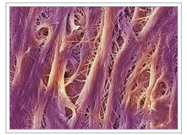
Supreme Clinical Results

Shorter and More Effective Treatments
With LightWalker, procedures are typically shorter, easier to perform and more effective. Laser treatments are by nature minimally invasive, and Lightwalker takes this concept to a new level.

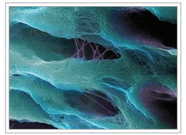
Patient Comfort
Working with LightWalker is less stressful for the patient because pain and bleeding are minimal if any. LightWalker lasers are so gentle for cavity preparations and most soft-tissue procedures that patients rarely require any anaesthetic. Laser light allows you to work in a non-contact way and without drilling noise, which is far more comfortable for patients, especially children. LightWalker also allows you to achieve simultaneous disinfection and prevention of cross-contamination.

Unmatched Flexibility
The Nd:YAG laser source is ideal for root canal disinfection, soft tissue crown lengthening and numerous other applications. And LightWalker's Er:YAG laser is compatible with a set of over 20 specialized fiber tips, expertly designed to offer an additional range of lucrative, high quality treatments in endodontics, periodontics and implant recovery, areas you may otherwise have to refer out to specialists.

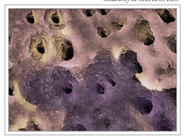
Courtesy of MDATG, LLC



Intact collagen fibres after laser treatment.



Preserved collagen fibrils of the intertubular dentin at the entrances to the dentinal tubules.



After endodontic laser treatment the dentinal tubules are disinfected and fully open.

Fotona
choose perfection

LightWalker International Recognition

Pride institute - **Best of Class Technology Award 2011**

Dentistry Today - **Top 100 Products 2011**

Pediatric Dentistry Congress, Okt 2011, Netherlands
Dr. Giovanni Olivi: "The role of lasers in pediatric dentistry"

DGL Congress, Okt 2011, Germany
Dr. Thorsten Kuypers: "Die perfekte Wellenlänge für die perfekte Indikation – welche Wellenlänge macht für mich Sinn? Welche Kombinationen brauche ich zum Erfolg?"

Journal of the Laser and Health Academy Vol. 2011
Dr. Norbert Gutknecht et al.: "A Novel Er:YAG Laser-Assisted Tooth Whitening Method"
Dr. Tomaz Lipoglavsek, Dr. Boris Gaspirc: "TwinLight® Periodontal Treatment"
Dr. Norbert Gutknecht et al.: "A Novel Quantum Square Pulse (QSP) Mode Erbium Dental Laser"

International Magazine of Laser Dentistry, Vol. 3, Issue 2/2011
Dr. Jugoslav Jovanovic: "TouchWhite" Er:YAG laser-assisted Tooth Whitening"

Global Leader for over 45 Years
Since 1964 Fotona has set industry standards of excellence in producing high-tech laser systems for medicine, communications, industry, and defense. Consequently Fotona is a globally recognized leader and pioneer in the innovation, development and manufacture of laser systems.

High Technology –Made in Europe
As one of the top manufacturers of medical laser systems, our commitment to state-of-the-art, in-house production sets us apart from the competition, which typically outsources the production process. Fotona's in-house manufacturing and stringent testing of all components, in compliance with applicable international standards, ensures that our systems are of the highest quality, reliability and durability.

Best Training and Support
To get the most out of your LightWalker system, our practitioner workshops, coorganized with the Laser and Health Academy, provide hands-on demonstrations of our lasers from international clinical experts. Fotona also works closely with other leading educational authorities in the field of laser dentistry to offer additional high level training opportunities to help you on your path to becoming a top laser specialist.

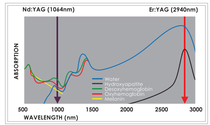
The universe at your fingertips.

No Compromise – Dentistry's Two Best Laser Wavelengths

The LightWalker models AT and DT come standard with dentistry's two most effective laser wavelengths: Er:YAG and Nd:YAG for no-compromise dentistry with a touch of the control screen.

Universal Laser System
It is a well-established fact that different dental procedures require different laser wavelengths. Wavelength is important because specific body tissues interact in different ways depending on the particular laser source. With the choice of two complementary wavelengths (in terms of their effect on tissues) LightWalker comes very close to being a "universal" laser. Practically all laser-assisted dental treatments can be performed with either the most highly absorbed Er:YAG laser wavelength or the most homogeneously absorbed Nd:YAG laser wavelength.

TwinLight® Treatment Concept
The combination of the two best wavelengths in one laser system enables practitioners to perform not only single-wavelength but also dual-wavelength (TwinLight®) treatments. Utilizing both wavelengths in a treatment makes optimum use of the unique laser-tissue interaction characteristics of each wavelength. For example, Nd:YAG laser energy is superior for coagulation and deep disinfection while Er:YAG is uniquely efficient at ablating hard and soft tissues. Combined, they can dramatically improve the outcome of laser assisted treatments, guaranteeing maximum safety and efficacy.



The Technology Behind the Best Dental Laser in the World

The development of LightWalker is based on Fotona's 45 years of experience in laser technology. The system has technologically superior laser elements that make it the highest performance, best made laser system in the world:

Variable Square Pulse (VSP) Technology
Fotona's VSP technology sets the precision and safety of dental laser treatments on a higher level. Fotona's square-shaped laser pulses avoid standard laser technologies' slow rise and even longer fall in pulse power. VSP ensures ultimate patient comfort in all your treatments and unrivaled ease-of-use.

Quantum Square Pulse (QSP)
By avoiding the hard tissue debris cloud the laser ablates more efficiently and with greater precision in Fotona's patent peding QSP mode because the laser beam is not affected by the debris. By being able to ablate more efficiently, the edges of individual craters are virtually straight, which provides higher levels of precision and preservation in hard tissue treatments.

Energy Feedback Control
The laser system incorporates a sophisticated double channel safety structure for energy regulation which contributes to procedure safety. The laser output energy is constantly regulated by a signal from two energy meters.

Tissue Effect Graphical Interface (TeGI)
The Tissue Effect Graphical Interface (TeGI) provides a graphical representation of the laser tissue effect, maximizing ease-of-use and shortening the learning curve.

The Highest Performance, Best Made Laser Systems in the World.

In-House Technology

Since 1964

www.lightwalkerlaser.com
www.fotona.com

info@lightwalkerlaser.com
info@fotona.com

CE 0123

Fotona is certified to: ISO 9001:2008, EN ISO 13485:2003, MDD 93/42/EEC, ANNEX II.3, ISO 13485:2003 (CMDCAS), GMP according to FDA regulations

88090 CE EN/US

LightWalker®
Hard and Soft Tissue Dental Lasers

- The latest technology dental laser systems
- Dentistry's two best wavelengths Er:YAG and Nd:YAG
- Scanner-ready
- Supreme clinical results
- Unmatched simplicity of use

Fotona
choose perfection

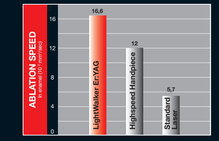
reddot design award winner 2012

Highest Power and Largest Pulse Duration Range

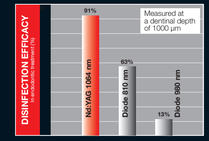
In LightWalker, both "gold standard" laser wavelengths are produced by solid crystal lasers that can outperform any diode or other dental laser in terms of peak power and the range of pulse durations.

Fast efficient cutting with unmatched patient comfort
No other lasers cut as fast as LightWaker lasers for hard and soft tissues.

Precise tissue surgery with simultaneous disinfection
The homogeneous absorption of the Nd:YAG laser in soft tissue results in precise tissue vaporization with simultaneous coagulation. Additionally, up to 1000× higher pulse power compared to other lasers provides superior disinfection.



Ablation speed: Er:YAG vs. high-speed drill and other lasers



Disinfection efficacy: Nd:YAG vs. other lasers

Virtually Unlimited Applications

LightWalker lasers have the most coprehensive list of clinical applications of any dental laser in the world. With the availability of both tipped and tipless handpieces, your clinical options are endless. LightWalker offers the highest standard of dental treatment, and at the same time simplicity of use in:

- Endodontics
- Periodontics
- Soft Tissue Surgery
- Implantology
- Conservative dentistry
- Aesthetic treatments

Presettings for over 40 Different Applications

The LightWalker touchscreen offers a simple menu of pre-programmed laser treatments. You pick the treatment and the laser automatically sets your optimum starting parameters. With easy-to-follow protocols and touch-of-a-button treatment settings, you'll be able to perform every dental procedure with confidence and high success rates, bringing in extra income to your practice along the way. You can even upgrade the AT model to perform aesthetic skin treatments (where permitted by local practice regulations).

The four main application groups

Comfort window for routine daily procedures

Advanced window to fine tune specific procedures

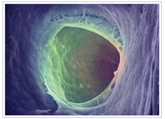
TwinLight® Endodontic Treatment

The Fotona TwinLight® Endodontic Treatment (TET) successfully addresses two major disadvantages of classical chemo-mechanical treatments procedures: the inability to clean and debride anatomically complex root canal systems and to deeply disinfect dentinal walls.

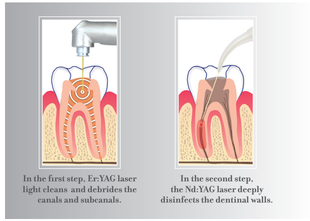
In the first step of the TwinLight® treatment, a revolutionary photacoustic streaming method is employed, which uses the power of the Er:YAG laser to create non-thermal photoacoustic shock waves within the cleaning and debriding solutions introduced in the canal. Following this treatment, the canals and subcanals are left clean and the dentinal tubules are free of a smear layer.

This powerful photon-induced photacoustic streaming method, which is available only with Fotona lasers, is equally effective for final water rinsing prior to obturation.

In the second step, the deeply penetrating Nd:YAG laser wavelength is utilized to decontaminate dentinal walls up to 1000 µm deep. In this step, the high peak-pulse power of the Nd:YAG laser plays an important role as it induces maximum temperature pulsing for eliminating bacteria.



Following endodontic laser treatments with photacoustic streaming, there is no smear layer around the opening of the lateral canal.



In the first step, Er:YAG laser light cleans and debrides the canals and subcanals.

In the second step, the Nd:YAG laser deeply disinfects the dentinal walls.

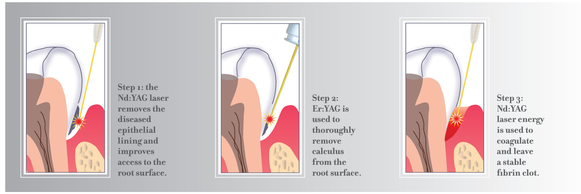
TwinLight® Periodontal Treatment

TwinLight® Periodontal Treatment (TPT) is a minimally invasive periodontal disease therapy incorporating dentistry's two best laser wavelengths.

The Twinlight® approach enables wavelength-optimized treatments for periodontal therapy (such as WPT™), which create the optimal conditions for healing periodontal tissues by removing the diseased epithelial lining of the periodontal pocket, removing microbial biofilm and calculus from the root surface and sealing the pocket after treatment with a stable fibrin clot.

The TwinLight® Periodontal Treatment approach gives general dentists the confidence to treat their patients' moderate-to-severe periodontal disease the laser way, without scalpels and sutures.

*WPT is a therapy developed by Fotona's partner Lares Research.



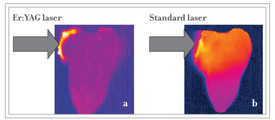
Step 1: the Nd:YAG laser removes the diseased epithelial lining and improves access to the root surface.

Step 2: Er:YAG is used to thoroughly remove calculus from the root surface.

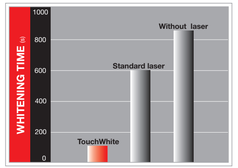
Step 3: Nd:YAG laser energy is used to coagulate and leave a stable fibrin clot.

TouchWhite® Laser Assisted Tooth Whitening

The TouchWhite® patent pending tooth whitening makes use of the fact that the Er:YAG laser wavelength has an absorption peak in water which is the major component of aqueous bleaching gels. This eliminates the need for any additional absorbing particles in the bleaching gels. More importantly, taking into account thermal burden considerations, the TouchWhite® procedure represents the most effective and least invasive laser-assisted tooth whitening method possible. Due to its high absorption in bleaching gels, the Er:YAG laser beam is fully absorbed in the gel and does not penetrate to the hard tissue or the pulp. All of the laser energy is thus effectively used for the heating of the gel. There is no direct heating of the dental tissue and the pulp, as is the case with other laser-assisted whitening methods. There is also no risk of accidentally damaging the hard dental tissue as the laser fluence of every laser pulse is set to be significantly below the ablation threshold for dental tissues. As a consequence, the procedure can be performed with a minimal undesirable thermal burden on the tooth, and the tooth whitening speed can be safely increased by 5 – 10 times.

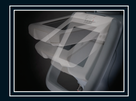


With TouchWhite® whitening only the gel is heated (a) while with standard laser whitening the entire tooth is heated (b).



TouchWhite® Tooth Whitening substantially shortens the whitening process.

Convenience in Use



Easy-to-use touch screen

LightWalker has an easy-to-use color touch screen with an adjustable tilt and 80 customizable presettings which cover more than 40 different applications.

Easy access spray/heated water reservoir

The integrated spray water container means that you don't have to rely on any water mains outlet, making your laser system uniquely mobile and hassle-free. The container is handily located at the back of the system for easy refilling access. Additionally, the water is heated to body temperature, avoiding cald sensitivity reactions during procedures.

Patented weightless OPTOflex arm (available with LightWalker AT)

LightWalker's unique and patented OPTOflex Er:YAG articulated arm is perfectly balanced during use, making handpieces completely weightless in your hand. OPTOflex allows a full range of motion and a maximum degree of control as it makes maneuvering the handpiece much smoother, which improves treatment precision and ease.

Wireless footswitch (optional)

LightWalker also has a wireless footswitch which avoids unnecessary tangling of electric cables on your practice floor.

Top-Of-The-Line Easy-To-Use Handpieces

Titanium Technology

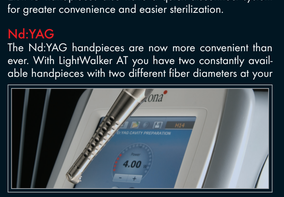
LightWalker uses advanced titanium handpieces which provide ultimate durability for constant handling and frequent sterilization.

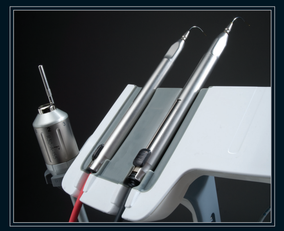
Er:YAG

The tipped and tipless Er:YAG handpieces have an integrated air/water spray for additional patient comfort. The Er:YAG handpieces also have a quick disconnect system for greater convenience and easier sterilization.

Nd:YAG

The Nd:YAG handpieces are now more convenient than ever. With LightWalker AT you have two constantly available handpieces with two different fiber diameters at your disposal. What's more, LightWalker AT has an automatic handpiece detection system which knows exactly which handpiece you have selected and automatically sets the appropriate laser parameters.





Scanner-Mode for Future Applications

LightWalker AT is the first dental laser system in the world that incorporates scanning laser technology. Fotona's forward-looking in-house R&D team has designed a system with innovative technological solutions to accommodate future dental needs.

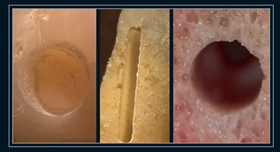
Unmatched Precision

LightWalker AT is an Er:YAG scanner-ready system. The scanner will provide consistent and even ablation in hard and soft tissue over a 5×5 mm area. The speed and consistency of ablation with a scanner is virtually impossible to achieve by using any other tool.

Walk into the Future with LightWalker

LightWalker technology will finally enable practitioners to utilize the most important feature of laser light, its weightlessness. Using a scanner, laser light can be swiftly and accurately moved across the surface of treated tissues.

The LightWalker's Er:YAG scanner will allow the practitioner to perform treatments involving otherwise unachievable patterns. This has the potential to revolutionize dental fields such as implantology, conservative dentistry and apicoectomy.



Samples of easily achievable scanning patterns in hard tissue drilling and cutting.

LightWalker Range

	System	AT	DT			ST-E		
Er:YAG	Power	20 W	Basic 8 W	Standard 10 W	Advanced 18 W	Basic 8 W	Standard 10 W	Advanced 18 W
	Integrated spray	✓		✓	✓		✓	✓
	Energy	1500 mJ	500 mJ	500 mJ	900 mJ	500 mJ	500 mJ	900 mJ
	Operational modes	MAX. QSP (up to 120 Hz) SSP, MSP, SP, LP, VLP	SSP, MSP, SP, LP, VLP			SSP, MSP, SP, LP, VLP		
	Optical delivery	OPTOflex	7–mirror arm			7–mirror arm		
Nd:YAG	Power	15 W	8 W					
	Operational modes	MSP, SP, VLP 15 ms, 25 ms	MSP, SP, VLP					
	Optical delivery	Dual fiber system	Single fiber system					

AT models additionaly include scanner-ready mode, automatic handpiece detection, quick-disconnect Er:YAG handpieces, advancable and disposable Nd:YAG fiber feed handpieces, heated water spray for enhanced patient comfort, and optional green pilot beam.