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MILLENNIUM DENTAL TECHNOLOGIES

THE LANAP PROTOCOL

FROM SKEPTICISM TO STANDARD OF CARE

+ Surviving Delta Dental
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Dawn M. Gregg, DDS



LASER DENTISTRY

How Millennium Dental Technologies and the LANAP protocol went from skepticism to standard of care

There's a famous saying often attributed to German philosopher Arthur Schopenhauer: "All truth passes through three stages: first, it is ridiculed; second, it is violently opposed; and third, it is accepted as self-evident."

The same may be true about laser dentistry. Once dismissed by skeptics three decades ago, laser dentistry has now become part of everyday clinical practice.

At the forefront of that movement is Millennium Dental Technologies Inc. (MDT), the developer of the LANAP protocol for the treatment of moderate to severe periodontal disease and the manufacturer of the PerioLase MVP-7 free-running pulsed Nd:YAG laser.

It's all about the patient

MDT was founded by Robert H. Gregg II, DDS, in 1994. Delwin McCarthy, DDS, joined Robert Gregg's dental practice and MDT the same year. They shared a fascination with how lasers

could improve the treatment experience for patients.

"In the early days, our research was directed more toward hard tissue applications, including selective removal of hard and soft tissue for endodontic treatment," says Robert Gregg, who continues to serve as president and chairman of the board. "Periodontics wasn't even our primary focus at first. But that work ultimately led us to create an entirely new category: a minimally invasive surgical procedure for periodontal disease. We ended up focusing on the most severely infected teeth that most clinicians would consider 'hopeless.' This approach evolved into a specific protocol for moderate to severe gum disease that proved to be as effective—or even more effective—than conventional surgery, and far more acceptable to patients."

That breakthrough became the LANAP protocol, available only with the PerioLase MVP-7. The LANAP (laser-assisted new attachment

procedure) protocol reduces harmful bacteria while preserving healthy tissue, giving patients a more comfortable, less invasive experience and a faster recovery compared with traditional osseous surgery.

"We were initially dismissed because we only had anecdotal case reports, no university studies and no FDA clearance," recalls Robert Gregg. "It took many years to overcome objections and resistance. It took a steady effort of science and research over two decades before human histology proved the Holy Grail of healing events: true periodontal regeneration."¹

The company, along with the Institute for Advanced Laser Dentistry (IALD), sponsored two human histology studies—considered the highest level of scientific evidence—to demonstrate true bone and periodontal regeneration.^{2,3} The IALD also sponsored a large multicenter, university-based, prospective clinical translation study, which confirmed

...the Holy Grail of periodontics: the restoration of the destroyed periodontium by new cementum, periodontal ligament, and bone, as well as their re-creation in normal anatomic relationships and function.

— Gerald M. Kramer, DMD, "Surgical alternatives in regenerative therapy of the periodontium," *International Journal of Periodontics & Restorative Dentistry* (1992)

the application of the LANAP protocol in private clinical practice.

In 2016, these studies culminated in the LANAP protocol achieving the world's first and only FDA clearance with scientific proof of true regeneration of the periodontal attachment apparatus including new cementum, periodontal ligament, and alveolar bone on a previously diseased root surface.⁴

Clinical and scientific evidence for the LANAP protocol and other dental laser procedures now includes more than 650 positive patient outcomes published in independent and human histology studies.

The company also has six active U.S. patents for dental laser technology and procedures, and adoption has increased significantly among dental specialists and general practitioners alike.

Not all lasers are created equal

Despite widespread adoption of laser dentistry, misconceptions persist since not all lasers are the same. "The idea of an all-tissue laser is a myth," Robert Gregg explains. "Depending on wavelength, there are different tissue interactions. For example, erbium and CO₂ lasers have shallow penetration in soft tissue, while diodes create broad thermal effects and lack selectivity in tissue removal. That limits their efficacy for certain clinical procedures."

Specifically engineered for the LANAP protocol and other procedures, the PerioLase MVP-7 is a 6-watt, free-running variable-pulsed Nd:YAG dental laser with unique parameters, software algorithms, and seven pulse durations to effectively treat periodontal disease and regenerate bone and tissue damaged by periodontitis.

A built-in power meter enables the clinician to validate the power output for patient safety and efficacy while the joule counter confirms the light dose to tissue.

The laser's unique features allow clinicians to safely and efficiently perform the LANAP protocol, as well as dozens of other procedures, including saving ailing and failing dental implants.

Reversing the failing implant epidemic

While the number of implant procedures is growing by approximately 500,000 each year,⁵ that growth is accompanied by a substantial increase in complications and failures because of peri-implantitis. Studies estimate that as many as 56% of implant patients will experience peri-implantitis.⁶

Built on the foundation of the LANAP protocol, MDT's patented LAPIP (laser-assisted peri-implant procedure) protocol aims to reverse this growing epidemic. A retrospective

cohort study found that 94% of failing implants treated with the LAPIP protocol using the PerioLase MVP-7 reintegrated in the pocket.⁷

Meanwhile, the company's BLAST protocol is designed for peri-implantitis and implant osseointegration.

In addition, the PerioLase MVP-7 performs more than 100 value-added procedures, including extraction socket disinfection, ridge preservation, photobiomodulation, hemostasis, and depigmentation, as well as the treatment of TMJ disorders, hemangiomas, fibromas, and more.

A legacy of training

MDT goes beyond technology, ensuring every clinician is fully trained to deliver predictable outcomes with the LANAP protocol and other dental laser procedures.

LANAP clinicians participate in a five-day training continuum, which includes both didactic lecture and hands-on, live-patient treatment under the supervision of certified instructors. Training is provided by the IALD, an ADA CERP- and AGD PACE-recognized provider and non-profit research organization founded in 1999.

"The goal of the institute is to provide proper and thorough education to doctors purchasing the PerioLase MVP-7 for the LANAP protocol and other procedures," says Dawn M. Gregg, DDS, vice president of operations and board member at MDT and training director at the IALD. "No laser is ever shipped until the dentist has successfully passed our initial three-day Laser BootCamp with live patient training and a standard proficiency exam."

Six months after completing Laser BootCamp, doctors return for an additional day of training with live patients for expanded proficiency certification. The full continuum of LANAP education is completed at 12



months with a fifth and final day of training—again with live patients.

“The five-day training continuum is included in the purchase price of the PerioLase MVP-7 as part of a complete package,” notes Dawn Gregg. “Licensed LANAP clinicians also gain access to one-on-one mentorship with certified instructors throughout the year.”

The training continuum offers one more added value—and that’s to the surrounding community.

“For our live patient training, we recruit patients who may have limited access to health care services,” Dawn Gregg says. “Since its inception, the IALD has offered pro bono treatment to more than 1,500 patients, with total treatment valued at more than \$15 million.”

High patient acceptance, higher profits

While patient acceptance can be a challenge for many dental procedures, 91.8% of patients prefer LANAP treatment compared with osseous surgery, and 92.1% of recall patients who previously had traditional surgery are more likely to accept the LANAP protocol.⁸

“Patient acceptance is significantly higher than other procedures,” Robert Gregg says. “LANAP clinicians also treat more patients in less time at a lower cost while achieving better tissue response and higher satisfaction ratings. Plus, it’s an extremely profitable procedure. I tell doctors that

if they treat just one patient per month with the LANAP protocol, half the treatment more than covers their cost while the other half is pure profit.”

Guaranteed clinical results

MDT, through its collaboration with the IALD, stands behind its proposition that every clinician trained by the IALD in the LANAP protocol will successfully decrease pocket depth by 50% in every patient, every pocket, every time through regeneration, not amputation.

This is backed by a six-month, money-back clinical results guarantee not offered by any other company in the industry.

“Our clinical guarantee really sets us apart,” says Robert Gregg. “If clinicians are not able to reproduce the clinical results shown in training after taking Laser BootCamp and practicing the LANAP protocol for six months, we’ll refund the entire purchase price provided they return all materials and the PerioLase MVP-7 in good working order.”

Defining the category, setting the standard

For more than three decades, MDT has advanced the science and practice of laser dentistry. The LANAP protocol remains dentistry’s only true standalone full-mouth laser surgery, clinically and scientifically proven to reverse periodontitis with regeneration of bone, cementum, and periodontal ligament.

By pioneering this breakthrough, MDT not only defined an entirely new category—it continues to stand in a class of its own. With the PerioLase MVP-7 and a full suite of proven protocols supported by elite training, MDT sets the global standard for minimally invasive laser treatment. Above all, the company remains committed to one guiding principle: It’s all about the patient.

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LANAP in the Real World

Clinical wins, patient buzz, and the ongoing science debate

LANAP (laser-assisted new attachment procedure) inspires fierce loyalty in some clinicians, healthy skepticism in others, and considerable curiosity among those still on the fence. Spend enough time talking to dentists who use it, and you'll hear a recurring theme: it's not a magic wand, but when done right, it changes practices and saves teeth.

General dentists and periodontists who've used LANAP for years describe excellent clinical results, high patient acceptance, and, in many cases, strong practice revenue. One GP with seven years' experience still "loves it" and calls it his favorite procedure. Another says LANAP paid for four kids' college tuition. Some periodontists credit it with changing the way they practice entirely.

Patients are often more willing to accept LANAP than traditional osseous surgery; one clinician cited acceptance rates above 90% compared to about a third for conventional approaches. The appeal is obvious: no scalpel, no sutures, less downtime, and the ability to treat the whole mouth in one or two sessions. For some patients who refuse traditional surgery, it's the only treatment they'll say yes to.

Economically, many report that once the laser is paid off, the return on investment is solid. Some GPs do \$40–70k

annually in LANAP cases; others see fewer cases in leaner years but still call it worthwhile. The catch is that initial costs of \$60k–\$100k for the PerioLase MVP-7 plus training are significant. Millennium Dental Technologies claims that one patient a week can cover financing, but this depends entirely on your patient base, marketing, and commitment to keeping cases in-house.

On the clinical side, success depends heavily on case selection, protocol discipline, and patient compliance. Relapses happen, often tied to skipped maintenance visits or nightguard neglect. Some operators emphasize that poor outcomes are often due to breaking protocol, inadequate periodontal knowledge, or insufficient chair time.

LANAP has an FDA 510(k) clearance for "true periodontal regeneration," new cementum, periodontal ligament, and alveolar bone on previously diseased roots, backed by human histology. That's a unique claim in dentistry. However, critics point out that the supporting histology studies are small (around 10 teeth each) and that meta-analyses conclude LANAP is equivalent to scaling and root planing in clinical outcomes. The debate often boils down to how much weight to give anecdotal experience versus the current evidence base.

That debate isn't just academic; it reflects the larger tension in evidence-based dentistry between published science, clinical expertise, and patient preferences.



Supporters argue that while more large-scale research would be welcome, existing studies, plus extensive positive clinical experience, justify its use. They also note that many surgical modalities in dentistry and medicine took decades to build a “preponderance of evidence,” yet were adopted based on early data and clinical need. Skeptics counter that if LANAP results are as dramatic as claimed, robust multi-center trials should already exist.

That debate isn't just academic; it reflects the larger tension in evidence-based dentistry between published science, clinical expertise, and patient preferences. As one veteran GP put it, “Science is important, but it's one part of the decision-making process. Patients have their own goals, finances, and fears. Sometimes LANAP is the only bridge between doing nothing and losing teeth.”

Regarding patient communication, LANAP dentists find that clear, non-technical explanations are most effective. Position it as a minimally invasive way to control gum disease, save teeth, and promote natural regeneration, without the cutting and sewing of traditional surgery. Show before-and-after images. Emphasize the comfort and fast recovery. However, don't oversell; it's not a cure-all, and it still requires meticulous home care and regular maintenance visits.

From a workflow standpoint, LANAP is labor-intensive. You're in one operatory for two hours or more per session, and it's not something you hand off to a hygienist. Some view this as a downside compared to high-turnover procedures like single crowns, but others describe it as their “most relaxing” procedure once they get into a rhythm.

Alternatives exist. Competing lasers like Fotona's LightWalker offer Nd:YAG and Er:YAG wavelengths at lower cost, with the erbium providing calculus removal, smear layer elimination, and hard-tissue capabilities. LANAP is proprietary; you can't alter the protocol and still call it LANAP. For some, the exclusivity and branding are part of the appeal; for others, it's a limitation.

There's also LAPIP, LANAP's cousin for peri-implantitis. It uses the same PerioLase laser to detoxify implant surfaces and stabilize tissues. The evidence here is thinner, mostly consisting of case series, but some clinicians find it a valuable way to save failing implants without resorting to explantation.

If you're considering LANAP, the practical advice from experienced users is consistent:

Be ready to invest, not just in the equipment and training, but in marketing, patient education, and maintaining strict adherence to the protocol.

Understand perio biology inside and out. The laser is a tool, not a substitute for fundamentals.

Manage expectations. Even with LANAP, poor home care, smoking, and systemic risk factors will sink your results.

Integrate it into your practice flow. If your schedule and office dynamics can't accommodate two-hour blocks and post-op maintenance, it'll end up gathering dust.

And don't forget the human side. One GP tells of extracting two maxillary centrals from his own father early in his career, his first time seeing his dad cry. That moment changed how he framed conversations about “hopeless” teeth. For patients terrified of losing teeth, LANAP can be a psychological lifeline as much as a clinical one.

In the end, LANAP sits at the intersection of high-tech dentistry, patient psychology, and evolving evidence. For some, it's the most rewarding procedure they do. For others, the jury's still out. But if you're the kind of clinician who thrives on new technology, enjoys surgical precision, and wants a minimally invasive option to offer perio-surgery-averse patients, LANAP might be worth your serious look.

Just remember: the laser doesn't do the work—you do. And in this procedure, as in all of dentistry, skill, science, and patient trust are what truly drive outcomes. **DT**