Laser enucleation of the prostate

(RP-ThuLEP / HoLEP)

Practical guide to the procedure and post-operative recovery

PROF BOVE
ROBOTIC AND MINIMALLY INVASIVE UROLOGY

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Laser enucleation of the prostate is a well-established modern surgical technique for treating benign prostatic hyperplasia (BPH), a very common condition that can cause difficulty urinating, weak stream, frequent urination (including at night), urinary urgency and, in more advanced cases, urinary retention or infections.

The aim of the procedure is **to remove the prostatic tissue that obstructs urine flow** while preserving the surrounding healthy structures. Put simply, the goal is not only to "create a channel," but to remove the obstruction at its source, with durable results over time.

How the procedure is performed

The procedure is performed **endoscopically**, with no external incisions, passing through the urethra.
The laser allows the surgeon to separate the obstructive prostatic tissue with high precision and, in general, less bleeding than traditional surgery.

The duration depends on prostate volume and is usually between **60 e 120 minutes**.

Preparation for surgery

Before the procedure, it is important to follow these key instructions:

- **Discontinue anticoagulant or antiplatelet medications**, only as instructed by your treating physician or cardiologist
- **Fast from the evening before** (no food or drink)
- Complete the scheduled pre-operative tests and the anesthesiology assessment

These measures help reduce the risk of bleeding and anesthesia-related complications.

Immediately after surgery

At the end of the procedure, a **urinary catheter**, is inserted and usually remains in place for **36–48 hours**.
The catheter is needed to support proper healing, allow bladder irrigation, and prevent urinary retention during the first hours.

Hospital stay is usually short, around **2–3 days**, unless specific clinical needs arise.

What to expect after catheter removal

In the first days after catheter removal, it is common to experience:

- burning during urination
- increased urinary frequency
- urgency, sometimes sudden
- a urinary stream that is not yet stable

These symptoms **do not indicate a problem with the procedure.** They are part of the normal healing process, as the bladder needs to readapt after years of obstruction. Improvement is typically gradual over the following weeks.

Possible side effects

As with any surgical procedure, laser enucleation can be followed by side effects, which are usually temporary.

Irritative urinary symptoms

In the days or weeks after surgery, patients may experience:

- increased urinary frequency
- urgency, sometimes with a strong, difficult-to-defer urge

In rare cases, these symptoms may persist for **up to 2–3 months.** They are related to the long-term functional strain the bladder may have developed due to prostatic obstruction.

📌 These symptoms:

- are **temporary** in most cases
- can **improve significantly** with targeted medical therapy

Severity may also depend on the type of laser used and the amount of energy absorbed by residual prostatic tissue.

Retrograde ejaculation

This is one of the most common outcomes after the procedure.

📊 Incidence: **70–80% of cases**

During ejaculation, semen does not exit externally but flows back into the bladder and is then expelled with urine during the next voiding.
This occurs because, to restore effective urinary emptying, the procedure requires removal of the **bladder neck** tissue, which normally closes during ejaculation.

👉 In brief:

- for good urination, the bladder neck needs to remain open
- for semen to exit externally, it should close
- after surgery, this mechanism is no longer possible

Retrograde ejaculation **is not dangerous**, but it is generally irreversible.

Ejaculation-preserving techniques

In selected cases, modified “ejaculation sparing” techniques may reduce the risk of retrograde ejaculation.

📊 With these techniques:

- retrograde ejaculation occurs in about **10–30% of cases**
- the **de-obstructive effect may be lower** than with standard techniques
- complete preservation is not guaranteed

The choice should be individualized, balancing urinary outcomes and sexual function with your surgeon.

Possible complications

Overall, complications are **uncommon**, but they should be understood:

- **Intra- or post-operative bleeding** requiring re-intervention
  📊 **0,1%**
- **Acute urinary retention** requiring catheter reinsertion
  📊 **6%**
  (higher risk in very large prostates)
- **Transient urinary incontinence**, usually mild
  📊 **1,5%**
- **Delayed bleeding** (2–3 weeks after surgery) due to shedding of healing eschar
  📊 **0,5%**
- **Bladder neck sclerosis/contracture**
  📊 **1,7%**
- **Urethral stricture**
  📊 **2,6%**
- **Bladder injury during morcellation,** usually managed with prolonged catheterization; rarely, surgical conversion may be needed
- **Urinary tract infections**
  📊 **2%**

Rare general complications are also possible (deep vein thrombosis, pulmonary embolism, myocardial infarction, stroke), which are prevented through appropriate prophylaxis and monitoring.

After discharge

Before discharge, the team will confirm:

- ability to urinate independently with a good stream
- absence of ongoing bleeding
- absence of fever or significant pain

In some cases, discharge may occur **with the catheter still in place** for a few additional days, for safety.

In the weeks that follow

For **10–15 days**, sometimes up to **1 month**, you may notice:

- traces of blood in the urine
- darker urine
- small clots or flakes

👉 These are expected signs of internal healing.

After catheter removal, increased urinary frequency or urgency can persist. If bothersome, **report these symptoms**, as they can be treated.

Practical advice

After discharge, it is recommended to:

- live normally while avoiding strenuous physical effort
- follow a balanced diet
- pay attention to bowel regularity
- Sexual activity and sports can usually be resumed **after about 15 days**.

When to seek urgent care

After discharge, if you have:

- fever above 38°C
- inability to urinate
- severe pain not controlled by the prescribed therapy
- sudden bleeding with clearly red urine

contact the urology unit where the procedure was performed or go to the Emergency Department, always mentioning the recent surgery.

For non-urgent issues (persistent urinary symptoms, burning, urgency), contact your urology team using the discharge contacts rather than waiting for the scheduled follow-up.

Contacts:

- for urgent cases
- And for non-urgent communications:
  - segreteria@drbove.it
  - +39 335 720 5594 (9:00–20:00 on weekdays)

👉 Early communication allows simple and effective management in most cases, helping prevent complications or unnecessary emergency visits. Follow-up visits will be scheduled according to the clinical situation and the extent of the procedure.

Experience and safety of the care pathway

The procedure is performed by a team with l**ong-standing experience in the surgical treatment of BPH**, including **very elderly patients, patients with complex comorbidities, or patients on chronic therapies**. The care pathway involves surgeons, anesthesiologists, and highly specialized nursing staff who manage every phase, **from pre-operative preparation to follow-up**.

👉 This multidisciplinary approach supports **high safety standards**, even in clinically complex cases.

How to interpret the information and figures provided

The information and percentages reported in this brochure derive from published scientific data and from clinical experience over time. It is important to understand that, in medicine, **statistics are not absolute certainty**.

Numbers describe what happens **in most cases**, but they cannot predict with certainty what will happen in an individual patient. Each person has a different clinical history, different baseline conditions, and an individual response to surgery and healing.

👉 Percentages are intended to **inform and guide**, not to provide absolute predictions.
The team's clinical experience helps interpret scientific data in light of each **patient's specific situation**, adapting the care pathway accordingly.

The goal of this brochure is to provide clear, transparent information to help patients understand the surgical pathway, knowing that decisions are always **made with the person in mind, not only the numbers.**

For more detailed information, please refer to https://www.pierluigibove.com/en/ and download the informed consent form: HoLEP / ThuLEP