



You have been booked for a

# **GREEN LIGHT LASER PROSTATECTOMY**



**ROCKHAMPTON  
Urology**

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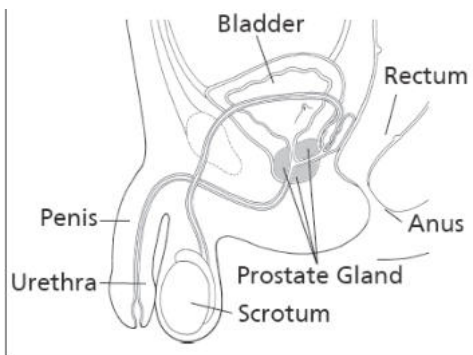
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The information contained in this booklet is intended to assist you in understanding your prostate and what your operation will involve. Some of the information may or may not apply to you. Feel free to discuss any issues and questions you may have about your surgery with the medical and nursing staff looking after you.

## **WHAT IS THE PROSTATE GLAND?**

The prostate gland lies below the bladder between the pubic bone and the rectum, and in shape like a doughnut with the urethra running through the hole in the centre of the gland. The urethra is the tube which carries urine from the bladder to the end of the penis. The normal role of the prostate gland is to produce secretions that help to nourish the sperm.

The prostate reaches his adult size, walnut size, by age 20. Typically, growth stops currently, then begins again at about age 45 and continues throughout life. By the age of 60 enlargement of the prostate gland



occurs in one in ten men and becomes more common as age increases. Since it surrounds the urethra, the increasing size of an enlarged gland can constrict the urethra making it difficult to pass water

## **SYMPTOMS OF PROSTATE ENARGEMENT**

Enlargement of the prostate, or Benign Prostatic Hyperplasia (BPH) is the most common problem experienced by older men, and can lead to troublesome urinary symptoms such as:

- A weak or slow urine flow, poor or interrupted urine stream.
- A feeling that your bladder is not empty after you have finished passing urine (incomplete emptying)
- Difficulty or a delay starting urination
- Increased frequency of urination both day and night.
- Difficulty postponing urination (urgency)
- Getting up frequently at night to urinate (nocturia)
- A urinary stream that starts and stops (hesitancy)
- Pushing or straining to urinate
- Residual dribbling after the bladder has been emptied.
- Return to urinate again minutes after finishing



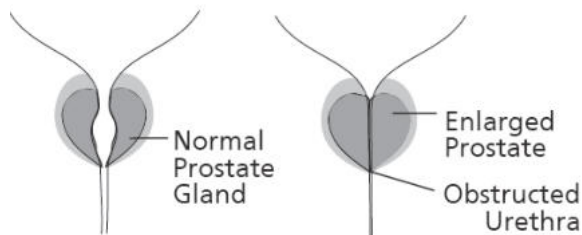
## WHAT TREATMENTS ARE AVAILABLE FOR PROSTATE ENLARGEMENT?

Treatment options include medication and surgery. **Green Light Laser** treatment is a new option, different to traditional surgery. It is minimally invasive procedure that evaporates the enlarged prostate tissue that is causing the block to urine flow from the bladder.

It uses state of the art light high power laser energy, which is specifically absorbed by the blood inside the prostate tissue. This energy absorption leads to vaporization of the targeted tissue and opens the once constricted passage to improve the flow of urine.

This treatment is sometimes referred to us as “bloodless therapy” as the laser seals blood vessels beneath the area of vaporization during the procedure, resulting in significantly less bleeding compared to traditional surgery methods, called transurethral resection of prostate (TURP).

Green light laser therapy is especially advantageous for patients who are on blood thinning medications such as Aspirin or patients who are taking anti-coagulation drugs such as Warfarin.



## **WHO NEEDS THIS OPERATION?**

This operation is required for men that have difficulty with water work function because of an enlarged prostate. It might be that you have failed medical therapy (alpha blockers), your symptoms are not improving or even deteriorating. The severity of symptoms does not always correlate with prostate size. You may have severe symptoms with only a mildly enlarged gland.

Conversely, men with large gland sizes don't necessarily have pronounced symptoms. Alternatively, it might be that you are unable to pass water at all and currently have a catheter in place.

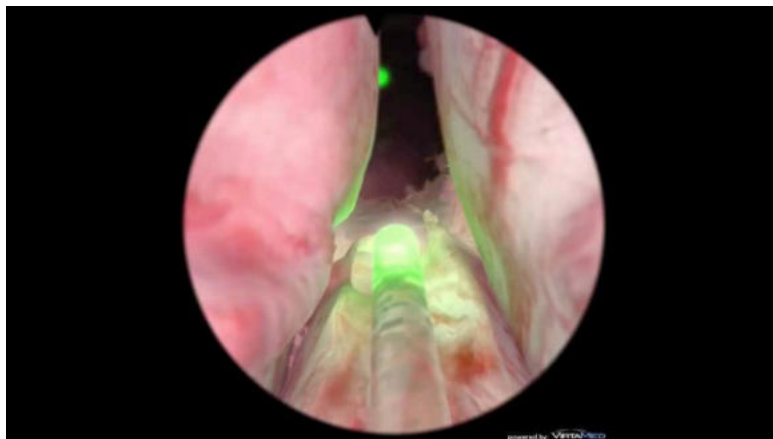


Other reasons for requiring this surgery include persistent bleeding that has been shown to be originating from the prostate; the formation of bladder stones due to chronic retention of urine, recurrent urinary tract infections, or a deterioration in your kidney function that is related to a blockage caused by an enlarged prostate.

## **WHICH PATIENTS ARE SUITABLE FOR GREENLIGHT LASER THERAPY?**

**The criteria selection of patients for Greenlight laser Therapy are the same as those for TURP**, so, any patient who would benefit from TURP may also be a candidate for Greenlight laser.

Your surgeon will perform an evaluation to see if you are a candidate for this therapy. Generally, men with enlarged prostate who are not responding to medication or who require surgery are considered suitable candidates for Greenlight Laser Therapy.

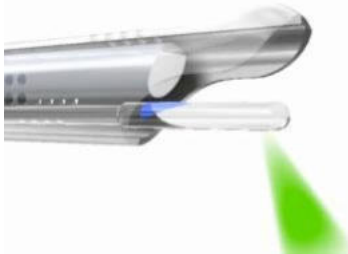


Additionally, if patients experience complications from their prostate enlargement they also require surgery.

Greenlight Laser therapy is especially advantageous for patients who are on blood thinning medications such as Aspirin or patients who are taking anti-coagulation drugs such as Warfarin.

## **WHAT IS GREEN LASER PROSTATE SURGERY?**

Greenlight laser therapy combines the effectiveness of the “gold standard” transurethral resection of the prostate (TURP) surgical procedure with fewer side effects. Several studies have shown comparable outcomes between the two procedures.

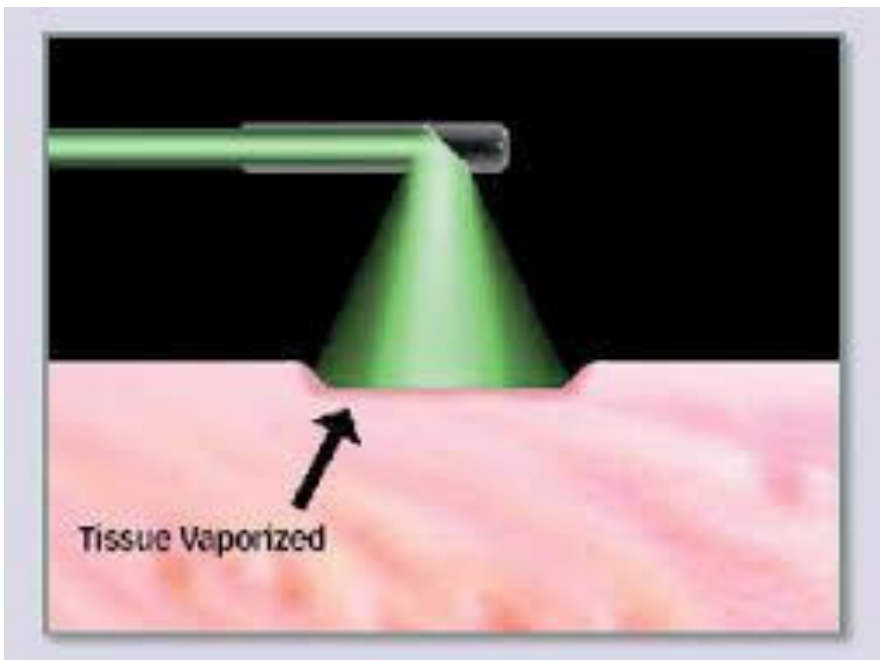


Green Light laser surgery of the prostate is also known **Photoselective Vaporisation of the Prostate**, involves using a state of art green light laser in the treatment of enlargement of the prostate gland or Benign Prostatic Hyperplasia. It vaporized the obstructing BPH tissue creating a TURP-like channel through the prostate adenoma. The new procedure is associated with fewer side effects and quicker recovery times than traditional surgery.

Green light laser prostate surgery is a minimally invasive procedure that is performed with a small laser fibre that is inserted through a cystoscope (tube-like camera used for inspecting the bladder). The laser is aimed at the internal part of the prostate, thereby vaporizing it and creating a wide-open channel for urine to flow through.

## **LASER PROSTATECTOMY**

Laser can be used to coagulate, vaporize or resect/enucleate prostate tissue.



A greater than 50% improvement in symptoms scores and an increase in peak urine flow rate of more than 50% have been reported. As with electro-vaporization, blood loss is minimal. Some patients may, however, experience postoperative dysuria and difficulty in passing urine for some weeks, because laser ablation involves higher temperatures than either hyperthermia or thermotherapy and there is a rim of devitalized tissue lining the prostate cavity.

Large-scale comparison with TURP to compare long term benefits and risk of Greenlight laser ablation with conventional surgery is lacking. Case series suggest satisfactory short-term results with less bleeding than with TURP.

Recent improvements in the technology have resulted in machines with power of up to 180 watts, which may lead to better and more durable clinical results. This recent upgrade of the technology allows higher energy to be delivered in a more focused fashion. This has resulted in more precise surgery and reduced treatment times.

The technology has only been available in Australia in major metropolitan areas. This technology is now available at Hillcrest Hospital Rockhampton.

## **HOW DOES THIS COMPARED TO STANDARD TURP OPERATION?**

For decades, the gold standard for treating BPH has been a transurethral resection of the prostate (TURP) operation. During a TURP,

an electrical cutting loop is passed down a cystoscope to chip away the obstructive prostate from the inside to create an open primarily to relieve urinary symptoms, not to detect prostate cancer. Those who are suspected of having prostate cancer are assessed and treated differently.



The Greenlight laser beam is directed onto the prostate surface and tissue vaporized in almost bloodless fashion. Green Laser vaporization is continued until all obstructing prostate tissue has been removed.

The Greenlight laser technology has been improved over the last years such that I may now be considered the new gold standard treatment because it combines the excellent long-term results that one gets with traditional TURP, with some other advantages.

### **ADVANTAGES OVER A STANDARD TURP**

**-Less bleeding during and after the procedure**

Less need for blood transfusion

**-Faster recovery**

Patients go home earlier

Earlier return to work

**-Patients can stay on blood thinning medication during surgery**

Some patients cannot come off their blood thinning medications because of their medical conditions Green laser surgery is ideal for these patients.

**-Shorter or even no postoperative catheter time**

Catheter time is usually < 24 hours as compared to 2 to 3 days for standard TURP

**-Less risk of water intoxication**

In standard TURP operations, patients may absorb the irrigation fluid and become water intoxicated, which can potentially be dangerous

In green laser surgery, because opened blood vessels are quickly sealed, less fluid is absorbed through these vessels, hence reducing the risk of water intoxication

**-Potentially less risk of erectile dysfunction**

The reporter rate of ED with laser surgery is <1%, whereas in standard TURP has been reported up to 15%.

## **-No risk of TURP syndrome**

TURP syndrome is related to the absorption of the fluid used during the TURP, this happens in up to 1% of the patients. It is a very severe complication produced by the hyponatremia, low levels of sodium in the blood, consequently the patient is unstable hypertension, bradycardic, and with neurological symptoms with 1% of mortality. The risk of this problem with green laser is nil.

## **DISADVANTAGES OVER A STANDARD TURP**

-Patient may experience temporarily more irritation when urinating such as burning and greater frequency and urge to urinate

-The green laser operates takes slightly longer to do than a standard TURP

-Because the prostate is vaporized by the laser, no tissue is collected and sent for analysis. However, this is not important in most patients because the operation is done primarily to relieve urinary symptoms, not to detect prostate cancer. Those who are suspected having prostate cancer are assessed and treated differently.

Turp-like cavity with the safety profile of minimally invasive treatments



Pre-Op



Immediate Post-Op



3 Months Post-Op

A recent study from Melbourne demonstrated that Greenlight Laser Prostatectomy and TURP, are equivalent in terms of improvement in symptoms but there were significant improvements in side-effect profile in favour of Greenlight Laser Prostatectomy: lesser length of hospital stays, reduction in catheter time and a 22% reduction in cost, with a mean duration of catheterization of 12 hours and the length of stay

## **DETAILS OF THE PROCEDURE**

Green Laser Therapy at the Hillcrest Rockhampton is performed by an accredited urological surgeon, as an inpatient procedure and usually requires an anaesthetic. In most cases men will be treated with a single overnight stay in hospital or be allowed to return home on the same day as their operation.

You will be given either spinal or general anaesthetic for the procedure. A general anaesthetic most commonly is used for the operation. The surgery typically takes 1 to 2 hours: the larger the prostate gland, the longer the operation.



Once you are under anaesthetic, a special telescoped camera will be passed through the urinary opening of your penis into the urethra, prostate and bladder. There are no cuts or incisions required to perform this procedure. The Green Light laser fibre is passed through the scope the prostate is systematically vaporized in almost bloodless fashion Green Laser vaporization is continued until all obstructing prostate has been removed.



At the end of treatment, a catheter (small rubber tube) will be inserted through your penis, which will assist urine drainage directly from the bladder into a bag. This is left in place overnight only. After removal of

the catheter, men go home once they have successfully passed urine and emptied their bladder.

Follow up takes place at 2 and 8 weeks after the surgery to confirm symptomatic improvement.

## **RISKS**

As with any treatment, side effects can occur, however, Greenlight laser has been shown to have shorter hospital stays and fewer complications.

Some common side effects include blood in the urine, cramping in the bladder or an urgent need to urinate, frequent urination and burning sensation when urinating.

The risks are:

Bleeding (usually mild)

Infection

Incontinence (1%)

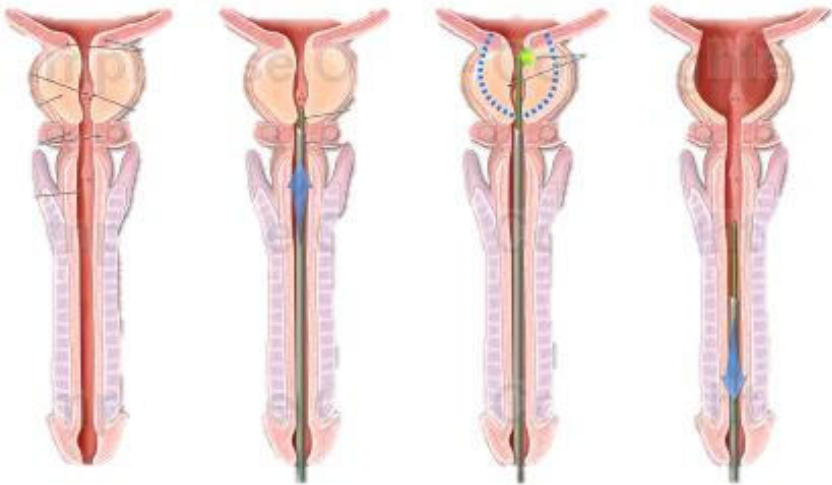
Erectile dysfunction (reported in less than 1% of cases)

Retrograde ejaculation (>70%), back flow of semen into the bladder during ejaculation.

Rarely, scar tissue build up has occurred in the urethra

## WHAT CAN I EXPECT AFTER THE SURGERY?

Some patients may be able to go home on the same day of the surgery, but you will need someone else to drive you home. Otherwise, the average stay in the hospital is about one day. The catheter will be removed before you go home. In some patients with compromised bladder function or those with severe urinary symptoms, the catheter may be left in for a discharged in the day after the surgery.



Most patients experience an almost immediate (within 24 hours) improvement in their urinary symptoms. You are expected to see mild bleeding in the urine. You are encouraged to drink more water at home and to avoid straining when opening your bowels.

If a catheter was placed in your bladder at the end of the procedure, it will typically be removed within 24 hours. However, patients with

compromised bladder function or those who have required prolonged catheterization because of severe urinary symptoms may require a catheter for a long period of time.

You may experience burning when urinating and the frequent urge to pass urine. Uncommonly, some patients may not get to the toilet in time and leak urine (urge incontinence). This is because the bladder needs some time to adjust to having less obstruction and to relax itself. A short course of bladder calming medications can sometimes help with these symptoms.

The time to full recovery depends also on patient factors such as other medical conditions and age. In general, you are advised to do only light duties (no heavy lifting, gardening or impact sports) for the first weeks after surgery and slowly increase your activity level back to normal by 6 weeks' time.

## **GREENLIGHT LASER FREQUENTLY ASKED QUESTIONS**

### **HOW DOES THE GREENLIGHT LASER WORK?**

A thin fibre is inserted into the urethra through a cystoscope. The fibre delivers green laser energy that quickly vaporizes and precisely removes enlarged prostate tissue. The physician can safely view and control the treatment area, tailoring it to each patient's anatomy and needs. Natural urine flow is immediately restored, and urinary symptoms are relieved quickly.

## **WHERE IS GREENLIGHT LASER PERFORMED?**

Greenlight laser surgery is performed in a hospital, Hillcrest Rockhampton. Patients may be released after an overnight stay.

## **WILL I EXPERIENCE PAIN DURING THE PROCEDURE?**

Patients have not reported any pain during the procedure. You and your doctor will discuss appropriate pain medication.

## **WILL I NEED TO WEAR A CATHETER?**

If the catheter is required, it is usually removed in less than 24 hours.

## **WHAT ARE THE RISKS OF COMPLICATIONS**

There are a few risks with Greenlight laser. Most patients report a very high level of satisfaction. Patients may experience slight burning during urination and/or little bit of blood in the urine for a couple of weeks. Some men may experience more severe symptoms, which can be treated by your urologist. Retrograde ejaculation or “dry climax” may occur.

## **WILL I EXPERIENCE PAIN AFTER THE PROCEDURE?**

After the procedure you may have mild discomfort such as slight burning during urination for a week or so. This can be managed with mild pain medications and anti-inflammatory drugs.

## **HOW LONG BEFORE I SEE RESULTS?**

Many patients obtain immediate relief of symptoms and a dramatic improvement in urine flow usually within 24 hours of the procedure.

## **HOW SOON CAN I RETURN TO NORMAL ACTIVITIES?**

Most patients can resume normal activities like driving a car or working a desk job within a week.

## **WILL THERE BE ANY SEXUAL SIDE EFFECTS**

The Greenlight laser procedure should not affect your ability to have an erection or an orgasm. Retrograde ejaculation or “dry climax” may occur. If you are sexually active, you can look forward to remaining so.



## **HOW CAN I LEARN MORE ABOUT GREENLIGHT LASER**

Please consult your urologist for more detailed information and risks as with any medical procedure individual results may vary. The information provided is based on typical study outcomes.

## **SEEK MEDICAL ATTENTION URGENTLY AFTER THE OPERATION**

If you see large amounts of blood (a spoonful or more) or heavy clots in the urine.

If you see blood that is bright red colour

If you feel feverish (temperature >38 degrees Celsius) and you are having shakes and chills.

If you have a catheter and is blocked (urine is not draining into the bag or it is leaking around the catheter)

**NOTIFY TO THE UROLOGIST OR ATTEND TO THE EMERGENCY DEPARTMENT.**



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