



# REPaIR

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Regenerative  
Er,Cr:YSGG  
Periodontitis  
*ai*  
Regimen

*Effectively manage your periodontal patients with patient-preferred, minimally invasive therapy.*

**BIOLASE**

# REPaIR

## Minimally Invasive Protocol for Optimal Periodontal Patient Management

REPaIR™, *Regenerative Er,Cr:YSGG Periodontitis Regimen*, was developed to provide clinicians a scientifically advanced treatment option for managing periodontally compromised patients. Utilizing the WaterLase iPlus and patented Radial Firing Perio Tip™ (RFPT), REPaIR provides a safe, effective laser treatment protocol that patients accept.

- ⊕ Minimally invasive protocol.
- ⊕ Treat site specific or full mouth cases for greater flexibility in treatment planning.
- ⊕ Supported by clinical evidence and scientific research.
- ⊕ Versatile YSGG laser ideal for comprehensive clinical use.
- ⊕ Cleared for gentle removal of subgingival calculus.

Promotes cementum-mediated periodontal ligament new-attachment to the root surface in the absence of long junctional epithelium.



# REPAIR

## REGENERATIVE ER,CR:YSGG PERIODONTITIS REGIMEN

**THE WATERLASE® ER,CR:YSGG PERIO REGIMEN** is the first definitive step-by-step protocol for using an Er,Cr:YSGG laser to assist in the management of early, moderate and severe chronic periodontitis. It consists of three phases: pre-surgical, surgical and post-surgical.

### **PHASE I: PRE-SURGICAL PHASE**

All patients should have a comprehensive periodontal examination/evaluation including data collection of periodontal charting and radiographs, medical and dental history, and risk assessment.

Phase I treatment is implemented for removal of supra- and subgingival biofilm and calculus through scaling and root planing (S/RP) and the initiation and evaluation of oral hygiene compliance. Occlusal assessment and treatment may be warranted in this phase. Splinting of teeth may be an option.

### **PHASE II: SURGICAL PHASE**

Phase II surgical treatment plan is developed based on the re-evaluation of periodontal inflammation and oral hygiene compliance. The surgical plan can be for a single tooth or multiple teeth sites, a quadrant or half-mouth depending on number of indicated sites. If desired, the half-mouth protocol is generally UR/LR followed by at least 2-3 weeks of post-operative management before treating the UL/LL areas.

1

#### **OUTER POCKET DE-EPITHELIALIZATION**

Outer pocket gingival epithelium is removed from the free gingival margin down to a width at least equal to the pocket depth.



2

#### **GINGIVECTOMY (AS NEEDED)**

A gingivectomy should only be performed if pseudo-pocketing is present. Ensure you do not compromise adequate attached gingivae.



**waterlase® iPlus™**  
Pre-set Settings

Tip: RFTP5  
Power: 1.5W  
Air/Water: 40%/50%  
Pulse rate: 30 Hz  
H mode

Tip: RFTP5  
Power: 1.5W  
Air/Water: 40%/50%  
Pulse rate: 30 Hz  
H mode

# REPAIR WATERLASE® PERIO PROTOCOL CONTINUED

3

## DE-EPITHELIALIZATION AND RETRACTION

The pocket epithelium should be removed and should be completed apically, down to bone. The gingival margin can be retracted as a mini flap for access.



Tip: RFPT5  
Power: 1.5W  
Air/Water: 40%/50%  
Pulse rate: 30 Hz  
H Mode

4

## SCALING AND ROOT PLANING

Conventional treatment with ultrasonics and hand instruments to remove root surface accretions and/or calculus and to smooth cementum.



Laser not used

5

## SULCULAR DEBRIDEMENT / DEGRANULATION

Remove smear layer created by scaling, along with any residual calculus, and prepare the root surface for reattachment. Remove pocket lining and degranulate to expose bone surface.



Tip: RFPT5  
Power: 1.5W  
Air/Water: 40% / 50%  
Pulse rate: 30 Hz  
H mode

**waterlase<sup>®</sup> iPlus**  
Increase pulse rate to **75 Hz**  
for faster calculus removal.

6

## BONE DECORTICATION

Recontour osseous defects. Hold tip parallel to root surface and gently tap all the way down to and into bone, retracting slightly and repeating all the way around tooth. If necessary, change angle of the laser tip and treat into the walls of infrabony defects.

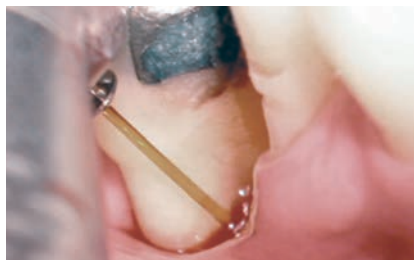


Tip: MZ6  
Power: 2.5W  
Air/Water: 70% / 80%  
Pulse rate: 30 Hz  
H mode

7

## FINAL SULCULAR DEBRIDEMENT

Remove residual debris and induce blood coagulation.



Tip: RFPT5  
Power: 1.5W  
Air/Water: 10% / 10%  
Pulse rate: 30 Hz  
H mode

8

## COMPRESS WITH 2X2

Compress surgical site with wet 2x2 for 3-5 minutes.

## PHASE III: POST-SURGICAL PHASE

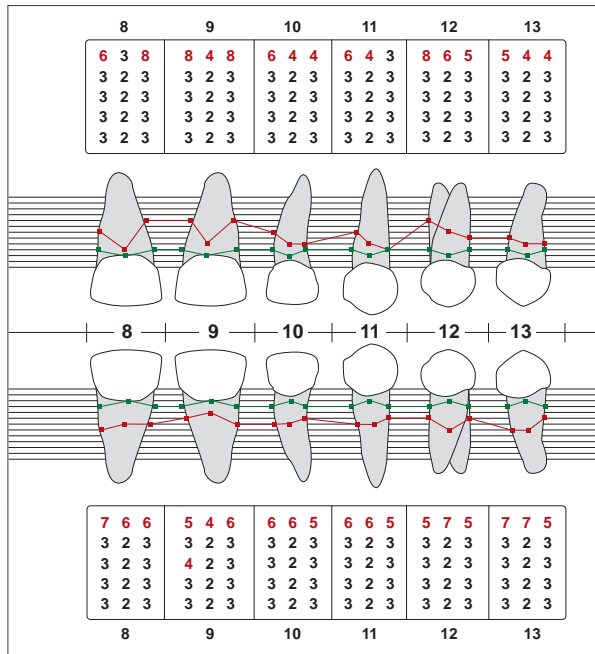
- IMMEDIATE POST-OPERATIVE: Brush teeth lightly with soft brush and use mouth rinse to supplement brushing if discomfort exists.
- ONE WEEK AFTER LASER TREATMENT: Gently clean between teeth using an interproximal brush dipped in mouthwash.
- NO PROBING for at least 3 months, at which time a supragingival scaling is completed.



"WaterLase REPa/R is a highly effective, more aesthetic and more comfortable alternative to traditional surgical procedures for my patients."  
- Dr. Bret Dyer

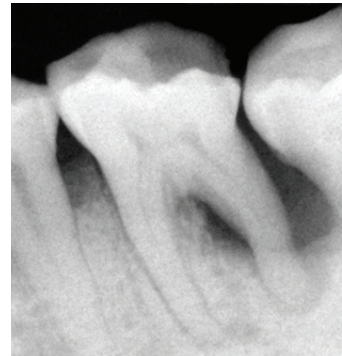
## CASE 1

Courtesy of Dr. Bret Dyer

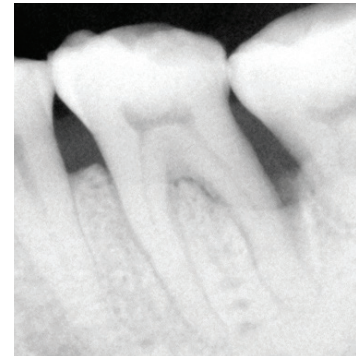


## CASE 2

Courtesy of Dr. Bret Dyer



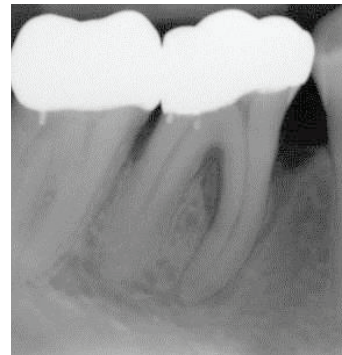
BEFORE



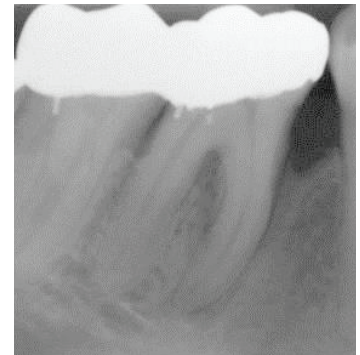
3 YEARS AFTER

## CASE 3

Courtesy of Dr. Rana Al-Falaki



BEFORE



6 MONTHS AFTER

## CLINICAL EVIDENCE

M Gupta, AK Lamba, M Verma, et al. "Comparison of periodontal open flap debridement versus closed debridement with Er,Cr:YSGG laser." *Australian Dental Journal* 2013; 58: 41-49 doi: 10.1111/adj.12021

Dederich 2013. "Periodontal Bone Regeneration and the Er,Cr:YSGG Laser: A Case Report." *The Open Dentsity Journa*, 2013, 7, 16-19

Dyer, B, and E C Sung. "Periodontal Treatment using the Er, Cr : YSGG Laser." *Lasers in Surgery and Medicine*: 1442.

Hakki, Sema S et al. 2010. "Comparison of Er,Cr:YSGG laser and hand instrumentation on the attachment of periodontal ligament fibroblasts to periodontally diseased root surfaces: an in vitro study." *Journal of periodontology* 81(8): 1216-25. <http://www.ncbi.nlm.nih.gov/pubmed/20476883>

Kelbauskienė, Solveiga et al. 2011. "One-year clinical results of Er,Cr:YSGG laser application in addition to scaling and root planing in patients with early to moderate periodontitis." *Lasers in medical science* 26(4): 445-52. <http://www.ncbi.nlm.nih.gov/pubmed/20549280>

Kelbauskienė, Solveiga, and Vita Maciulskienė. 2007. "A pilot study of Er,Cr:YSGG laser therapy used as an adjunct to scaling and root planing in patients with early and moderate periodontitis." *Stomatologija / issued by public institution "Odontologijos studija" ... [et al.]* 9(1): 21-6. <http://www.ncbi.nlm.nih.gov/pubmed/17449974>.

Ting, Chun-Chan et al. 2007. "Effects of Er,Cr:YSGG laser irradiation on the root surface: morphologic analysis and efficiency of calculus removal." *Journal of periodontology* 78(11): 2156-64. <http://www.ncbi.nlm.nih.gov/pubmed/17970683>

Arnabat-Domínguez, Josep et al. 2010. "Advantages and esthetic results of erbium, chromium:yttrium-scandium-gallium-garnet laser application in second-stage implant surgery in patients with insufficient gingival attachment: a report of three cases." *Lasers in medical science* 25(3): 459-64. <http://www.ncbi.nlm.nih.gov/pubmed/19756837>

Walsh, Laurence. 2010. "Maximising gingival aesthetics using lasers." *Australasian Dental Practice* (August): 48-51.

René Franzen, Marcella Esteves-Oliveira, Jörg Meister, Anja Wallerang, Leon Vanweersch, Friedrich Lampert and Norbert Gutknecht "Decontamination of deep dentin by means of erbium, chromium:yttrium-scandium-gallium-garnet laser irradiation" *Lasers in Medical Science* Volume 24, Number 1, 75-80, DOI: 10.1007/s10103-007-0522-2

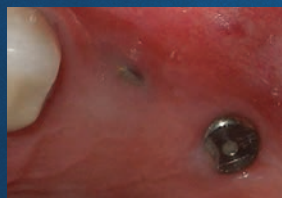


Scan the QR code for links to clinical articles

## ***VERSATILE. TREAT SOFT TISSUE, TOOTH ROOT, AND BONE.***

The WaterLase iPlus combines YSGG laser energy and a patented spray of water to cut soft tissue and bone, with reported benefits such as less swelling and post-op sensitivity, an optimal patient experience and greater case acceptance.

In soft tissue mode, the 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.



PRE-OP



POST-OP

### ***IMPLANTS***

Improve productivity with implant related applications:

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



PRE-OP

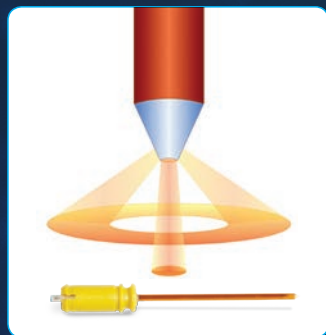


IMMEDIATE POST-OP

### ***OSSEOUS CROWN LENGTHENING FOR SAME DAY REFERRALS***

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 or smoothing bone.

## ***INNOVATIVE. SOLVE YOUR POCKET ACCESS CHALLENGES.***



### ***THE RADIAL FIRING PERIO TIP™***

Our patented Radial Firing Perio Tip (RFPT) is superior to traditional laser tips used for periodontal therapy, featuring a unique design that precisely tapers to the 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.

This provides more efficient irradiation of diseased or inflamed soft tissue as well as calculus deposits for treating moderate to advanced periodontal disease.

# **BIOLASE**

Global Leadership in Lasers