MULTIPULSE HO
INSPIRED BY LIGHT

JENA SURGICAL
LASER AT YOUR SIDE
MULTIPULSE HO - THE GOLD STANDARD FOR LITHOTRIPSY

The MultiPulse Ho is a surgical holmium laser for endourology with a maximum power of 35 watts – known as the Gold Standard tool for endosurgical laser lithotripsy for the treatment of ureter stones and common bile duct stones.

As perfect lithotripter, the MultiPulse Ho is optimized for pulverization and fragmentation of ureteral, bladder and kidney stones. Effective for the treatment of all types and chemical stones composition, the MultiPulse Ho today represents the optimal solution even for those particularly difficult to reach. Moreover, its power of 35 W allows the MultiPulse Ho to manage large calculi with efficient and fast surgeries.

ADVANTAGES FOR THE SURGEON

- Specific for ureteral and kidney stones fragmentation/pulverization
- Effective for various types of stones
- High success rate
- Low percentage of complications
- High peak power and wide power range
- Short learning curve
- Easy to install and operate

ADVANTAGES FOR THE PATIENT

- Minimally invasive surgery
- Immediate relief from symptoms and short recovery time
- Minimal side effects
MULTIPULSE HO

Features

SHORT LEARNING CURVE
intuitive user interface

VERSATILITY
multiple combinations of frequency and energy

ADJUSTABLE PULSE DURATION
between 95 - 1900 μs

HIGH PEAK POWER

SPECIALISED TOOL FOR LITHOTRIPSY
known as the Gold Standard

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APPLICATIONS AND CLINICAL CASES

The MultiPulse Ho laser device is intended for use in open, laparoscopic and endoscopic surgical procedures for incision, excision, resection, ablation, vaporization, coagulation and hemostasis of soft and hard tissue in use in the following medical specialties:

**UROLOGY**

The MultiPulse Ho is a surgical holmium laser for endourology with a maximum power of 35 watts – known as the Gold Standard tool for endosurgical laser lithotripsy for the treatment of ureter stones, bladder and kidney stones. Furthermore, the MultiPulse Ho enables the enucleation of the prostate as a minimally invasive treatment.

**GASTROENTEROLOGY**

The MultiPulse Ho is indicated for open and endoscopic gastroenterology surgery (incision, excision, resection, ablation, vaporization, coagulation and hemostasis) including but not limited to gall bladder calculi, biliary/bile duct calculi, benign and malignant neoplasm, polyps, colitis as a few examples.
Applications

ENT

The **MultiPulse Ho** is indicated for endoscopic vaporization, ablation, incision, and coagulation of soft tissue and cartilage during endonasal/sinus surgery procedures, including the following applications like reduction of turbinates (mucosa, bone), shrinkage of nasal polyps, shrinkage of benign tumors of the larynx, dacryocystorhinostomy (DCR) or functional endoscopic sinus surgery (FESS).

ARTHROSCOPY

The **MultiPulse Ho** is indicated for arthroscopy/orthopedic surgery (excision, ablation and coagulation of soft, hard and cartilaginous tissue) in small and large joints of the body, excluding the spine but including the following examples: meniscectomy, plica removal, ligament and tendon release or contouring and sculpting of articular surfaces.

GENERAL SURGERY

The **MultiPulse Ho** is indicated for open, laparoscopic, and endoscopic general surgery (vaporization, ablation, incision, and coagulation of soft and hard tissue) including but not limited to excision of external tumours and lesions, complete or partial resection of internal organs, tumours and lesions, but also cholecystectomy, lysis of adhesions, appendectomy, skin incision or tissue dissection.
UROLOGY APPLICATIONS

The following applications are indicated for urology while using the Ho:YAG wavelength in open and endoscopic surgery (incision, excision, resection, ablation, vaporization, coagulation and haemostasis) including:

- Ureteral Strictures
- Bladder Neck Incisions (BNI)
- Transurethral incision of the prostate (TUIP)
- Ablation of Benign Prostatic Hypertrophy (BPH)
- Ablation and resection of Bladder Tumours, Ureteral Tumours and Kidney Tumours
- Condylomas
- Lesions of external genitalia

URINARY LITHOTRIPSY | URETHROTOMY | LASER LITHOTRIPSY

Lithotripsy with the MultiPulse Ho is an excellent alternative to the traditional ESWL (Extracorporeal Shockwave Lithotripsy), as it involves less risk of complications and a higher degree of efficiency and safety, regardless of the stone type to be treated. Compared to other surgical procedures, it features the undeniable advantage of minimizing bleeding during surgery.

The wide range of multiple combinations of frequency and energy enables the urologist to choose the right setting for any treatment. High energy and low frequency are used for fast and rough fragmentation while low energy and high frequency settings allows stones dusting in so small particles that can be expelled with minimal discomfort to the patient.
## HOLMIUM LASER LITHOTRIPSY VS. ESWL

<table>
<thead>
<tr>
<th></th>
<th>ESWL</th>
<th>HOLMIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of treatments</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>Single treatment success</td>
<td>20 – 60 %</td>
<td>90 – 100 %</td>
</tr>
<tr>
<td>Result</td>
<td>Smaller stones</td>
<td>Stone free</td>
</tr>
<tr>
<td>Mechanism</td>
<td>Shatter</td>
<td>Vaporize</td>
</tr>
<tr>
<td>Potential ‘seeds’</td>
<td>Yes</td>
<td>No</td>
</tr>
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</table>
Retrograde intrarenal surgery for staghorn calculus occurring in the renal pelvis, with branches extending into the medium and inferior calyces. RIRS was performed with flexible ureterorenoscopy and using MultiPulse Ho laser with 200 μm fiber.

BLADDER STONE TREATMENT
(pulverization and fragmentation) with the MultiPulse Ho.
DIFFERENT STEPS OF REMOVING BLADDER STONES
performed by using the MultiPulse Ho laser system.

LITHOTRIPSY BENEFITS WITH THE MULTIPULSE HO

- More effective in removing embedded stones
- Works well on all stone compositions - unlike EHL, ultrasound or lithoclast
- Small fibers used with either flexible or rigid scopes
- Minimal stone movement
- Virtually no bleeding
Treatment of urethral stricture, resulting from spongiofibrosis due to different causes such as inflammation or trauma, can now be quickly and effectively treated with holmium laser urethrotomy using the MultiPulse Ho. This minimally invasive and safe procedure is suitable for short urethral strictures as well as for more significant strictures or for the treatment of urethral atresia. The laser ablates damaged tissue with a clean cut, free of bleeding and without penetrating too deeply. This reduces the risk of lateral thermal damage, complications, recurrences or the formation of post-surgery fibrosis, resulting in complete restoration of normal urinary flow.

**URETHROTONOMY BENEFITS**

- Minimally invasive and safe procedure suitable for short urethral strictures and for more significant strictures or for the treatment of urethral atresia
- Resulting in complete restoration of normal urinary flow
- Reduces the risk of lateral thermal damage, complications, recurrences or the formation of post-surgery fibrosis
- Ablation of damaged tissue with a clean cut and without penetrating too deeply
- Virtually no bleeding procedure
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>MultiPulse Ho</strong></th>
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<tbody>
<tr>
<td><strong>Laser Source</strong></td>
<td>Ho:YAG</td>
</tr>
<tr>
<td><strong>Wavelength</strong></td>
<td>2,100 nm</td>
</tr>
<tr>
<td><strong>Emission Mode</strong></td>
<td>Pulsed Wave (pw)</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>up to 35 W</td>
</tr>
<tr>
<td><strong>Pulse Energy</strong></td>
<td>0.2 - 8 J*</td>
</tr>
<tr>
<td><strong>Repetition Rate</strong></td>
<td>3 - 30 Hz</td>
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<tr>
<td><strong>Pulse Duration</strong></td>
<td>95 - 1900 μs</td>
</tr>
<tr>
<td><strong>Cooling</strong></td>
<td>Internal water cooling</td>
</tr>
<tr>
<td><strong>Control Panel</strong></td>
<td>7&quot;LCD TFT touchscreen</td>
</tr>
</tbody>
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**Device Accessories**
Fiber handpieces and diverse cannulas
Bare fibers (reusable and single use) available in following diameters: 200, 272, 365, 400, 550, 600, 800, 1000 μm

**Electrical Requirements**
- 115 VAC, 50/60 Hz, 16 A
- 230 VAC, 50 Hz, 10 A

**Dimensions and Weight**
50 (W) x 40 (D) x 54 (H) cm - 53 kg

* MultiPulse Ho for the USA is limited to 6 J.

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JenaSurgical is the brand of the surgical business unit of Asclepion Laser Technologies. Specifications are subject to change without notice.