GREEN LIGHT LASER PROSTATECTOMY

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.

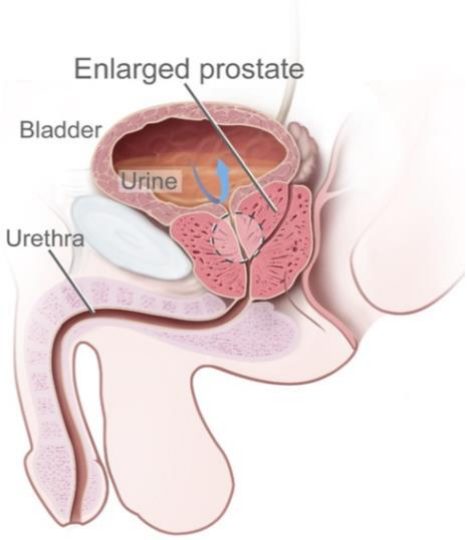
To view the online version of this leaflet, type the text below into your web browser:
http://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Greenlight.pdf

Key Points

- Green light laser prostatectomy (abbreviated to GLLP, but sometimes called photoselective vaporisation of the prostate or PVP) involves coring out obstructing prostate tissue using a laser fibre through a telescope passed along your urethra (waterpipe)
- The result is a wide open channel for urine through your prostate, with less bleeding and earlier discharge from hospital than conventional transurethral resection of the prostate (TURP)
- We carry out the majority of these procedures as day cases, and we usually remove your catheter within 72 hrs
- This operation is just as effective as TURP but has fewer side-effects
- The most common side-effects are inability to emit semen during ejaculation, burning on passing urine and urinating frequently

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 "coring through" the prostate gland using a laser; this creates a wide channel through which urine can flow more easily. We usually

insert a temporary bladder catheter at the end of the operation.

What are the alternatives?

- **Observation** – monitoring of any change in your symptoms; symptoms in some men can improve over time, either with the use of lifestyle interventions or without any treatment at all
- **Drug treatment** – commonly used drugs for prostate symptoms include tamsulosin & alfuzosin (to improve your urine flow) and finasteride & dutasteride (to shrink your prostate)
- **Permanent catheterisation** – especially in patients who, for any reason, are not considered suitable for surgery
- **Intermittent self-catheterisation** – this involves passing a disposable catheter yourself into your 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 which may be offered include:

- **Transurethral resection of the prostate (TURP)** - removal of the central, obstructing part of your prostate using electric current through a telescope passed along your urethra (waterpipe)
- **Holmium laser enucleation of the prostate (HoLEP)** - this involves passing a telescope through your urethra (waterpipe) and "peeling out" the central obstructing part of your prostate gland using a laser
- **Rezūm steam ablation** - a technique using a special instrument to inject steam into your prostate, resulting in subsequent shrinkage of the prostate gland
- **Urolift™ –** a minimally-invasive procedure to insert implants into your urethra (waterpipe) to pull back the obstructing prostate tissue
- **Prostate artery embolisation** – a technique where an expert radiologist (X-ray doctor) blocks off the arteries to your prostate gland, causing it to shrink over time
- **Open or laparoscopic simple prostatectomy** – removal of the obstructing prostate tissue, either through a surgical incision in your lower abdomen (tummy) or using a laparoscopic (keyhole) technique

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 to core through the obstructing prostate tissue (prostate lobes), opening up a channel which unblocks the flow; occasionally, small fragments of the prostate need to be washed out at the end of the operation
- the procedure is relatively bloodless but, should any bleeding occur, we can stop it using the laser. Very rarely we may need to use electrical cauterisation, through the same telescope, to stop bleeding
- we put a catheter into your bladder at the end of the procedure
- we normally use bladder irrigation through the catheter for a brief period after the surgery, to flush through any clots or bleeding
- on average, the procedure takes about 40 - 60 minutes of to complete
- you can usually expect to be discharged home on the same day, with a catheter (to be removed after 48 - 72 hrs); if you do need to stay overnight, we may remove your catheter the following morning

You are likely to find it painful to pass urine immediately after catheter removal, and you may need to pass urine more frequently than normal. You can relieve any initial discomfort with painkillers such as Paracetamol, and frequent passage of urine normally improves within a few days.

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

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)	 Between 3 in 10 & 5 in 10 patients
Continuing blood in your urine for several days after surgery	 Between 1 in 2 & 1 in 10 patients
Urinary tract infection (*see below for risk of septicaemia*)	 1 in 20 patients
Delayed scar tissue (stricture) formation	 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
Temporary short-term loss of urinary control which can be improved with pelvic floor exercises	 Less than 1 in 100 patients
Septicaemia (as a result of urinary infection)	 Between 1 in 100 & 2 in 100

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 rare but could happen in the early days, so it is helpful to start pelvic floor exercises as soon as possible, should this happen. 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.

Your prostate tissue is vaporised during this procedure operation, so no tissue is available to go for pathology analysis. If there is any concern about the presence of cancerous areas in your prostate, your urologist or specialist nurse can advise you about investigating this before your surgery.

Most patients need two weeks at home before they feel ready for work. We recommend two to three 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 **0300 123 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.