Introducing the Dual Wavelength Approach to Deep Pocket Therapy with New Attachment
• 2,780nm YSGG and 940nm diode wavelengths are well established for Deep Pocket Therapy with New Attachment and Sulcular Debridement respectively.

• The SOFT-TISSUE effects of the 940nm diode complement the effectiveness of YSGG on soft tissue, bone, and tooth structure.

• Comprehensive protocols address the full range of periodontal disease from gingivitis with the 940nm diode protocol only to moderate and severe periodontitis with DUAL WAVELENGTH combination therapy.

• Treatment protocols not dependent on the use of antibiotics, anti-inflammatories, or occlusal adjustments.

• Periodontal Therapy founded on the latest clinical research and years of experience from global laser pioneers.

THE FUTURE OF LASER PERIODONTAL TREATMENT IS HERE TODAY FROM BIOLASE.

Dual Wavelength Deep Pocket Therapy with New Attachment (KFT) using the Waterlase iPlus and BIOLASE®-patented Radial Firing Perio Tip™ (RFPT) is a minimally invasive, FDA-cleared therapy for moderate to advanced gum disease that promotes cementum-mediated periodontal ligament new attachment to the root surface in the absence of long junctional epithelium.

Waterlase 2,780nm YSGG laser energy is especially effective for minimally invasive removal of both subgingival inflamed tissue and calculus deposits, to prepare the pocket and surface of the tooth for healing and new attachment. Waterlase laser systems, including the iPlus, have FDA clearance for both of these indications.*

*FDA 510(k) Clearances: K011041, K013908, K030523, K083927 and K101658 (new attachment) and K091746 (calculus removal).
The iLase diode laser system uses the 940nm wavelength developed exclusively for dentistry by BIOLASE. A comparison to other diode wavelengths shows that 940nm laser energy is better absorbed by hemoglobin and oxyhemoglobin. This makes the 940nm especially effective for:

- Removal of diseased, infected, inflamed and necrosed soft tissue within the periodontal pocket
- Reducing bleeding prior to scaling and root planing
- Positive biostimulation effects, well-documented in the literature

The iLase 940nm diode laser is FDA indicated for removal of infected tissue from the epithelial lining. By affecting the diseased epithelial lining, the iLase laser reduces dark-pigmented, virulent periodontal disease pathogens such as P. gingivalis, which invade epithelial cells and interstitial space, compromising periodontal pocket homeostasis.

Black-pigmented anaerobes such as Porphyromonas gingivalis, Prevotella intermedia, and Prevotella nigrescens have been implicated as pathogens associated with the initiation and progression of periodontitis.

Figure by Prof. Ö. Yılmaz. (The chronicles of Porphyromonas gingivalis: the microbe, the human oral epithelium and their interplay Microbiology 2008) shows three-dimensional confocal scanning fluorescence microscopy showing a 24 h-infected primary GEC (actin, red; nuclei, blue) with high numbers of intracellular P. gingivalis (green) undergoing successful mitosis.
LITERATURE SUPPORTS THE EFFECTIVENESS OF THE 2,780nm YSGG AND 940nm DIODE WAVELENGTHS IN THE TREATMENT OF PERIODONTAL DISEASE.

DUAL WAVELENGTH DPT CAN BE APPLIED AT EVERY LEVEL OF PERIODONTAL DISEASE.

CASE 1

<table>
<thead>
<tr>
<th>Periodontal Disease Severity</th>
<th>GINGIVITIS</th>
<th>SLIGHT PERIODONTITIS</th>
<th>MODERATE PERIODONTITIS</th>
<th>SEVERE PERIODONTITIS</th>
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CASE 2

3 YEARS AFTER DPT

T3 PROTOCOL PERFORMED BY SOLVEIGA KELBAUSKIENE DDS, MS, PhD

AFTER MORE THAN 20 YEARS OF CLINICAL RESEARCH, THE BENEFICIAL PROPERTIES OF THESE WAVELENGTHS ARE WELL DOCUMENTED, AND BIOLASE IS FURTHERING KNOWLEDGE IN LASER-ASSISTED PERIODONTAL THERAPIES BY FINDING SIGNIFICANT NEW RESEARCH.

A 2011 published study showed that using the YSGG laser, in addition to scaling and root planning, resulted in a statistically significant and consistently greater reduction of the probing depth and gains in clinical attachment level when compared to SRP alone. According to the study's results, the most obvious changes in periodontal pocket depth were achieved six months after laser treatment.
THE WATERLASE iPLUS YSGG LASER IS A TRUE ALL-TISSUE LASER.

Unlike other lasers used in periodontal therapy, the 2,780nm YSGG WaterLase iPlus is indicated for more than just soft tissue. It is safe for use on bone and tooth structures, making it an extremely versatile tool.

PERIODONTAL SURGERY WITHOUT TISSUE TRAUMA

Most periodontal lasers cut tissue using heat. The WaterLase iPlus combines YSGG laser energy and a patented spray of water to cut soft tissue and bone without heat, with benefits reported such as less swelling and patient post-op sensitivity, for a better patient experience and greater case acceptance.

In soft tissue mode, the 2,780 nm YSGG WaterLase iPlus laser energy penetrates into tissues to seal blood vessels as it cuts, providing excellent hemostasis, which in turn provides you with a better field of vision during surgery.*

Soft tissue is mostly water, so the iPlus laser energy is absorbed immediately in the process of cutting without raising the temperature of the tissue. Bone is also primarily made up of water and hydroxyapatite, so the iPlus cuts it without heat as well. The iPlus water spray enhances its “cool cutting” as well.


An implant related applications:

- Creating an aesthetic emergence profile
- Bone resection for autogenous bone graft harvesting
- Osteoplasty and osteotomy
- Implant recovery

OSSEOUS CROWN LENGTHENING FOR SAME DAY REFERRALS

The minimally invasive nature of the WaterLase iPlus YSGG laser can help minimize tissue displacement and flap preparation in osseous crown lengthening. It assists in performing an externally beveled gingivectomy, shaping the free gingival margin, troughing, and recontouring and smoothing bone.

“...not only enhances results in the hands of a periodontist using the WaterLase for regenerative procedures, it is also an alternative treatment for the general dentist who is treating mild to moderate periodontal cases. Patients are also more likely to accept treatment when they hear that it is minimally invasive, and patients who have accepted treatment are getting positive results and avoiding the side effects that they have heard about from conventional treatment.”

- Dr. Michael Schlüsing, Periodontist, New York, NY

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PRE-OP RIMAIBEPR POST OP

IMPLANTS

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**TECHNICALLY SUPERIOR BY DESIGN.**

For ease of use, ergonomics, and performance the WaterLase iPlus is the most technologically advanced laser system in periodontics.

The YSGG WaterLase provides excellent coagulation of soft tissue, because it penetrates deeper into water-rich tissue. Along with the iPlus’s long pulse, high pulse repetition rate, and precise water control, this makes iPlus among the best surgical laser tools.*

The iPlus features the only illuminated contra-angle handpiece on any dental laser. BIOLASE’s patented contra-angle design allows you to easily and precisely move the laser tip around the treatment site, while iPlus illumination provides the best visibility.

The iPlus handpiece is also the smallest handpiece, an important consideration for pediatric patients and working in the back of the mouth.

As a Periodontist, I have been waiting to buy a laser until there was a reliable one that could address hard and soft tissues safely and efficiently. The WaterLase has now become my ‘instrument’ of choice in many procedures, including ones that I didn’t think could or should be performed with a laser. I liked my first WaterLase so much that I recently upgraded to the new iPlus, and it’s awesome!”

- Beth Gold
  Periodontist
  Marysville, WA

The iPlus has the lightest, most flexible trunk fiber ever on a WaterLase system. Titanium fiber cable and an extremely small diameter give the iPlus handpiece virtually zero resistance in your hand, to help eliminate fatigue so you can easily access any treatment site. Words don’t really describe it — you have to try for yourself.


**THE RADIAL FIRING PERIO TIP™**

Our patented Radial Firing Perio Tip (RFPT) is superior to tips traditionally used by laser systems for periodontal therapy. The 14-mm long RFPT is based on BIOLASE’s patented EndoLase™ tips but features a unique design that precisely tapers the end of the 500-μm diameter tip. The result is primary radial-emission of laser energy with a portion of straight emission, and better access to the narrow part of the periodontal pocket since the tip has no side edges.

Compared to most tips and fibers that only emit straight laser energy, the radial energy provides more efficient irradiation of diseased or inflamed soft tissue as well as calculus deposits for treating moderate to advanced periodontal disease. Decreasing the amount of energy emitted from the end of the tip virtually eliminates the possibility of damaging the periodontal ligament when the tip is used vertically in the periodontal pocket.

BIOLASE also offers the most comprehensive selection of traditional straight firing tips for periodontal surgery, implant recovery, and osseous crown lengthening, to enable you treat all of your patients’ needs.

**COMPREHENSIVE WATERLASE PERIODONTAL TRAINING AVAILABLE**

At BIOLASE, our goal is to maximize the benefits of laser ownership for you, your patients, and practice. We offer training specially designed for WaterLase Dual Wavelength DPT and other applications with your WaterLase iPlus laser.

A two-day course in WaterLase iPlus periodontal applications, conducted by periodontists, can be included with your purchase of the laser, which covers:

- Case selection, diagnosis, and treatment planning
- Stop-by-stop treatment protocols for all patient classifications, including laser settings and laser tip selection
- Debridement and removal of subgingival inflamed tissue and calculus deposits in the periodontal pockets to promote new attachment

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