Surgical Excellence, Redefined
Introducing: **MOSES™ 2.0**

**TECHNOLOGY**

Making the best **even better**

- Significant Economic savings\(^9_{,23}\)
- Increased Efficiency\(^1_{,9}\)
- Higher Precision\(^1_{,9}\)
- Optimal Energy Delivery\(^1_{,9}\)

The initial controlled laser pulse separates the water, creating a pathway for a second laser sequence. The second part of the pulse is then emitted through the initial bubble, delivering an optimized laser pulse to the target.\(^1\)
MOSES 2.0 Laser Lithotripsy
Continuous innovation

Be it a kidney, ureteral or bladder stone, soft or hard - MOSES 2.0 provides you with the speed and power you need for both ureteroscopic and percutaneous stone treatments\(^1\)

---

**Efficient energy transmission for each working distance**

- 90%
- 70%
- 50%
- 30%
- 10%

% Transmission

Distance, mm

Bench test, a representative case\(^2,3\)
Lithotripsy Performance, Unleashed
Embrace the Best-In-Class Combination of the MOSES 2.0 Laser and Fibers

- **20% Faster Procedures**
  As shown in a randomized clinical trial, the MOSES Technology reduces procedure time by 20%, making your treatments faster and more efficient.¹

- **33% More Efficient Fragmentation**
  MOSES high precision and optimized impact on the target stone makes the most of every shot, leading to a greater ablation rate compared to regular pulses.¹

- **50% Less Retropulsion**
  The MOSES Technology has taken retropulsion reduction to the next level, decreasing retropulsion levels by 50%.¹

- **120 Hz End-to-End Excellence**
  From ultra-speed stone dusting, through unprecedented pop-corning settings - MOSES 2.0 offers the speed and energy you need - when you need it.³
**MOSES 2.0**
**Increased efficiencies**

85% greater stone ablation at 120Hz

![Graph showing 85% greater stone ablation at 120Hz](image)

53% greater stone ablation at similar power

![Graph showing 53% greater stone ablation at similar power](image)

Focus on what matters in your percutaneous approach

**Standard, Mini and UltraMini PCNL**

Leverage MOSES' advantages to create smaller stone particles, allowing you to miniaturize your percutaneous access.

**PCNL suction handpiece**

Allows for simultaneous lithotripsy and aspiration of stone fragments for greater control in Standard PCNL.
MOSES 200 D/F/L flexible fiber is designed to minimize scope deflection loss\(^{1,8}\), enabling you to reach difficult-to-access stone locations.

Advanced ball-shaped tip enables a smooth initial insertion of the MOSES 200 D/F/L fiber, through a flexible scope, designed to minimize potential scope damage.

**Fiber Tip Degradation (mm)**

<table>
<thead>
<tr>
<th></th>
<th>MOSES</th>
<th>REGULAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The unique MOSES pulse, combined with best-in-class surgical fibers, results in minimal fiber burnback and improved control.\(^3\)

---

1. Bench test, a representative case\(^1\)
2. \(^1\)
3. \(^3\)
Shifting paradigms

Cementing HoLEP as the clinically superior treatment for BPH, the MOSES technology enables same day Catheter Free discharge, and faster procedures.9,10,11

The MOSES BPH bubble is a unique optimization for BPH procedures, improving capsule-adenoma separation and blood vessel coagulation.9

- **90+ %** Same Day Discharge9
- **40 %** Faster Hemostasis9
- **15 %** Faster Enucleation9
MOSES 2.0 for HoLEP
Make an impact that lasts

**Same Day Discharge, Catheter Free**
With more efficient procedures and minimal bleeding – MOSES BPH results in over 90% of patients being discharged on the same day, and with better bladder voiding outcomes.⁹

**Faster Procedures**
With 15% faster enucleation and 40% faster hemostasis – MOSES BPH simultaneous cutting and cauterizing significantly reduce surgical time and anesthesia use.⁹

Enucleation efficiency⁹,¹²,¹³

<table>
<thead>
<tr>
<th>Procedure</th>
<th>gm/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURP¹</td>
<td>0.5</td>
</tr>
<tr>
<td>Greenlight¹</td>
<td>0.5</td>
</tr>
<tr>
<td>HoLEP²</td>
<td>0.7</td>
</tr>
<tr>
<td>MOSES HoLEP³</td>
<td>1.9</td>
</tr>
</tbody>
</table>
**Faster Learning Curve**

Become adept at the HoLEP technique after only 20-30 supervised procedures.\(^{14}\)

With less fiber burnback and improvements in hemostasis - MOSES enables a tapered learning curve by providing better vision clarity and control during the procedure.\(^9\)

---

**Lower Reoperation Rates\(^{15, 16, 17}\)**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>10 years</th>
<th>8 years</th>
<th>3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>HoLEP</td>
<td>0.7%</td>
<td>14.7%</td>
<td>11.0%</td>
</tr>
<tr>
<td>TURP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Lower Complication Rates\(^{15, 18}\)**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>10 years</th>
<th>8 years</th>
<th>3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>HoLEP</td>
<td>2.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TURP</td>
<td></td>
<td>6.1%</td>
<td></td>
</tr>
<tr>
<td>PVP</td>
<td></td>
<td></td>
<td>11.3%</td>
</tr>
</tbody>
</table>

---

With Moses 2.0 the learner can focus on mastering HoLEP without distractions. Minimal fiber burnback and movement and improved hemostasis decreasing surgery interruptions and allowing for more precise laser control.

Dr. Amy E. Krambeck
Professor of Urology at Indiana University School of Medicine
A powerful MOSES solution for accelerated vaporization

**Higher Vaporization Rate and Efficiency**
Up to 2.2x faster vaporization rate compared to regular pulse.\(^3\)^\(^{19}\)

**Improved Coagulation**
Control hemostasis and keep bleeding minimal with the advanced pulse reshaping and customized dual pedal.\(^20\)^\(^{,21}\)

**Enhanced Fiber Control**
Xpeeda™ side firing fiber is designed to deliver increased energy transmission\(^3\) in full contact without causing deep tissue charring.\(^22\)

---

I have noticed a significant difference when working with MOSES for vaporization. The vaporization rate was better and I found a smoother vaporization plane. I am looking forward to further exploring the potential benefits of the MOSES technology in BPH treatments.

**Dr. Fernando Gómez Sancha,**
Clinica Centro Madrid, Spain
Heritage of Innovation

1990
The World’s First Holmium Laser System for Urology

2000
The First High Power Holmium Laser System for BPH

2014
Lumenis Pulse 120H - An all-in-one Urology Suite

2017
MOSES Technology - Reframing the Laws of Physics

2018
MOSES BPH - A New Era for HoLEP Treatments

2020
Shifting Paradigms in Urology Treatments

Impact with Every Interaction

Continuous Innovation
From the first Holmium Laser for Urology to the patent-protected MOSES Technology – Lumenis is leading Urology innovation

Proven Versatility
Backed by hundreds of clinical papers – the Lumenis Urology Platforms offer 360° solution for both lithotripsy and soft tissue applications

Elevating Life
Continuously striving to provide better technology for better patient care – making an impact on hundreds of thousands of patients every single day

Peace of Mind
With thousands of global installations and hundreds of supporting clinical publications – Lumenis is your trusted global partner
**Technical Specifications**

**MOSES PULSE 120H**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moses Technology</td>
<td>Lithotripsy &amp; BPH</td>
</tr>
<tr>
<td>Maximum Optical Power</td>
<td>120 W</td>
</tr>
<tr>
<td>Wavelength</td>
<td>Holmium (2.1 μm)</td>
</tr>
<tr>
<td>Repetition Rate</td>
<td>5-120Hz</td>
</tr>
<tr>
<td>Pulse Energy</td>
<td>0.2-6 J</td>
</tr>
<tr>
<td>Integrated Suction</td>
<td>Yes</td>
</tr>
<tr>
<td>Case Saver Mode</td>
<td>Yes</td>
</tr>
<tr>
<td>Dual Pedal Footswitch</td>
<td>Yes</td>
</tr>
<tr>
<td>Pulse Width</td>
<td>Adjustable (Short, Medium, Long)</td>
</tr>
<tr>
<td>Fibers</td>
<td>Lumenis reusable and single use fibers</td>
</tr>
<tr>
<td>Smart Identification System (SIS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Aiming Beam</td>
<td>Green</td>
</tr>
<tr>
<td>Fiber Support Arm</td>
<td>Optional</td>
</tr>
<tr>
<td>Weight</td>
<td>260 kg</td>
</tr>
<tr>
<td>Dimensions [W / L / H]</td>
<td>47 x 116 x 105 cm</td>
</tr>
<tr>
<td>Voice Confirmation Indicating System’s Operational Status</td>
<td>Yes</td>
</tr>
<tr>
<td>Electrical</td>
<td>200-240 VAC, &lt;46 Amp, 50/60 Hz</td>
</tr>
<tr>
<td>Warranty</td>
<td>One year parts and labor</td>
</tr>
</tbody>
</table>

**Risk Information:**

The use of Moses technology in urology, enabled in the Lumenis Pulse 120H system, is contraindicated for patients who are unable to receive endoscopic treatments or are intolerant to prolonged anesthesia, as well as for resection or excision of large vascularized organs. Holmium lasers are intended solely for use by physicians trained in the use of the Ho:YAG (2.1 μm) wavelength. Incorrect treatment settings can cause serious tissue damage. The laser should be used only on tissues that are fully observable. See the system user manual for a complete list of contraindications and risks.
References:


3. Bench test results may not necessarily be indicative of clinical performance.


5. Roberts et al. Dusting utilizing suction technique (DUST) for percutaneous nephrolithotomy: Use of a dedicated laser handpiece to treat a staghorn stone. Poster presentation at EAU 2017


7. Sofer et al. Laser suction handpiece for percutaneous nephrolithotomy (PCNL): a clinical comparison to other lithotripters. Poster presentation at IUA 2018

8. Ghani et al. Ureteroscopic holmium laser lithotripsy using the Moses technology. Video presentation at WCE 2018


22. I. Colon, I. Grunberger et al., Transurethral Holmium Laser Vaporization of the Prostate (HoLVP): What to Expect on Initial Experience. Poster presentation at WCE 2016


Moses™ Technology US patent number - 9895196 B2