

# FOTONA

ISSUE 2022

Dentistry  
Magazine

[www.fotona.com](http://www.fotona.com)

Fotona<sup>•</sup>  
choose perfection



Committed to Engineering  
The Highest Performance, Best Made Laser Systems in the World

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With almost 60 years of experience in the laser industry, Fotona is a world-leading medical laser manufacturer recognized for its innovative, award-winning laser systems. Based in the EU (Ljubljana, Slovenia), with regional subsidiaries in the US, China, Germany and France, Fotona's business philosophy is to continuously choose perfection to meet the needs of a highly demanding global marketplace.

Using a science-based approach and working closely with top universities and medical research centers, Fotona has developed advanced, award-winning laser systems such as the highest performance LightWalker® platform, the highly versatile next-generation SkyPulse® platform and a new range of ultra-portable X-Pulse® diode lasers.

Fotona's laser systems are leading the dental industry forward to higher levels of perfection with unrivaled precision, performance and ease of use. The company has developed advanced, groundbreaking technologies such as the powerful QSP mode, the revolutionary SWEEPS® endodontic procedure, the non-ablative Fotona SMOOTH® mode and more. With these and other key proprietary technologies, Fotona dental lasers have surpassed all previous limits, providing new possibilities for performing a broad range of popular facial aesthetic treatments, as well as highly popular anti-snoring treatments (NightLase®) and new options for easing pain and improving clinical results with photobiomodulation.

Fotona's global network provides comprehensive support and clinical training to more than 90 countries. Fotona is also a founding partner of the Laser and Health Academy, which provides a comprehensive Master's Program in Laser Dentistry that enables practitioners to learn everything they need to know to become a skilled laser specialist and to continue their professional growth.

[www.fotona.com](http://www.fotona.com) | [info@fotona.com](mailto:info@fotona.com)

# LightWalker®

The ultimate all-in-one hard- and soft-tissue laser

- Conservative Dentistry
- TwinLight® Endodontic Treatment
- TwinLight® Periodontal Treatment
- TwinLight® Peri-Implantitis Treatment
- TouchWhite® Laser-Assisted Tooth Whitening
- NightLase® Snoring and Apnea Treatment
- Facial Aesthetic Treatments
- Orthodontic Treatments
- Oral Surgery
- Biomodulation

Solutions for experts as well as beginners, designed with the dentist in mind

Pre-settings for more than 80 different applications



Main application subgroups



Application subgroups



Advanced window for fine tuning of specific subgroups



Advanced application subgroups



**ASP** POWERED  
 New Revolutionary  
**Adaptive Structured Pulse**  
 Technology  
**Third Generation Laser Technology**

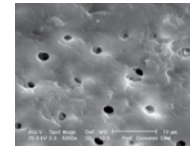


# Virtually unlimited applications with dentistry's most optimal laser wavelengths

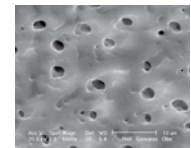
## Revolutionary ASP-powered SWEEPS® ENDODONTICS – simple, yet powerful



- 3D streaming of the irrigant throughout the complex root canal system
- accelerates laser-induced cavitation and creates shockwaves in the narrow canals
- increases penetration of the irrigant deeper into the dentinal tubules
- effectively activates chemical irrigants
- direct disinfection and smear layer removal
- supported by SWEEPS® technology and its latest modifications (USP, SSP, Auto SWEEPS, X-SWEEPS)



SEM picture after SWEEPS at 6 mm from the apex



SEM picture after SWEEPS at 1 mm from the apex

Courtesy of Dr. Giovanni Olivi

## ASP-powered QSP



Standard vs QSP mode

### QSP Mode Characteristics of 3rd Generation ASP-powered Er:YAG Dental Lasers

Compared to other tested Erbium modes, the ASP-powered Quantum Square Pulse (QSP) modality was shown to result in the fastest cutting of hard dental tissue, the smallest amount of undesirable heat deposition and the lowest level of vibration.

## Beyond dentistry

### PBM and Pain Management

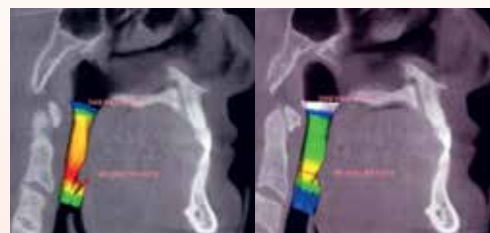


Before treatment

After treatment (8 days)

Courtesy of Dr. Jason Pang

### NightLase®



Airway volume before and after NightLase® treatment showing increases in both total volume and area of minimum obstruction

Courtesy of Dr. Lee&Lee



Before treatment

After treatment

Courtesy of Dr. Harvey Shiffman



### Facial Aesthetics

A broad range of popular facial aesthetic skin treatments are possible, from laser hair removal, vascular lesion and acne treatments, to the immensely popular skin rejuvenation and fractional facial treatments. Want to learn more?

# Wavelength-Optimized Periodontal and Peri-Implantitis Treatments Available with LightWalker® and SkyPulse®

Wavelength-optimized periodontal and peri-implantitis laser treatments (WPT) combining two or more different laser wavelengths are minimally invasive therapies, which create favorable conditions for healing periodontal and peri-implant tissues. By removing the diseased epithelial lining of the pocket, removing microbial biofilm and calculus from the root surface or implant and sealing the periodontal pocket after treatment with a stable fibrin clot, WPT therapy raises treatment effectiveness. 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.

### Key Advantages:

- Minimally-invasive technique
- No thermal or mechanical damage to the surrounding bone
- Fast regeneration/healing
- Reduced inflammatory response

## WPT Periodontal Treatment



**Step 1**  
Nd:YAG/diode removes the diseased epithelial lining.



**Step 2**  
Er:YAG removes calculus from the root surface.



**Step 3**  
Nd:YAG/diode coagulates and leaves a stable fibrin clot.

## WPT Peri-Implantitis Treatment



**Step 1**  
Removal of the soft-granulation tissue and ablation of the infected bone with Er:YAG.



**Step 2**  
Removal of the bacterial biofilm on the implant surfaces with Er:YAG.



**Step 3**  
Bacterial reduction and biostimulation of the bone tissue with Nd:YAG/diode.

# LA&HA Master's Program in Laser Dentistry

Continuous Professional Development



Join the **LA&HA Master's program** and become a top 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 (live modules only).

[www.laserandhealth.com](http://www.laserandhealth.com)  
[info@laserandhealth.com](mailto:info@laserandhealth.com)



*"I've been using lasers for quite a while now and the amount of information that I've picked up over LA&HA Master modules has been really significant. For new laser users and even for experienced laser users I would very much recommend doing this course."*

Dr. Timothy Johnston, Australia

# SkyPulse®

Advanced Technology Made Simple

## SkyPulse® Er:YAG Laser Treatments:

- SSP and SWEEPS® Endodontics
- Periodontics
- Peri-Implantitis
- Oral Surgery
- Desensitization
- Ceramic Debonding
- TouchWhite Tooth Whitening

## SSP and SWEEPS® Endodontics

The SSP single-pulse mode represents Fotona's proven Photon-Induced Photoacoustic Streaming Modality<sup>1</sup> for effective irrigation of entire root canal anatomy. Additionally, the revolutionary SWEEPS® (Shock Wave Enhanced Emission Photoacoustic Streaming) technology enables enhanced non-thermal photoacoustic shock waves generation, resulting in improved cleaning and debridement.



Patented solution for treatment optimization



Modern, easy-to-use graphical user interface

Er:YAG laser handpiece

UniFlex - light and flexible laser beam delivery



Optional Footswitch Wireless Pro

## SkyPulse® Diode Laser Treatments:

- Photobiomodulation and Pain Management
- Soft-Tissue Modifications
- Oral Lesions, Herpes, Aphthae
- Disinfection
- Photodynamic Therapy
- Intraoral Photocoagulation
- Hemostasis

<sup>1</sup>Olivi G., DiVito E., Peters O., Kaitsas V., Angiero F., Signore A., Benedicenti S. (2014) Disinfection efficacy of Photon-Induced Photo-acoustic Streaming on root canals infected with Enterococcus faecalis: As ex vivo study. JADA 2014; 145(8):843-848

<sup>2</sup> Lukač M., Olivi G., Constantin M., Lukač N., Jezeršek M. Determination of Optimal Separation Times for Dual-Pulse SWEEPS Laser-Assisted Irrigation in Different Endodontic Access Cavities. Lasers Surg Med. 2020 Dec 1.



## Wide Selection of Diode Modules

SkyPulse's unique design allows additional high-performance diode-module accessories for the broadest range of diode laser wavelengths and soft-tissue treatment options. Now also available with TANDEM.

Optional diode laser handpiece



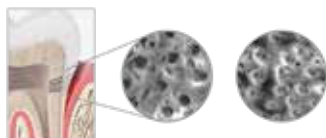
## Unique Fotona Diode Application



Fotona's unique TANDEM technological solution offers the combined action of two diode wavelengths in one treatment. In this way, dentists can perform soft-tissue ablation with simultaneous coagulation and disinfection, or simultaneous photobiomodulation of the target tissue for superior treatment outcomes.

Now available with all Skypulse® diode modules.

Optional attachable diode laser modules



## Desensitization

Dentine hypersensitivity is one of the most commonly encountered dental problems. Laser-assisted treatment of dentine hypersensitivity using the SkyPulse® dental system is an ideal method to solve immediate and long-term pain. Compared to conventional desensitizing topical agents, the laser treatment leads to rapid and long-lasting results.

## Ceramic debonding

Laser-assisted debonding with SkyPulse® is the fastest, easiest and safest method for removing orthodontic brackets or veneers, using the unique properties of the Er:YAG wavelength and optimised laser-material interaction. The selectivity of the Er:YAG wavelength allows for modification of the adhesive resin compound's bonding resistance, thereby achieving:

- Significantly less force needed for debonding
- Reduced treatment time
- Increased safety with lower risk for fractures

SkyPulse Trolley

Courtesy of Dr. Tosun Tosun



Courtesy of Dr. E. Mironov



Surface Modification

## QSP now available also with SkyPulse®



Improved hard- and soft-tissue modification with increased patient comfort and improved clinical outcome.

# PBM & Pain Management

## The Ideal Solution for Wound Healing and Pain Reduction



PBM (Photobiomodulation) provides a clinically proven, non-invasive solution for a wide variety of wound healing and pain management applications.

PBM utilizes low-level, visible-red to near-infrared light energy, which stimulates cells to naturally heal, relieve pain and reduce inflammation. Additionally, the process results in accelerated tissue regeneration, stimulation of cell metabolism, increased lymphatic flow and stimulation of micro-circulation.



## MarcCo™ Handpieces

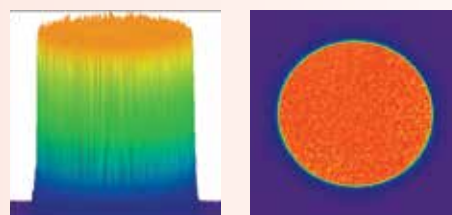
- Enable fast, effective and non-invasive treatments
- Sterilizable spacers offer increased safety
- Patient and practitioner friendly
- Modern ergonomic design with 3 sizes for every clinical situation
- Deliver a unique, collimated beam profile that maintains its effect on the irradiated tissue, regardless of distance, and can be used in contact (with spacer) or non-contact mode
- Enable the easy combination of photobiomodulation and pain-relief protocols, which would usually require two separate devices
- Homogenous (flat-top) beam profiles enable standardized and reproducible treatments, especially if used in the recommended “stamping” mode, which enables greater control of the delivered energy density, independent of the practitioners’ experience and attention

**MarcCo™ handpieces can be used with the following Fotona laser systems:**

**Dentistry** LightWalker®, SkyPulse®, XPulse

**Aesthetics and Gynecology** SP Dynamis®, TimeWalker Fotona4D®, TimeWalker IntimaLaser®, FotonaSmooth SP®

**A perfectly homogenous beam profile for effective and reproducible treatments**



MarcCo™ flat-top beam profile

# XPulse<sup>®</sup> and XPulse II<sup>®</sup>

## Compact and Powerful Diode Lasers

### Lighten up your practice!

XPulse<sup>®</sup> diode lasers are the modern and professional choice for treating soft tissues, haemostasis and for disinfection.

Depending on the indication for use, XPulse<sup>®</sup> allows for the choice of the most appropriate wavelength and specific settings that will achieve the desired type of laser-tissue interaction.



- Four different wavelengths to choose from: 445 nm, 810 nm, 980 nm & 1064 nm
- High-power soft-tissue diode lasers
- Battery operated
- Green aiming beam
- Plug & Play
- Lightweight and ultra-portable
- Pre-sets included

Endo & Perio	Surgery	Therapy	Dermatology
<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">810 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">980 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">1064 nm</div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; padding: 2px; background-color: #007bff; color: white;">Blue 445 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">810 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">980 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">1064 nm</div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">810 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">980 nm</div> <div style="border: 1px solid black; border-radius: 50%; padding: 2px;">1064 nm</div> </div>	<div style="border: 1px solid black; border-radius: 50%; padding: 2px; width: 40px; margin: 0 auto;">1064 nm</div>
<ul style="list-style-type: none"> <li>• Endodontics</li> <li>• Periodontics</li> <li>• Periimplantitis</li> </ul>	<ul style="list-style-type: none"> <li>• Frenectomy</li> <li>• Gingivectomy</li> <li>• Implant Exposure</li> <li>• Sulcus forming</li> <li>• Hemostasis</li> <li>• Hyperpigmentation</li> <li>• Fibroma/Cysts</li> <li>• Surgery</li> <li>• Excision/Incision</li> </ul>	<ul style="list-style-type: none"> <li>• Low Level Laser Therapy (LLLT)</li> <li>• Ulcus</li> <li>• Aphthae</li> <li>• Herpes</li> <li>• Desensitization</li> </ul>	<ul style="list-style-type: none"> <li>• Onychomycosis</li> <li>• Warts</li> </ul>

Fotona<sup>®</sup>  
choose perfection



# Fotona App



FOTONA AT YOUR FINGERTIPS

- **800+** Videos
- **190+** Presentations
- **220+** Published Cases from 110 Clinical Experts
- **610+** Educational Webinars
- **150+** Hours of Video Content

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Register your laser system for full access to all of the above content!



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All Fotona videos you ever wanted to see, catalogued and organized as a proper library should be.



**FOTONA CLOUD**  
Searching for promotional videos? Brochures? Leaflets? Posters or maybe magazines? Your search is over. Download everything from one place.



**MY PRODUCTS**  
An overview of your registered Fotona products.



**LA&HA SYMPOSIUM LECTURES**  
Educational video lectures for the long and sleepless nights.



**EXHIBITIONS AND CONFERENCES**  
A constantly updated list of international congresses and exhibitions where Fotona will be present. Be sure to stop by our booth to keep in touch with the latest developments and join us for coffee!



**NEWS**  
Providing you with a worldwide overview of current events related to Fotona's platforms.



**RECOMMENDED READING**  
Keen on scientific inquiry? Look no further than our comprehensive database. Reading was never so fun!



**MY FOTONA REPRESENTATIVE**  
Ever wondered who your local representative is? Not anymore.



**TRAININGS & WORKSHOPS**  
Detailed information on upcoming laser training workshops worldwide.



**MY PROFILE**  
You already know what is inside. But in case you forgot: Change your personal information including email and password.

# OVERVIEW OF FOTONA LASER SYSTEMS



## Dentistry

- LightWalker® AT S
- LightWalker® ST E Advanced
- LightWalker® ST E Pro
- SkyPulse®

Model	AT S	ST-E Advanced	ST-E Pro	SkyPulse Endo	SkyPulse Plus	SkyPulse Multi-3/-4	
<b>Er:YAG</b>	<b>Power (W)</b>	20	20	12	1.5 W	4.2W	4.2W
	<b>Energy (mJ)</b>	1500	1500	900	100 mJ	300 mJ	300 mJ
	<b>Modes</b>	SWEEPS, QSP, MAX, SSP, MSP, SP, LP, VLP, SMOOTH	SWEEPS, QSP, MAX, SSP, MSP, SP, LP, VLP, SMOOTH	SWEEPS, SSP, MSP, SP, LP, VLP	AutoSWEEPS, R-SWEEPS, SSP ENDO, USP ENDO, SP	AutoSWEEPS, R-SWEEPS, SSP ENDO, USP ENDO, SSP, MSP, SP, LP, VLP, QSP	AutoSWEEPS, R-SWEEPS, SSP ENDO, USP ENDO, SSP, MSP, SP, LP, VLP, QSP, TANDEM
	<b>Optical delivery</b>	OPTOflex	OPTOflex	OPTOflex	UNiflex	UNiflex	UNiflex
<b>Nd:YAG</b>	<b>Power (W)</b>	15			<b>Diode</b>	Optional	Included
	<b>Modes</b>	MSP, SP, VLP, 15 ms, 25 ms					
	<b>Optical delivery</b>	Dual Fiber System					
<b>General</b>	<b>Spray temperature regulation</b>	✓	✓	✓			
	<b>Handpiece autodetection</b>	✓	✓	✓			
	<b>Digital handpiece</b>	✓	✓	-			
	<b>Dermatology</b>	✓	✓	-			
	<b>Green pointer</b>	✓	✓	✓			



## XPulse Line

Model	XPulse			XPulse II	
<b>Wavelength</b>	810 nm	980 nm	1064 nm	445 nm	810 nm
<b>Power</b>	8 Watts	12 Watts	10 Watts	4 W	8 W

## Dentistry



**H02**  
Tipless (non-contact),  
90°-angled Er:YAG handpiece



**H14-N**  
90° degree tipped Er:YAG  
handpiece



**H14-NS**  
Straight tipped Er:YAG  
handpiece



**H14-NE**  
90° degree tipped Er:YAG  
handpiece without spray  
nozzles



**R15**  
Dermatological, straight  
handpiece, with collimated  
3mm spot size



**R16**  
Dermatological, straight  
handpiece, with collimated  
7 mm spot size



**R17**  
Non-contact Er:YAG straight  
handpiece with collimated  
beam at 5 mm spot size



**R21-C3**  
300 µm fiber-optic Nd:YAG  
handpiece



**R21-C2**  
200 µm fiber-optic  
Nd:YAG handpiece



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



**LA ADAPTER**  
Intraoral adapter for Er:YAG  
(R16) and Nd:YAG (Genova  
and MarcCo S) handpieces



**R30-A**  
Nd:YAG aesthetic and derma-  
tological handpiece with a  
variable 2 to 8 mm spot size



**PS04**  
Pixel structure Er:YAG hand-  
piece with 7 mm spot size



**X-Runner**  
Er:YAG digitally controlled  
dental handpiece. Different  
shapes and spot sizes (up to  
6x6 mm) can be selected in  
advance.



**PS04-LA**  
Pixel structure Er:YAG  
handpiece with intraoral LA  
adapter (spot size 10 mm)

## MarcCo Handpieces\*



**MarcCo S**  
Unique collimated  
homogeneous Nd:YAG beam  
with 10 mm spot size



**MarcCo M**  
Unique collimated  
homogeneous Nd:YAG beam  
with 24 mm spot size



**MarcCo L**  
Unique collimated  
homogeneous Nd:YAG beam  
with 43 mm spot size

\* Must be connected with optical fiber compatible with specific laser devices.

# Find a Doctor

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Looking for a simple way for patients to locate your practice?

Sign up for Fotona's Find a Doctor service and draw new patients to your practice. Fill in a simple form and put your practice on the map.

**Help Patients Find You Faster!**



Search  
Find a Doctor  
online



How to add  
your practice



# One Family Together



## Follow us on:



**YouTube:**

<https://www.youtube.com/user/FotonaLasers>



**Facebook**

<https://www.facebook.com/FotonaChoosePerfection/>

Fotona Family Group:

<https://www.facebook.com/groups/453849344798356>

International LightWalker Users Group

<https://www.facebook.com/groups/1425055551094605>



**LinkedIn:**

<https://www.linkedin.com/company/972690>



**Instagram:**

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# LA&HA Institute



Fotona<sup>®</sup>  
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## Comprehensive workshops and online trainings

Improve your knowledge and skills in a state-of-the-art laser research and training facility.

Regular clinical workshops and tailor-made training courses are available in the following fields:

- Aesthetics & Dermatology
- Surgery
- Gynecology
- Dentistry

Experience a unique opportunity to interact and share experiences, ideas, and expertise in a professional, highly advanced and relaxed environment.

For registration and more details please visit:  
<http://www.fotona.com/en/workshops/>

For more information contact:  
[trainings@fotona.com](mailto:trainings@fotona.com)



# LA&HA INSTITUTE TRAININGS CALENDAR

LIVE WORKSHOPS 2022	JUN	AUG	SEPT	OCT	NOV	DEC
<b>DENTISTRY</b>						
LightWalker In Dentistry			21-23	19-21	23-25	
Facial Aesthetics and Nightlase® Workshop with LightWalker®	6-7			3-4	21-23	
LA&HA Master Dental, Module 1		31/8-2/9	31/8-2/9			
LA&HA Master Dental, Module 2 (Rome, Italy)			21-24			
LA&HA Master Dental, Module 3					9-12	
<b>AESTHETICS AND DERMATOLOGY</b>						
SP Dynamis	20-22		12-14	10-12	14-16	
StarWalker MaQX			26-27		7-8	
StarWalker PQX						
Aesthetics & Dermatology Workshop (SP Dynamis & StarWalker)						
Scar Treatments Workshop (SP Dynamis)						Dates available on request
Skin Resurfacing / Rejuvenation (SP Dynamis)						
Transdermal Vascular with SP Dynamis						
<b>GYNECOLOGY</b>						
IncontiLase®, IntimaLase®, RenovaLase® & ProlapLase®			29-30		3-4	1-2
Functional & Aesthetic Procedures In Gynecology						Dates available on request
<b>SURGERY</b>						
Lipolysis & Hyperhidrosis						
Lipolysis, Hyperhidrosis and EVLA						Dates available on request
EVLA with Ultrasound Examination						

For more information contact: [trainings@fotona.com](mailto:trainings@fotona.com)  
 For registration and more information please visit <https://www.fotona.com/en/workshops/>  
*Dates are subject to change. Online workshops available on request.*



# 20<sup>TH</sup> IFW

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PORTOROŽ, SLOVENIA  
MAY 24<sup>th</sup> - 27<sup>th</sup> 2023

SAVE  
THE  
DATE

The Piran coastal resort,  
a historical gem on the  
Adriatic sea