel and placing sutures to hold the reduced tissue in place during the healing process. This approach of amputating the gums always

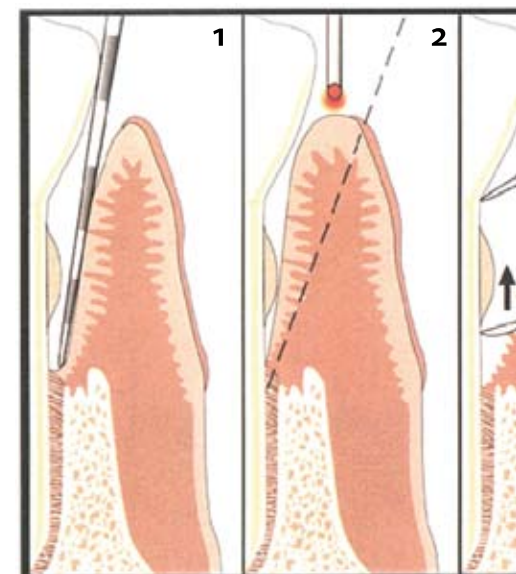
results in *recession* of the gums – a lowering of the level of both diseased and healthy gum tissue. Following conventional gum surgeries, the teeth appear much longer once the gums have healed. If the gum tissue recedes too far, it can leave the sensitive tooth roots exposed.

"But today," observes Dr. Farag, "we can offer patients like Robert laser-assisted new attachment procedure, or LANAP.

"LANAP is a therapy that uses regeneration rather than resection," points out Dr. Farag. "As well as preventing cases from digressing, the laser is helpful in killing the bacteria colonies, something the scalpel does not accomplish, and reducing the amount of bacteria exposure to the body. It can stop gum recession right in its tracks and will regenerate attachment beneath it.\*

"The goal of LANAP is to produce something comparable to a Velcro or zipper attachment that is very strong and minimally accessible. With this laser treatment, we can actually zip the tissues back up the side of the root, preventing more accumulation of tartar into those pockets. We can reduce the pockets to about half their depth and allow the body to regenerate bone."

Dr. Farag describes how this is accomplished: "This is a three-step process which begins with the PerioLase® dental laser. This laser is equipped with a very thin fiber – about three hairs thick in diameter. We place the fiber between the tooth and gum, enabling the laser energy to selectively reach the depth of the pocket. The science behind this specific laser is that its wavelength is absorbed by diseased tissue and bacteria,



while the healthy tissue reflects the energy or lets it pass through."

During conventional gum surgery, the scalpel cannot differentiate between healthy and diseased gum, so the patient loses both tissue types.

"During the first laser pass," continues Dr. Farag, "three goals are accomplished. First, the energy vaporizes the diseased lining, leaving the healthy tissue intact. Second, it dehydrates the tartar on the tooth, making it very brittle and easy to remove from the tooth. Third, it kills the bacteria exposed to the beam.

"During the second step, I use an ultrasonic instrument. Its fine tip will vibrate and remove the tartar, breaking it away from the tooth, while we flush with an antimicrobial substance that stops the growth of new bacteria. In this step, we affect the bone around the tooth and remove the diseased lining of the tissue.

## Have a beautiful smile

Dr. Farag looks forward to hearing from readers of *Florida Health Care News*.

For more information or to schedule an appointment, please phone (941)

764-9555 for his location at 3441

Conway Blvd. in Port Charlotte.



FHCN PHOTO BY AMANDA SMITH



## If you do lose a tooth to periodontal disease...

For missing teeth, implants are considered the gold standard for several reasons. They do not decay, they prevent continued loss of jawbone mass, and when they are used to replace just one or two teeth, they don't require the reduction of healthy adjacent tooth structure to secure a bridge. Also, their longevity can't be matched by traditional restorative techniques.

"However, there does have to be adequate bone in order to place an implant," educates Dr. Farag.

"Many patients believe that, once their tooth is gone,

they can wait until later to get an implant. Unfortunately, it does not work that way. The bone will immediately begin to atrophy, and within three years there will be less than half of it remaining.

"To prevent the atrophy, or to at least prolong the existence of the bone in the socket, we graft the socket after a tooth extraction and place bone mineral into it. This preserves the width and height of the jaw for a relatively longer period of time, close to a year, so that we can actually perform an implant on a good, stable foundation.

teeth don't knock into each other and rock them from side to side.

"And you've heard the expression *strength in numbers*? For patients whose teeth are loose, we can bond those teeth together with composite; its color blends and it provides our patients with a solid bite."

### Successful treatment

In January of 2009, Robert scheduled a consultation with Dr. Farag to discuss whether or not he would be a good candidate for LANAP.

"The consultation was free," remembers Robert. "He is a very personable guy, and the staff was exceptionally nice. I actually commented on it because I thought they were really over and above what I expected. They are professional, but also very laid back. They made me feel at home."

After a thorough examination, Dr. Farag reported to Robert that he was a good candidate for LANAP.

Robert decided to have the treatment, although he admits that he is significantly claustrophobic: "I was very apprehensive about the procedure, but it was not as bad as I had suspected it might be. Dr.

Farag performed it in two sessions, and each one was only a little over an hour long.

"I was actually pleased." And how were the results? "I can't say enough good things about it. I have no more bleeding. My teeth are no longer sensitive. I have no problems with them at all.

"I think it was awesome." **FHCN**—Kris Kline

*\*While patients who smoke will definitely benefit from the procedure, cigarette smoking will prohibit maximum improvement.*

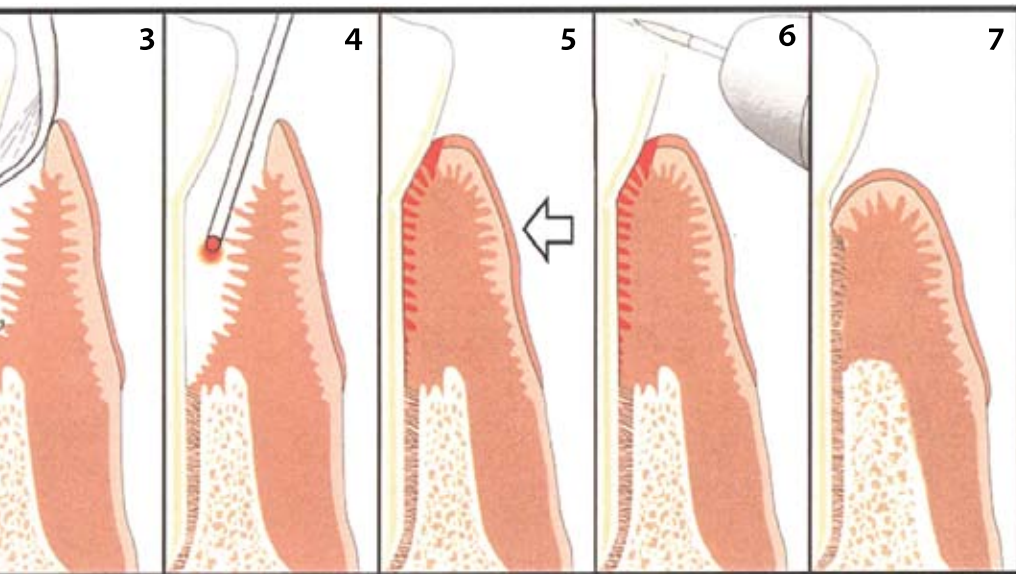


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1. **Perio probe indicates excessive pocket depth.**
2. **Laser light kills bacteria and diseased tissue.**
3. **Ultrasonic scaler and special hand instruments are used to remove root tartar.**
4. **Laser finishes cleaning and sterilizing pocket which aids in sealing the pocket closed so new germs cannot enter.**
5. **Reattachment of connective tissue to the clean root surface with a stable fibrin clot and gingival crest to create "a closed system."**
6. **Bite trauma is adjusted.**
7. **New attachment is regenerated. New bone and new ligament is formed and healing occurs.**

nighttime grinding they might otherwise experience."

Dr. Farag explains that splinting the teeth is similar to setting a fence post in the ground with concrete: "If you knock into that fence post or move it around and shake it while the cement is setting, in the end you will have a loose fence post. But, if you can strap it down or splint it, holding the fence post while the cement cures, your end product will be a strong, sturdy post.

"It is the same dynamic with teeth. After the procedure, over time, we want the spaces to fill in with bone, so we stabilize the bite by adjusting it and using bite splints so the

"The third step involves another pass with the laser at a different setting. This last pass stops any bleeding and creates the best antimicrobial seal possible, preventing re-infection and releasing growth factors from the blood cells to regenerate the attachment. We have evidence of bone growth and bone density increasing following laser treatment because of the absence of bacteria."

In conjunction with the laser therapy, Dr. Farag adjusts his patients' bites.

"We adjust the occlusion, or the way the teeth meet, so that only vertical forces are applied to the teeth," says Dr. Farag. "We then give our patients a bite splint to wear at night which helps those patients with any

**Joseph H. Farag, DMD,** earned his Doctor of Dental Medicine degree from the University of Florida College of Dentistry, Gainesville, FL after completing his undergraduate degree at Florida Atlantic University, Boca Raton, FL. Dr.

Farag served an implant residency at the Misch Institute and is trained in advanced laser dentistry. He is a member of the American Dental Association, American Association of Dental Practitioners, American Academy of Operative Dentistry, the International Association of Dental Researchers, and is a fellow of the International Congress of Oral Implantologists.

### Risk factors for periodontal disease

- Lack of oral hygiene
- Poorly contoured restorations
- Crowded or crooked teeth
- Hormonal changes (Pregnancy, Menopause)
- Smoking and nicotine
- Systemic diseases (Diabetes, Osteoporosis)
- Immunocompromised patients
- Hereditary factors
- Some medications and/or steroids