

I. Stephen Brown, D.D.S.

**CENTER FOR
LASER PERIODONTICS
AND IMPLANTS**

PerioDontaLetter

I. Stephen Brown, D.D.S. • *“Excellence in Non-Surgical Periodontics, Implants & Laser Treatment”*

Presenting a New Breakthrough in Periodontal Therapy: LANAP

Recently, we acquired the newest technology available for your patients’ periodontal care: the Nd:YAG Millennium PerioLase®. This is the latest generation of the Nd:YAG laser and it’s designed specifically to treat periodontal disease using LANAP (Laser Assisted New Attachment Procedure). Like LASIK surgery for the eyes, this

therapy using the new laser is a breakthrough in the treatment of periodontal disease. This therapy eliminates the need, in most cases, for conventional blade and suture surgery. Instead of cutting away tissue, we’re now able to regenerate soft tissue and bone, in most cases, by encouraging the body to heal itself naturally. In fact, our office has not used a blade to treat periodontal disease for some time.

The LANAP procedure is patented and FDA-approved. The objective of LANAP laser therapy is pocket reduction achieved by establishing a new connective tissue attachment to the tooth at a more coronal level. The LANAP procedure provides an environment in which new bone, cementum and periodontal ligament can form on previously diseased root surfaces. LANAP laser therapy allows us to treat periodontal disease with a minimally invasive procedure that eliminates the need, in most cases, for conventional blade surgery (flap and osseous surgery).

We are proud to be one of a very few periodontists in the U.S. to have this new generation Nd:YAG laser.

We are the first, and currently the only, practice in Philadelphia to provide our patients with the Laser Assisted New Attachment Procedure.

Some of the clinical advantages of the new laser include:

- Precision
- Deeper penetration—kills bacteria beyond the tip up to 1.5mm into dentin tubules
- Selective photo-thermal ablation of red inflamed tissue
- Bactericidal especially to black pigmented bacteria
- Effects calculus so it’s easier to remove
- Neutralizes endotoxins in root and tissue
- Biostimulation of stem cells in the periodontal ligament to promote regeneration
- Hemostasis
- Less recession
- Much less sensitivity
- Quicker healing overall

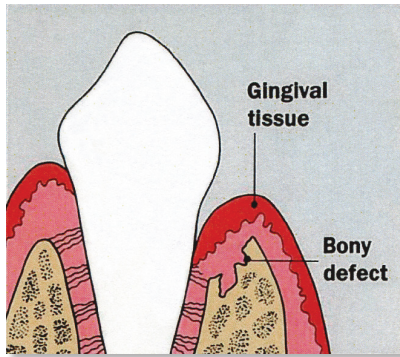


The Millennium PerioLase®

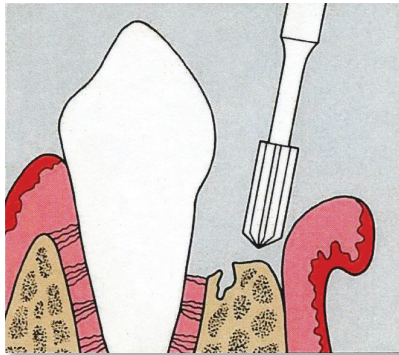
A close-up of the laser wand

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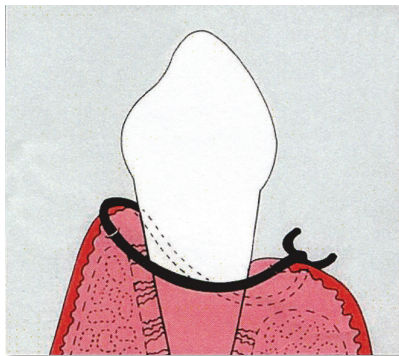
Conventional Flap and Osseous Surgery



This illustration shows a presurgical bony defect.



The bone is contoured and any remaining calculus is removed.



Then gingival tissue is sutured into a new position.

Laser Therapy



This photo illustrates tissue appearance immediately after the laser procedure. No osseous surgery or sutures are needed. This is in obvious contrast to the flap and osseous surgery illustrated above.

- Minimal postoperative discomfort by reducing prostaglandins
- Reduced stress for doctor, staff, and patient

Limitations include:

- Specialized training and safety precautions required, and equipment is relatively expensive
- An initial delay in soft tissue healing
- Cannot be used to remove bone or on amalgam
- Somewhat slower than conventional modalities
- Not appropriate for crown lengthening with osseous contouring, gingival grafting, or procedures to expose fractures, etc.
- Not every tooth can be saved and double-digit pockets may need double treatment
- Not every pocket responds well—i.e: smokers. About 90 percent of pockets will get approximately 50 percent reduction (10mm to 5mm, 8mm to 4mm, etc.)
- As with flap surgery, Class II and Class III furcations will usually still be a problem

In addition to the clinical benefits and limitations, laser therapy benefits for patients include significantly less pain, recession, bleeding, root sensitivity, and minimal swelling and downtime after treatment. Less downtime is cost effective because patients don't have to miss work (usually 2-3 days with conventional treatment).

Laser treatment is also great for patients who have medical problems requiring drugs such as aspirin, Plavix, or Coumadin, since they do not have to discontinue usage of the drugs with laser therapy. Patients with advanced periodontal disease who take bisphos-

New LANAP Procedure



Before laser periodontal therapy with LANAP.



Nine days after LANAP. The patient was a very fearful woman who had refused conventional surgery 15 years previously. She lived in a state of chronic infection and pain until she heard about lasers. After laser treatment, she reported no post-treatment pain, bleeding or infection.

phonates, such as Fosamax, can avoid extractions that can lead to osteonecrosis of the jaw because teeth with a poor prognosis can now often be saved by treatment with the new laser.

Laser treatment can be achieved, in most cases, in only one visit because the new laser therapy eliminates the separate deep scaling visits. This makes it ideal for patients who are fearful of conventional periodontal deep scaling and surgery. Of course, maintenance visits and good plaque control will be necessary following laser treatment.

An additional benefit of laser surgery is the antibacterial effect that helps disinfect periodontal pockets. This laser specifically targets the highly pathogenic black pigmented bacteria and is able to vaporize these bacteria safely because of very rapid 1/10,000th of a second pulses which allow the tissue to cool 99.8 percent of the time.

The Millennium PerioLase's fiber optic tip removes diseased tissue and kills bacteria in the pockets. Healthy tissue is minimally affected by the laser. Ultrasonic scalers and/or hand tools remove the loosened calculus deposits. The laser makes another pass on a different setting to kill bacteria in the bottom of the pockets and on the bone. The laser also stimulates formation of sticky fibrin clots to seal the pockets and allow regeneration of bone and other soft tissue.

Simply put, the Laser Treatment Procedure can be stated in seven steps:

(see illustration below)

1. A perio probe indicates excessive pocket depth.
2. The laser removes bacteria and diseased tissue.
3. An ultrasonic Piezo scaler and special hand instruments are used to remove root surface tartar.
4. Blood clots in the pockets and keeps the epithelium from growing back into the pockets (barrier membrane not required).
5. The soft tissue and bone begin to reattach to the clean root surface.

6. Any bite trauma is adjusted.
7. New connective tissue attachment and bone growth occur.

The Appointment Process with Laser Treatment

- **First visit** – Patient examination, including new digital x-rays to measure the bone, plus bacterial samples and culturing if indicated.
- **Second visit** – Treatment recommendations are presented.
- **Third visit** – Laser treatment is usually completed in one visit and the patient can return to work the next day.

Our Patient's Experience

"I've had gum surgery numerous times since I was in my 30s. Following the surgeries, there was bleeding, a lot of discomfort, and pain. Recently laser gum surgery was performed on me and this was a totally new experience – nothing like the gum surgeries I had in the past. The laser equipment is state-of-the-art and the doctor took care of all four quadrants at one time – it was a world of difference! I had no discomfort at all following the procedure. The doctor gave me his cell phone number in case I needed

to reach him and the office staff also called to check on me. It was the best follow-up I've ever experienced.

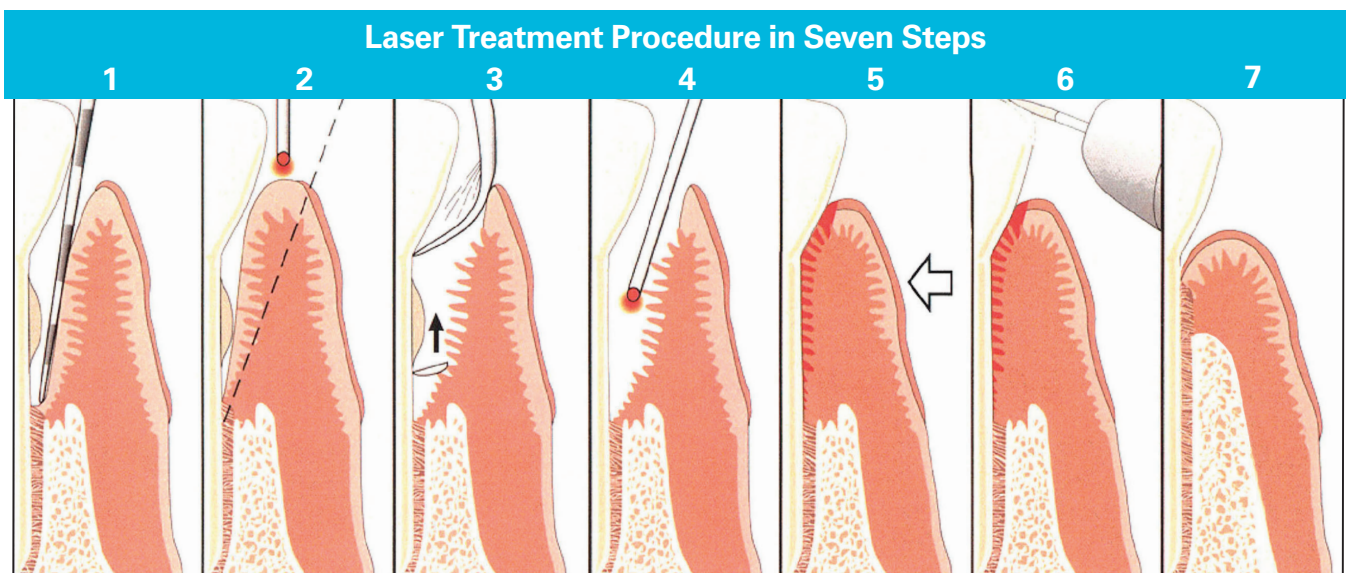
In addition to the procedure going so smoothly, the office experience was a pleasure. From the moment I walked in, it was great. It's refreshing to see that the doctor and everyone on staff has a smile on their face, and is super nice. I would definitely recommend them for anyone who needs periodontal treatment and already have."

–P.R., Philadelphia

Laser Treatment Can Be Life Changing

For patients who are concerned about conventional blade surgery for treatment of periodontal disease, the new laser treatment can be a life-changing event. They're able to save their teeth, preserve their natural smile, and avoid the potentially life-threatening systemic effects of untreated periodontal disease. Laser treatment gives these patients another option.

We are the first and currently the only periodontal practice in Philadelphia to offer this new laser treatment. We look forward to participating with you in laser treatment planning for your patients. Of course, we welcome your questions, comments and suggestions.



Some Frequently Asked Questions About Laser Treatment

Who is a candidate for this laser treatment?

Almost everyone who has periodontal disease, swollen gingiva, or soft tissue lesions that require biopsies. The laser treatment is especially good for treating very advanced cases that are almost beyond conventional surgical treatment because the laser treatment can sometimes regenerate bone and soft tissue. It's estimated that over 100 million American adults have moderate to severe periodontal disease. Of these, only 3-4 percent receive conventional treatment.

How is periodontal disease normally treated nationwide?

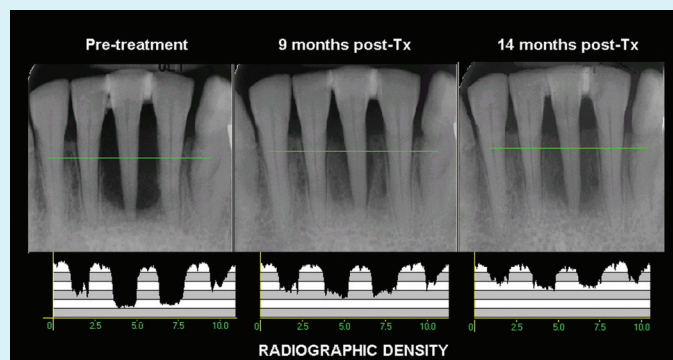
The traditional treatment is to do deep scaling and root planing, and to use blades to cut the tissue and burs to grind the bone, and then suture it closed. This procedure works well but often causes considerable discomfort and appearance problems afterward, as well as root sensitivity.

What about patient discomfort, sensitivity, pain, and downtime?

Some of the primary patient benefits of laser treatment, as compared to using the blade and sutures, include much less pain, sensitivity, recession, swelling, and very little downtime after treatment. Generally, patients can go back to work the same day, if not sedated.

Does the new laser technique really regenerate soft tissue and bone?

Yes, that's what's remarkable about this technique. In an eight-year retrospective study, bone density profiles were evaluated and 100 percent of the areas had increases in bone density, and many had increases in bone quantity. In addition, a histologic study has shown new soft tissue attachment in two-thirds of the cases studied and new bone in 100 percent of the cases.



The dark area in the first radiograph is lost bone due to periodontal disease. The second radiograph was taken nine months after laser treatment showing bone regeneration underway. The third radiograph shows bone formation at 14 months.

How can this treatment save teeth that could not be saved before?

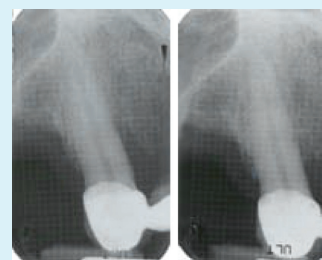
The laser reduces the bacteria and bio-stimulates the cells to produce new attachment and bone.

How does the cost of laser treatment compare to conventional surgery?

Even with all the benefits, the cost of laser treatment is no more than conventional surgery. Insurance will often cover part of the cost, depending on the plan. When you consider that patients frequently lose two to three days of work time following conventional treatment, and there is a very minimum loss of work time with laser treatment, the cost of laser treatment is really much less than conventional treatment.

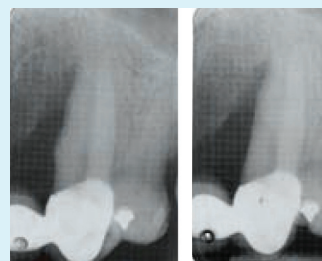
What happens to patients who go untreated for moderate to severe periodontal disease because of fear of conventional treatment?

This is a huge concern since only about three percent of the almost 100 million Americans who have moderate to severe periodontal disease are getting treatment. The bottom line is that they will suffer from painful abscesses and multiple extractions. Ultimately, they will lose all their teeth (approximately 40 million Americans are edentulous). They will lose their natural smile and are only able to chew about 20 percent as efficiently as with their natural teeth. The infection may get into the bloodstream, causing an increased risk of heart attack, stroke, diabetes, and other serious systemic diseases. The infectious bacteria that cause periodontal disease are also often transmitted to spouses, significant others, and family members. **This can all be avoided by reducing patient fear with laser treatment.**



1 2

Radiographs one and two show pre-and three months post-LANAP treatment on tooth #6 with obvious new bone growing on the mesial after three months of healing time, with an increase in bone density measured at 32.1 percent.



3 4

Radiographs three and four show pre-and three months post-treatment on control tooth #11, which was treated by scaling. There is no visible change in bone height or density.