

Urolase SP+

Urology laser 2 in 1: Lithotripsy + Soft Tissue Surgery





Applications

Lithotripsy

- Fragmentation
- Dusting
- Popcorning

Soft tissues:

- BPH enucleation
- BPH vaporization
- Resection of bladder tumor
- Vaporization of bladder and upper urinary tract tumors
- Stricture dissection



8 times more compact than solid-state power lasers



Low maintenance cost



Connection to the standard power grid



Air cooling

Lithotripsy

2 times faster lithotripsy Stone fragmentation into micro fragments is twice as fast as with Holmium-YAG Ho:YAG Short pulse³ lasers¹ Ho:YAG Long pulse / Water absorption level is 4 times higher Moses Pulse A distinctive feature of 1.94 Urolase SP+ 84. .. µm wavelength radiation Optimized pulse 0 is high absorption in water, which ensures maximum Lithotripsy mode extractors⁴

No retropulsion



Stone retropulsion after 1 second of laser exposure, mm

No retropulsion effect during stone fragmentation due to a special optimized pulse

> Fragmentation allows to quickly fragment the stone for lithoextraction

Dusting stones into the micro dust particles facilitate removing the stones without use of

Popcornning effectively destroys residual fragments during kidney surgery

VPG Surgical Fiber

Urolase SP+ allows the use of the thinnest fiber - VPG Surgical Fiber HP with a diameter of 150 µm for flexible endoscopes, which:

- Does not affect the bending of the • endoscope
- Increases the flow of irrigation fluid in





VPG Surgical Fiber **VPG Surgical Fiber** ΗP

HP

SOFT TISSUES

Comparison of the penetration depth of lasers with different wavelengths shows that thulium fiber lasers have a minimal penetration depth and, therefore, are more controllable and safer for surgical procedures in urology.



BPH enucleation



Technical specifications		
Wavelength, micron	1.94	
Mode	SuperPulsed/Pulsed	CW
Maximum power, W	60	60
Pulse energy, J	0.0256	-
Pulse repetition rate, Hz	2400	-
Fiber type	Single-use / Reusable	
Fiber diameter, µm	150/200/365/550/940	
Device cooling	Air	
Supply voltage, V	220 ± 10 %	
Supply frequency, Hz	5060	
Power consumption, VA, no more	1000	
Dimensions H * W * D, mm	286*460*545	
Weight, kg	38	
Martey A stal (2004) Clinical Comparison of Cuper Dulas Thulium Fiber Lease and Ligh Dewer Lehnium Lease for Untered Stans Management		

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2. Kronenberg P., et al. (2019) The Laser of the Future: Reality and Expectations About the New Thulium Fiber Laser-a Systematic Review. Transl Androl Urol . 2019 Sep;8(Suppl 4):S398-S417

3. Ventimiglia E., et al. (2020) Effect of Temporal Pulse Shape on Urinary Stone Phantom Retropulsion Rate and Ablation Efficiency Using Holmium: YAG and Super-pulse Thulium Fibre Lasers. BJU Int . 2020 Jul;126(1):159-167

4. Traxer O. (2019) Ureteroscopy Using Super Pulse Thulium Fiber Laser. Semi-Live surgery, WCE 2019 5. Becker B., et al. (2019) Effect of Optical Fiber Diameter and Laser Emission Mode (CW vs Pulse) on Tissue Damage Profile Using 1.94 µm Tm:fiber Lasers in a Porcine Kidney Model. World Journal of Urology. 2019 Sep 12

6. Enikeev D., et al. (2018) A Randomized Trial Comparing The Learning Curve of 3 Endoscopic Enucleation Techniques (HoLEP, ThuFLEP, and MEP) for BPH Using Mentoring Approach-Initial Results. Urology. 2018 Nov;121:51-57.



1.94 µm wavelength radiation has a depth of penetration into tissues of about 100 µm⁵, which is 4.5 times less than that of Ho: YAG lasers, and, as a result, provides maximum controlled removal of biological tissue to the prostate capsule. Also, this wavelength has excellent hemostatic features, thereby reducing blood loss during soft tissue surgeries. As a result, training of surgeons studying BPH laser enucleation is simple and fast⁶





WORLD LEADER IN THE LASER INDUSTRY

VPG LaserOne LLC (formerly IRE-Polus LLC) is a vertically integrated company established by an outstanding Soviet scientist, Valentin Pavlovich Gapontsev, the founder of the international scientific and technical IPG Photonics Corporation.

VPG LaserOne is a globally recognized leader in the field of fiber lasers and amplifiers, as well as devices and systems based on them. Drawing on deep expertise and decades of experience in laser equipment production, VPG LaserOne LLC designs and supplies medical laser devices and surgical fiber for a wide range of applications.

VPG LaserOne develops advanced medical laser devices through a full-cycle process that includes device engineering, development of clinical application protocols, in-vitro research in its proprietary laboratory and clinical trials conducted in collaboration with leading clinical centers.



DATE OF ESTABLISHMENT 1992



15 CLINICAL CENTERS FOR IN-VITRO AND IN-VIVO STUDIES



>1 million PATIENTS TREATED WITH VPG LASERS IN 2024

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>2000 MEDICAL LASER SYSTEMS INSTALLED WORLDWIDE SINCE 2017