HOLMIUM LASER ENUCLEATION OF THE PROSTATE (HoLEP)

Information about your procedure from
The British Association of Urological Surgeons (BAUS)

This leaflet contains evidence-based information about your proposed urological procedure. We have consulted specialist surgeons during its preparation, so that it represents best practice in UK urology. You should use it in addition to any advice already given to you.

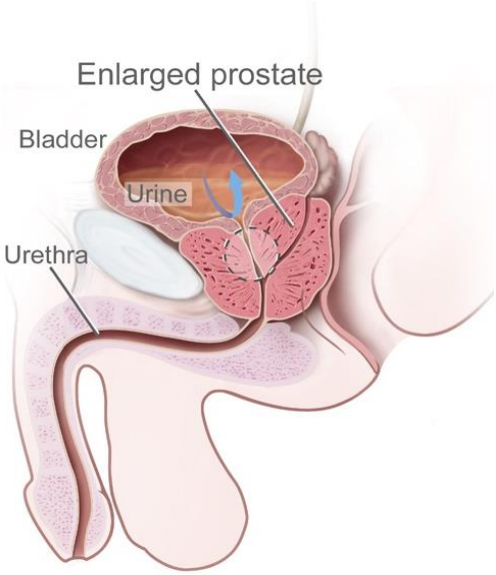
To view the online version of this leaflet, type the text below into your web browser:
http://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/HoLEP.pdf

Key Points

- HoLEP involves removing obstructing prostate tissue using a laser fibre passed along a telescope through your penis (waterpipe)
- It is very effective at improving your urinary symptoms related to bladder outflow obstruction, and for men suffering from retention of urine who are dependent on a urinary catheter
- You will have a catheter in your bladder for 24 to 72 hours after the operation to wash out blood clots
- The most common after-effects are loss of semen emission during ejaculation and temporary bleeding, burning or urinary frequency

What does this procedure involve?

The prostate gland sits around the water pipe as it leaves the bladder and, when it enlarges, it may block the flow of urine (pictured right).



The procedure involves passing a telescope through your urethra (waterpipe) and "peeling out" the central part of your prostate gland using a laser; this creates a wide channel which allows urine to flow more easily. We usually insert a temporary bladder catheter at the end of the operation.

What are the alternatives?

- **Observation** – no treatment using drugs or surgery, but monitoring of any change in your symptoms; symptoms in some men can improve over time without any treatment or with the use of lifestyle interventions
- **Medications to improve urine flow (or to shrink the prostate)** – Common ly used medications include tamsulosin, doxazosin, terazosin, finasteride & dutasteride
- **Permanent catheterisation** – this bypasses the prostate obstruction and may be a long-term option for men who are not considered suitable for surgery
- **Intermittent self-catheterisation** – this involves men passing a disposable catheter into the bladder to drain it. It is an alternative to permanent catheterisation (above) for men who cannot pass urine or who are unfit to undergo surgery
- **Other surgical procedures** – including **green light laser prostatectomy** or **"open" surgery**. Newer, minimally-invasive surgical alternatives, now increasingly available to patients, include **prostate artery embolisation (PAE)**, **Rezūm steam therapy** and **Urolift ™**

What happens on the day of the procedure?

Your urologist (or a member of their team) will briefly review your history and medications, and will discuss the surgery again with you to confirm your consent.

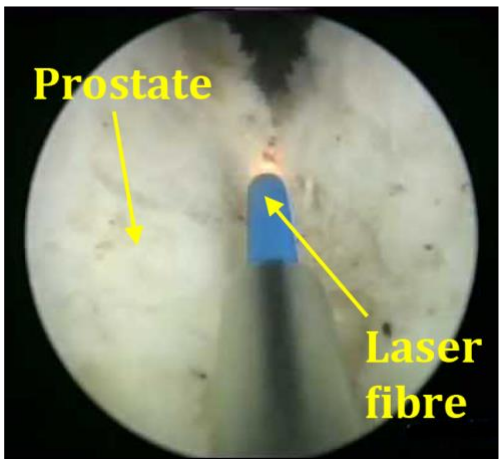
An anaesthetist will see you to discuss the options of a general anaesthetic or spinal anaesthetic. The anaesthetist will also discuss pain relief after the procedure with you.

We may provide you with a pair of TED stockings to wear, and we may give you a heparin injection to thin your blood. These help to prevent blood clots from developing and passing into your lungs. Your medical team will decide whether you need to continue these after you go home.

Details of the procedure

- we normally use a a general anaesthetic (where you are asleep) or a spinal anaesthetic (where you are unable to feel anything from your waist down)
- we usually give you an injection of antibiotics before the procedure, after you have been checked for any allergies

- we pass a telescope into your bladder through the urethra (water pipe) and use a laser fibre (pictured) to peel away pieces of the obstructing prostate tissue (prostate lobes) from the surrounding capsule of the prostate; the peeled pieces are flushed into the bladder
- we morcellate (chop up) and suck out the pieces of prostate, using a special instrument (a morcellator) passed into your bladder through the telescope
- we send the prostate tissue that has been removed for microscopic pathology analysis
- once the prostate has been removed, we carefully laser any bleeding points in the cavity left by the surgery
- we put a catheter into your bladder at the end of the procedure
- we normally use bladder irrigation through the catheter to flush through any clots or bleeding for a brief period after the surgery
- on average, the procedure usually takes abut two hours to complete, depending on the size of your prostate
- you can usually expect to be in hospital for one night but, in some patients, surgery can be done as a day case



We normally remove your bladder catheter within the first 1-2 days after your surgery. You may find it painful to pass urine at first and it may come more frequently than normal. You can relieve any initial discomfort with painkillers such as Paracetamol, and frequent passage of urine usually begins to improve within a few days.

The laser technique removes a lot of tissue so you may find your urinary control is not perfect at first. This improves as your pelvic floor muscles recover from the surgery and, for most men, this settles over a short period of time.

Your urine may turn bloody for 24 to 48 hours after removal of your catheter and some patients cannot pass urine at this stage. If this happens, we put another catheter in temporarily, to allow any swelling related to the operation to settle. Usually, you then go home with this catheter and return a week or so later for a second catheter removal; this is successful in almost all patients.

Further information and a video of HoLEP are available on the BAUS website.

Are there any after-effects?

The possible after-effects and your risk of getting them are shown below. Some are self-limiting or reversible, but others are not. We have not listed very rare after-effects (occurring in less than 1 in 250 patients) individually. The impact of these after-effects can vary a lot from patient to patient; you should discuss with your surgeon the risks and their impact on you as an individual:

After-effect	Risk
Temporary mild burning, bleeding and frequent urination	 Almost all patients
No semen is produced because it passes back into your bladder on ejaculation (retrograde ejaculation)	 In 9 out of 10 patients (90%)
Continuing blood in your urine for several days after surgery	 Between 1 in 2 & 1 in 10 patients
Temporary short-term loss of urinary control which can be improved with pelvic floor exercises	 Between 1 in 10 & 1 in 50 patients
Treatment may not relieve all your symptoms	 Between 1 in 50 & 1 in 250 patients
Bleeding requiring a blood transfusion or re-operation	 Between 1 in 50 & 1 in 250 patients
Anaesthetic or cardiovascular problems possibly requiring intensive care (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)	 Between 1 in 50 & 1 in 250 patients (your anaesthetist can estimate your individual risk)

What is my risk of a hospital-acquired infection?

Your risk of getting an infection in hospital is between 4 & 6%; this includes getting *MRSA* or a *Clostridium difficile* bowel infection. This figure is higher if you are in a "high-risk" group of patients such as patients who have had:

- long-term drainage tubes (e.g. catheters);
- long hospital stays; or
- multiple hospital admissions.

What can I expect when I get home?

- you will be given advice about your recovery at home
- you will be given a copy of your discharge summary and a copy will also be sent to your GP
- any antibiotics or other tablets you may need will be arranged & dispensed from the hospital pharmacy
- you should drink twice as much fluid as you would normally for the first 24 to 48 hours, to flush your system through and reduce the risk of infection
- you may return to work when you are comfortable enough and when your GP is satisfied with your progress
- one patient in five (20%) gets some bleeding 2-3 weeks after getting home, due to scabs separating from the cavity of the prostate. If this happens, you should increase your drinking; if it does not settle, you should contact your GP who will prescribe antibiotics for you
- if you have severe bleeding, pass blood clots or have sudden difficulty passing urine, you should contact your GP immediately; this may require re-admission as an emergency

Some loss of urinary control is common in the early days, so it is helpful to start pelvic floor exercises as soon as possible; these can improve your control when you get home. Click the link for further information on these exercises, or contact your urology Specialist Nurse. The symptoms of an overactive bladder (frequent & urgent urination) can take up to three months to settle, whereas the flow of urine is usually improved immediately.

It will usually be 14 to 21 days before the final biopsy results on the tissue removed are available. All biopsies that unexpectedly show cancer in your prostate are discussed in detail at a specialist multi-disciplinary meeting before any further treatment decisions are made. You and your GP will be informed of the results after a discussion with your specialist team.

Most patients need two to three weeks at home before they feel ready for work. We recommend three to four weeks' rest before you go back to work, especially if your job is physically demanding; you should avoid any heavy lifting during the recovery period.

General information about surgical procedures

Before your procedure

Please tell a member of the medical team if you have:

- an implanted foreign body (stent, joint replacement, pacemaker, heart valve, blood vessel graft);
- a regular prescription for a blood thinning agent (e.g. warfarin, aspirin, clopidogrel, rivaroxaban, dabigatran);
- a present or previous MRSA infection; or
- a high risk of variant-CJD (e.g. if you have had a corneal transplant, a neurosurgical dural transplant or human growth hormone treatment).

Questions you may wish to ask

If you wish to learn more about what will happen, you can find a list of suggested questions called "Having An Operation" on the website of the Royal College of Surgeons of England. You may also wish to ask your surgeon for his/her personal results and experience with this procedure.

Before you go home

We will tell you how the procedure went and you should:

- make sure you understand what has been done;
- ask the surgeon if everything went as planned;
- let the staff know if you have any discomfort;
- ask what you can (and cannot) do at home;
- make sure you know what happens next; and
- ask when you can return to normal activities.

We will give you advice about what to look out for when you get home. Your surgeon or nurse will also give you details of who to contact, and how to contact them, in the event of problems.

Smoking and surgery

Ideally, we would prefer you to stop smoking before any procedure. Smoking can worsen some urological conditions and makes complications more likely after surgery. For advice on stopping, you can:

- contact your GP;

- access your local NHS Smoking Help Online; or
- ring the free NHS Smoking Helpline on **0300123 1044**.

Driving after surgery

It is your responsibility to make sure you are fit to drive after any surgical procedure. You only need to contact the DVLA if your ability to drive is likely to be affected for more than three months. If it is, you should check with your insurance company before driving again.

What should I do with this information?

Thank you for taking the trouble to read this information. Please let your urologist (or specialist nurse) know if you would like to have a copy for your own records. If you wish, the medical or nursing staff can also arrange to file a copy in your hospital notes.

What sources have we used to prepare this leaflet?

This leaflet uses information from consensus panels and other evidence-based sources including:

- the Department of Health (England);
- the Cochrane Collaboration; and
- the National Institute for Health and Care Excellence (NICE).

It also follows style guidelines from:

- the Royal National Institute for Blind People (RNIB);
- the Information Standard;
- the Patient Information Forum; and
- the Plain English Campaign.

Disclaimer

We have made every effort to give accurate information but there may still be errors or omissions in this leaflet. BAUS cannot accept responsibility for any loss from action taken (or not taken) as a result of this information.

PLEASE NOTE

The staff at BAUS are not medically trained, and are unable to answer questions about the information provided in this leaflet. If you do have any questions, you should contact your urologist, specialist nurse or GP.