

Fotona<sup>®</sup>  
choose perfection

# LightWalker

Hard and Soft-Tissue Dental Lasers



ASP  
POWERED

New Revolutionary  
Adaptive Structured Pulse  
Technology

# Virtually Unlimited Applications

## From Dentistry to Aesthetics

LightWalker lasers are designed for ultimate versatility, with one of the most comprehensive lists of clinical applications available on any dental laser. With 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:

- Restorative dentistry
- Endodontics
- Periodontics
- Oral surgery
- Implantology
- Aesthetic treatments
- NightLase®
- Biomodulation.

### Presettings for 80 Different Applications

The LightWalker touchscreen offers a simple menu of personalized laser treatments. You select 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 such as skin rejuvenation and removal of benign and vascular lesions.



*"The LightWalker generation represents a remarkable, and indeed a historical step forward in science and technology for laser-assisted dentistry. The ergonomic benefits, due to the completely new and easy-to-manuever OPTOflex articulated arm, the interactive adjustable panel with fast menu access and easy, complete clinical guidance, and the choice of ready-to-use Nd:YAG fibers for both sizes at the same time, are truly unique features, which allow for comfortable and efficient chair-side work, fully focusing on the patient's need, considered as a pillar of evidence-based dentistry."*

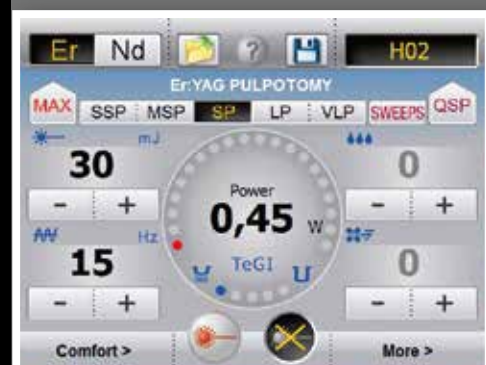
Kresimir Simunovic, DMD, MSc



The eight main application groups



Application subgroups



Advanced window to fine tune specific procedures

# No Compromise – Dentistry's Two Optimal Laser Wavelengths

Two lasers for superior clinical results

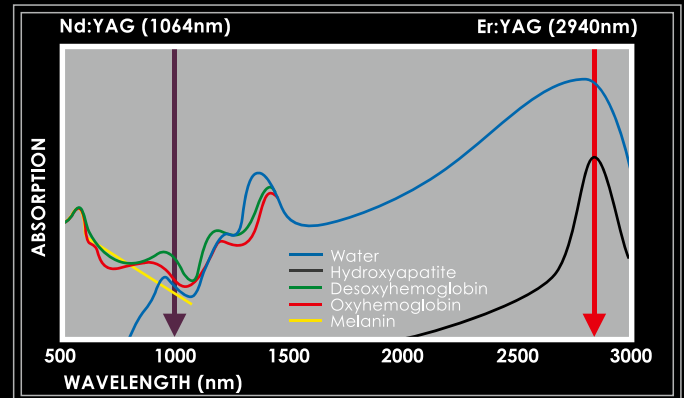
The LightWalker model AT S come standard with dentistry's two most effective laser wavelengths: Er:YAG and Nd:YAG for no-compromise dentistry with a touch of the control screen.

## Universal Laser System

It is a well-established fact that different dental procedures require different laser wavelengths. Wavelength is important because specific oral tissues react 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 greatly expand the range of treatment possibilities and dramatically improve the outcome of laser-assisted treatments.



Absorption spectra



Frenulotomy  
(Er:YAG and Nd:YAG)



# Exceptional Power and Range of Pulse Modes

## Technology for efficacy and safety

In LightWalker, both “gold standard” laser wavelengths are produced by solid crystal lasers that can significantly outperform diode lasers in terms of peak power and the range of pulse durations.

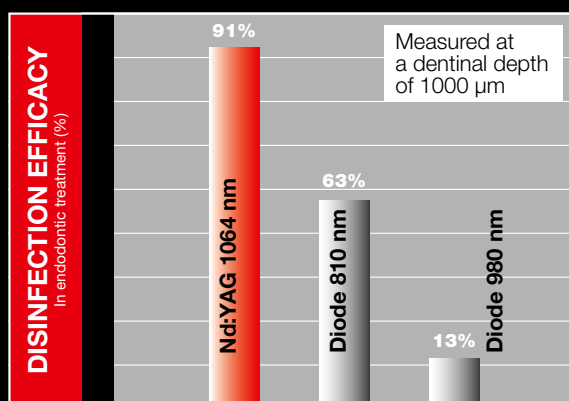
### Fast efficient cutting with unmatched patient comfort

With the advent of QSP technology and higher output power (several kW), the LightWalker ATS has established a new standard for ablation/cutting speed. This new accelerated cutting speed provides

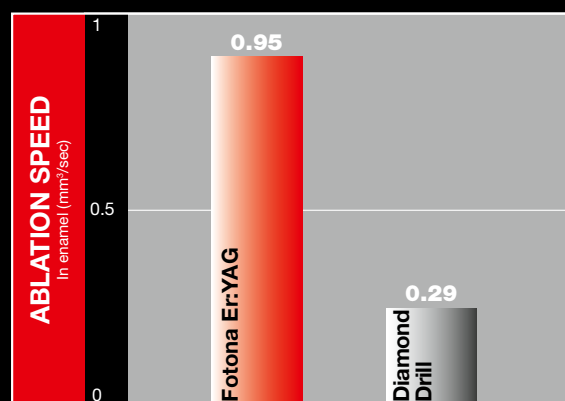
today's dentists with the speed and precision they demand, while simultaneously increasing patient comfort.

### Precise tissue surgery with simultaneous disinfection

The homogeneous absorption of the Nd:YAG laser in soft tissue results in controlled tissue vaporization with simultaneous coagulation for superior healing and disinfection.



Disinfection efficacy: Nd:YAG vs. other lasers \*



Cutting speed: Er:YAG vs. diamond drill \*\*

\* Diode Laser Radiation and Its Bactericidal Effect in Root Canal Wall Dentin. NORBERT GUTKNECHT, DIRK VAN GOGSWAARDT, GEORG CONRADT, CHRISTIAN APEL, CLAUS SCHUBERT, and FRIEDRICH LAMPERT. *Journal of Clinical Laser Medicine & Surgery*. April 2000, 18(2): 57-60. doi:10.1089/clm.2000.18.57.

Antibacterial Effects of Nd:YAG Laser Irradiation within Root Canal Dentin. THOMAS KLINKE, WOLFGANG KLIMM, and NORBERT GUTKNECHT. *Journal of Clinical Laser Medicine & Surgery*. FEBRUARY 1997, 15(1): 29-31. doi:10.1089/clm.1997.15.29.

Bactericidal Effect of a 980-nm Diode Laser in the Root Canal Wall Dentin of Bovine Teeth. N. GUTKNECHT, D.D.S., Ph.D., R. FRANZEN, M. SCHIPPERS, and F. LAMPERT, D.D.S., Ph.D., *Journal of Clinical Laser Medicine & Surgery*, Volume 22, Number 1, 2004, Pp. 9-13

\*\* Ablative potential of the erbium-doped yttrium aluminium garnet laser and conventional handpieces: A comparative study. A. BARABA et al. *Photomed Laser Surg*. 2009;27(6):921-927.



X-Runner cutting



# The Technology Behind an Award-Winning Dental Laser

Solutions for experts as well as beginners

*The development of LightWalker is based on Fotona's 50 years of experience in laser technology. The LightWalker system has technologically advanced laser elements that are engineered for ultimate performance in the world of dentistry:*

## Third Generation ASP Technology

LightWalker and its groundbreaking ASP (Adaptive Structured Pulse) technology represent a cosmic shift forward for the medical and dental laser industry. This third-generation technology combines the unsurpassed range of pulse duration modes of Fotona's VSP (Variable Square Pulse) technology with the revolutionary capability of ASP technology to adapt the temporal structure of laser pulses to the bio-photonic dynamics of laser-tissue interaction.

## Energy Feedback Control

The laser system incorporates a sophisticated double

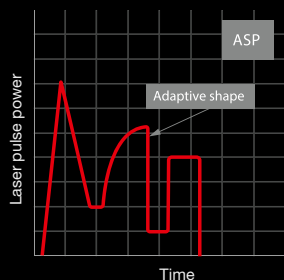
channel safety structure for energy regulation, which contributes to procedure safety. The laser output energy is constantly regulated by a signal from two energy meters.

## Quantum Square Pulse (QSP)

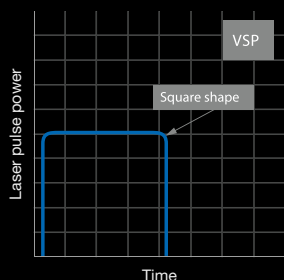
By avoiding the hard-tissue debris cloud the laser ablates more efficiently and with greater precision in Fotona's patented QSP mode because the laser beam is not affected by the debris. By being able to ablate more efficiently, the edges of individual craters are sharp and consistent, providing higher levels of precision and preservation in hard-tissue treatments [see ref. 12,14,28,37,55].

## Tissue Effect Graphical Interface (TeGI)

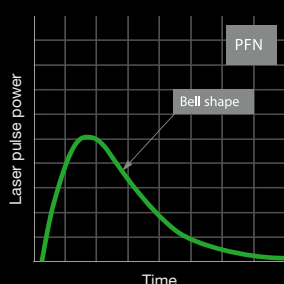
The Tissue Effect Graphical Interface (TeGI) provides a graphical representation of the laser tissue effect, maximizing ease-of-use and shortening the learning curve.



Third Generation Fotona ASP Technology



Fotona VSP Technology



Standard PFN Technology



# Convenience in Use

## Designed with the dentist in mind



### Easy-to-use touch screen

LightWalker has an easy-to-use color touch-screen with an adjustable tilt and 80 customizable presettings that 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 exceptionally 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 cold sensitivity reactions during procedures.

### Patented weightless OPTOflex® arm

LightWalker's unique and patented OPTOflex® Er:YAG



articulated arm is designed to transmit a high-power laser beam to the handpiece, while maintaining the quality of the laser beam to ensure precision and repeatability even at the highest settings.

The OPTOflex® 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

LightWalker also has an optional wireless footswitch that avoids unnecessary tangling of electric cables on your practice floor.



*The LightWalker is the easiest, most efficient, clean cutting laser I have ever used. Having both the Er:YAG and Nd:YAG wavelengths in one system easily allows you to switch from one procedure to another at the touch of a button. I have found that performing PIPS with the LightWalker dramatically improves my ability to do endodontics by making it easier and faster, with much better results. I have cut down the amount of time it takes for me to perform a routine endodontic cases by more than 25% and PIPS allows me to clean and debride the root canal system in a three dimensional fashion.*

**Mark Colonna, DDS**

# Supreme Clinical Results

Designed with the patient in mind

## 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 anesthetic. 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

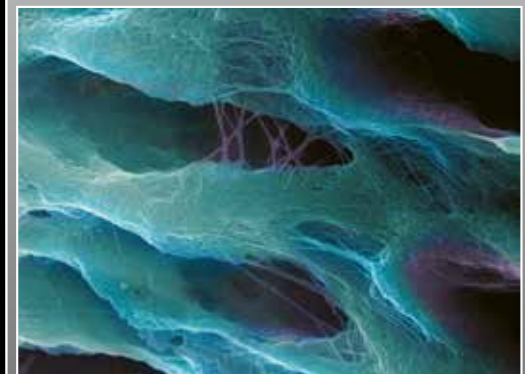
The Nd:YAG laser source is ideal for root canal disinfection, soft-tissue crown lengthening and numerous other applications. And LightWalker's Er:YAG laser is compatible with a set of over 20 specialized fiber tips, expertly designed to offer advanced options in conservative dentistry plus an additional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



Direct pulp capping

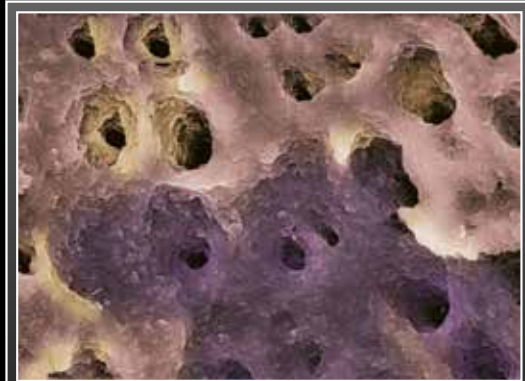


*Intact collagen fibers after laser treatment.*



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

Courtesy of MDATG, LLC



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

# SWEEPS® Endodontic Treatment

Simple, gentle and powerful



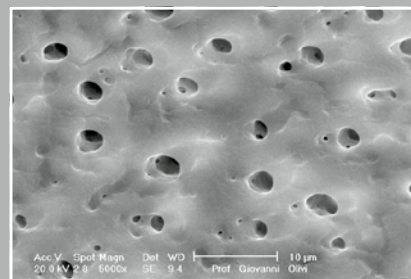
The Fotona TwinLight® Endodontic Treatment successfully addresses two major disadvantages of classical chemo-mechanical procedures: the inability to clean and debride anatomically complex root canal systems and to deeply disinfect dentinal walls.

In the first step of the TwinLight® treatment, a revolutionary patented SWEEPS® (shock wave enhanced emission photoacoustic streaming) technology 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 [see ref. 1,4]. Following this treatment, the canals and subcanals are left clean and the dentinal tubules are free of a smear layer.

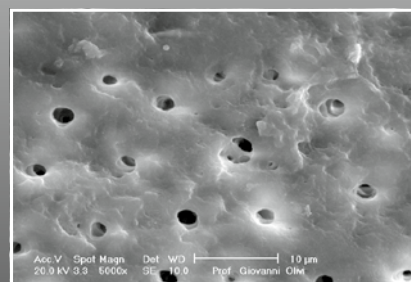
This powerful Photon-Induced Photoacoustic Streaming method [see ref. 6,17,22,24,27], which is available only with Fotona lasers, is equally effective for final water rinsing prior to obturation.



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



*SEM picture after SWEEPS® at 6 mm from the apex*



*SEM picture after SWEEPS® at 1 mm from the apex*

*Courtesy of Prof. Giovanni Olivi MD, DDS*



**SWEEPS®**

# TwinLight® Periodontal Treatment

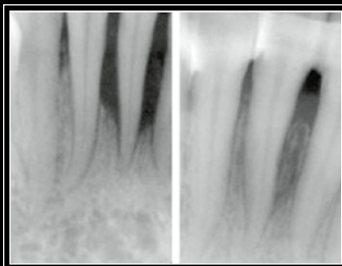
## WPT - Wavelength-optimized Periodontal Treatments



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

The TwinLight® approach enables wavelength-optimized treatments for periodontal therapy (WPT™), which create favorable 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 [see ref. 3,5,13,33,61,73].

Moreover, LightWalker has been cleared for laser assisted new attachment procedure and true periodontal regeneration of the attachment apparatus (new cementum, new periodontal ligament, and new alveolar bone) on a previously diseased root surface [see ref. 3,5].



*Bone regeneration [see ref. 5] observed on radiographic images after TwinLight® treatment.*

*Source: Baltimore Center for Laser Dentistry.*

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.



**TwinLight®  
periodontal treatment**



*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.*

# TwinLight® Peri-implantitis Treatment

Fast and easy to perform



TwinLight® Peri-implantitis Treatment combines dentistry's two best laser wavelengths, Er:YAG and Nd:YAG, to significantly enhance treatment success rates and shorten healing time.

Removal of granulation tissue from the alveolar bone and connective tissue with Er:YAG laser is selective. The bactericidal effect of Er:YAG on the surgical site is highly effective and the implant surface is completely cleaned without chemicals. The subsequent Nd:YAG treatment step promotes faster healing by decontaminating and biomodulating the tissue. Inflammation, swelling, and bleeding of soft-tissue lesions, which may lead to bone loss, can be handled without surgery, and healthy peri-implant tissue assures greater long-term implant success [see ref. 16,21].

Gentle treatment with LightWalker assures that the highly fragile bone surrounding the implant remains intact. Because the Er:YAG wavelength with LightWalker is used in a safe mode, there is no danger of thermal damage to the surrounding bone and no significant alterations of the implant surface, as is caused with other lasers. There is no mechanical, chemical or any other means of trauma during the entire treatment [see ref. 74].



*Removal of the soft-granulation tissue and ablation of the infected bone with Er:YAG*



*Removal of the bacterial biofilm on the implant surfaces with Er:YAG*



*Bacterial reduction and biostimulation of the bone tissue with Nd:YAG (never expose the implant surface to the Nd:YAG laser beam).*



**Peri-implantitis treatment**

# TouchWhite® Laser-Assisted Tooth Whitening

Shorter, patient-friendly treatments



TouchWhite® patented 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 [see ref. 7,42,52,64,68,69].

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 [see ref. 52,68].



Before (A3 VITA Shade Guide)

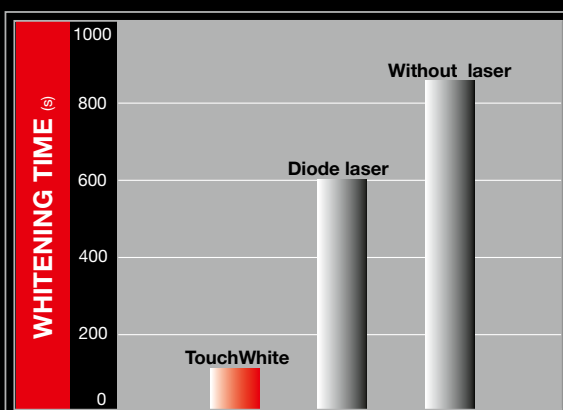


Bleaching gel is applied to the teeth.

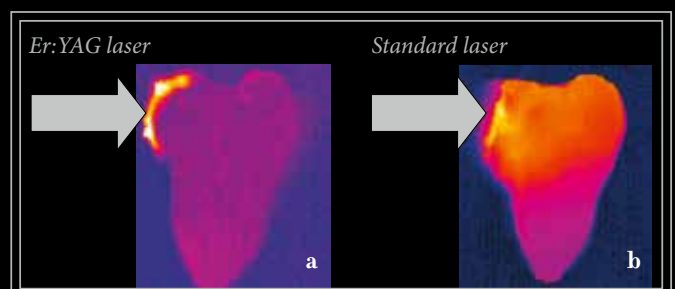


Immediately after (A1 VITA Shade Guide)

Courtesy of Dr. Jovanović



TouchWhite® Tooth Whitening substantially shortens the whitening process.\*

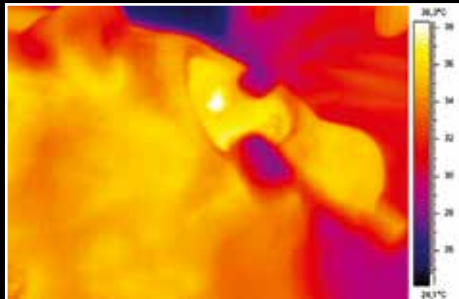


With TouchWhite® whitening, only the gel is heated (a) while with standard laser whitening the entire tooth is heated (b).

\* J LA&HA 2011, No 1 Gutknecht N. et al, A Novel Er:YAG Laser-Assisted Tooth Whitening Method

# NightLase® Snoring and Apnea Treatment

A non-invasive method for better quality sleep



Step 1: PRECONDITIONING

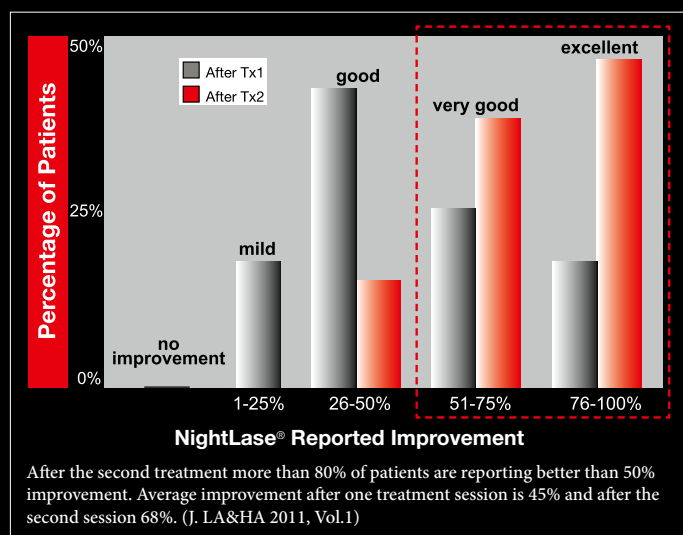


Step 2: TISSUE STRENGTHENING

NightLase® Treatment is a patented, fast, non-invasive and friendly way of increasing the quality of a patient's sleep. NightLase® lessens the effects of sleep apnea and decreases the amplitude of snoring through the use of gentle, superficial Er:YAG laser light. No anesthesia is used in this treatment.

NightLase® is easy for any doctor or dentist to perform and has a high success rate in producing a positive change in sleep patterns. Research has shown that NightLase® reduces and attenuates snoring and provides an effective, non-invasive way to lessen the effects of sleep apnea [see ref. 2,20,49,67,70].

During NightLase® treatment laser light gently heats the tissue, causing tightening of the tissue without damage or adverse effects. It is gentle enough to be used on the sensitive tissue inside the mouth, but strong enough to provide clinically efficacious heating.



NightLase  
snoring treatment

*"What attracted me to the LightWalker was its ability to do aesthetic treatments as well as NightLase, a non-ablative laser treatment for snoring. The LightWalker AT-S in my opinion is at the top of the game. It can perform over 80 procedures reliably, thanks to its advanced technologies for handling the laser beam efficiently. I am able to provide minimally invasive, conservative treatments with faster healing and obviously much less down time. My patients are definitely better off. I cannot imagine how the technology could be improved."*

Dr. Linhlan Nguyen

# Facial Aesthetic Treatments

## Unlimited Possibilities

| SKIN: Procedure Open |                           |      |
|----------------------|---------------------------|------|
| 1                    | Er:YAG EPIDERMAL NEVI     | R16  |
| 2                    | Er:YAG SENILE LENTIGINES  | R16  |
| 3                    | Er:YAG WRINKLES           | R16  |
| 4                    | Er:YAG LIGHT PEEL         | R16  |
| 5                    | Nd:YAG VESSELS UP TO 2 mm | R30A |
| Up   Back   Down     |                           |      |

Apart from providing a wide range of hard- and soft-tissue dental treatments, LightWalker also enables many facial aesthetic treatments. In today's competitive healthcare industry it makes sense to widen horizons and develop strong healthcare partnerships through additional services. LightWalker ATS offers the unique opportunity to provide patients with aesthetic facial treatments ranging from laser hair reduction and facial skin rejuvenation to vascular lesion treatments and skin lesion removal (where permitted by local practice regulations).

Benign skin lesions are quickly removed with a minimally invasive and fast-healing Er:YAG treatment.



Courtesy of Dr. Dvorsak



Skin Fibroma Removal



Facial spider veins, telangiectasias and hemangiomas are removed with long-pulsed Nd:YAG via complete occlusion of the vessels.



Courtesy of R. Sult



Courtesy of R. Sult



Long-pulsed Nd:YAG ensures penetration to the deepest hair follicles to remove hair efficiently and safely, regardless of skin type, without affecting the surrounding skin structures.

# Laser Biomodulation Therapy

## Low-level laser therapy (LLLT)

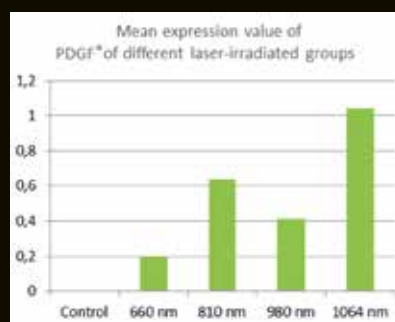


LightWalker Nd:YAG biomodulation screen

Low-level laser therapy (LLLT) involves the application of low-power laser light to injuries and lesions. It is used to promote wound healing in cases of healing defects by inducing an increase in mitotic activity and the number of fibroblasts, as well as collagen synthesis, neovascularization and a decreased level of pain. Laser light is absorbed into the mitochondria and cell membranes of the target cells, leading to an increased level of molecular kinetic energy.

step in surgical treatments, is an ideal complement to many procedures.

LightWalker's Nd:YAG laser light has an optimal infrared wavelength that penetrates homogeneously into the tissue. The effect of the Nd:YAG wavelength on healing through the stimulation of growth factors is thus substantially higher than with other wavelengths. The Genova handpiece with its unique beam profile also treats affected areas with exceptional precision and control.



Higher effect of the Nd:YAG wavelength on healing by stimulation of growth factors as compared to diodes.

\*PDGF: Platelet-derived growth factor

The Genova treatment protocol is easy for any dentist to perform. It is clinically proven to stimulate wound healing in skin, mucosa and bone tissue, and also provides pain reduction and anti-inflammatory effects [see ref. 8,11,18,38].

The Genova handpiece was specially developed for Fotona's LightWalker laser system for inducing highly effective wound healing and pain reduction. The handpiece creates a large spotsize with a unique collimated homogeneous beam profile of Nd:YAG laser light.

LightWalker combines dentistry's best wavelengths, Er:YAG and Nd:YAG, in one powerful system, allowing practitioners to perform the broadest range of dental procedures. Biomodulation with the Genova handpiece as a standalone therapy, or as an adjunct



Hemangioma removal (Nd:YAG)



*"I would highly recommend the LightWalker, its Durability and Mobility allow for a wide arrange of daily tasks. The low maintenance especially is helpful for the daily work horse like myself, making it virtually self proficient. I specifically find the low drag and high efficiency delivery systems remarkable. Another great feature that is exceedingly convenient, is that it is comfortably quiet in its operation... the fan noise is typically loud in lasers. However, the most vital attribute is the LightWalker's dual wavelength versatility to perform the full spectrum of laser dental procedures. I own several lasers and have found that overall, it is widely accepted and preferred by myself, staff and my patients."*

**Dr. Scott R. Neish DMD**

# The LightWalker Range

## Laser model comparison chart

| Model   |                              | AT S                                            | ST-E                          |                                     |                                                 |
|---------|------------------------------|-------------------------------------------------|-------------------------------|-------------------------------------|-------------------------------------------------|
|         |                              |                                                 | ST-E                          | ST-E Pro                            | ST-E Advanced                                   |
| Er:YAG  | Power (W)                    | 20                                              | 10                            | 12                                  | 20                                              |
|         | Energy (mJ)                  | 1500                                            | 500                           | 900                                 | 1500                                            |
|         | Modes                        | SWEEPS, QSP, MAX, SSP, MSP, SP, LP, VLP, SMOOTH | SWEEPS, SSP, MSP, SP, LP, VLP | SWEEPS, QSP*, SSP, MSP, SP, LP, VLP | SWEEPS, QSP, MAX, SSP, MSP, SP, LP, VLP, SMOOTH |
|         | Optical delivery             | OPTOflex                                        | 7 - Mirror Arm                | OPTOflex                            | OPTOflex                                        |
| Nd:YAG  | Power (W)                    | 15                                              |                               |                                     |                                                 |
|         | Modes                        | MSP, SP, VLP, 15 ms, 25 ms                      |                               |                                     |                                                 |
|         | Optical delivery             | Dual Fiber System                               |                               |                                     |                                                 |
| General | Spray temperature regulation | ✓                                               | -                             | ✓                                   | ✓                                               |
|         | Handpiece autodetection      | ✓                                               | -                             | ✓                                   | ✓                                               |
|         | Digital handpiece            | ✓                                               | -                             | -                                   | ✓                                               |
|         | Dermatology                  | ✓                                               | -                             | -                                   | ✓                                               |
|         | Green pointer                | ✓                                               | -                             | ✓                                   | ✓                                               |

\* optional (ST-E Pro Plus)



Superior Power



Titanium Handpieces



Advanced Performance



Variable Square Pulse Technology



Digitally Controlled Dental Handpiece



Facial Aesthetic Treatments



Electronic Spray Control



Multiple Er:YAG Fiber Tips



TouchWhite® Laser Assisted Tooth Whitening



Quantum Square Pulse



Automatic Handpiece detection



TwinLight® Perio Treatment



Wireless Footswitch



Tissue Effect Graphical Interface



Peri-implantitis Treatment



# Advanced Easy-To-Use Handpieces

H02



Tipless (non-contact), 90°-angled Er:YAG handpiece

R17



Tipless, non-contact Er:YAG straight handpiece with a collimated beam at 5 mm spot size

H14



90° degree tipped Er:YAG handpiece and straight tipped Er:YAG handpiece

R21-C3



300 µm fiber-optic Nd:YAG handpiece

R09-3



Tipless, non-contact Er:YAG straight handpiece with a collimated beam at 5 mm spot size for 7 - mirror arm

R21-C2



200 µm fiber-optic Nd:YAG handpiece

R02



Tipless, non-contact, 90° angled Er:YAG dental handpiece for 7 - mirror arm

GENOVA™



Unique collimated homogeneous Nd:YAG beam with 1 cm<sup>2</sup> spot size

R14



90° angled Er:YAG dental handpiece for 7 - mirror arm

LA adapter



Intraoral adapter for R16 or Genova handpiece

R15



Dermatological, straight handpiece, with collimated 3mm spot size

R30-A



Nd:YAG aesthetic and dermatological handpiece with a variable 2 to 8 mm spot size

R16



Dermatological, straight handpiece, with collimated 7 mm spot size

PS04



Pixel structure Er:YAG handpiece

# The First Digitally Controlled Dental Laser Handpiece



X-Runner

LightWalker is the first dental laser system that works with a digitally controlled dental handpiece. Fotona's revolutionary X-Runner® technology, with ultra-high-precision HDS (High Density Scanning) mode, increases the precision of dental laser treatments by helping to swiftly and accurately guide the laser beam across the treatment area according to perfectly shaped, predefined patterns [see ref. 39,44].

## Unmatched Precision

X-Runner® replaces multiple dental tools and makes treatments more precise, simple and easy. It provides precise, consistent and even ablation in hard or soft tissue over a 6x6 mm surface. With X-Runner®, the shape and size of the treatment area are selected in advance, allowing practitioners to perform treatments with a level of speed and consistency that is virtually impossible to achieve with any other tool.

## Walk into the Future with LightWalker

LightWalker technology is enabling practitioners to utilize the most important feature of laser light – its weightlessness. The new X-Runner® digitally controlled dental handpiece is a major advance in laser dentistry that will greatly impact fields such as surgery, conservative dentistry and implantology.



After precise and fast ablation with X-Runner



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

# LA&HA Master's Program in Laser Dentistry



The Medical  
Power of Light

**Boost your professional career in dentistry to new levels  
by becoming a Master in Laser Dentistry.**

The Laser and Health Academy (LA&HA) offers a comprehensive Master's Program that provides everything you need to know to become a skilled laser specialist. Key benefits of the LA&HA Master's Program include:

- 200 hours of active training by high-level industry experts and skilled professionals in multiple fields of dentistry
- Module-based training in a supportive and highly functional educational setting with the most efficient and up-to-date laser technologies
- Hands-on clinical training sessions with close supervision at advanced and highly experienced dental laser centers.

**Enrich your professional career today!**



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### Objectives & Curriculum

The LA&HA Master's Program in Laser Dentistry is an educational curriculum designed by the Laser and Health Academy to provide participants with a comprehensive level of knowledge about basic and in-depth laser principles as well as the skills and competency needed for using Fotona dental laser systems in a range of dental specialties. Participants are required to have a DDS diploma, at least 3 years of experience in dentistry and 1 year of experience in laser dentistry. During the Program, participants are expected to gain advanced knowledge, skills and the confidence to use a Fotona dental laser system safely and successfully in their dental practices.

The program consists of theoretical lessons, hands-on activities, individual study, as well as the observation and performance of live clinical operations. After each module, the participant's learning improvement is assessed by examination. By the end of the program, participants are required to perform and present their own laser-assisted clinical cases from among all dental specialties.

After successful participation in the LA&HA Master's program and clinical case presentations, participations will receive the following title issued by the Laser & Health Academy:

### LA&HA Master in Laser Dentistry

The award ceremony takes place every year during the LA&HA Symposium.

### Duration

Participants can finish the LA&HA Master's Program within one year, in five modules for 3-4 days at a time. There is also an option to extend attendance over a maximum of three years.

This modular approach enables participants to implement their knowledge and skills in the dental office immediately after each module.

### Lecturers

LA&HA provides the most qualified speaker for each topic from a pool of experienced LA&HA lecturers and university professors who are cooperating in a variety of workshops and seminars offered by LA&HA.

### Obtaining MSc degree

LA&HA Master graduates who wish to continue their education may proceed directly to the second year of study in the 2-year International Master in Laser Dentistry program of the *Universita Cattolica del Sacro Cuore* in Rome, Italy to obtain the academic title of MSc in Laser Dentistry.

### LA&HA Master's Program Topics

- Laser physics
- Laser safety
- Laser interactions with biological tissues
- Operating Fotona dental laser devices
- Laser-assisted conservative dentistry
- Laser-assisted endodontics
- Pediatric dentistry with lasers
- Laser-assisted periodontics and soft-tissue surgery
- Laser-assisted orthodontics
- Facial aesthetics and NightLase® laser treatments
- Photobiomodulation and pain control
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# LightWalker International Recognition

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