

Introducing Waterlase MD Turbo



*The Comfort Patients Want
The Speed You Need
A Price You'll Like*



Breakthrough cutting speed comparable to a high-speed drill, with all of the benefits of Waterlase Dentistry!

The new Waterlase MD™ Turbo cuts like a high speed, feels like a Waterlase®, and costs less than you might expect. In other words, Waterlase MD™ Turbo is the all-tissue laser you have been waiting for.

Waterlase Dentists are already achieving **enhanced clinical outcomes** in many procedures. Because Waterlase Dentistry™ works without the heat and vibration of the drill, you can **perform restorations less invasively** with **greater precision and accuracy**. And now you can perform restorations with **no noticeable difference in speed compared to your drill**.

With the new Waterlase MD™ Turbo, you can **perform many minimally invasive soft tissue surgical procedures** without scalpels and sutures, **with little or no bleeding**. Patients experience **minimal swelling and post-operative pain**. You'll see healing with minimal tissue migration. All at working speeds that can **improve the efficiency of your practice**.

What Waterlase Dentistry™ Will Mean to Your Practice

- A more comfortable, convenient, less invasive experience for patients
- Reduced patient anxiety and fear
- A more collaborative, proactive relationship, with you and your patients working together to enhance their oral health and dental aesthetics
- Enhanced outcomes and expanded clinical capabilities
- Greater personal satisfaction for dentist and staff
- A high-tech practice that represents the future of dentistry
- A practice that attracts and keeps patients

What Dentists Who Have Used Waterlase MD™ Turbo are Saying:

"I did three cavity preparations on an 11 year old boy. He had a small occlusal on # 30, a large and deep buccal on # 30 and 19. The patient had no anesthesia. I initially aimed at the tooth and moved the handpiece in the same way I move a high speed handpiece, coming straight down toward the tooth and moving side to side and back and forth. The patient tolerated the procedure very well and only complained of slight pain in the first few seconds. Because the caries was deep I switched to the slow speed handpiece to finish the excavation. We again needed no anesthesia to finalize the preparation."

Some of the dental residents [at Jacobi Hospital-NY] watched the procedure as I worked, and we were all amazed by how good this technology works."

- MARTIN KIMMEL, DDS, Clinical Instructor, Department of Dentistry, Albert Einstein College of Medicine

Waterlase MD™ Turbo vs. High Speed Drill

This is a side-by-side *in-vitro* Waterlase MD Turbo and High Speed Drill Class II cavity preparations (Fig 1). The preparations are comparable in size and were completed in approximately 40 seconds. The Waterlase MD Turbo preparation is clean and precisely prepared.



[Figure 1a] Interproximal view - Waterlase MD Turbo cavity preparation



[Figure 1b] Occlusal View - Side-by-side Waterlase MD Turbo (left) and high-speed drill (right) cavity preparations



[Figure 1c] Interproximal view – high -speed drill cavity preparation

The Waterlase MD™ Turbo never touches the tooth, using laser energy and a gentle spray of water to perform restorations without the heat, vibration and pressure associated with the dental drill. For many procedures, it's possible to use less anesthetic, and often no anesthetic at all.

	WATERLASE MD TURBO	HIGH SPEED DRILL
Mode of Cutting	Non-contact	Contact
Noise and Vibration	Popping sound; No Vibration	High pitched sound; Strong vibration
Preparation Time for Class II Cavity (see Fig 2)	30-60 seconds	30-60 seconds
Cutting Effects	Minimally Invasive – preserves tooth structure	Invasive – more tooth structure removed
Patient Comfort / Need for Anesthesia	Early cases suggest that some patients will not require anesthesia for this procedure	Anesthesia required
Patient Acceptance	Early cases suggest high levels of acceptance by patients because of no injections, lack of vibrations and numb lips	Patients fear the dental drill and injections and high-speed drill (right) cavity preparations



[Figure 2] Waterlase MD Turbo cavity preparation, DO on tooth # 29 completed by a first year resident without anesthesia. Laser cutting time was approximately 1 minute. Courtesy of Jacobi Medical Center, Albert Einstein College of Medicine, NY.

What Dentists Who Have Used Waterlase MD™ Turbo are Saying:

"Cuts through enamel like butter."

- CHRISTINA DO, DDS, Private Practice, Costa Mesa, CA

"Laser dentistry has been great, but the Turbo has brought it to a new level due to the speed and precise ablation. Talk about an experience of coming from the dark into the light, this is it!"

- BRUCE L CASSIS, DDS, Private Practice, Fayetteville, WV

"I don't need any more speed than this."

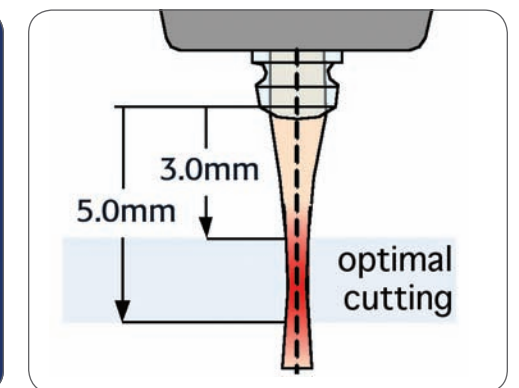
- PATRICK J BROOME, DDS, Private Practice, Charlotte, NC

Waterlase MD™ Turbo Key Features

- No noticeable difference in cutting speed compared to high-speed drill according to clinician tests
- Contra-angle, 360° rotatable handpiece for superior comfort and access to all areas of the oral cavity
- Ultra-bright, shadow-free illumination and red aiming beam enhance visibility and tractability in the surgical field
- Air/water delivery system designed for maximum patient comfort
- Two tip styles, very easy to connect and remove, provide a cutting spot size of 500- and 700-micron diameter cuts
- Non-contact cutting – never touches the tooth, for greater patient comfort



[Figure 3] The Waterlase MD™ Turbo makes tip selection and laser setting simpler than ever



[Figure 4] The Waterlase MD™ Turbo increases ablation speed with a new optical tip that re-focuses the laser 3.0 – 5.0 mm beyond the tip

Waterlase MD™ Turbo is Equipped with Two Unique Handpieces for Maximum Versatility Performing a Wide Variety of Procedures:

Examples	MD TURBO HANDPIECE*	MD GOLD HANDPIECE
Fast Hard-tissue Removal (e.g., Class I-V Cavity Preparations, Caries Removal, Enameloplasty)	✓	
Soft-tissue Cutting	✓	✓
Root Canal Therapy		✓
Periodontal Therapy		✓
Excavation of pits and fissures for placement of sealants	✓	✓

*Only for hard and soft tissue procedures that do not require tissue contact or access through tissue to reach the site.

Waterlase MD™ Clinical Indications

The Waterlase MD™ is the all-tissue laser of choice for the multidisciplinary dentist who performs specialty procedures, or for the specialist. The MD combines industry-leading Waterlase technology with the highest level of clinician control, operating efficiency, and flexibility in tip and accessory selection; for optimal clinical results and patient comfort in hard and soft tissue procedures.

Use of Waterlase MD™ may be indicated for:

Hard Tissue

General Indications*

- Class I, II, III, IV and V cavity preparation
- Caries removal
- Hard tissue surface roughening or etching
- Enameloplasty, excavation of pits and fissures for placement of sealants

* For use on adult and pediatric patients

Root Canal Hard Tissue Indications

- Tooth preparation to obtain access to root canal
- Root canal preparation including enlargement
- Root canal debridement and cleaning
- Laser root canal disinfection after endodontic instrumentation

Endodontic Surgery (Root Amputation) Indications

- Flap preparation – incision of soft tissue to prepare a flap and expose the bone
- 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
- Removal of pathological tissues (i.e., cysts, neoplasm or abscess) and hyperplastic tissues (i.e., granulation tissue) from around the apex

Bone / Surgical

- Cutting, shaving, contouring and resection of oral osseous tissues (bone)
 - Osteotomy
- Laser Periodontal Procedures
- Full thickness flap

- Partial thickness flap
- Split thickness flap
- Laser soft tissue curettage
- Laser removal of diseased, infected, inflamed and necrosed soft tissue within the periodontal pocket
- Removal of highly inflamed edematous tissue affected by bacteria penetration of the pocket lining and junctional epithelium
- Removal of granulation tissue from bony defects
- Sulcular debridement (removal of diseased, infected, inflamed or necrosed soft tissue in the periodontal pocket to improve clinical indices including gingival index, gingival bleeding index, probe depth, attachment loss and tooth mobility)
- Osteoplasty and osseous recontouring (removal of bone to correct osseous defects and create physiologic osseous contours)
- Osteotomy (resection of bone to restore bony architecture, resection of bone for grafting, etc.)
- Osseous crown lengthening

Soft Tissue Indications including Pulpal Tissues*

- Incision, excision, vaporization, ablation and coagulation of oral soft tissues, including:
- Excisional and incisional biopsies
 - Exposure of unerupted teeth
 - Fibroma removal
 - Flap preparation – incision of soft tissue to prepare a flap and expose the bone
 - Flap preparation – incision of soft tissue to prepare a flap and expose unerupted teeth (hard and soft tissue impactions)
 - Frenectomy and frenotomy
 - Gingival troughing for crown impressions
 - Gingivectomy

- Gingivoplasty
- Gingival incision and excision
- Hemostasis
- Implant recovery
- Incision and drainage of abscesses
- Laser soft tissue curettage of the post-extraction tooth sockets and the periapical area during apical surgery
- Leukoplakia
- Operculectomy
- Oral papilllectomies
- Pulpotomy
- Pulp extirpation
- Pulpotomy as an adjunct to root canal therapy
- Root canal debridement and cleaning
- Reduction of gingival hypertrophy
- Removal of pathological tissues (i.e., cysts, neoplasm or abscess) and hyperplastic tissues (i.e., granulation tissue) from around the apex
- Soft tissue crown lengthening
- Treatment of canker sores, herpetic and aphthous ulcers of the oral mucosa
- Vestibuloplasty

IMPORTANT: Review all Contraindications, Warnings and Precautions presented in Section 6 the User Manual before proceeding with using a laser device on patients. NOTE: Any tissue growth (i.e., cyst, neoplasm or other lesions) must be submitted to a qualified laboratory for histopathological evaluation.

* For use on adult and pediatric patients

Waterlase MD™ Turbo Technical Specifications

Wavelength: Er,Cr:YSGG, 2780 nm
 Power: 0.1 to 8.0 W
 Repetition Rate: 10 to 50 Hz
 Pulse Energy: 0-300 mJ
 Laser Classification: 4

Operating Voltage: 100-230 VAC
 Dimensions: 10.5 x 19 x 32 in (27 x 48 x 91 cm)
 Weight: 75lbs (34 kg)

Specifications subject to change without notice.

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