

# SkyPulse® Endo

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Intelligent Dentistry

**ASP**  
POWERED

New Revolutionary  
**Adaptive Structured Pulse**  
Technology



reddot winner 2020

Unique solution  
for modern  
endodontics!



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**Fotona**  
choose perfection

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

# SkyPulse® Endo

## Advanced Technology Made Simple

SkyPulse® is a new generation of compact & portable Fotona dental lasers that can be tailored for each individual dental practice. A user-friendly but advanced & highly customizable interface is key to the ease of use with SkyPulse®, enabling the selection of preset options with a simple touch or the adjustment of treatment parameters with a single swipe.



## 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.

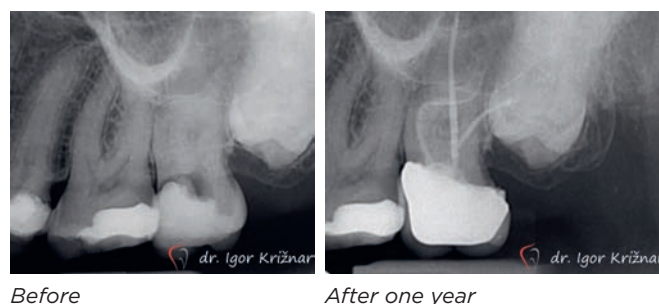
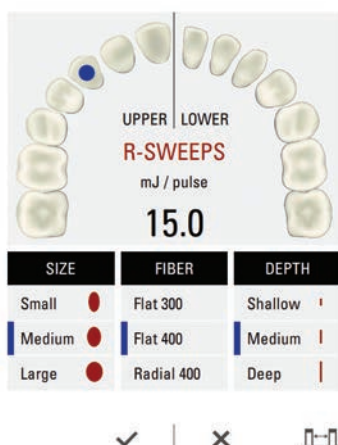
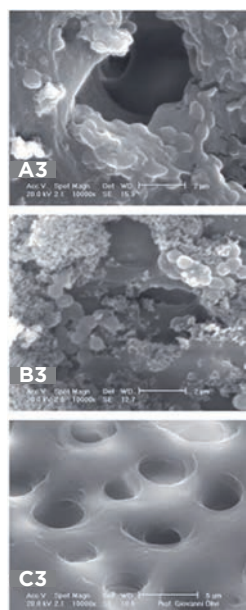
**2. Auto SWEEPS® mode** Shock Wave Enhanced Emission Photo-acoustic Streaming) Er:YAG laser modality additionally improves the irrigation and disinfecting efficacy of laser endodontics. By using synchronized pairs of ultra-short pulses, an accelerated collapse of laser-induced bubbles is achieved, leading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



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, Kaitsas 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.