

FOTONA

ISSUE 2022

Dentistry Magazine

www.fotona.com

Fotona[•]
choose perfection



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.

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

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

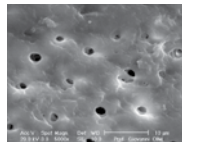
Revolutionary ASP-powered SWEEPS® ENDODONTICS – simple, yet powerful



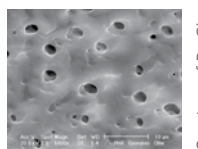
- 3D streaming of the irrigant throughout the complex root canal system
- accelerates laser-induced cavitation and creates shockwaves in the narrow canals
- increases penetration of the irrigant deeper into the dentinal tubules
- effectively activates chemical irrigants
- direct disinfection and smear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



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 Olivieri

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

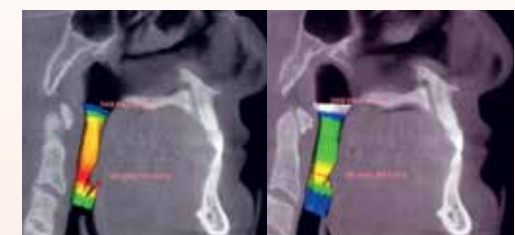


Before treatment

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

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?



Before treatment

After treatment

Courtesy of Dr. Harvey Shiffman

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
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 Modality¹ 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.



Modern, easy-to-use graphical user interface

Optional diode laser handpiece

Er:YAG laser handpiece

Optional attachable diode laser modules

UniFlex - light and flexible laser beam delivery

SkyPulse Trolley



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

Wide Selection of Diode Modules

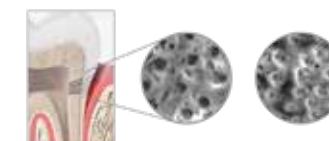
SkyPulse's unique design allows additional high-performance diode-module accessories for the broadest range of diode laser wavelengths and soft-tissue treatment options. Now also available with TANDEM.



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.



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

Courtesy of Dr. Tosun Tosun



QSP now available also with SkyPulse®

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

Courtesy of Dr. E. Mironov



Surface Modification

¹Olivi 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

² 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.

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

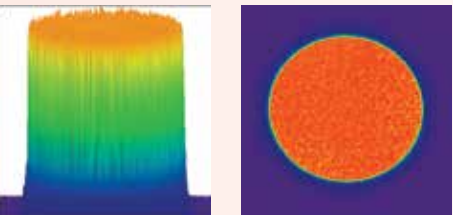
- Enable fast, effective and non-invasive treatments
- Sterilizable spacers offer increased safety
- Patient and practitioner friendly
- Modern ergonomic design with 3 sizes for every clinical situation
- Deliver a unique, collimated beam profile that maintains its effect on the irradiated tissue, regardless 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® and XPulse II®

Compact and Powerful Diode Lasers

Lighten up your practice!

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

Depending on the indication for use, XPulse® 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>810 nm</div> <div>980 nm</div> <div>1064 nm</div>	<div>Blue 445 nm</div> <div>810 nm</div> <div>980 nm</div> <div>1064 nm</div>	<div>810 nm</div> <div>980 nm</div> <div>1064 nm</div>	<div>1064 nm</div>
<ul style="list-style-type: none">• Endodontics• Periodontics• Periimplantitis	<ul style="list-style-type: none">• Frenectomy• Gingivectomy• Implant Exposure• Sulcus forming• Hemostasis• Hyperpigmentation• Fibroma/Cysts• Surgery• Excision/Incision	<ul style="list-style-type: none">• Low Level Laser Therapy (LLLT)• Ulcus• Aphthae• Herpes• Desensitization	<ul style="list-style-type: none">• Onychomycosis• Warts



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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

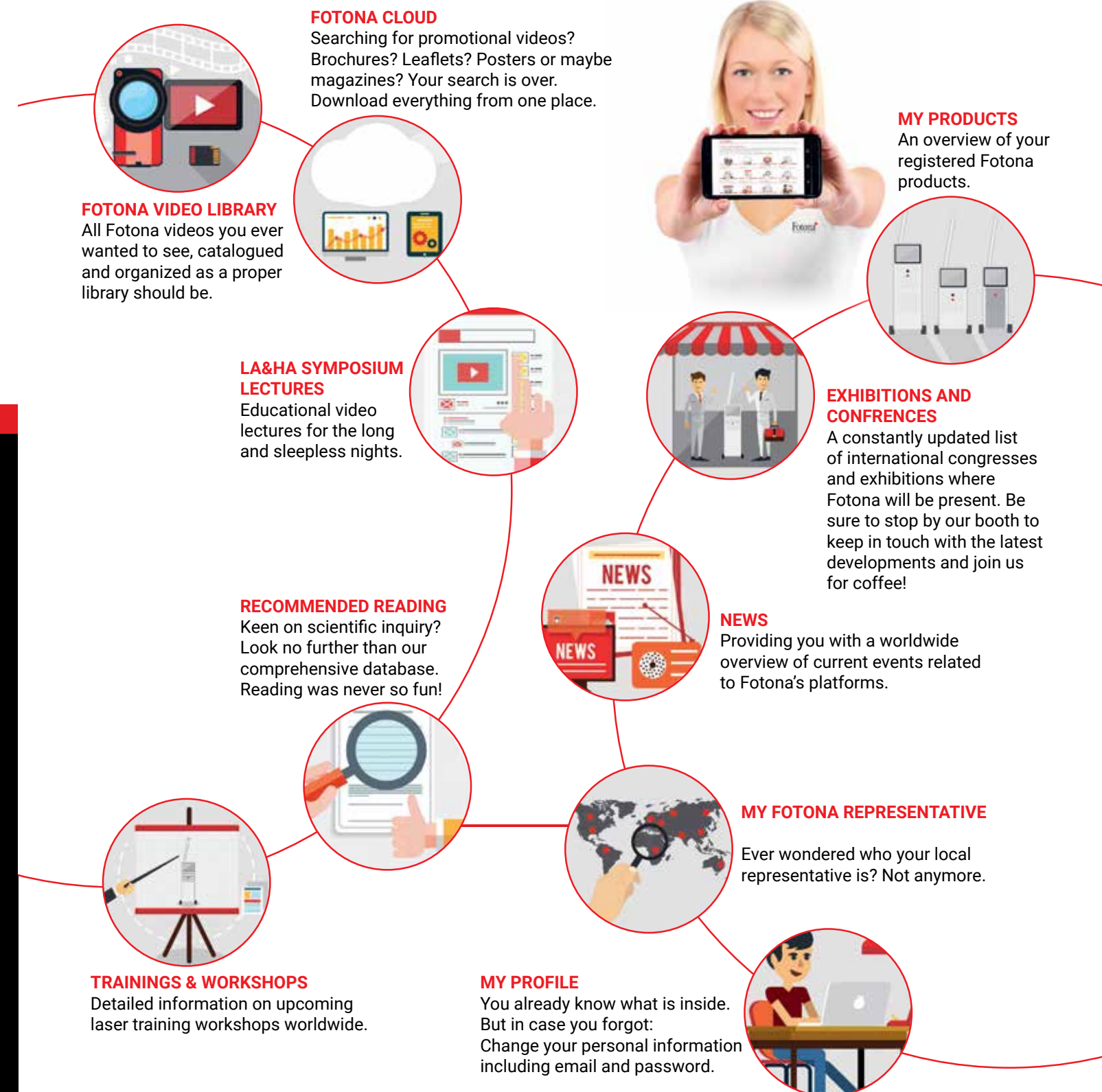
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Dentistry



Model		AT S	ST-E Ad- vanced	ST-E Pro	SkyPulse Endo	SkyPulse Plus	SkyPulse Multi-3/-4
Er:YAG	Power (W)	20	20	12	1.5 W	4.2W	4.2W
	Energy (mJ)	1500	1500	900	100 mJ	300 mJ	300 mJ
	Modes	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
	Optical delivery	OPTOflex	OPTOflex	OPTOflex	UNiflex	UNiflex	UNiflex
Nd:YAG	Power (W)	15			Diode		
	Modes	MSP, SP, VLP, 15 ms, 25 ms				Optional	Included
	Optical delivery	Dual Fiber System					
General	Spray temperature regulation	✓	✓	✓			
	Handpiece autodetection	✓	✓	✓			
	Digital handpiece	✓	✓	-			
	Dermatology	✓	✓	-			
	Green pointer	✓	✓	✓			

XPulse Line

Model		XPulse		XPulse II	
Wavelength		810 nm	980 nm	1064 nm	445 nm 810 nm
Power		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 cm² spot size	LA ADAPTER Intraoral adapter for Er:YAG (R16) and Nd:YAG (Genova and MarcCo S) handpieces	R30-A Nd:YAG aesthetic and dermatological handpiece with a variable 2 to 8 mm spot size
PS04 Pixel structure Er:YAG handpiece 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 conected with optical fiber compatible with specific laser devices.

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How to add
your practice

One Family Together



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Fotona Family Group:
<https://www.facebook.com/groups/453849344798356>

International LightWalker Users Group
<https://www.facebook.com/groups/1425055551094605>



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- Surgery
- Gynecology
- Dentistry

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For more information contact:
trainings@fotona.com



LA&HA INSTITUTE TRAININGS CALENDAR

LIVE WORKSHOPS 2022	JUN	AUG	SEPT	OCT	NOV	DEC
DENTISTRY						
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	
AESTHETICS AND DERMATOLOGY						
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						
GYNECOLOGY						
IncontiLase®, IntimaLase®, RenovaLase® & ProlapLase®			29-30		3-4	1-2
Functional & Aesthetic Procedures In Gynecology				Dates available on request		
SURGERY						
Lipolysis & Hyperhidrosis						
Lipolysis, Hyperhidrosis and EVLA					Dates available on request	
EVLA with Ultrasound Examination						

For more information contact: 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.

20TH IFW

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PORTOROŽ, SLOVENIA
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SAVE
THE
DATE

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