Laparoscopic Cystectomy

Introduction

This leaflet is designed to give you information as to why this procedure may be suitable for you, and what to expect from it. It outlines the advantages and possible risks. It will hopefully answer the common questions usually raised. More detailed information is available from your consultant if you wish.

What is a Radical Cystectomy?

A radical cystectomy is the surgical removal of your entire bladder along with surrounding fatty tissues and lymph nodes. In females this procedure usually includes removing the uterus, ovaries and cervix. (See Fig. 1)

What is an Open Radical Cystectomy?

This operation is whereby the surgeon uses a large incision (cut) approximately 15 to 18cms in length in the centre of your abdomen to carry out the procedure.

What is a Laparoscopic Radical Cystectomy?

It is the above procedure, but is carried out using three much smaller (12mm) incisions and one 4 to 8 cm incision. Delicate, precise instruments are used.

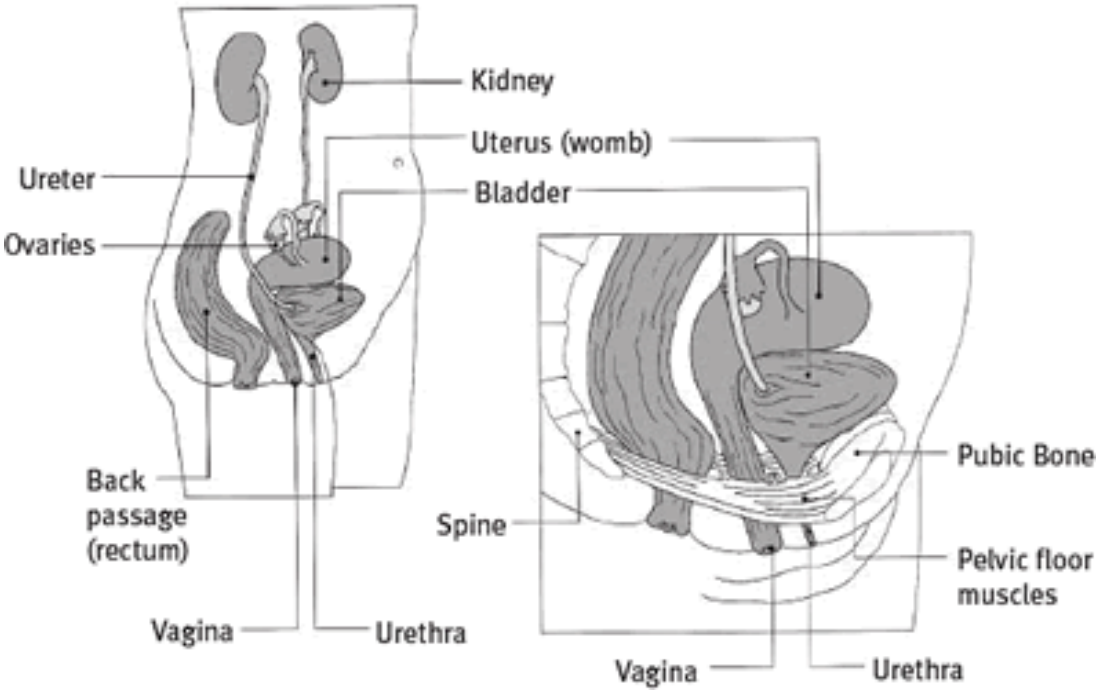


Fig 1. The anatomy of the female pelvic organs

What does it involve?

You will require a general anaesthetic; the procedure is as long as an open procedure, that is four to five hours, and you will be anaesthetised for the entire procedure.

This surgery begins with the Urologist making four small incisions in the patient's abdomen (tummy). The incisions are about 1cm in length, compared to a single 15 to 18cm long incision for traditional surgery. A laparoscope - a long, thin, lighted telescope - is then inserted through one of the incisions and connected to a high definition camera and video monitor to provide a clear and magnified image.

The procedure is carried out using delicate, thin surgical instruments which are passed through "ports" (narrow hollow tubes) in the small incisions, whilst the surgeon watches the image on the video monitor.

Radical cystectomy means the removal of the entire bladder (see Figs 1 and 2). In females this can also involve removal of the uterus (womb), cervix and ovaries. Over many years, it has emerged as the most effective treatment for bladder cancer that has invaded the muscle layer surrounding the bladder as well as superficial cancer that is not cured by other means. The internal lymph glands that lie within the pelvis are also usually removed during the operation.

Having a cystectomy involves surgery to the bowel as well as the bladder. Approximately 15cm of small intestine is used to make the urostomy. This is where the ureters (tubes) that lead down from the kidneys are joined to the above mentioned portion of small intestine which is then brought to the surface of the skin and sutured in place, thus creating a raised soft, pink, moist area, called a "stoma" (see Fig 2).

In future your urine will be collected in a small bag with a self adhesive backing which will be stuck on to your abdomen (it lies flat to your abdomen). In some patients an artificial bladder may be created from a longer section of small intestine, in which case a bag is not necessary. The small intestine that is left for digestion and absorption is rejoined at the time of surgery. Very occasionally some patients find that surgery to the bowel can lead to changes in bowel habits.

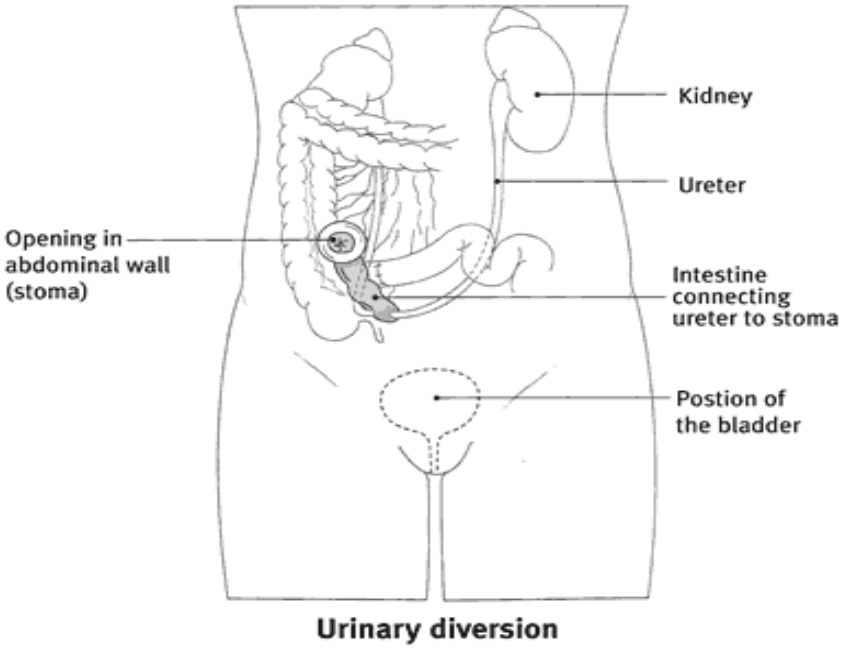


Fig 2. The urine diversion through the stoma

The laparoscopic technique

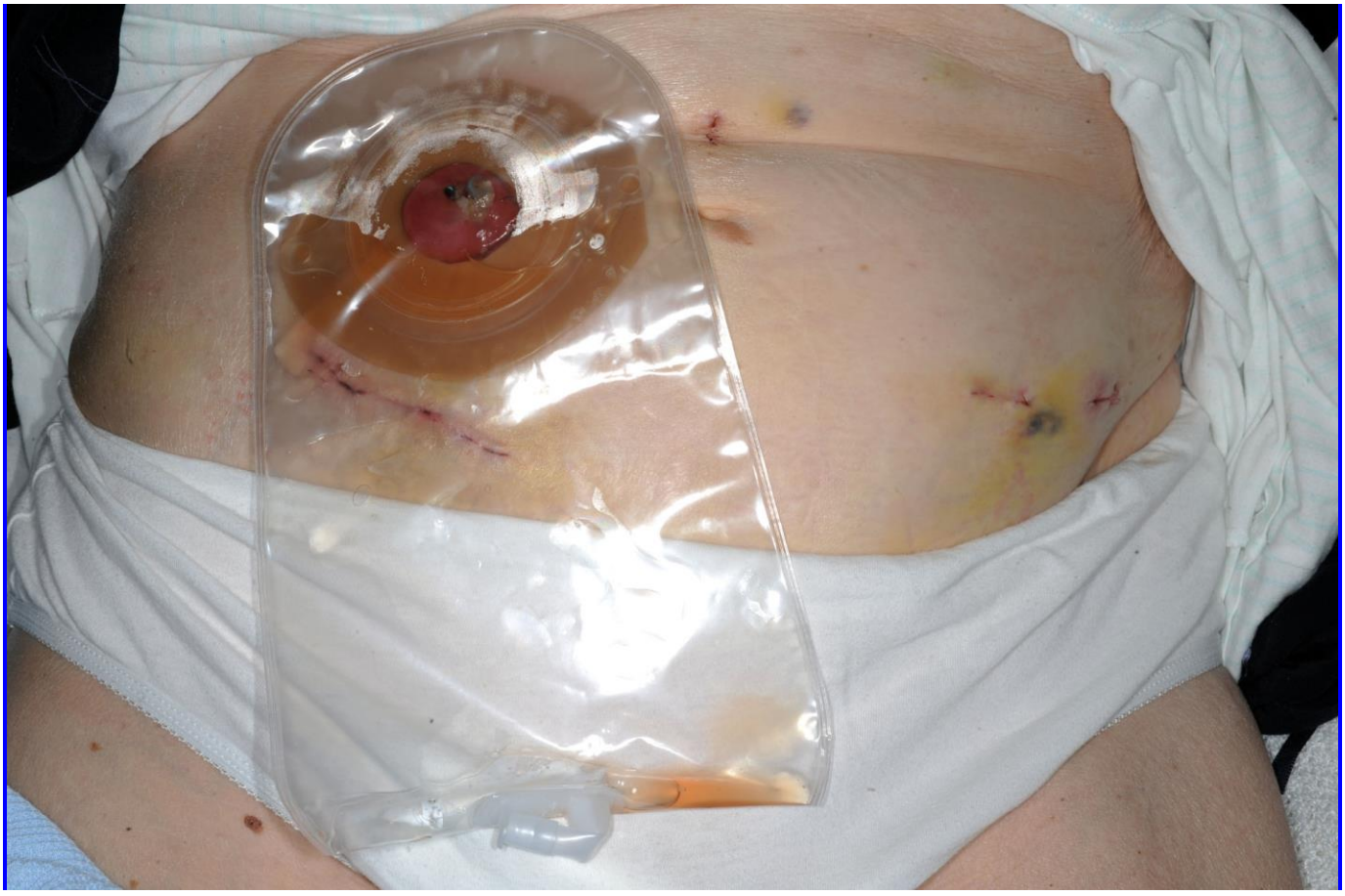
The procedure is carried out under a general anaesthetic - where you are asleep throughout the procedure.

You are positioned on the operating table at a 45-degree angle to the floor, head down. This positioning allows the bowel to slide up out of the pelvis which makes it easier for the surgeon to see all of the organs in the pelvis area.

The procedure is carried out through the four keyhole incisions into the abdomen, one of which can later be extended to help create the stoma. It is through these incisions that the surgeon is able to place the instruments necessary for the procedure. Carbon dioxide gas is used to inflate your abdominal cavity so that the abdominal organs can be visualised more easily.

Availability in the UK

Whilst laparoscopic cystectomy is available in many centres in France and Germany, Eastbourne District General Hospital is the only centre in the Sussex currently routinely offering laparoscopic cystectomy.



The abdominal wall 7 days after a Laparoscopic Cystectomy

What are the risks of the procedure?

As in any surgery there are a few risks of which the common ones are:
During port placement - bleeding, damage to structures inside the abdomen - this is minimised by placing ports under vision. This means that the camera port is inserted first, and following ports are watched on the video monitor to see the trocar (instrument that makes the incision for the port to pass through) entering the abdomen.

Leakage of carbon dioxide gas (used during surgery) into tissues - to minimise this, incisions are kept small to ensure a tight fit with the trocar.

During the operation - bleeding, conversion to open surgery, irregular heart beat, reduced urine volume, injury to structures in the abdomen, occasionally the rectum (back passage).

During exit from the abdomen - bleeding.

After the operation - bleeding, shoulder tip pain due to referred pain from residual carbon dioxide trapped in your abdomen, infection, or nerve compression in the legs can occur soon after the surgery. Later, blood clots in the legs (DVT) can develop with the potential to travel to the lungs. Urine can leak at the site of the join between the bowel and the ureters, and this may cause a fistula (artificial passage between two separate areas).

The risk of dying from laparoscopic cystectomy surgery is between one to two percent (no higher than that of open cystectomy).

Preparation before your surgery

Your Consultant will discuss the details of the procedure with you in the Outpatient Department, and outline the procedure as part of your consent.

You must also be aware that there is a chance that your procedure may have to be converted to an open procedure. For this reason if you do not want to have open surgery we are unable to proceed with this laparoscopic procedure.

A week or two before your Laparoscopic Cystectomy, a nurse and a doctor will see you in a pre-admission clinic. During this clinic session they will assess your suitability for the procedure and the anaesthetic, and ensure that you have had the relevant tests and examinations performed prior to your admission. If you have any specific problems with your health the consultant anaesthetist may also see you and request further investigations so that you are as fit as possible for the operation.

You will be given written dietary instructions to follow for the two days prior to your operation. You will need to have a low residue diet during this time. The information sheet sets out what foods you can eat, and those you must avoid. These instructions are important because your bowel must be clear before you have the surgery. You will be given four 200ml bottles of Fortisip to drink at home during this two day period. This is a high protein, high calorie, vitamin supplement drink.

If you take aspirin, clopidogrel or warfarin or any other medication that might thin your blood, you will need to let the doctor and nurse know and they will give you special instructions. You may have to be admitted to hospital for three to five days prior to the surgery if you are on a high dose of aspirin or on warfarin. This will be arranged at your pre-admission clinic appointment.

Do not make any changes to your usual drug treatments, whatever the reason, without asking your Consultant first.

Before you are admitted to hospital, your Consultant will also refer you to a Stoma Care Nurse Specialist. The role of the Stoma Care Nurse is to ensure that you are well prepared for the surgery and are aware as to how to manage your stoma afterwards. They will arrange to see

you before the operation, will visit you while you are in hospital and will teach you how to look after the stoma and the bags.

What should I expect during my stay in hospital?

You will be admitted during the day before your surgery. When you arrive on the ward a nurse will check your details. A member of the team of doctors looking after you will check you have completed your consent form for the operation. Should you have any questions or concerns you should ask your team. An anaesthetist will also see you to ask detailed questions about your health, and examine your heart and lungs. They will then discuss the anaesthetic with you and answer any questions.

You will continue with a low residue diet, and will be given two further clear supplementary drinks (Fortijuice). Late afternoon or early evening the day before your operation you will be given an enema to help clear the lower part of your bowel.

From six hours before your operation you will be restricted to clear fluids only. You can continue to drink clear fluids up to two hours before your surgery. Two hours before going to theatre you will be given two further clear energy drinks (pre-op drinks). Following these drinks you will need to be Nil By Mouth (NBM), which means having nothing at all to eat or drink. This is essential as if you vomit during the operation there is the possibility of stomach contents going into your lungs. This is very dangerous and that is why we insist that when you are made nil by mouth, you do not have anything to eat and drink. The nurses will instruct you as to when you should commence being NBM.

The day of your surgery

You will be given an enema early in the morning of the operation to ensure the back passage is empty. Your regular oral medication can usually be taken with a sip of water. You will need to shower thoroughly and put on a clean gown and your anti-thrombus stockings (used to prevent blood clot formation). You should be ready one hour before theatre time.

A nurse will check you are ready for theatre. Soon after, a porter will arrive and you will be transferred on your bed to the theatre department accompanied by a nurse.

You will be checked again by theatre staff before being anaesthetised and taken into the operating room. As this is a major operation, the anaesthetist will monitor all your body systems very closely during the procedure. In order to do this, you will have a cannula (fine plastic tube) placed in the artery in your wrist and another in a large vein in your neck. Another small ultrasound device is passed through your nose into the oesophagus (food pipe) which assists in monitoring your fluid replacement requirements.

These will be placed after you are anaesthetised, some of these lines will be removed after the operation before you are discharged from the post anaesthetic care unit. You will have a drip placed in a vein in your arm or attached to the cannula in your neck and very occasionally, a tube in your nose which passes into your stomach. You will have either an Epidural infusion, a fine plastic tube placed in your spine or a Patient Controlled Analgesia pump (PCA) attached to the cannula in the vein in your arm to control your pain.

You will wake up as soon as the operation is over, but may be drowsy for several hours afterwards although modern techniques of anaesthesia allow prompt recovery following the end of major surgery and this is our aim. You will be closely monitored in the post anaesthetic care unit overnight or High Dependency Unit (HDU).

If all is well you will return to the ward the following day. It is rare for patients undergoing this surgery to require a blood transfusion. Do inform the post anaesthetic care unit or HDU staff if you have any pain or nausea. They will be able to monitor you and give appropriate treatment prior to your return to the ward.

On the day of the surgery, family members can leave a telephone number which the surgeon who will ring when the operation is over. You should limit your visitors to immediate family on the first night, as you will feel quite tired after a long anaesthetic.

When you wake up you will find that you have a drain running through the wall of your abdomen. This drain will help to get rid of any excess fluid that has collected as a result of the operation. You will also have a vaginal pack in place (similar to a tampon) to absorb vaginal discharge. This should be removed after 24 hours.

You may notice some swelling of the eyelids and face due to the “head down” position during surgery. This will resolve by itself, usually within 48 hours.

What to expect after Laparoscopic Cystectomy

Initially you will be connected to the drip inserted whilst under anaesthetic and this will keep you well hydrated until you are able to tolerate oral fluids. In the first few days your bowel may be sluggish and may not absorb oral fluids. Once you can drink you will be encouraged to have high protein, high calorie drinks and gradually progress to food if you tolerate the fluid well.

You will have two thin tubes (stents) coming through the stoma initially. The Stoma Nurse Specialist will remove these around eight to ten days after your operation. They are put there to ensure that the join between the ureters and the piece of bowel heals satisfactorily and will not leak if urine passes over this join.

On return to the ward from the post anaesthetic care unit or HDU your allocated nurse will monitor all aspects of your care and condition closely. In addition to the support you will receive from the Stoma Nurse Specialist with regard to your stoma, your allocated nurse will also provide assistance and supervision with this aspect of your care.

The most common method of pain relief we use is called an epidural (an anaesthetic that is passed through a very small tube into your back to numb below the waist) for continuous pain relief, you will still be able to move your legs, stand, walk ‘on the spot’ and sit out of bed. Alternatively, your anaesthetist may prefer to give you Patient Controlled Analgesia (PCA).

You will have a button in your hand and a pump connected to the drip in your arm will deliver a dose of morphine when you press the button; you are therefore in control of your own pain relief. You will also have regular intravenous and oral pain killers such as paracetamol and a drug to prevent nausea and vomiting. The type of pain relief will be discussed with you and is likely to be decided on before you are anaesthetised. Drowsiness, itching and nausea are possible side effects of all methods of pain relief.

You will have some dressings over your wounds; these will be changed as required while you are in hospital.

To enhance your recovery, the Urology Enhanced Recovery Nurse Practitioner will see you on the ward during your hospital stay; you will be given an information sheet regarding post operative deep breathing and leg exercises when you arrive on the ward. The nurses will show you how to perform these exercises.

You must do these exercises several times a day after the operation. You should sit out of bed on the first post-operative day and take a short walk the following day. The above exercises and early mobility are important as they decrease the risk of blood clots forming in the legs and minimise the risk of a chest infection. You will have an individualised plan of care and daily goals agreed with you to assist you in your recovery.

You should be able to leave hospital around seven to 12 days after the procedure is carried out. The drains will usually be taken out before you go home. The Stoma Nurse Specialist will ensure you feel confident to manage your stoma before you are discharged.

After discharge you should be able to return to normal activities at about six weeks. As a guide, you may be able to return to a desk job at around this time. However if your work consists of heavy manual labour you will probably find you need a little longer, approximately three months.

You should drink plenty of fluids 2 to 2.5 litres a day. The Stoma Nurse Specialist will ensure that you have everything that you need for your stoma when you get home, and will explain how to obtain further supplies.

The ward nurses will arrange for a district nurse to visit you at home whilst you are recovering, to change your dressings if required and to check you are managing your stoma.

We will send a letter to your GP, and you will be given a two week supply of any medication that you have been prescribed to take home with you.

What can I expect after getting home?

In the first weeks after your surgery you might experience:

- Blood stained urine
- Bruising around your incision sites
- Red or sore areas around the stoma site
- Poor appetite. Try to eat foods high in energy and protein, such as milk, yoghurt, cheese, meat, poultry, fish, eggs, nuts and beans. Try to consume small frequent meals with snacks and nourishing drinks in between eg. Milkshake made with full-fat milk. Supplements such as Build-up and Complan can be purchased from a local supermarket, and if you remain concerned that you are losing weight please speak to your GP for additional advice.

- Mild depression after the surgery is common and you should not worry about this. It is normal and will resolve in the vast majority of cases. If it persists, please let us know and we will help you.

In the first few months you might experience:

- Difficulties with bowel movements. Try to use gentle laxatives such as Fybogel or lactulose and adjust your diet to keep regular. Some people find that their bowel motions are looser than they were before the operation. Let us know if you continue to have problems.
- Sexual function after cystectomy may be limited at first due to scarring of the vagina. Some patients need to have mild vaginal dilatation after the operation and we can advise and help with this. Please do not hesitate to talk to us about this.

Follow up:

- You will be closely followed up after the surgery and will be seen at six weeks and three months by the Consultant or one of his team. Thereafter follow up will be six monthly for two years and then annually. You will have regular scans and blood tests. You will also have access to the Stoma Care Nurse Specialist who will be able to answer any questions you may have regarding care of your stoma.
- The Enhanced Recovery Nurse Practitioner will contact you at home during the week after your discharge to provide you with support and respond to your questions and concerns.

What is the cancer outcome following laparoscopic Cystectomy?

Recently published data has suggested that Laparoscopic Cystectomy is as successful at curing muscle invasive bladder cancer as Open Cystectomy but has fewer complications (morbidity)

Advantages of Laparoscopic Cystectomy

- The procedure often requires a one to two week stay in hospital in comparison to three weeks following an Open Cystectomy
- Recovery is quicker - within six weeks, in comparison to three months or more following an Open Cystectomy
- There is significantly less bruising as the incisions are small in comparison
- So far, evidence suggests it is as effective as an Open Cystectomy
- Post-operative pain and analgesic need are much lower. Following a laparoscopic operation wound pain is lower than following an open operation so movement is easier. Earlier mobilisation lessens the risk of a chest infection or blood clots in the legs developing.

One of the principle advantages of the laparoscopic procedure is that the average blood loss is around 150 millilitres in comparison to the open procedure where blood loss is on average several hundred millilitres. Therefore, the possibility of requiring a blood transfusion after the operation is higher following open surgery.

After laparoscopic cystectomy there is a shorter time between the operating day and the time at which the bowel starts to work again, this means that patients are able to start eating and drinking a lot more quickly.

What are the specific disadvantages of me having a Laparoscopic Cystectomy as opposed to Open Cystectomy?

The operation needs specialised training, as the surgeon is unable to “feel” your tissues or organs unlike during open surgery.

World-wide data shows a mortality (death) rate of 2% similar to Open Cystectomy, with rectal injury of 2%, need to convert to open procedure 1.5%, fistula formation 1.5% and intestinal complications 4-5%.

What is Mr Rimington’s experience?

- The technique is an advanced technique for those well versed in laparoscopic procedures. Mr Rimington has been performing laparoscopic surgery since 1996.

- Mr Rimington has pioneered this type of surgery and has performed over 150 such operations. He is also involved in developing the technique of Robotic Cystectomy with Mr Dasgupta at Guy's Hospital in London.
- Prior to commencing the laparoscopic procedure, Mr Rimington completed an advanced laparoscopic urology preceptorship funded by the British Urological Foundation at The Cleveland Clinic with Dr Gill, an international expert
- Mr Rimington and his team have provided training for three other hospitals in this technique, and are involved in laparoscopic training of theatre teams on a regular basis for routine laparoscopic procedures.
- The minimal access unit regularly accepts a specialist registrar for training in laparoscopic techniques. Mr Rimington has been involved in laparoscopic training of other surgeons both in the UK and around the world for 10 years.

Some commonly asked questions

When can I exercise?
Light walking is encouraged right after the procedure. After six weeks, jogging and aerobic exercise is permitted. After eight weeks, some lifting can resume.

Can I shower or bath?
Yes, the stitches in your tummy are dissolvable. You need to rinse the soap from your body thoroughly, as this may irritate the areas, and pat yourself completely dry. Applying any creams or lotions to the wounds is not advised.

When can I drive?
When you are comfortable to do so and when able to make an emergency stop. It is a good idea to practise in a stationary vehicle first. Please also check with you insurance company before returning to driving.

When can I resume sexual activity?
Whenever you feel ready to do so. We would usually recommend waiting for about three to four weeks after the surgery.

When can I return to work?
Please allow at least three to four weeks recuperation at home before returning to work. If your work entails lifting, please speak to your consultant prior to leaving hospital.
If you have any further questions that you wish to ask please do not hesitate to speak to the nursing or medical staff.

Consent

Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

Sources of information

Macmillan Cancer Support Telephone: 0808 808 0000 (free) – www.macmillan.org.uk
Action on Bladder Cancer - www.actionbladdercancer.org
NHS Smoking Cessation Helpline - Tel:0800 022 4332 - www.smokefree.nhs.uk
East Sussex Stop Smoking Service - Tel: 0800 917 8896 - www.stopsmokingineastsussex.co.uk

Useful Telephone Numbers

Eastbourne District General Hospital - Tel: (01323) 417400
Sally Sawyer, Tessa Rodgers, Joanna Gainsford, Kelly Murrey, Nicola Jebbett Urology Nurse Specialists 01323 438246 (answer phone) or (01323) 417400 (Switchboard) and ask for bleep 8246 (Urgent calls only)

Stoma nurse specialist, Eastbourne District General Hospital
Tel: (01323) 417400 Ext: 4552

Kelly Smith, Urology Nurse Practitioner for Enhanced Recovery
Tel: (01323) 417400 Ext: 4767 or Bleep 0159

Hailsham 4 Ward - Tel: (01323) 417400 Ext: 4056/3413

Mr Rimington's Secretary - Tel: (01323) 413700

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: (01323) 417400 Ext: 5860 or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The Trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 01424 755255 Ext: 2620

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

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Mr Peter Rimington, Consultant Urologist. Mrs Tessa Rodgers, Uro-oncology Nurse Specialist, Mrs Jane Quigley, Stoma Nurse Specialist. Mrs Sarah Aylett, Uro-oncology NurseSpecialist

The directorate group that have agreed this patient information leaflet:
Surgical directorate group

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