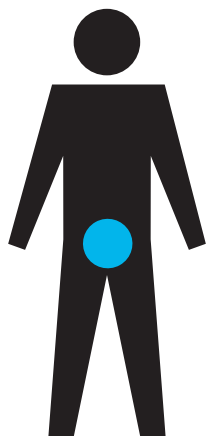


**SPOTLIGHT ON  
PROSTATE CANCER SURGERY**

# **Minimal access radical prostatectomy for prostate cancer**



## Introduction

You may just have been told that you have prostate cancer and are now facing the decision on which treatment might suit you best. Whilst this may sound daunting to you at first, it has been shown that the more you and your family are involved in helping to make the decision about treatment, the more confident and satisfied you will feel with your treatment choice. It doesn't mean that you need to make this decision on your own; doctors, clinical nurse specialists (CNS) and other men who have been in this same position will give you information, help and support along the way.

This booklet is to help you, your partner and your family understand more about minimal access surgery to remove the prostate; this is also called robotic assisted radical prostatectomy and laparoscopic radical prostatectomy (you may have heard laparoscopic surgery called keyhole surgery). It will cover what it is, who it's suitable for, what happens and the advantages and drawbacks of this type of treatment. It may help you decide if this might be the right treatment choice for you. It is intended for those men who have been diagnosed with cancer that is still contained within the prostate.

Radical prostatectomy can be a cure for cancer that is contained within the prostate and means that the whole prostate and part of the urethra are removed by surgery. At the same time the seminal vesicles that lie next to the prostate are also removed. (The seminal vesicles are two sac-like pouches below the bladder and behind the prostate that hold the liquid that mixes with sperm to form semen.)

This booklet aims to provide detailed information about robotic assisted radical prostatectomy and laparoscopic radical prostatectomy. This type of surgery, also known as keyhole surgery, is aimed at being minimally invasive. Minimally invasive prostate cancer surgery is rapidly becoming the most common approach to prostate cancer surgery carried out in Scotland.

There are other treatments available for prostate cancer but treatments must be tailored to each individual and some of the following may or may not be suitable in your particular circumstances; active surveillance, external beam radiotherapy (EBRT) and prostate brachytherapy. Your consultant or CNS will talk over which treatments may be suitable for you.

## About your prostate

The prostate starts out about the size of a pea then slowly grows reaching the size of a walnut when the man is in his 20s. Around the age of 40, it starts to grow or enlarge again and this may cause problems for a man when passing urine. Only men and those born biologically male have a prostate.

It's found inside the pelvis, just below the bladder and in front of the back passage. It wraps around the tube, called the urethra, which allows urine to flow out of the bladder and semen to pass out through the penis. Therefore, the prostate can't be seen or checked from outside the body.

It supplies a thick, clear fluid that mixes with sperm to form semen, called the ejaculate. This fluid helps to nourish and protect sperm during intercourse. The prostate also makes Prostate Specific Antigen or PSA, which is a protein that makes semen more fluid and so helps sperm to move more easily.

## About prostate cancer

Prostate cancer happens when the cells in the prostate develop abnormalities, multiply and grow faster than normal. This causes a growth or a tumour. As the prostate is inside the body, this growth can't be seen and often causes no symptoms in the early stages.

## Why might a radical prostatectomy be suggested?

- As a primary/main treatment for prostate cancer when the cancer is localised and contained within the prostate;
- When the cancer has not spread (metastasised) to other parts of the body;
- After a period of active surveillance if there are signs of the cancer growing;
- When the cancer is thought to require treatment rather than surveillance;
- For men who are medically fit for surgery;
- For men who are otherwise healthy and are fit enough to have a general anaesthetic;
- If you have had previous treatment for prostate cancer, such as radiotherapy, and the cancer has not spread outwith the prostate but the cancer has recurred.

### Surgery to remove the prostate

- i. Robotic assisted radical prostatectomy (keyhole surgery). This means that there will be 5 or 6 small cuts made in the lower part of the tummy, most about 1 cm long whilst the one where the prostate is removed is usually 2-3cm. A trolley with the robot and the robotic arms will be positioned next to the man. The instruments and camera needed to perform the operation are attached to the robotic arms. The instruments to do the operation are inserted through the small cuts.

The surgeon will be seated at a console away from the patient but has direct control of the instruments on the robotic arms at all times. To see a film about this procedure go to <http://www.prostatescotland.org.uk/help-and-support-for-you/surgery-remove-prostate>

- ii. Laparoscopic radical prostatectomy (keyhole surgery). This is similar to the operation described above. It differs as the surgeon will be standing beside the man, directly using the small instruments to perform the operation.

To hear a consultant urologist talk about this procedure go to <http://www.prostatescotland.org.uk/treatments/prostate-cancer-treatment/treatment-for-early-disease/keyhole-laparoscopic.html>

- iii. An 'open' radical prostatectomy (called retropubic radical prostatectomy). This may be the operation recommended to some patients by some surgeons in Scotland. It differs from the above as there is only one incision (cut) in the lower part of the tummy, usually from the tummy button to the pubic bone. (This is not keyhole surgery and so not dealt with in this booklet.)
- iv. Radical perineal prostatectomy. This means that an incision (cut) is made in the area between the scrotum and the back passage and the prostate is taken out through this cut. This approach is very rarely recommended in Scotland. (This is not keyhole surgery and so not dealt with in this booklet.)

The aim of this booklet is to provide more information on robotic assisted laparoscopic radical prostatectomy and laparoscopic radical prostatectomy.

The expected advantages of minimal access surgery are:

- Usually a shorter stay in hospital 1-2 days;
- Smaller scars;
- Faster recovery time;
- Usually returning to work more quickly;
- Less bleeding and fewer men requiring a blood transfusion;
- The catheter to drain urine may be taken out more quickly (although this may depend on the type of procedure that you had and the hospital that you attend);
- Studies suggest there may be better continence and erectile function rates.

### What happens?

*(The information that follows about robotic assisted radical prostatectomy and laparoscopic radical prostatectomy is meant as general guidance. As procedures may vary slightly from hospital to hospital, ask for more advice from staff at the hospital you are attending. If you have been given any specific guidance by the hospital then it is important that you follow their instructions.)*

When you and your doctors have decided that robotic assisted radical prostatectomy (RARP) or laparoscopic radical prostatectomy (LRP) is the most appropriate treatment in your particular circumstances, you will be asked to sign a consent form agreeing to go ahead with the treatment.

Some of the information provided below will be relevant and applicable for both:

Robotic assisted radical prostatectomy RARP and Laparoscopic radical prostatectomy LRP.

Where there are differences:

RARP will appear in an off white shaded box.

LRP will appear in a light blue shaded box.

*Pre-assessment*

Most likely you will be asked to attend a pre-assessment appointment before you go into hospital for your operation. This appointment is to make sure that you are fit and healthy to have the operation and to help you understand what to expect, so your appointment may last an hour or so.

You will probably be asked to confirm your personal details, your medical history, if you have any allergies and any medication that you normally take at home.

The doctor or nurse will check on your general health and fitness for surgery and you will most likely have the following tests done to ensure that you are fit and healthy: blood and urine tests, clinical examination, an ECG to check on your heart and X-ray as required.

The operation will be explained to you and you will have the chance to ask any questions. If you do have any questions or anything you would like to discuss, it might be beneficial to write these down before your appointment. You may be asked to sign the consent form at this appointment.

As pelvic floor exercises are important to help regain continence after your operation, you might be given information on when to start and how to do pelvic floor exercises. You may also be referred to a physiotherapist who specialises in continence. Prostate Scotland has a helpful booklet '*Spotlight on pelvic floor exercises for men*' to help back up information provided. This is available on our website [www.prostatescotland.org.uk](http://www.prostatescotland.org.uk) or contact [info@prostatescotland.org.uk](mailto:info@prostatescotland.org.uk) or call for a copy.

*Admission to hospital*

You will be asked about any medication and possibly any herbal supplements you are taking. You may already have been given advice on medication that you normally take at home by staff at the pre-assessment appointment. E.g. if you need to stop any of your routine medicines before surgery. Remember to tell staff about aspirin, warfarin, rivaroxaban, apixaban

or any other pills you are taking and about any allergies that you have. You may be asked to bring any medicines that you normally take at home into hospital with you.

You will have been given information about when to stop eating and drinking before the operation takes place.

On the morning of your operation you may be given an enema or suppository depending on how recently you have opened your bowels. An enema/suppository is a medicine, either as a liquid or capsule, which is put into your back passage to speed up your bowel movement and clear your bowel, making sure it is empty before surgery.

Once your bowel is clear you may be asked to have a shower, put on a hospital gown and special stockings. You may have to wear these stockings all the time whilst you are in hospital, although you can probably take them off to have a shower then put back on once you are dry. These help reduce the risk of blood clots in your legs.

An injection of heparin under the skin will most likely be given to prevent any clots in the veins of your legs as well.

*Will I have an anaesthetic?*

You will have a general anaesthetic, which means you will be kept asleep throughout your operation and the anaesthetist will see you on the day of your surgery. He/she will check over your pre-assessment information and chat over your anaesthetic. Of particular interest will be your general health, any previous anaesthetics, and your mouth and teeth.

*What happens during the operation?*

Once you are asleep, you will have a blood pressure cuff on your arm to measure your blood pressure and ECG leads attached to your chest to check on your heart throughout your operation. You will be given some oxygen during and maybe after your operation and you may also have a warming blanket.

Although you won't be aware of it, a breathing tube will be placed in your windpipe, and an extra monitor may be placed on the pulse on your wrist to accurately measure your blood pressure.

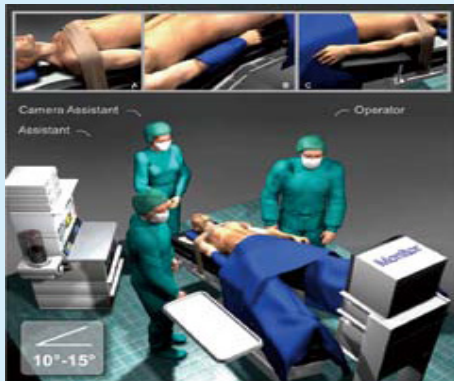
During your operation you will lie on your back in a slightly head down position. Being in this position can sometimes cause some puffiness of your face, but this should disappear after the operation.

You may have an intravenous line (drip) that will stay in place until you are eating and drinking normally.

You will receive painkillers to keep you comfortable when you wake up.

### Laparoscopic radical prostatectomy (LRP)

The people in theatre are arranged as shown below.



The surgeon will be standing beside the man, directly using small instruments to perform the operation.

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### Robotic assisted radical prostatectomy (RARP)



In the operating theatre, a side cart with the robot is placed next to the operating table. Four robotic arms are attached to the robot on the side cart. The instruments the surgeon needs to carry out the surgery are then attached to these arms. There are a variety of very small (about 7mm in width) instruments that can be attached to the robot arms. The advantages of these are that they have a much greater range of movement than the surgeon's hands, and, because the instruments are so small, they allow the surgeon to carry out the operation in a very small space.

One of the arms has a 3D, high magnification camera attached which sends images from inside your tummy to the screen where the surgeon is sitting. The 3D image combined with high magnification gives the surgeon an all-round, very clear view of the prostate and means that he/she can carry out a very precise operation.

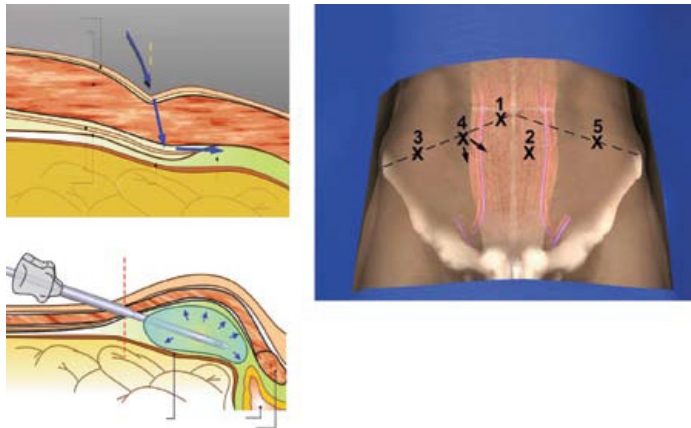
The instruments and camera attached to the arms are inserted into your body through special small plastic tubes called ports so that the operation can be carried out. The surgeon uses and controls these instruments on the robotic arms, instead of using instruments held in his/her hands.

The surgeon is in the same room as the man but sits away from him at a console or control panel. The surgeon controls and precisely directs the instruments to carry out the operation. The robot **does not and cannot** carry out the operation on its own.

*Inspection of your bladder with a telescope/camera (Urethroscopy)*  
Before your main operation has started, a special telescopic examination of your bladder may be done to plan the operation and to avoid any potential complications. This checks on the size of your prostate, measures the distance between the prostate and ureters (tubes connecting kidneys to the bladder) and excludes the possibility of having a bladder tumour.

During this examination, 2 special plastic tubes (stents) may be inserted into your ureters to reduce the risk of injury to the ureters during the operation. These stents may be removed during the operation or under local anaesthetic at a later date.

### Your prostatectomy by RARP or LRP



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### How the surgeon reaches the prostate

The prostate lies in a small area called the retroperic cavity. This is the area between the pubic bone and the bladder. There are two ways that the surgeon, doing either RARP or LRP, can get into this area and reach the prostate; extra-peritoneal access and trans-peritoneal access. The method that the surgeon uses will depend on which method he/she prefers and

which method he/she has been trained in (although some surgeons are able to use both methods) and particular circumstances for some men.

### *Extra-peritoneal access*

This means staying outside the abdominal cavity. In order to get enough space to reach the prostate and do the operation, a small special balloon is inflated to create a space between the abdominal wall muscles and the peritoneum (lining of the abdominal cavity). Once the space has been created, the balloon is taken out and the space left behind is filled with carbon dioxide enabling access to the area where the prostate is found.

The advantages in this way of reaching the prostate seem to be:

- A quicker way of reaching the retroperic space and prostate;
- No risk of injury to the bowel other than the small risk of rectal injury that exists irrespective of the surgical approach to radical prostatectomy;
- It may be more suitable for very overweight (obese) men;
- It may be more suitable if the man has had previous abdominal surgery.

The main disadvantage of this method is there is a smaller working space for the surgeon to work in.

### *Trans-peritoneal access*

This means that the abdominal cavity is opened then expanded using carbon dioxide. Once the space has been created the surgeon will cut the peritoneum then drop the bladder down allowing entry to the retroperic cavity and so the prostate. Trans-perineal access is the preferred way of reaching the retroperic cavity when doing a RARP, although LRP may use it too.

The main advantage of this method is there is a greater working space for the surgeon to work in and many surgeons undertaking RARP prefer to reach the prostate by trans-peritoneal access.



The disadvantages in this way of reaching the prostate seem to be:

- It can take longer to reach the retroperitoneal space and prostate;
- It may not be suitable if the man has had previous abdominal surgery;
- There is a risk of injury to the bowel.

As shown in the diagram on page 10 special plastic tubes (called ports), are inserted and numbered 1-5.

Port-site 1 is where the camera and gas inflow are attached. The camera magnifies the prostate and surrounding area, making it look bigger and sending images to a screen. This ensures that the surgeon can see the area very clearly, which helps him/her perform the operation.

Port-sites 2-5 are used to insert the special instruments needed to perform the operation;

Port-site 3 is where at the end of the operation, a tube or drain may be brought through;

Port-site 5 is where, at the end of the operation, the incision (cut) is made slightly longer so the prostate and seminal vesicles can be taken out.

#### *Nerve sparing procedure*

The nerves and blood vessels necessary to have an erection run very close to and along the sides of the prostate, and may be damaged or stretched during this operation. The following circumstances permit a nerve-sparing procedure on one or both sides, safeguarding the nerves responsible for erection:

- Ability to have an erection before the operation
- PSA less than 10ng/ml
- Gleason score less than 7 (3+4) or prognostic grade group 2
- If there is no sign of cancer at the edges of the prostate next to the nerves and blood vessels

Ask your consultant or CNS for more information if this is a concern for you.

#### *Reconnecting your water-pipe (urethra) to your bladder*

Because part of your water-pipe (the water-pipe runs inside your penis) will have been taken away, stitches are needed to re-join the urethra to your bladder. In the vast majority of cases this join is watertight and won't leak.

During your operation, a tube (called a drain) may be placed and will come out of your tummy (at port-site 3) to drain any excess blood into a bag. This will be taken out around 1-2 days afterwards.

#### *Removal of pelvic lymph nodes*

There is a possibility that prostate cancer may have spread to the lymph nodes in the pelvis. This risk may be established before your operation by looking at such things as your PSA level, the Gleason score or prognostic grade group, the findings on an MRI or bone scan. Depending on this risk assessment, it is sometimes necessary to remove some lymph nodes during the operation.

If the surgeon thinks that there might also be cancer in the lymph nodes then these will be taken out at the same time - called lymph node dissection. Lymph nodes will be removed if you have intermediate or high-risk cancer. (Lymph nodes filter tissue fluid. Antibodies and white blood cells that fight infection are found in lymph fluid.)

If the lymph nodes are removed, they will be examined by a pathologist and if found to contain cancer, further treatment will be required in most cases.

#### *How long does the operation take?*

The operation can typically last anything from about 2 up to about 4 hours depending on circumstances but you will not be aware of this as you will be asleep. There are a number of variables which will define the length of your operation. For instance if the surgeon finds it necessary to do lymph node dissection this can add another 30 - 45 minutes to the operating time but should still easily fall within the 2-4 hour range. If you require more information about how long your operation might take then you should discuss this with your surgeon.

*Will I have a catheter?*

A catheter is a long, thin, flexible, soft hollow tube that is used to drain urine out of your bladder into a drainage bag outside your body. During the operation you will have a catheter put into your bladder to help urine flow and to maintain a watertight join between your water-pipe and the neck of your bladder whilst the initial swelling settles after your operation. It's important that you avoid handling or pulling on the catheter. There is a possibility that your catheter may leak in the first days after your operation. It will usually stay in place for about 1-2 weeks so you will most likely go home with the catheter in place, but this can vary in different hospitals.

Having a catheter and/or ureteric stents can provide a direct path for bacteria (germs) to get into your bladder and there is the possibility that you may develop a urinary tract infection (UTI). If you notice the following signs then you should speak to your doctor/specialist nurse:

- Your urine seems cloudy and has a strong unpleasant smell;
- You feel hot and feverish with a high temperature;
- You feel shivery;
- You feel unwell, feel sick, have a headache or low back pain.

You will most likely be given a course of antibiotics to take. It's very important to take all the tablets, even if you feel better before you finish all the tablets.

Keeping the catheter clean, but minimising contact with the catheter and only changing the bag as instructed can help reduce this risk. You will be given advice by the ward staff on caring for your catheter before you leave hospital. You nor anyone else (including District Nurses) should not try to change/take the catheter out.

You can shower as normal if the wounds are healing well but perhaps avoid having a bath during the time you have the catheter. It's best not to use soap around the area of the catheter or the wounds. After a shower you will need new dressings.

If you notice that urine is not draining from the catheter into the catheter bag and you feel uncomfortable with a strong urge to pass urine, you should contact your GP, or NHS 24, or go to an accident and emergency department.

When the consultant decides that you no longer need the catheter, you will possibly be given an appointment to have this taken out. You may hear this called 'TWOC' or trial without catheter.

For more information, Prostate Scotland has a booklet called '*Spotlight on caring for your indwelling catheter at home*'. This is available on our website [www.prostatescotland.org.uk](http://www.prostatescotland.org.uk) or email us for a copy at [info@prostatescotland.org.uk](mailto:info@prostatescotland.org.uk) or call us.

*Will I have to stay in hospital?*

Yes, you will have to stay in hospital. How long will depend on a few factors: you are able to move around as well as you did before your operation, you have had a bowel movement, you know how to care for your catheter and your pain medication is controlling any pain.

RARP. If recovery goes well, most men are well enough to be discharged the day after their operation. However this might also be dependent on travel arrangements etc.

LRP. If your recovery goes well you may be in hospital for around 1-3 days, but this can vary in different hospitals. The doctors will see you after your operation and discuss with you when they are happy for you to go home.

**After your surgery**

After surgery you may spend a few hours in the recovery area where your pain will be managed, drowsiness monitored, your catheter output checked and your wounds checked. Once you are 'ward fit', you will be transferred to the general urology ward. When you arrive back on the ward and wake up, you will find that you have a catheter in place, possibly a small drainage tube from your tummy and a drip to give you some fluid until you start eating and drinking. You will have stitches, staples or glue closing the small incisions, as well as small plasters or dressings covering these. Your consultant, CNS or nurse will tell you if these will dissolve or need to be taken out. Remember to tell ward staff if you have an allergy to plasters. You may have some discomfort or pain when you wake and you should let the staff know about any pain, as they can give some pain relief medicine.



**RARP and LRP** (Please note these timescales are for general guidance and may vary in the hospital that you attend.)

1 <sup>st</sup> day after your operation	The consultant, doctors and nurses will check how you are during the ward round, examine you and may do some further blood tests. You will have a light diet and may be asked to get up on your feet as it is important to stay active. Many men are able to go home on the first day post-op, particularly if no drain is inserted at the time of surgery.
2 <sup>nd</sup> and 3 <sup>rd</sup> day after your operation	Again you will have a check during the ward round with an examination. You will have a normal diet and you will be asked to continue to get up on your feet to walk as it's important to stay active. The small drain may be removed on day 1, 2 or 3 depending on whether any fluid is draining into it i.e. when there is minimal drainage it is removed. You will most likely be discharged at this time if the consultant feels that you are ready for this. Arrangements may be made for you to come back the following week for an X-ray and possibly to have the catheter removed.
7-14 days depending on the routine practice at your hospital	You may have to attend the hospital for an X-ray (cystogram) to check on how quickly your catheter can be taken out. If there are no leaks from the join between the bladder and urethra (water pipe) then the catheter will be taken out. If there is a leak at the join then the catheter will be left in for another week or two to allow healing. To help with your continence (not leaking urine), you can start pelvic floor exercises after your catheter has been taken out. A cystogram may not be done in all hospitals so you can ask your consultant if you are likely to have one.
6-8 weeks after your operation (approximately and depending on availability)	You may have a follow-up outpatient appointment to discuss the pathology report, a PSA blood test done and to find out how well you are recovering from your surgery.

**Possible risks of surgery**

The following tables will give you an idea about the potential risks and complications associated with any type of surgery and are not specific to this operation. Usually these will be discussed with you before you sign the consent form.

Possible complications	Prevention/notes
<i>Formation of blood clots</i> Possible results: deep vein thrombosis of the leg (DVT), pulmonary embolism (PE), stroke.	Elastic stockings, daily heparin injections, getting up on your feet as soon as possible after your surgery.
<i>Problems arising from positioning</i> Possible results: skin irritation or damage, pressure sores, nerve damage (with associated muscle weakness).	Careful cushioning of the body on the operating table.
<i>Skin damage</i> Arising from allergic reaction to the disinfectant, sterile gowns or electricity (used during surgery).	In general very rare complications.
<i>Injury to major vessels</i> Possible results: bleeding with consequent blood transfusion, which carries risk of infection with blood borne diseases.	In general very rare complications.
<i>Bleeding/haematoma</i> The prostate receives a high blood flow with the result of a risk of bleeding during operations involving the prostate.	The risk of bleeding sufficient to need a blood transfusion following RARP and LRP is less than 1%.

**Specific risks of the operation**

Possible complications	Prevention/notes
<p><i>Urinary incontinence</i> Inability to hold your water due to damage of the sphincter muscle (the muscle responsible for your continence.)</p>	<p>You will most likely be advised to start pelvic floor exercises before going for your operation. Ask when you can recommence these after surgery and where necessary, physiotherapy will be arranged after catheter removal.</p>
<p><i>Erectile dysfunction (impotence)</i> Inability to get erections due to injury or having to remove the nerve and blood vessels (neurovascular bundle) responsible for erections.</p>	<p>A nerve-sparing operation can be performed under certain circumstances, but return of normal spontaneous erections cannot be guaranteed and may take 2-3 years to gradually recover.</p>
<p><i>Infertility</i> Both vasa deferentia (the tubes carrying your sperm) need to be divided and sealed during the operation.</p>	<p>Unavoidable result of the operation. If fertility is still an issue for you then it may be possible for sperm to be banked. Some men find that they leak a little urine when they orgasm following surgery, this is harmless and is called 'climacturia'.</p>
<p><i>Leak around bladder neck</i> Leak in the area where the urethra is re-joined to the bladder.</p>	<p>There is low risk of a leak, around 5% with RARP and LRP. If the cystogram (X-ray with contrast/dye) shows a leak at 7-14 days then the catheter may need to stay in for 1-2 weeks longer.</p>

<p><i>Collection of lymph fluid at the site of lymph node removal</i> Possible results: local pain, infection, fever, deep vein thrombosis of the leg (blood clots).</p>	<p>Small lymphoceles do not require any treatment and may go undiagnosed. If there are symptoms or the lymphocele is large a temporary drain has to be put in or a second operation may be required.</p>
<p><i>Injury/narrowing of the ureters (tubes carrying urine from kidneys to bladder)</i> Possible results: blocks flow of urine from the kidney.</p>	<p>Very rare complication.</p>
<p><i>Ureteric stents</i> In some cases it may be necessary to place small plastic tubes into the drainage pipes from the kidneys during the operation. This is usually if the pipes enter the bladder very close to where the stitching will take place. These plastic tubes are called stents.</p>	<p>These will need to be removed 4-6 weeks after your operation. This is done via a small, flexible camera passed into the water-pipe (urethra) under local anaesthetic and as an out-patient. You will be advised if this is relevant to you while in hospital. These stents can cause irritation of the bladder which may be noticeable when your catheter is removed. This irritation will improve once the tubes are removed.</p>
<p><i>Nerve irritation or injury</i> During pelvic lymph node dissection, the lymph nodes near a pelvic nerve are removed. During this dissection the nerve may be stretched (rarely divided).</p>	<p>Rare complication causing numbness or weakness of the muscle in the leg, which usually resolves without specific treatment.</p>

<p><i>Injury to the bowel</i> As the prostate lies close to the bowel, there is a small risk of injury to the bowel.</p>	<p>Rare complication (approx. 1%). If the injury is recognised during the operation, it can be repaired with stitches and you might need to have a special diet after the operation. Rarely, but in some circumstances, it is necessary to have a temporary colostomy. A colostomy is surgery to make an opening (stoma) in the lower tummy that connects part of the bowel to a pouch or bag outside the body to collect body waste products (stools).</p>
<p><i>Tumour tissue left behind (called positive surgical margin)</i> Possible result: further treatment is necessary after your operation (usually radiation therapy and hormone therapy).</p>	<p>An intraoperative frozen section (microscopic examination) may be preferred in some circumstances and can reduce the risk of a positive surgical margin. However, there is no evidence that using intraoperative frozen section in this way alters the risk of needing further treatment in future.</p>
<p><i>Changing from minimal access operation conversion into an open operation.</i> This might happen in cases of severe adhesions or major bleeding.</p>	<p>This is a very rare event.</p>
<p><i>Bladder neck narrowing</i> This results in difficulty in passing urine.</p>	<p>Rare complication (&lt;1%) occurring some time after the operation, which can be dealt with by performing an endoscopic operation.</p>

### Are there any potential side-effects?

There are always some potential risks or side-effects from having any kind of surgery. The consultant or specialist nurse will take you through the possible complications and side-effects before you sign the consent form.

#### Complications

<p>Excessive bleeding</p>	<p>This is not very common but can happen during or after surgery. On rare occasions, this may lead to you having a blood transfusion.</p>
<p>Blood clots</p>	<p>Because of sluggish blood flow in the legs, blood clots can form. You may be prescribed low molecular weight heparins such as Clexane or dalteparin. This will normally just be during your hospital stay and depending on individual circumstances but some surgeons may give it for up to 28 days.</p> <p>If you have had pelvic node dissection then you will most likely go home on dalteparin or clexane (depending on what your hospital uses) for about 2 weeks.</p> <p>Again, this is quite rare and preventative measures are taken during the operation. During recovery, special stockings help maintain a continuous blood flow in the legs and you may be asked to wear these for a few days after your surgery. In the days after surgery, and as soon as you feel able, you will be encouraged to walk to pump blood from the legs to the heart. This may even start on the day of your surgery or almost certainly the day after your surgery.</p>

<p>Urine infections (most likely caused by having a catheter and/or ureteric stents)</p>	<p>Because your catheter can provide a direct path for bacteria to get into your bladder, you may develop a urinary tract infection (UTI).</p> <p>To help reduce the risk of infection, you should carefully follow the instructions given by ward staff about caring for your catheter at home.</p> <p>If you notice the following signs it's important to get in touch with your doctor as a UTI needs to be treated:</p> <p>Your urine is cloudy and has a strong smell; Your urine becomes very blood stained; Feeling feverish with a high temperature; Chills; Feeling sick; Headache; Low back pain; Feeling unwell and very tired.</p> <p>If necessary, you will be given an antibiotic. It's important to take the full course of tablets, even if you feel better before they're finished.</p>
<p>Leakage of the carbon dioxide gas into tissues</p>	<p>If this happens you may have some discomfort in one or both of the shoulders but any discomfort will soon disappear as the gas is re-absorbed by your body.</p>
<p>Injury to the back passage (rectum)</p>	<p>Although this is a possibility, it is not common. Because the wall of the back passage lies so close to the prostate, there is a risk that it may tear during your operation. This will be stitched during your operation and generally no further treatment will be needed for this. In some circumstances it may be necessary to form a temporary colostomy to allow the rectal injury to heal.</p>

### Potential side-effects

#### Urinary incontinence (not able to control when you pass urine)

This means that you may not be able to hold urine inside your bladder after the catheter is taken out and will leak some urine when you cough, sneeze or move about. Almost all men have some incontinence so it's nothing to feel embarrassed about. It's because the valve (called the urethral sphincter), which controls urine flow, lies close to the prostate and its function may be impaired temporarily after surgery. This incontinence is usually managed effectively using incontinence pads and will improve as the healing process takes place. How long and how much this will be troublesome for you is affected by several factors and varies from individual to individual. Although incontinence is a common side-effect, it's usually temporary with the majority of men regaining full continence (ability to control passing urine) over time. Up to 2-3% of men will not recover their continence fully and may require a second operation to make them dry again.

While you may not like the idea of using pads, these can really help you manage the problem and carry on with your life. There are many different kinds available and the local continence service, CNS, nurses on the ward or perhaps your GP will advise you on which type of pad would be most suitable in your particular circumstances. More information on incontinence and continence pads can be found in our booklet 'Spotlight on Incontinence as a symptom of prostate problems' which is available on our website [www.prostatescotland.org.uk](http://www.prostatescotland.org.uk) or email [info@prostatescotland.org.uk](mailto:info@prostatescotland.org.uk) or call for a copy.

Recovery is faster in younger, slimmer and fitter patients and is helped by bladder retraining and doing pelvic floor exercises on a regular basis. Indeed, before you had surgery you may have been advised to start a pelvic floor exercise programme. Your consultant or CNS will usually advise on when to start pelvic floor exercises after your catheter is taken out.

You may also experience some urgency when you need to pass urine and your doctor may suggest that you take some medication to help with this.

### Pelvic floor exercises

To do these exercises properly you first need to relax your abdominal and buttock muscles. At first they are best carried out lying down, but later whilst sitting or standing. To identify and correctly contract the pelvic floor muscles, imagine that you are trying to prevent a bowel movement or from passing wind. During this action you should feel the back passage opening contract. Tighten the muscles for approximately 5 seconds then relax for 10 seconds and repeat regularly throughout the day. If you do not think you are doing the exercises properly please let the urologist or CNS know as they may be able to arrange for you to see a physiotherapist who will help.

Using pelvic floor exercises it may take up to 3-6 months for continence to return and improvement can continue to occur even up to 1 year following surgery. The majority of men (60-70%) will require 1 pad or less at 3 months after the operation and 85-90% will become completely continent by 6 months to 1 year. A small number of men (approximately 2-3% depending on the surgeon and whether nerve-sparing has been possible) require a second procedure to make them dry.

*Urinary control usually returns in three phases:*

Phase 1. You are dry when lying down at night.

Phase 2. You are dry when walking or doing moderate activity.

Phase 3. You are dry when you rise from a sitting position or cough or sneeze.

This is the last aspect of continence to return after surgery.

Your continence should improve given time and ensuring that you do your pelvic floor exercises as advised every day.

For more information, Prostate Scotland has the following booklets '*Spotlight on Incontinence as a symptom of prostate problems*' and '*Spotlight on pelvic floor exercises for men*'. These are available on our website [www.prostatescotland.org.uk](http://www.prostatescotland.org.uk) or email us for a copy at [info@prostatescotland.org.uk](mailto:info@prostatescotland.org.uk) or call us.

### Problems having erections

Not being able to have an erection can affect men at different ages and stages in their life and for different reasons. When a man has trouble getting or keeping an erection firm enough to have intercourse, it is called erectile dysfunction (ED) or sometimes impotence. This can happen as a man gets older, with some kinds of medications and with some other illnesses. After a radical prostatectomy, it is usual for men to be unable to have an erection.

A few things that may affect your erection:

- After the operation your body needs time to heal, with a gradual recovery that may in fact take a few years. Indeed, it is usual not to have an erection in the first six to nine months after surgery;
- Your age. Men under 60 tend to have better quality erections before surgery and, therefore, are more likely to recover erections after surgery;
- It can also depend on:
  - How good or firm your erection was before your operation;
  - How sexually active you were before your operation;
  - Whether the surgeon was able to save the nerves (nerve sparing surgery) that lie very close to the prostate and which are responsible for erections and potential recovery of function. You can always speak to your CNS for more information. In some hospitals when you have had nerve sparing surgery you may be prescribed Tadalafil (Cialis®) long-term when you are discharged.

Many doctors now think that after surgery the sooner you start having stimulation or trying to have intercourse may actually improve the chances of having the same kind of erection as you did before your operation. Touching, caressing, holding and massage can help. If you are able to regain a partial erection then vaginal penetration should be attempted as soon as reasonable and the use of a lubricant such as KY jelly may be helpful at this stage. Vaginal stimulation is a factor that can stimulate further erections. So, there is no need to wait to have a 'full' erection before trying to have intercourse. The return of erections occurs gradually and the ability to have a full erection often takes up to 2-3 years to recover fully, and in some cases may never do so.



After surgery many men find that the sensation of orgasm may be changed or different and you will find that you don't produce any semen and some men leak a little urine. You may also notice that your penis will often appear shorter because the water-pipe (urethra) is shorter once the prostate has been removed.

You should be aware that there is no curative treatment for prostate cancer where maintenance of spontaneous erections can be guaranteed. As there are a variety of treatments available to help with this difficulty, most men can achieve satisfactory erections when spontaneous erections do not return.

There are a few options for trying to make the quality of your erections better.

#### *Medication to be taken by mouth*

Pills that can help include Avanafil (brand name Spedra®), Sildenafil (brand name Viagra®), Vardenafil (brand name Levitra®), Tadalafil (brand name Cialis®). These work by increasing the blood flow to the penis to help you have an erection and work best if the nerves are still intact.

#### *Vacuum pumps*

If tablets or injections haven't helped, or if you prefer another option, then you can try a vacuum pump. This works by suction drawing blood into the penis. In some hospitals, a vacuum pump may be provided at an early stage alongside tablets.

#### *MUSE - medication by an applicator*

MUSE stands for medicated urethral system for erections. The medicine is given by a small applicator that has a thin tube inside it. This tube holds a small pellet of medicine, which is the same as that used in the injection discussed above

#### *Vitaros cream*

This is a cream that is applied into the opening and around the tip of the penis.

#### *Medication that is injected*

A treatment that is injected into the penis is very successful for some men, and can be effective even if the nerves are not intact. If this treatment is recommended, you will be taught how to do the injection. The medicine makes the blood vessels in the penis swell and allows it to fill with blood and so become erect.

#### *Dry ejaculation or orgasm*

Because your prostate, vas deferens and seminal vesicles will have been removed, you will not produce any semen. So, although you will feel spasms and pleasure that accompany an orgasm, you will not ejaculate although some men may notice leakage of a small amount of urine. This is called 'climacturia' and is not something you should worry about as the urine is sterile and harmless. Some men worry about the effect this will have on their partner, but for most partners this is not a problem. As already said the sensation of orgasm may be lessened.

#### *Infertility*

Because the tubes carrying your sperm need to be sealed during the operation and the seminal vesicles have been taken away, you will not be able to conceive children in the normal way. If this is an issue, then ask your consultant or CNS about the possibility of storing sperm.

For more information, Prostate Scotland has a booklet called '*Spotlight on prostate conditions and erectile dysfunction*'. This is available on our website [www.prostatescotland.org.uk](http://www.prostatescotland.org.uk) or email us for a copy at [info@prostatescotland.org.uk](mailto:info@prostatescotland.org.uk) or call us.

### **Getting home after RARP or LRP**

- If you were asked to stop taking some of your usual medication before your operation, ask the doctor or nurse about restarting these when you get home;
- It's usual for you to pass some blood or small clots for up to 10-14 days after the operation. Increasing your fluid intake just after your operation may help to flush out any excess blood;

- To help with any pain and discomfort, it is best to be prepared and have some suitable painkillers at home. Ask the nurse or doctor in hospital if you are unsure about this;
- At first, discomfort around the area of your wound will stop you from doing too much. Avoid vigorous activity in the first few weeks, start off with some light exercise and then gradually increase, you should avoid sports that put a strain on your perineum (e.g. cycling, horse riding) for the first two months after the operation. If you develop pain you will need to get in touch with your doctor;
- Remember, too, not to pick up anything heavy as this puts a strain on your wound;
- You should be able to go back to driving in about 2-3 weeks but you should chat this over with your own consultant for more specific advice. You should be able to do an emergency stop without feeling overly cautious about it and without it being painful. It's wise to check with your insurance company to make sure you are covered to drive;
- You should be able to return to light work 3-4 weeks after a robotic assisted/laparoscopic minimal access operation. Again speak to your consultant for more specific advice;
- When you are able and it feels comfortable, you can begin to try to have sexual intercourse; but you should remember that recovery of erections after surgery is a process of rehabilitation that can take 2-3 years;
- If you find that you have some leakage around the sides of the catheter, you may be given some incontinence pads. Ask for more advice from staff on the ward;
- Constipation, and your bowels being sluggish, is a temporary but common side-effect after radical prostatectomy and it may take time to get back to what was normal for you. You will most likely be given medication to help with constipation after your operation and possibly be asked to continue with this at home for a time. That said, some men find constipation troublesome while others do not. Being constipated can be painful, make you feel very uncomfortable and may affect your wounds and healing if you strain or push too hard to pass a bowel movement.

Before buying any over-the-counter medicines for constipation, check with your CNS, GP or local pharmacy what would be best in this instance. Including more fibre in your diet may be helpful so try to have at least 5 portions of fruit and vegetables each day and use wholegrain cereals rather than white refined varieties;

- Have at least 2 litres of fluid (about 8-10 cups) and try to include some glasses of water each day. Including a small glass of cranberry juice may help reduce the risk of getting a urinary tract infection. However if you normally take warfarin, you should not drink cranberry juice. Switching to de-caffeinated tea and coffee may be beneficial as well as avoiding fizzy drinks or energy drinks that have caffeine added.

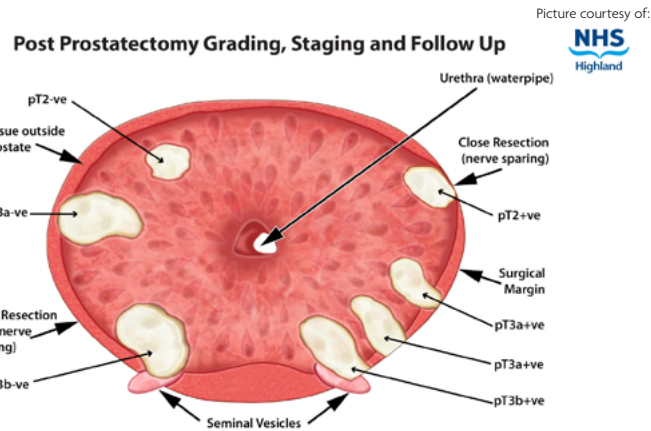
**You should be given information from the ward on who to contact if you are worried or have problems after you go home. If not then you should contact your GP or NHS 24.**

#### **Going back to the clinic**

You will most likely get an appointment to attend the urology outpatient department in about 6-8 weeks approximately and depending on availability, although this may vary from hospital to hospital. At this appointment, you will be asked how you are, hear about your results, have your wound examined and have your PSA level checked.

#### **Your results and what they mean**

Once you have had your prostate removed, the urologist will discuss your results with you. The diagram overleaf is to help you understand what this means in your particular circumstances. It might be helpful if you take this booklet to the clinic with you.



Your Gleason Score is: \_\_\_\_\_ Grade Group \_\_\_\_\_

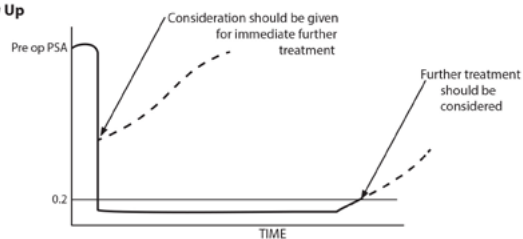
- pT2-ve** Tumour contained within prostate and is within the surgical margin.
- pT2+ve** Tumour contained within prostate but involves the surgical margin.

- pT3a-ve** Tumour has gone outside the prostate but is within the surgical margin.
- pT3a+ve** Tumour has gone outside the prostate and involves the surgical margin.

- pT3b-ve** Tumour has invaded the Seminal Vesicles but is within the surgical margin.
- pT3b+ve** Tumour has invaded the Seminal Vesicles and involves the surgical margin.

The higher the Gleason score and / or pT number and / or the greater extent of surgical margin involvement increases the potential need for further treatment.

**PSA Follow Up**



**PSA Follow Up Regime Unless Advised Otherwise**

- 6 Weeks
- Year 1 and 2 - 3 Monthly
- Year 3 to 5 - 6 Monthly
- Year 6 to 10 - Annual

Positive surgical margin means that cancer cells were found close to the edge of the prostate and the consultant or CNS will discuss what this might mean for you. If the surgical margin is involved, this increases the risk of needing further treatment, but there is still a good chance that no further treatment will be required.

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NHS Highland Feb 2014

**How do I know if the treatment has worked?**

After you have had surgery, the doctor will want to see how you are with regular check-ups. Your PSA level will be measured. After a radical prostatectomy, your PSA should drop quickly and should be practically undetectable\*. If it does not drop this low or starts to rise then this suggests there may be cancer cells elsewhere in your body.

\* In this case undetectable will mean at its lowest limit and will vary depending on the type of test used. You can discuss what undetectable means with the clinician or CNS.

**Weighing up the decision? What advantages and drawbacks are there to think about with RARP and LRP?**

Advantages	Drawbacks
<p>Can offer a cure for cancer still within the prostate.</p> <p>You may be reassured to know that your prostate and so the cancer within has been removed.</p>	<p>This operation is suitable for the majority, but not all patients.</p> <p>For a small number of cases there may be a positive surgical margin that increases the risk of requiring radiotherapy and/or hormone treatment at a later date.</p>
<p>The doctor can gather information about the stage of your cancer during the operation and more information when the prostate tissue is studied in the lab.</p> <p>Long-term cure rates are well proven and are comparable with other treatments such as radiotherapy.</p>	<p>It is still a major operation and you need to be in hospital for a few days. As there may be quite a bit of discomfort and pain, particularly if you have open surgery, you will need to allow time for healing and recovery. You may be off work and have to stop other activities for a few months.</p> <p>As with all the other treatments, there is no complete guarantee of cure.</p> <p>There is a very small risk of severe bleeding and rectal injury linked with the operation.</p>
<p>Although there may be unwanted side-effects such as stress incontinence and erectile problems, treatments for these are available and well-defined.</p>	<p>In some cases there may be: incontinence (usually temporary) or erectile dysfunction.</p>

<p>After the prostate is removed, your PSA level should be undetectable. So, it is a simple way of checking whether your cancer has come back again.</p>	
<p>After the operation, you can still have radiotherapy if this is necessary.</p>	<p>Radiotherapy can worsen the side-effects if you have had previous surgery.</p>
<p>If you previously had problems passing urine then a radical prostatectomy can solve these.</p>	

**Before choosing a RARP or LRP, you may have some questions to ask your doctor or CNS. A list of possible questions is given below. Think about what you would like to know, so perhaps you would need only to ask a few of these, or you may have questions of your own.**

- Is a RARP or LRP a suitable option for me to think about?
- What do you expect a RARP or LRP to do to the cancer? Could it cure my cancer?
- Which operation do you think is best for me – RARP or LRP? Are these available in my area? Are these available privately?
- How familiar is the surgical team in performing RARP or LRP? Are there local outcome or results available to me?
- Why do you think this might be the best option for me?
- Is nerve sparing surgery an option for me?
- Could having a RARP or LRP make me feel worse?
- Can you explain what the advantages and drawbacks and side-effects are likely to be? Are they likely to affect me in the short term or are they more likely to be longer term?
- In your unit, after having a RARP or LRP, roughly how many men do you find have problems with incontinence and erectile dysfunction and for how long?
- How long will I have a catheter for?
- Will I have to wear incontinence pads, and, if so, for how long?

- Is there anything I could do to help with the side-effects?
- When and where would I have RARP or LRP?
- How long will the operation last?
- When and how will we know whether RARP or LRP has been successful?
- What check-ups would I have and how often would I need check-ups?  
What would be done at the check-ups – PSA, scan, etc?
- If RARP or LRP is not successful, then what would my options be?
- Can I have radiotherapy after surgery and vice versa?
- Are there other suitable treatment choices that I could think about?
- Why would RARP or LRP be better for me than external beam radiotherapy or brachytherapy?
- What is the outlook for me?
- Is there someone that I can talk to who has had the same surgery that I am thinking about?
- How urgent is it that I have this operation done?

### For more information

If you have any questions, speak to your hospital consultant, CNS or GP. The following websites may be helpful with some offering telephone helplines for support or to answer your questions.

There may be a prostate cancer support group in your area where you can talk to other men (and often their family) who have been diagnosed with prostate cancer. Often these men share their experiences: when they were diagnosed with prostate cancer, how they decided on treatment and about the various types of treatment they are having or have had with some groups offering a ‘buddy service’.

Organisation	Website	Contact number	Helpline available
Prostate Scotland	<a href="http://www.prostatescotland.org.uk">www.prostatescotland.org.uk</a>	0131 603 8660	Telephone information service (not a helpline) 0300 666 0236
NHS 24	<a href="http://www.nhs24.com">www.nhs24.com</a>	111	✓
Prostate Link UK	<a href="http://www.prostate-link.org.uk">www.prostate-link.org.uk</a>		
Prostate Cancer UK	<a href="http://www.prostatecancer.org.uk">www.prostatecancer.org.uk</a>	0141 314 0050	✓ 0800 074 8383
Macmillan Cancer Support	<a href="http://www.macmillan.org.uk">www.macmillan.org.uk</a>	0808 808 0000	✓
Cancer Research UK	<a href="http://www.cancerresearchuk.org">www.cancerresearchuk.org</a>		✓
Edinburgh and Lothian Prostate Cancer Support Group Buddy support is also available	<a href="http://www.elprostatecancersupport.co.uk">www.elprostatecancersupport.co.uk</a>	07933 260 066	✓
Livingston group	email <a href="mailto:charliehogg@blueyonder.co.uk">charliehogg@blueyonder.co.uk</a>	01506 845 981	
Prostate Cancer Support Group, Maggie's Dundee	email <a href="mailto:Lynn.Downie@maggiescentres.org">Lynn.Downie@maggiescentres.org</a>	01382 632999	
UCAN Care Centre Ward 209, Aberdeen Royal Infirmary	<a href="http://www.ucanhelp.org.uk">www.ucanhelp.org.uk</a>	01224 550 333 (voicemail)	
Maggie's Gartnavel General Hospital, 1053 Great Western Road Glasgow G12 0YN	<a href="mailto:glasgow@maggiescentres.org">glasgow@maggiescentres.org</a>	0141 357 2269	
Prostate Cancer Support Group, Fife Maggie's Centre Victoria Infirmary, Kirkcaldy		01592 647 997	
Scottish Borders Prostate Cancer Support Group Macmillan Centre, Borders General Hospital		01721 722655	
Webmd	<a href="http://www.webmd.com">www.webmd.com</a>		
Patient UK	<a href="http://www.patient.co.uk">www.patient.co.uk</a>		
Medicine net	<a href="http://www.medicinenet.com">www.medicinenet.com</a>		



Contact details in your particular hospital:

Clinical Nurse Specialists	Contact Mobile Number or Bleep
Name	
Name	
Name	
Urologist	
Name	
Ward	

### If there is a problem with your catheter

Some men find their catheter might leak (urine by-passes the catheter) and for a few this leakage can happen quite frequently and can be very upsetting. This could be caused by strong tightenings or contractions in your bladder called bladder spasms. If this is severe, get in touch with your CNS, urology nurse practitioner (UNP) or nurses on the ward that you were in. They may want to check the catheter and may be able to prescribe a medicine to help. Contact details are given above.

Before you are discharged from the ward you may be given a catheter and incontinence **'Take home pack'** that may include:

- i. Night drainage bags;
- ii. Long leg drainage bags (sometimes short leg drainage bags may be provided);
- iii. A catheter stand;

- iv. Net pants;
- v. Packs of incontinence pads. These come in midi and mini sizes and usually the midi size is provided.

The CNS or UNP will let the District Nurse Community Team know about your discharge and that you have a catheter in place.

It is very important that you, or anyone else (including District Nurses), does not try to take the catheter out or change it. Always get in touch with the CNS or UNP for more help and advice.

### A word about infection

Because your catheter can provide a direct path for bacteria (germs) to get into your bladder, you may develop a urinary tract infection (UTI). If your urine looks cloudy, has a strong smell, you feel feverish and generally feel unwell it's important to get in touch with your GP or CNS for more advice.

### Helpful booklets from Prostate Scotland:

- 'Spotlight on Caring for your indwelling catheter at home'
- 'Spotlight on Incontinence as a symptom of prostate problems'

### Urinary Catheter Care Passport

If you are being discharged home with a catheter, you may be given a 'Urinary Catheter Care Passport'. It's a booklet to help you and the whole medical team looking after you keep an accurate record of caring for your catheter and share/pass on important information to all those involved in looking after you and your catheter.

The passport is for you to keep while you have your catheter and very importantly **take with you to all your healthcare appointments.** (Eg. whether GP, CNS, Urologist or District Nurse).

So you (and your family) have all the necessary information on who will be looking after your catheter, the first section should be filled in giving all the essential contacts that you may need. There's also a guide on what the catheter is and caring for your catheter on a daily basis.

The clinical section should be completed by any member of the medical team who has looked at or made any changes to your catheter. This enables everyone in the medical team to have an accurate and up-to-date record of what has happened and this is why it's so important **to take the 'passport' to all your medical appointments.**

Once you no longer need a catheter, please don't throw out the passport but return to your GP, District Nurse, CNS or Urologist so it becomes a part of your medical records.

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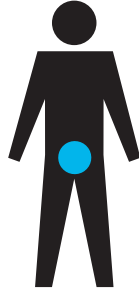
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Mr Graham Hollins, Consultant Urologist, University Hospital, Ayr

Dr Rob Lester

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Lesley McKinlay, Lecturer in Nursing, Queen Margaret University, Edinburgh

Peter Phillips

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Linda Taylor, Robotic Co-ordinator, WGH Edinburgh

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#### Contact Us

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