

YSGG
Waterlase MD

TRANSFORMING THE DENTAL EXPERIENCE



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An Exclusive Partner of
HENRY SCHEIN
DENTAL

BIOLASE



TRANSFORM THE EXPERIENCE FOR YOU AND YOUR PATIENTS

The Waterlase MD™ is a revolutionary dental device that uses a combination of YSGG laser energy and water, a process called HydroPhotonics™ to perform many traditional dental procedures with less anesthetic. By enabling a less invasive, more precise form of treatment that preserves healthy tooth structure, the Waterlase MD™ transforms the experience for both you and your patients.

NO INJECTIONS FOR MANY PROCEDURES

Many procedures performed with the Waterlase MD™ do not require injections, reducing patient fear and anxiety by creating a more gentle and relaxing atmosphere. Patients typically experience less bleeding, swelling and post-op discomfort, and require less pain medication. Procedures that once took several appointments to complete, such as restorations in multiple quadrants, can now be finished in just one visit. The Waterlase MD™ also creates a better bonding surface for restorations.



"I went to a Waterlase dentist to have a cavity filled and it was all done with no shot, no drill. The dentist used the Waterlase and it was the procedure I've been waiting for my whole life!"

SHELLY HOGAN
Glendale, California



EXPAND YOUR CLINICAL CAPABILITIES

Your patients expect you to provide all their dental needs. The laser and the training you will receive will help you provide more services for your patients. The Waterlase MD™ enables you to perform a wider range of procedures and significantly expand your clinical capabilities.

HARD TISSUE PROCEDURES

APPLICATION	ESTIMATED ANESTHETIC USE
CLASS I, II, III CAVITY PREPARATIONS	☐
CLASS IV, AND V CAVITY PREPARATIONS	☐
CHILDREN'S CAVITY PREPARATIONS	☐-○
CARIES REMOVAL	☐
HARD TISSUE SURFACE ROUGHENING OR ETCHING ENAMELOPLASTY, EXCAVATION OF PITS AND FISSURES FOR PLACEMENT OF SEALANTS	○
TOOTH PREPARATION TO OBTAIN ACCESS TO ROOT CANAL	☐
ROOT CANAL PREPARATION INCLUDING ENLARGEMENT	☐
ROOT CANAL DEBRIDEMENT AND CLEANING	☐
CUTTING BONE TO PREPARE A WINDOW ACCESS TO THE APEX (APICES) OF THE ROOT(S)	○
APICOECTOMY AMPUTATION OF THE ROOT END	○
ROOT END PREPARATION FOR RETROFILL AMALGAM OR COMPOSITE	○
OSSEOUS CROWN LENGTHENING	☐
CUTTING, SHAVING, CONTOURING AND RESECTION OF ORAL OSSEOUS TISSUES	☐
OSTEOPLASTY AND OSSEOUS RECONTOURING (REMOVAL OF BONE TO CORRECT OSSEOUS DEFECTS AND CREATE PHYSIOLOGIC OSSEOUS CONTOURS)	○
OSTECTOMY (RESECTION OF BONE TO RESTORE BONY ARCHITECTURE, RESECTION OF BONE FOR GRAFTING, ETC.)	○

INJECTION/ANESTHETIC INDEX



With training and additional experience, injection/anesthetic results may improve.

SOFT TISSUE PROCEDURES*

APPLICATION	ESTIMATED ANESTHETIC USE
INCISION, EXCISION, VAPORIZATION, ABLATION AND COAGULATION OF ORAL SOFT TISSUES	☐
EXCISIONAL AND INCISIONAL BIOPSIES	☐-☐
EXPOSURE OF UNERUPTED TEETH	☐-☐
FIBROMA REMOVAL	☐-☐
FLAP PREPARATION — INCISION OF SOFT TISSUE TO PREPARE A FLAP AND EXPOSE THE BONE	○
FRENECTOMY AND FRENOTOMY	☐
GINGIVAL TROUGHING FOR CROWN IMPRESSIONS	☐
GINGIVECTOMY	☐
HEMOSTASIS	☐
IMPLANT RECOVERY	☐-☐
INCISION AND DRAINAGE OF ABSCESSSES	☐-☐
OPERCULECTOMY	☐
PULPOTOMY	☐
PULP EXTIRPATION	☐
PULPOTOMY AS AN ADJUNCT TO ROOT CANAL THERAPY	☐
ROOT CANAL DEBRIDEMENT AND CLEANING	☐-☐
REMOVAL OF PATHOLOGICAL TISSUES FROM AROUND THE APEX	○
SOFT TISSUE CROWN LENGTHENING	☐-☐
SULCULAR DEBRIDEMENT	☐
TREATMENT OF CANKER SORES, HERPETIC AND APHTHOUS ULCERS OF THE ORAL MUCOSA	○
VESTIBULOPLASTY	○
FLAP PREPARATION — INCISION OF SOFT TISSUE TO PREPARE A FLAP AND EXPOSE UNERUPTED TEETH (HARD AND SOFT TISSUE IMPACTIONS)	○
REMOVAL OF GRANULATION TISSUE FROM BONY DEFECTS	○
LASER SOFT TISSUE CURETTAGE	☐-☐

INJECTION/ANESTHETIC INDEX



** Topical anesthetic may be used at the dentist's discretion for some soft tissue procedures.*



"It's easy to quantify what the laser has done for my business: referrals have gone up, production is increasing, and I am doing a wider range of procedures than ever before."

CHRIS WALINSKI, DDS
Fall River, Massachusetts

WATERLASE WAS THE FIRST DENTAL LASER CLEARED FOR CUTTING ORAL OSSEOUS TISSUES AND PERFORMING APICOECTOMY.

BE LESS INVASIVE AND PRESERVE TOOTH STRUCTURE

The precision and accuracy of the Waterlase MD™ allows you to treat targeted areas of tooth structure and soft tissue, while maintaining the structural integrity of the tooth and leaving surrounding areas unaffected.

Studies have shown that the Waterlase MD™ is less invasive and less traumatic than the drill, scalpel or electrosurge. Less invasive means more preservation of healthy tooth structure and tissue.^{1,2,3}

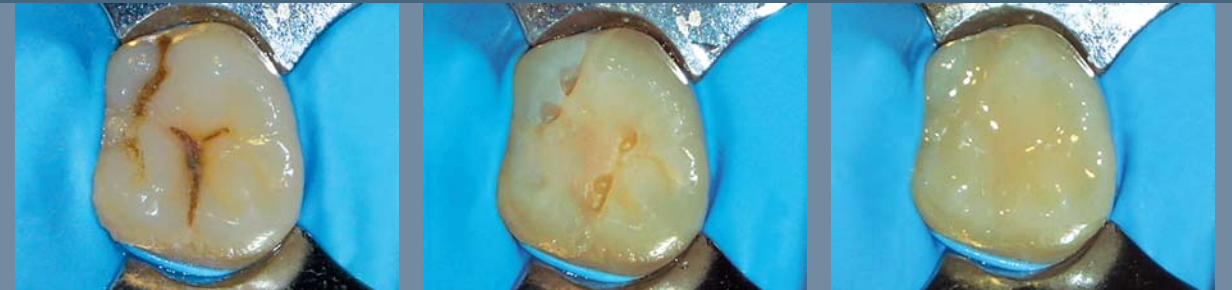


"The Waterlase MD™ allows me to provide conservative dentistry, preserving as much sound tooth structure as possible with no injections for many procedures. At the end of the procedure, the parents of my patients want to know if they can go next and are not happy to hear that I treat only children in my practice. Their next question is always, 'Where can I find a general dentist with one of these machines?'"

STUART BLUMENTHAL, DDS, *private practice limited to Pediatric Dentistry*
Lutherville, Maryland

CLASS I CAVITY PREPARATION

Courtesy Dr. Chris Walinski



PRE-OP
Decay is present on the occlusal surface.

INTRA-OP
Decay is removed precisely while preserving healthy tooth structure.

IMMEDIATE POST-OP
Composite restoration is completed without the need for local anesthetic.

SUBGINGIVAL CLASS V CAVITY PREPARATIONS

Courtesy Dr. Mark Colonna



PRE-OP
Subgingival decay is present.

INTRA-OP
Gingival tissue is removed for easy access to the decay without collateral damage to the surrounding tissue.⁴

IMMEDIATE POST-OP
The laser removes the decay prior to placing the final composite restoration.

WORN INCISAL EDGES

Courtesy Dr. Ron Kaminer



PRE-OP
There is wear on the incisal edges of teeth #'s 24, 25, and 26.

INTRA-OP
The MD prepares the teeth without unnecessary removal of tooth structure.

IMMEDIATE POST-OP
With no smear layer, open dentinal tubules improve bond strength for longer lasting restorations.^{5,6}

1. Rizoiu I, et al; Pulpal Thermal Responses to an Er,Cr:YSGG Pulsed Laser; Oral Surg Med Path 1998
2. Lee CY; Procurement of autogenous bone from ramus with simultaneous mandibular third-molar removal for bone grafting using the Er,Cr:YSGG laser: a preliminary report; J of Oral Implantology, March 2005
3. Rizoiu I, et al; Effects of an Er,Cr:YSGG Laser on Mucocutaneous Soft Tissues; Oral Surg Oral Med Oral Pathol Oral Radiol Endod.; 1996
4. Eversole LR, et al; Pulpal Response to Cavity Preparation by an Er,Cr:YSGG Laser; JADA; August 1997
5. Houssain M, et al; Microleakage of Composite Resin Restoration in Cavities Prepared by Er,Cr:YSGG Laser; Journal of Clinical Pediatric Dentistry; Vol. 26 2002
6. Sung EC, et al; Composite Resin Bond Strength to Primary Dentin with YSGG Laser; Journal of Clinical Pediatric Dentistry; Vol. 30 Fall 2005

ENHANCE YOUR CLINICAL CAPABILITIES



Use the Waterlase MD™ along with conventional instruments to provide procedures normally performed by endodontists, periodontists, and oral surgeons. Simplify your patients' lives by serving more of their needs in your office.



“With the advent of the Waterlase MD,™ a dentist can prepare any tooth surface and all cavity classifications with more precision and conservation of tooth structure.”

JOSEPH WHITEHOUSE, DDS
 Past President, World Congress of Minimally Invasive Dentistry
 Castro Valley, California

AESTHETIC PROCEDURES

The Waterlase MD™ is a valuable instrument in an aesthetic-based dental practice. It facilitates recontouring gingival tissue on patients with asymmetrical gingival architecture, or contouring bone to prevent violation of biologic width.¹ The MD is also a valuable instrument for troughing gingival tissue around crown preps prior to taking an impression. There is no hard or soft tissue “zone of necrosis” with the MD, so tissue margins remain where you originally establish them.²

GINGIVAL RECONTOURING

Courtesy: Dr. David Eshom



PRE-OP

IMMEDIATE POST-OP

POST-OP

POSTERIOR OSSEOUS CROWN LENGTHENING

Courtesy: Dr. Michael Herndon



PRE-OP

INTRA-OP

POST-OP

ANTERIOR OSSEOUS CROWN LENGTHENING

Courtesy: Dr. Bradley Dean



PRE-OP

INTRA-OP

POST-OP

1. Butler R, Lowe R; Clinical Use of the Er,Cr:YSGG Laser for Osseous Crown Lengthening: Redefining the Standard of Care; PPAD; May 2006
 2. Rizoju I, et al; Effects of an Er,Cr:YSGG Laser on Mucocutaneous Soft Tissues; Oral Surg Oral Med Oral Pathol Oral Radiol Endod.; 1996

PERFORM SPECIALTY PROCEDURES

PERIODONTAL, ORAL SURGERY AND IMPLANT PROCEDURES

Whether performing laser curettage for periodontal pockets,⁴ uncovering an implant, creating an ideal emergence profile, harvesting a bone graft,⁵ or exposing a partially erupted tooth, the Waterlase MD™ is ideal for many common and advanced surgical procedures performed by periodontists, oral surgeons, prosthodontists and GP's.

SITE-SPECIFIC PERIO/LASER CURETTAGE



PRE-OP

INTRA-OP

POST-OP

Courtesy: Dr. Brad Dean

IMPLANT EMERGENCE PROFILE



IMMEDIATE POST-OP

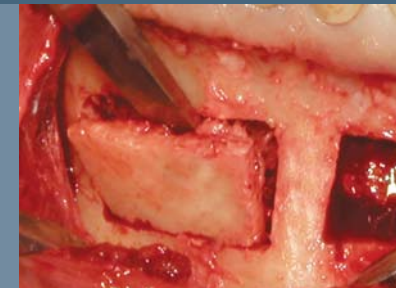
Courtesy: Dr. Brad Dean

RESECTION OF BONE FOR GRAFTING



INTRA-OP

Courtesy: Dr. Gerald Bittner



INTRA-OP

Courtesy: Dr. David Rhoden

OPERCULECTOMY/DISTAL WEDGE



PRE-OP



IMMEDIATE POST-OP



Courtesy: Dr. David Browdy

ROOT CANAL DEBRIDEMENT

ENDODONTIC, ORTHODONTIC AND PEDIATRIC PROCEDURES

Waterlase MD™ applications in endodontics include canal access and debridement.³ It is equally effective in orthodontics, in recontouring hyperplastic tissue around braces, and performing circumferential supracrestal fiberotomies and frenectomies. Kids and their anxious parents may appreciate the Waterlase MD™ most of all because it allows dentists, in most cases, to perform pediatric procedures such as cavity preps in multiple quadrants and pulpotomies with less anesthetic.^{6,7}

CLASS V CAVITY PREPARATION



PRE-OP

INTRA-OP

POST-OP

Courtesy: Dr. Fred Margolis

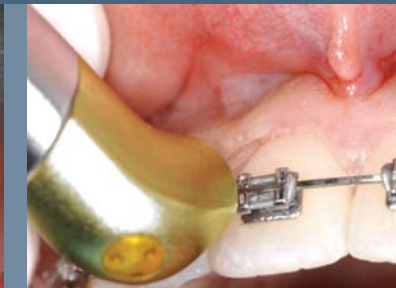
PULPOTOMY



INTRA-OP

Courtesy: Dr. Fred Margolis

CIRCUMFERENTIAL SUPRACRESTAL FIBEROTOMY



INTRA-OP

Courtesy: Dr. Bradley Dean

FRENECTOMY



PRE-OP



IMMEDIATE POST-OP



ONE-WEEK POST-OP

Courtesy: Dr. Howard Golan

3. Browdy DP; The Utility of the 4th Generation Er,Cr:YSGG All-Tissue Laser for Modern Endodontics; PPAD; 2005

4. Dean B; Concepts in Laser-Assisted Perio; Dental Economics; October 2005

5. Lee CY; Procurement of Autogenous Bone from the Ramus; Journal of Oral Implantology; March 2005

6. Jacobson B; Class II with YSGG; Journal of Clinical Pediatric Dentistry; 2004

7. Jacobson B, et al; Laser Pediatric Crowns Performed without Anesthesia; Journal of Clinical Pediatric Dentistry; 2003



AN IMPORTANT AND FUNDAMENTAL INVESTMENT IN YOUR PRACTICE



HARNESS THE POWER OF WATERLASE DENTISTRY™

In addition to enabling you to expand your clinical capabilities and provide better care for your patients, the MD will also have a huge positive effect on the business side of your practice.

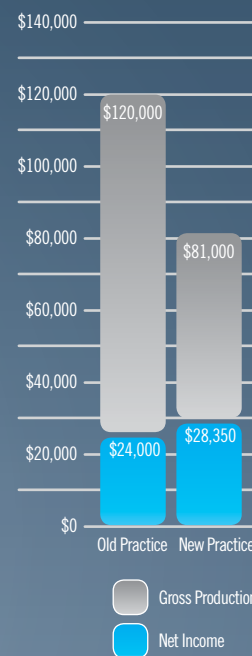
Every practice is different, but as this example shows, the return on investment that a laser provides can dramatically enhance your practice in many ways.

WATERLASE MD™ CASE STUDY

	Old Practice	New Practice
Description	"High Volume, High Overhead"	"Fewer Patients, Better Care"
Structure	6 operatories 13 staff	3 operatories 4 staff
No. of Patients per Day	35-50	8-10
No. of Work Days per Week	5	4
Monthly Production	\$120,000	\$81,000
Time to Accomplish	10 years	5 months
Overhead	80%	65%
Typical Monthly Net Income	\$24,000	\$28,000
Outlook	Mature, Stable	Infancy

Figure 1: Though a variety of factors affect return on investment, many Waterlase Dentists report an increase in monthly revenue of \$2,000 to \$7,500.

Figure 1
Fewer Patients, Higher Profit
Avg. Monthly Production vs. Net Income with the Impact of Overhead



"For others like me who have been in practice for 20 plus years, the laser gave me a new sense of pride in my profession as well as the ability to offer better patient care."

BO TURNAGE, DDS
Friday Harbor, Washington

Step-by-Step Marketing Guide
Successfully market your practice in four steps.

- Words of Wisdom**
The best of the best speak on successful marketing tactics.
- Marketing 101**
The four practices of successful dental marketing.
- A Guide to Marketing Your Waterlase Dentistry™ Practice**
Learn the basic strategies of successful marketing, as well as the steps to carrying out those strategies.

Included in the guide is the Waterlase Dentistry™ Marketing CD-ROM

Marketing Materials
Download Waterlase ads, brochures, posters, and many more.

Order Direct
Customize, order and ship materials directly to your patients.

Waterlase Dentistry™ Marketing Website
Professional designs. Fully customizable. Highly effective. WaterlaseMarketing.com is truly your one-stop shop for everything Waterlase Dentistry.

Personal by Design
Reach your patients with personal messages

Freedom of Choice
Choose from hundreds of professionally designed templates

INTEGRATED PATIENT MARKETING SYSTEM

The dramatic benefits that patients see in Waterlase Dentistry™ are a powerful way to set your practice apart from others, to attract new patients, and grow your practice. To help market the Waterlase MD,™ every Waterlase Dentist receives an Integrated Patient Marketing System which includes step-by-step tutorials, and interactive marketing materials combined with a custom print website.

WATERLASE MD™ ACCESSORIES

EXPAND YOUR LASER DENTISTRY OPTIONS AND CAPABILITIES



The MD Gold™ Handpiece – Optional Accessory

- Increased cutting speed and efficiency reduces chair time per patient
- Increased cutting precision for even more conservative, minimally-invasive techniques
- Enhanced “sweet spot” for even greater ease of use and efficiency



ZipTips™ Disposable Tips for the Waterlase MD – Optional Accessory

- A new tip for each patient provides a higher potential standard of cleanliness and efficiency
- Eliminates repeated tip sterilization, saving time and money for productive activities
- Delivers high performance from your MD with every procedure
- Reduces need for tip inspection and cleaning

Every ZipTip™ you use will increase your production, and make your patients smile.

YSGG Waterlase MD



The Waterlase MD™ is loaded with patented technology and powerful features that will transform the dental experience for your patients.



Exclusive telescopic fiber management system improves the laser fiber's reach and intuitively follows the clinician's movements

Exclusive snap-and-go water cartridge system for on-the-fly replenishment

Convenient on-board storage wells for laser tips, extra handpieces, and other accessories

MDFlow™ water-level laser sensor alerts the operator when the snap-in water system needs replenishment

Laser Operator Management System with storage racks for power cables and air lines—even a storage rack for your foot pedal

Hinged access door for fast and easy access to system components

Durable, cast metal foot pedal mounts to the back of the Waterlase MD™ when not in use

Proprietary MD™ laser technology platform featuring exclusive unibody mounted optics in a durable, DSO-coated laser chamber

Heavy-duty casters designed for velvet-smooth movement from room to room

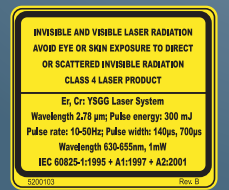
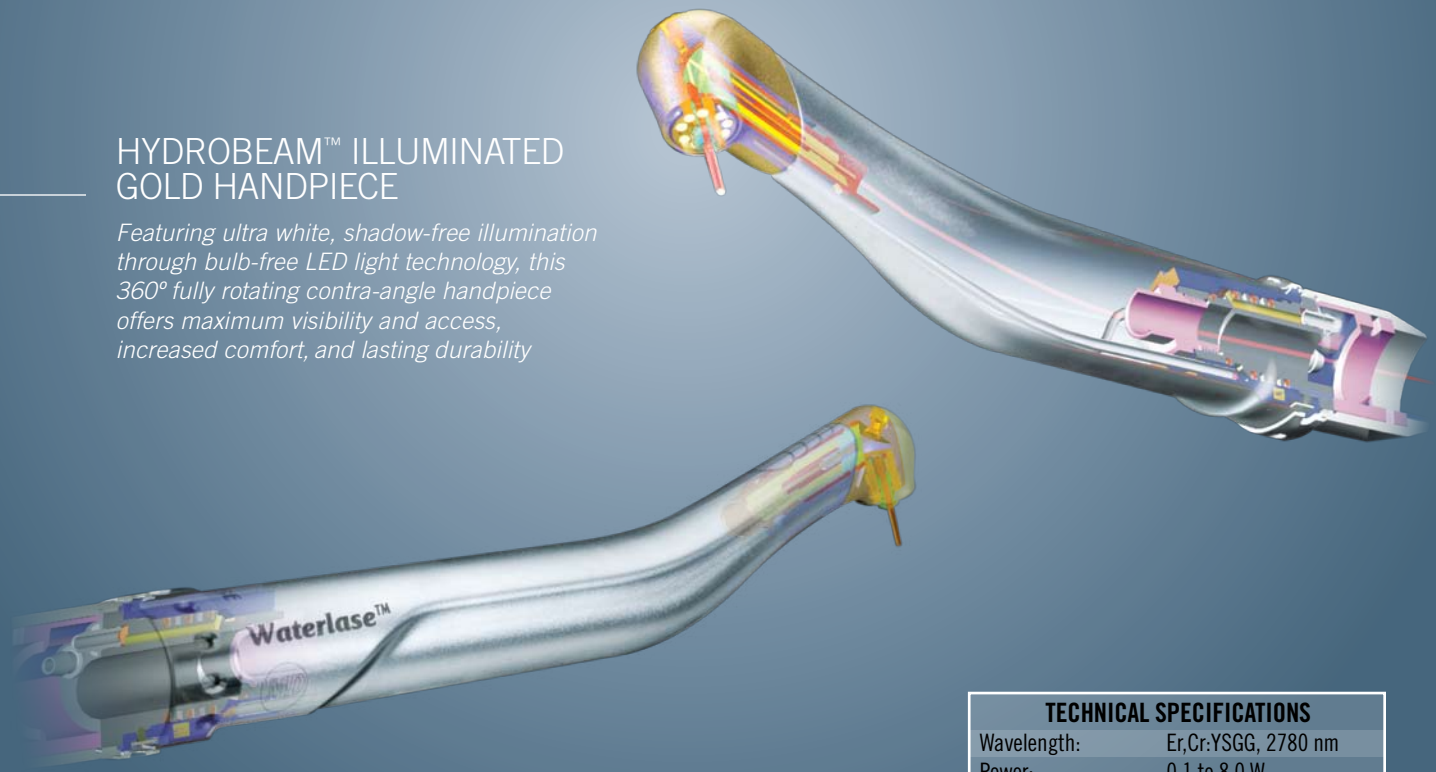


SENSATOUCH™ LASER CONTROL SYSTEM

Thanks to the high-resolution Windows® CE touch-screen control panel, this innovative navigational system incorporates 16 factory-loaded pre-sets, variable pulse repetition rates, hard and soft tissue pulse modes, settings for enhanced coagulation capabilities, and variable power settings for a completely customizable experience

HYDROBEAM™ ILLUMINATED GOLD HANDPIECE

Featuring ultra white, shadow-free illumination through bulb-free LED light technology, this 360° fully rotating contra-angle handpiece offers maximum visibility and access, increased comfort, and lasting durability



** Specifications subject to change without notice.*
 US patents: 4,818,230; 4,940,411; 5,020,995; 5,055,048; 5,116,227; 5,122,060; 5,123,845; 5,151,029; 5,173,049; 5,188,532; 5,194,005; 5,232,367; 5,249,964; 5,257,935; 5,267,856; 5,275,564; 5,304,167; 5,318,562; 5,324,200; 5,342,198; 5,422,899; 5,741,247; 5,762,501; 5,785,521; 5,885,082; 5,968,037; 6,086,367; 6,122,300; 6,231,567; 6,288,499; 6,350,123; 6,389,193; 6,561,803; 6,567,582; 6,610,053; 6,821,272. European patents: 0375578; 0562988; 0682389; 0847319. Canadian patents: 1319960; 2019334; 2055526. Australian patents: 610809; 619000; 669706. Israeli patents: 94786; 113501. Additional US and International patents pending.

TECHNICAL SPECIFICATIONS	
Wavelength:	Er,Cr:YSGG, 2780 nm
Power:	0.1 to 8.0 W
Repetition Rate:	10 to 50 Hz
Pulse Energy:	300 mJ
Laser Classification:	4
Operating Voltage:	100-230 VAC
Dimensions:	10.5 x 19 x 32 in
Weight:	75lbs

REJUVENATE YOUR PASSION



The Waterlase MD™ might just rejuvenate the passion that originally led you to becoming a dentist. Waterlase Dentists report they are experiencing a new level of personal fulfillment, with far more satisfying results for their patients. Learning to practice laser-assisted dentistry opens up exciting new horizons of personal growth and development, and we dedicate significant resources to laser education and training.

BIOLASE UNIVERSITY

BIOLASE University is dedicated to helping you acquire the case selection skills, treatment protocols and judgment necessary to confidently perform laser-assisted dentistry on your patients. Its faculty includes highly trained, experienced GPs and specialists who are committed to sharing their knowledge and techniques to help you smoothly incorporate laser-assisted dentistry into your practice. Tuition for basic laser certification through BIOLASE University is included with the purchase of every Waterlase MD.™

THE WORLD CLINICAL LASER INSTITUTE

The WCLI was founded in 2000 to provide a forum for dentists and researchers to share their knowledge and experience. Its four arms – Clinical, Publishing & Presenting, Regulatory & Safety, and Research & Innovation – continue to advance laser dentistry. WCLI symposiums, held annually throughout the world, provide you with comprehensive continuing education and certification in laser dentistry. With over 4,000 members in more than 40 countries, the WCLI is the world's largest laser dental organization.

ABOUT BIOLASE



BIOLASE TECHNOLOGY, INC.

Celebrating over 20 years of transforming the dental experience, manufactures and markets lasers and related products focused on technologies for improved applications and procedures in dentistry and medicine. The Company's products incorporate patented and patent pending technologies focused on reducing pain and improving clinical results. The leading dental laser company in the US and worldwide, BIOLASE holds more than 100 patents for a wide variety of laser and related technologies. We have clearance from the Food and Drug Administration to market our laser systems in the US, and approvals to sell laser systems in Canada, the European Union and other international markets.

AWARD WINNING DESIGN

The Waterlase MD™ has been recognized for excellence in industrial design, ergonomics and user features by top awards organizations.

