

A Holmium Laser for Today's Healthcare Environment

How hospitals boost case volumes and clinical outcomes while cutting costs with the Lumenis® MOSES Pulse™ 120H

In the mid-2000s, there was a shift from low to high watt lasers capable of higher repetition rates. Today, another change is taking place. Surgeons are moving from high rep lasers to the high rep rate lasers with MOSES Technology, the Lumenis MOSES Pulse 120H. This system delivers: 1) world-class fragmentation and dusting, 2) unparalleled BPH surgeries, and 3) unique, patented MOSES Technology for stone and prostate.

MOSES Technology was invented at just the right time. Hospitals are operating on ever-thinning margins, putting pressure on surgeons to reduce operative time, lower complications, reduce readmissions, and cut disposable costs, all while performing more procedures. Below is a summary of how surgeons are achieving these goals.

The Revenue “Game Changer”

By cutting procedure time, the Lumenis MOSES Pulse 120H gives surgeons the opportunity to increase their procedure volume and spend more time on other priorities. Lance P. Walsh, MD, PhD, founder and principal surgeon of Walsh Urology and Associates, Rancho Mirage California, and a surgeon with the The Advanced Institute in Mount Pleasant, Texas, sees that impact every day.

“Stones are the number one thing that urologists treat, and for us, the Lumenis MOSES Pulse 120H is a game changer. This disruptive technology cuts the time to treat stones in half, with better outcomes. For example, I just treated a 9-mm proximal ureteral stone using MOSES technology, and it took about 4 minutes to completely dust the stone. I didn't have to chase it up the ureter and into the kidney—it stayed in place the whole time,” Dr. Walsh said. “The procedure is pretty amazing. The patient spends less time in the OR under anesthesia now because this technology is so efficient. We can add more cases as well, which is great, because the technology is drawing a lot of patients in our area.”

The game changer

In a recent study, dusting reduced procedure time **44%** without compromising stone-free rates.¹ In a different study, by shifting from standard dusting to MOSES Pulse 120H, procedure times dropped an additional **20%**.^{2,3}

Ivan Grunberger, MD, president of Brooklyn Urology, former chief of urology at New York-Presbyterian Brooklyn Methodist Hospital and professor of clinical urology at Cornell Weill Medical College, has had similar experiences with the system, which he notably also describes as a “game changer.”

“The Lumenis MOSES Pulse 120H is a game changer in the treatment of urinary stones. With concentrated energy and significantly less retropulsion, lithotripsy is more efficient and procedures are shorter. We can do more cases. Patients spend less time under anesthesia and are spared the effects of extended pressure and damage to the ureter,” he said “There are no drawbacks to the combination of a higher-powered holmium laser with MOSES technology. We're very excited about it.”

Adding Cases

Generating an average of \$7077 per procedure,⁴ the addition of 1 or 2 cases per week can contribute significant revenue:

+1 case each week = **\$368K**
+2 cases each week = **\$736K**

More Complex Cases, More Referrals

In addition to shortening surgery time, the MOSES Pulse 120H helps retain complex cases physicians may have previously referred, including individuals with very large prostates, staghorn stones, and/or complex medical problems, such as obesity. That means hospital can grow as a referral center.

Barry H. Bodie, MD, a urologist with Medical Group of the Carolinas in Spartanburg, South Carolina, explained how treating complex cases with the MOSES Pulse 120H bolsters profit margins.

“The Lumenis MOSES Pulse 120H laser significantly reduces the costs of treating obese patients or complex cases,” Dr. Bodie said. “Most hospitals get paid a single diagnostic-related group rate fee for kidney stone treatment, and that has to cover all aspects of the procedure, including

anesthesia and staff time. Therefore, the less time we need to spend treating the kidney stone, the greater the margin. This laser also allows me to treat more patients in a single day, and fewer patients require retreatment.”

Reducing Costs

While harder to quantify, soft costs add up. If you take an average 53 min⁶ ureteroscopy case, use Moses Technology to cut it by 11 minutes^{2,3} and assume your OR costs \$100⁵ per minute to operate, your hospital would reduce costs by ~\$1100 on that ONE case.

Sample hospital savings over a the course of a year:

10 laser lithotripsy / week = **\$572,000**
20 laser lithotripsy / week = **\$1,144,000**

Hospitals are finding that the MOSES Pulse 120H provides an efficient laser solution for both BPH and stones, while increasing revenue for these conditions, according to G. Richard D. Batstone, MA, MB, BChir, MD (Cantab), FRCS (Urol), FRACS, FRCSC, of Northern Lights Urology in Bangor, Maine, and Franklin Health Urology in Farmington, Maine.

“I use the MOSES Pulse 120H to perform flexible ureteroscopy for stones of all sizes. Colleagues refer complex stone cases, such as large or staghorn stones, that might otherwise require multiple PCNL sessions,” he said.

In his dual role working in both a mid-sized city and a rural hospital, Dr. Batstone has seen how increased retention and referrals can provide a new revenue for smaller and rural hospitals.

“I think it’s something rural hospitals can use to grow. With the MOSES Pulse 120H, smaller or rural hospitals retain cases, rather than refer patients elsewhere,” he explains. “I schedule procedures twice a week at a rural hospital that is some way from my home. It’s a great fit for a rural setting because even for larger stones or prostates, the efficiency and low complication rates mean I don’t require a large surgical staff, available, or blood products. I feel comfortable driving home, without worrying my patients will need to be hospitalized for complications or taken to the OR for bleeding.”

References

1. Humphreys MR et al. Dusting versus Basketing during Ureteroscopy-Which Technique is More Efficacious? A Prospective Multicenter Trial from the EDGE Research Consortium. J Urol. 2018 May;199(5):1272-1276. 2. Elhilali MM et al. Use of the Moses Technology to Improve Holmium Laser Lithotripsy Outcomes: A Preclinical Study. J Endourol. 2017 Jun 1;31(6):598-604. 3. Andonian et al. Double-blinded Prospective Randomized Clinical Trial Comparing Moses and Regular Modes of Holmium Laser Lithotripsy: Preliminary Results. Podium presentation at EAU 2018 4. Boston Scientific proprietary dataset 5. Karen Stern et al. The Moses System – Time is money Journal of Urology Vol. 199, No. 4S, Supplement, Monday, May 21, 201 6. Ursiny et al. Cost effectiveness of dusting vs basketing intrarenal stones: a study from the edge consortium The Journal of Urology Vol. 199, No. 4S, Supplement

Impact on Complications and Readmissions

Employing the stone dusting approach may allow a surgeon to reduce the use of stents and the issues that can come with them. Additionally, efficiently eliminating stones may reduce the chance that stones will reform. Michael Maddox, MD, a urologist at Ochsner Medical Center in New Orleans, has been tracking readmissions at his institution:

“We do not have long-term data yet on how stone dusting with the MOSES Pulse 120H may be reducing retreatment rates, but we do know that we have improved the two most common reasons for readmission: residual stones and stent utilization,” Dr. Maddox explained. “Logically, shorter procedure time and anesthesia times should lower our patients’ risk of complications and reduce costs. As we continue to track these numbers, we hope to find that our approach is moving us closer to our goal – treating kidneys stones just once.”

Lower Direct Costs

Because staff and OR times are the biggest costs associated with most procedures, the bulk of the cost savings associated with the MOSES Pulse 120H are tied to the time saved. Reduced complications and readmissions are another area for potential savings, as are direct costs of surgery. As Lance Walsh M.D. pointed out, the technology is helping his hospital meet its goals of reducing disposables and other direct costs of surgery.

“When we dust stones with the Lumenis MOSES Pulse 120H, we use fewer disposables than we do with other techniques.” “For example, we don’t need a basket for fragment retrieval and can often go without a sheath, Dr. Walsh explained.”

A 21st Century Solution

Today’s challenge in medicine – to do more, with less. The Pulse 120H with MOSES Technology is the rare breakthrough that changes this tough challenge into an exciting one. Yes, it helps generate revenue and cut soft and hard costs, but also gives Surgeons time back time to focus on what is most important, patient care.

Risk information

The use of the MOSES Technology, The Lumenis Pulse 120H and the Lumenis Pulse 60H in urology 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.

