

# SkyPulse® Endo Plus

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Intelligent Dentistry

**ASP**  
POWERED

New Revolutionary  
**Adaptive Structured Pulse**  
Technology



reddot winner 2020

Unique solution  
for modern  
endodontics!



For related patents see: [www.fotona.com/patents](http://www.fotona.com/patents)

**Fotona**  
choose perfection



60 years of innovation

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

# SkyPulse®

Advanced Technology Made Simple



## SkyPulse Er:YAG Laser Treatments:

- SSP and SWEEPS® Endodontics
- Periodontics
- Peri-Implantitis
- Oral Surgery
- Desensitisation
- 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.

## Easy to Use

With the latest concepts in graphical user interface design, the dentist can select preset options with a simple touch or adjust the treatment parameters with a simple swipe.

## Light and Flexible

The SkyPulse's unique articulated 'fiber' delivery makes the handling of the 360° swivel handpiece extremely flexible and virtually without resistance, reducing fatigue and enabling easy access to any treatment site.

## Compact and Portable

SkyPulse is an exceptionally small and light Er:YAG laser that easily fits into a modern dental office and can be shared among several offices.

## Versatile

SkyPulse offers a wide range of easily changeable handpieces for multi-functionality and optimal effectiveness.

Patented solution for treatment optimization

SIZE	FIBER	DEPTH
Small	Flat 300	Shallow
Medium	Flat 400	Medium
Large	Radial 400	Deep

Modern, easy-to-use graphical user interface

UniFlex - light and flexible laser beam delivery

SkyPulse Trolley



H02



H14



H14-NS



H14-NE



R17



SkyPulse® Endo Tabletop Unit with Instrument Trolley



New Revolutionary Adaptive Structured Pulse Technology



I have been using SWEEPS since 2021, it has helped my day to day clinical practice in multiple ways and has now become an integral part of my workflow. Thanks to SWEEPS, my orthograde treatment is the most predictable it has ever been.

Dr David Barnard, Hills Endodontics



Fotona SWEEPS has been a worthwhile adjunct in my approach to endodontic treatment and one I would not like to practice without. It offers a combination of cutting-edge technology, superior clinical results, and enhanced patient experiences that make it an indispensable part of modern dental care. I wholeheartedly recommend the Fotona Laser to any endodontic practice seeking to provide the best possible care to their patients.

Dr Tim Silbert, Western Endodontics



Activation of the irrigation solutions is a must in endodontics. I have found sweeps revolutionary in irrigating the root canal system and the solution for all canals present simultaneously.

Dr Emanuel Plataniotis, Ashburton Endodontics

# SSP and SWEEPS® Endodontics

## Fast, effective and minimally invasive treatments with the use of different laser modalities

Fotona's SSP and SWEEPS® endodontic laser treatment successfully addresses the major goals of endodontic treatment: to clean, debride and disinfect anatomically complex root canal systems, including lateral canals and dentinal tubules.

**1. SSP (Super Short Pulse) irrigation** (also known as Photon Induced Photo-acoustic Streaming) uses the Er:YAG laser to create non-thermal photoacoustic waves within the cleaning and debriding solutions introduced in the canal. Following this photoacoustic treatment, the canals and sub canals are left clean and the dentinal tubules are free of a smear layer.

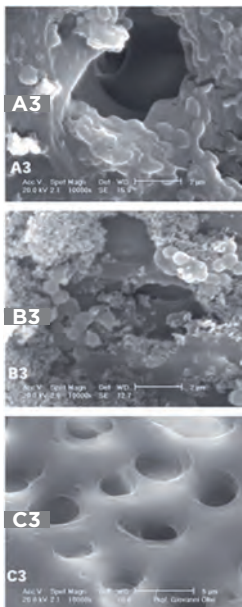
**2. Auto SWEEPS® mode** (Shock Wave Enhanced Emission Photo-acoustic Streaming) Er:YAG laser modality additionally improves the irrigation and disinfecting efficacy of laser endodontics. By using synchronized pairs of ultra-short pulses, an accelerated collapse of laser-induced bubbles is achieved, leading to enhanced shockwave emission inside even the narrowest root canals.

**3. R-SWEEPS® mode** is a patent solution for treatment procedure optimisation

- delivers highest possible laser activated irrigation efficacy
- significantly enhances the effective flushing action of SWEEPS®
- increases the pressure generation along the root canal
- without increasing the risk of apical extrusion

The powerful and revolutionary SSP and SWEEPS technologies in Fotona dental lasers represent a unique and highly effective solution for modern endodontics.

Available only with Fotona LightWalker® and SkyPulse®.



Before After one year

Scanning electron micrographs showing representative areas of the radicular wall.

**A3:** bacterial biofilm growth present in control specimen before treatment.

**B3:** remaining smear layer and bacteria after needle irrigation.

**C3:** no bacteria and smear layer after the use of photon-induced photoacoustic streaming.

The collagen fibers and organic structures of the dentin walls appear preserved, the dentinal tubules are clean and there is no evidence of thermal damage.

### Reference:

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.

Olivi G, DiVito E, Peter O, Kaisas V, Angiero F, Signore A, Benedicenti S, 2014. Disinfection efficacy of photon-induced photoacoustic streaming on root canals infected with *Enterococcus faecalis*: An ex vivo study, *JADA* 2014; 145 (8): 843-848