



You have been booked for a

NEPHRECTOMY





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 **UROLOGICAL SOCIETY OF AUSTRALIA AND NEW ZEALAND**

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This leaflet has been written to provide information and answer questions that you may have regarding your proposed surgery. It is important that you understand what to expect and feel able to take an active role in your treatment. Not all the content will apply to you. It is essential that you read this booklet carefully. If there are any areas that are not clear or there are questions you need answering there are telephone numbers at the back of the booklet for you to contact. It is important that you understand the operation and its effects on you.

Your surgeon will have already discussed your treatment options with you, including the risks, benefits and any alternatives.

If you have any further questions after reading this, do not hesitate to contact Dr. Vega Vega's office for further advice.

BUDDY SYSTEM

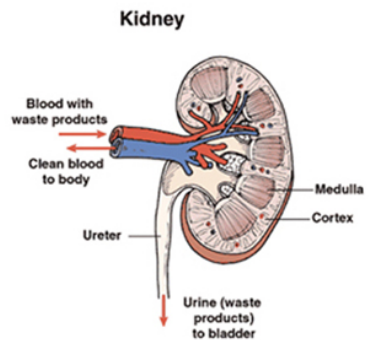
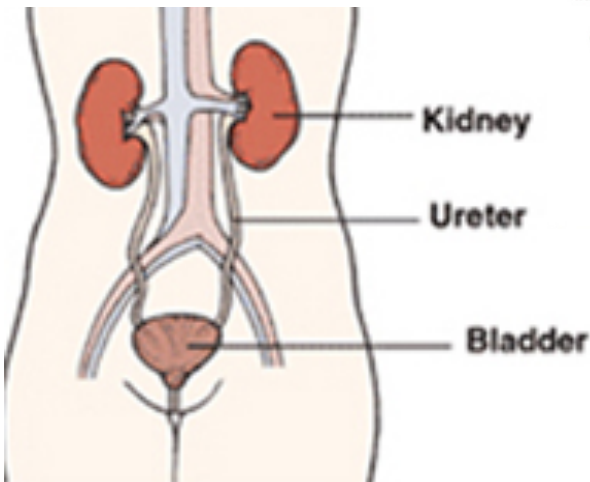
No matter how many leaflets and booklets you will read discussing this operation, sometimes it is helpful to talk to a patient who has undergone this operation.

If you feel that you would like to talk to one of our patients, please ask us to put in contact with someone. All

“buddies” have volunteered their services to help other patients through this process.

WHAT ARE THE KIDNEYS?

The kidneys are bean-shaped organs approximately 12 cms long that are partially protected by the lower part of the rib cage. The main function of the kidneys is to produce urine to remove the toxins from the body. Urine travels via hollow tubes called ureters (one per kidney) to the bladder where it is stored and latter passed. The kidney also play a part in the blood pressure control, the formation of red blood cells and the body’s calcium balance.



WHAT IS A NEPHRECTOMY?

You have been advised that you need an operation to remove your kidney: this procedure is called a nephrectomy. A single healthy kidney can carry on the functions normally managed by both kidneys and you can return to good health after the operation. Doctors perform tests before a nephrectomy to ensure that the kidney that will remain after surgery is functioning normally and you will not have to make any major changes to your lifestyle.

The operation usually takes about 2-4 hours, but can vary depending on the individual case

Nephrectomy means the surgical removal of the kidney. In some cases the consultant may want to remove the whole of the kidney (radical nephrectomy), part of the kidney (partial nephrectomy) or the whole of the kidney and ureter (the tube that urine passes down from the kidney to the bladder) known as nephroureterectomy.

This can be done in one of two ways, either as an open procedure involving a 15 cm (approx.) incision (or cut) on your side or as a laparoscopic procedure (Keyhole). This requires 4 very small (1 cm) plus a 4 cm incision to remove the kidney.

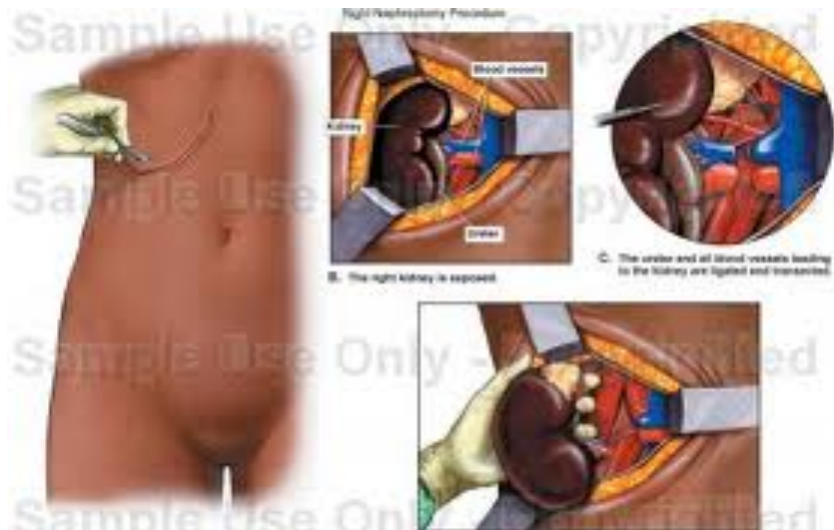
The majority of these procedures are now done using the laparoscopic technique as these have been shown to have a

quicker recovery time and fewer complications such as blood loss. However in some instances (2-3%) it may still be necessary to carry out an open procedure.

The average length of stay in hospital is around 3 days for laparoscopic surgery. Your stay will be longer (7 days) if you have an open procedure. The length of your hospital stay will also depend on your general level of fitness before surgery.

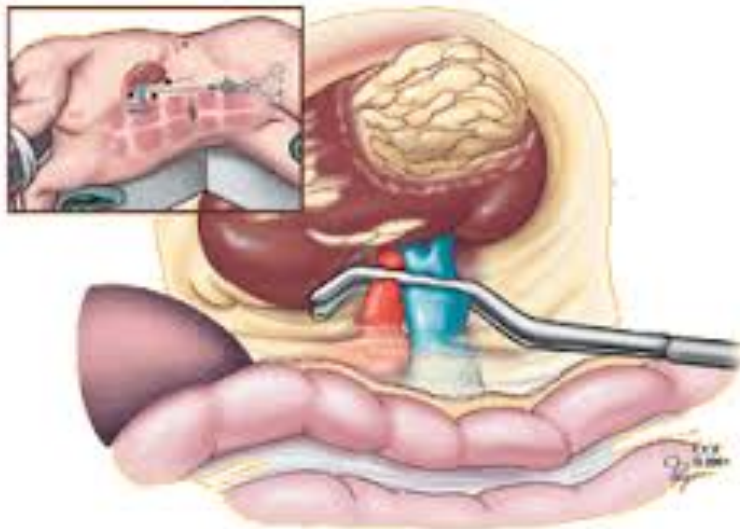
OPEN SURGERY

If this operation involves open surgery you will have an incision (cut). The surgeon can use a variety of incisions such as being between the lower ribs on the side of the affected kidney. The incision site can be discussed with your surgeon.



LAPAROSCOPIC NEPHRECTOMY

A laparoscopic nephrectomy is the removal of the kidney through keyhole cuts (incisions) in the abdominal area. These incisions enable the insertion of a video telescope (laparoscope) for viewing the kidney and its blood vessels as well as allowing the insertion of the other small instruments required to perform the surgery. The kidney is removed through a slightly larger incision. Rarely, the surgery will start as a laparoscopic procedure and will need to be changed to an open operation if the surgeon cannot make safe progress removing the kidney.

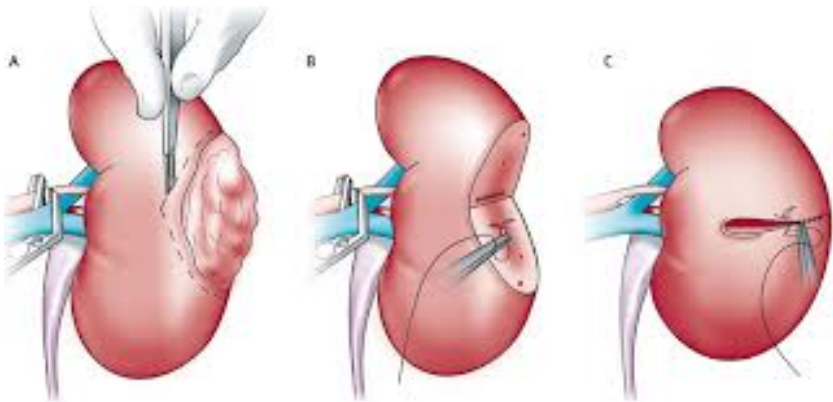


This method of removal can reduce the length of time you spend in hospital and allow you to resume your normal life

in a shorter period of time when compared with the open surgery. You should expect to stay in hospital for about 2-4 days. This operation may not be suitable for all patients.

The reason for your Nephrectomy will indicate which one of four types of Nephrectomy will be performed- partial, simple, radical or nephroureterectomy.

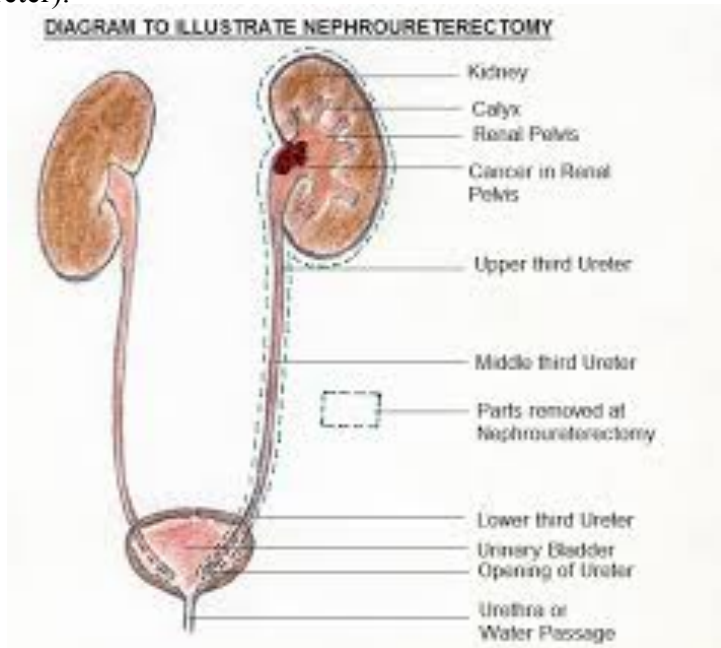
A PARTIAL NEPHRECTOMY means that only part of the kidney is removed. The aim is to preserve as much kidney as possible. This is usually done when a person has poor kidney function or only one kidney.



A SIMPLE NEPHRECTOMY is the removal of the kidney only. The ureter is tied off and the adrenal gland that sits on top of the kidney is left behind. This is done for a poorly functioning kidney which is due to either large kidney stones, a lack of blood supply, abnormal kidney structure or scarring.

A RADICAL NEPHRECTOMY is the removal of the kidney and its surrounding fat. Sometimes the adrenal gland and/or the ureter is also removed. A radical nephrectomy is done to treat cancer of the kidney,

A NEPHROURETERECTOMY is the removal of the kidney and the ureter and its insertion into the bladder. For some kidney cancers there is a high risk of cancer recurring in the tube that carries urine from the kidney to the bladder (the ureter).



WHY THE OPERATION IS NEEDED?

Common reasons for a nephrectomy are:

- Cancer of the kidney. If cancer has been found in the kidney, it is occasionally necessary to remove the adrenal gland that lies on top of the kidney, at the same time.
- Staghorn calculus (large kidney stone) where there is significant tissue damage and/or recurrent infection.
- Very large, painful cysts.
- Non-functioning kidney causing problems eg. High blood pressure.
- Live donor kidney transplant.
- Long term infection which has led to kidney scarring and loss of function.
- Kidney trauma with uncontrolled bleeding.
- The kidney may only partially work or may not work at all. If left in place, it can be a source of repeated infections and pain.
- Infection may have damaged the kidney so that it needs removal.
- If cancer has been found in the kidney, it is occasionally necessary to remove the adrenal gland that lies on top of the kidney, at the same time.

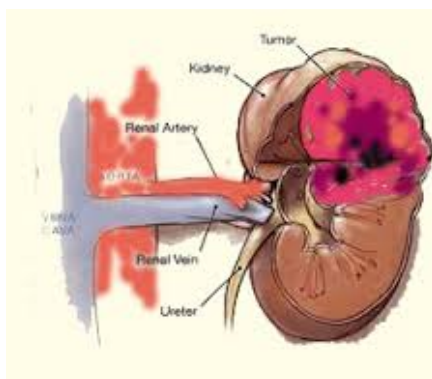
The exact reasons why your kidney is to be removed will be discussed with you. Before the operation you will



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undergo various scans and blood tests so that the surgeon as much information about the diseased or cancerous kidney as possible.



IS THERE AN ALTERNATIVE TREATMENT?

Your consultant will have investigated the options to treat your cancer and are offering a kidney removal surgery as the first line recommended treatment. There are however, always alternatives options with can be discussed with your consultant and clinical nurse specialist.

Observation (due to the low risk of progression or due to the presence of co-morbidities or old age), Embolization (cutting off the blood supply to the cancer to try to kill it), Immunotherapy (a treatment which uses the body's natural defence system –the immune system- to attack cancer cells), Radiofrequency Ablation, Cryotherapy (only for small tumours)

POTENTIAL COMPLICATIONS RISKS AND SIDE EFFECTS

Any operation and anaesthetic carries risks. There are generally small and not doing the operation may carry a greater risk. You can discuss the risks with the surgeon and the anaesthetist. It is important that you understand what is going to happen to you before the operation and you will be asked to sign a consent form before surgery. You can change your mind and may withdraw your consent at any time.

All urological surgical procedures carry a small risk of postoperative bleeding and wound, chest and urinary tract infection. You will be monitored for these risks and treated promptly if they occur.

Most procedures have a potential for side effects. You should be reassured that, although these complications are well recognized, the majority of patients do not suffer any problems after such a procedure.

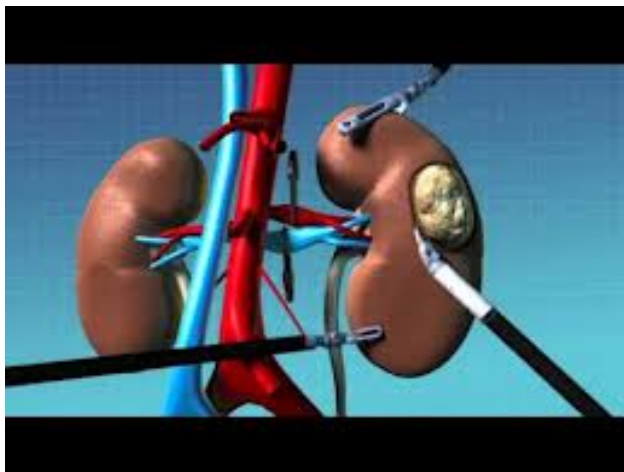
COMMON (GREATER THAN 1 IN 10)

-Temporary **shoulder tip pain and abdominal bloating**- this is due to gas being put in to inflate the abdominal cavity during keyhole surgery to make the structures easier to see. Mild painkillers are usually adequate to control the pain.

-Prolonged bowel inactivity (Paralytic ileus). There is a small risk of paralytic ileus following any major surgical procedure that involves handling of the bowel, prolonged anaesthetic time or large amounts of strong pain killing medication. This means the intestinal tract is very slow to return to its normal function. If a paralytic ileus occurs you are likely to experience nausea, vomiting, a bloated abdomen and /or intestinal cramps. These symptoms can be relieved by the use of a nasogastric tube to drain the stomach's normal secretions while the bowel rests and recovers.

-Temporary insertion of a bladder catheter and wound drain

-If you have had open surgery, you are likely to have more **pain** so will probably need stronger painkillers. Your anaesthetist will discuss the different analgesia options with you.



OCCASIONAL (BETWEEN 1 IN 10 AND 1 IN 50)

-Bleeding, Your wound, drain(s) and vital signs (blood pressure and pulse) will be monitored for excessive bleeding. You may need a blood transfusion.

Rarely, bleeding can occur during keyhole surgery so that the surgeon has to convert to open of further surgery.

-Infection

Your chest, wound and urine will be monitored for early signs of infection and intervention will be put in place if it occurs. To reduce the risk of infection, antibiotics are given directly into your bloodstream during your operation and continued post operatively if necessary.

You can also assist with the prevention of infection by maintaining good hygiene and doing your deep breathing exercises. Early mobilization also helps.

Occasionally, infection or a hernia may occur in one or more of the cuts with keyhole surgery. These will require further treatment. This happens very rarely with open surgery.

-Incisional hernia

As a wound heals, scar tissue forms creating a bond between the two sides of the incision. the scar tissue is strong but can still occasionally tear or give way. This leads to a bulge developing along the scar (incisional hernia) usually within one

to five years after surgery. A hernia may not cause any discomfort but if it is troublesome it may require repair.

RARE (LESS THAN 1 IN 50)

-Very rarely, recognized or unrecognized **injury to surrounding organs or blood vessels** may occur during keyhole surgery requiring conversion to open surgery or further surgery. Involvement or injury to nearby local structures(blood vessels , spleen , liver, kidney, lung, pancreas, bowel) requiring more extensive surgery.

-Damage to important blood vessel (3%)

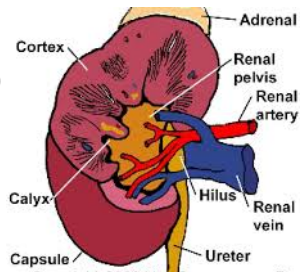
-Damage to the spleen (2%)

-Damage of the adrenal gland (which sits on top of the kidney 2%)

-Rarely, damage to the lung cavity occurs during surgery. This can be repaired without any extra incisions. (Pneumothorax). Entry into lung cavity could require insertion of a temporary drain.

-Injury of the bowel (intestine) which may lead to life threatening infection (sepsis) requiring further surgery and a fashioning stoma (collection of intestinal contents into a bag)

-Very rarely, problems with the anaesthetic or heart or blood vessel complications may result in transfer to the Intensive Care Unit. Such complications include chest infection, clot(s)



on the lungs or in the legs, stroke or heart attack. These are risks that apply to many types of surgery but are very rare.

-Partial Nephrectomy: in a small percentage it may be necessary to remove the whole kidney during the operation.

-The histological abnormality may eventually turn out not to be cancer.

-Dialysis may be required to stabilize your kidney function if your other kidney functions poorly.

HOSPITAL ACQUIRED INFECTION

-Colonisation with MRSA (0.9%)

-Clostridium difficile bowel infection (0.2%)

-MRSA bloodstream infection (0.08%)

The rates for hospital acquired infection may be greater in high-risk patients e.g. with long term drainage tubes, after removal of the bladder for cancer, after previous infections, after prolonged hospitalization or after multiple admissions.

WHAT DO I NEED TO PREPARE AT HOME BEFORE I LEAVE FOR THE HOSPITAL?

Please, tell your neighbors or friends that you will be going into hospital. It is a good idea to make a list of telephone numbers of family and friends to bring to the hospital with you.

If you are living alone, remember to cancel your papers and milk and remember not to leave food that will spoil in your fridge.

Make sure that any pets will be cared for whilst you are away. If you have a freezer it may be a good idea to freeze some bread and milk so that it is there for when you get home.

Make sure that you have some simple over-the-counter medicines, such as paracetamol and anti-acids at home when you return. A short supply of any prescription medicines that you need will be given to you before you are discharged.

LENGTH OF STAY

The usual length of stay is four to seven days. However, if you need to stay longer for a medical reason, your doctor will discuss this with you.

BEFORE SURGERY

INFORMED CONSENT

After consultation with the doctor you will be asked to sign a form to give written consent for the surgeon to perform the operation and for an anaesthetic to be



administered. Relevant sections of the form must also be completed if you agree to a blood transfusion and/or if your particular surgery involves the removal of a body part and you wish to have this returned. Our expectation is that you feel fully informed about all aspects of your surgery before giving written consent.

Your surgeon will explain the reason for the Nephrectomy and the risks associated with the surgery. Your doctors will visit you every day while you are in hospital to provide medical care and answer questions about your surgery and progress

Please be sure to inform your Urologist in advance of your surgery if you have any of the following:

- An artificial heart valve
- A coronary artery stent
- A heart pacemaker or defibrillator
- An artificial joint
- An artificial blood vessel graft
- A neurosurgical shunt
- Any other implanted foreign body
- A prescription for Warfarin, Aspirin, Clopidogrel or any blood thinner
- A previous or current MRSA infection



-High risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human derived growth hormone)

Please, for more information, consult the booklet Surgery: General Recommendations provided by our service.

WOUND SITE- WHAT TO EXPECT

The small wounds are closed with dissolvable stitches. 48 hours after the operation the dressing are removed, and the wounds covered with a protective plastic film so that you can bathe or shower as normal.

OPEN PARTIAL AND SIMPLE NEPHRECTOMY

The suture line (stitches or staples) will be directly below your ribs (on the left or right side of your abdomen, depending on which kidney is removed) and will run from front to back.

OPEN RADICAL NEPHRECTOMY

An abdominal incision (wound) or combined abdominal or chest incisions may be used. As the wound is close to your lungs this may make breathing and coughing painful. Physiotherapy and nursing staff will assist you.

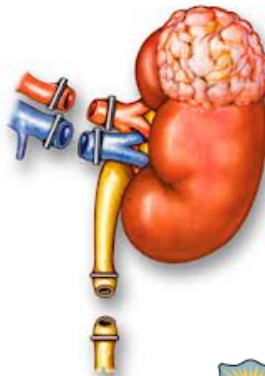
WHAT CARE WILL YOU NEED AFTER THE OPERATION?

Sometimes, your consultant may decide that you need to be nursed in the Critical Care Unit for a short time immediately after the operation. Once you have recovered, you will be transferred back to surgical ward for the rest of your hospital stay. The need to be nursed in Critical Care depends on the type of surgery and any other health issues you may have.

If there is no need for Critical Care after the operation you will return to the post-operative room on the ward.

AFTER SURGERY

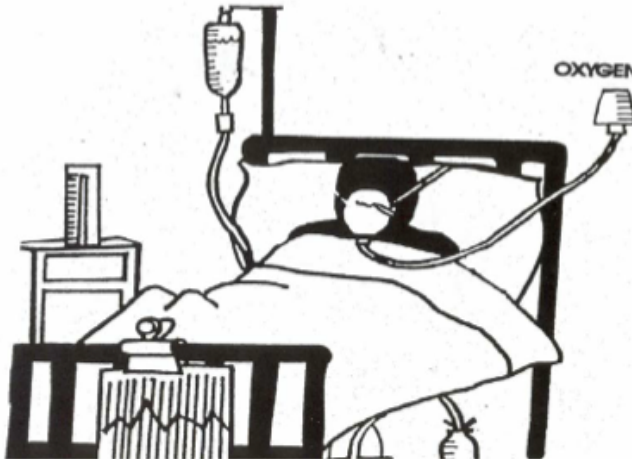
You are transferred to the recover room next to the operating theatre. Your condition is monitored when you are awake and comfortable a nurse and an orderly will escort you back to the ward on your bed.



ON THE WARD

Your nurse will check the following regularly

- Vital signs –your blood pressure, pulse, respiration rate and temperature
- The severity and location of any pain or discomfort
- The amount of urine you are producing
- The wound site and wound drains
- The level of numbness that an epidural is producing
- The effectiveness of pain relief
- The amount of oxygen in your blood



URINARY CATHETER

You will have a tube in the urethra that will drain the urine from your bladder. This can be secured to your leg for comfort.

It is particularly important after a nephrectomy that your urine output is monitored closely as it indicates the health of your remaining kidney after surgery.

If you have had your ureter removed, the catheter will stay for longer to allow healing to take place.

WOUND DRAINS

You may have a wound drain. This will drain blood and fluid from your operation site. Good drainage will promote healing. It is normally removed after 2-3 days. If it is still draining large amounts, it will be left in a little longer.

CHEST DRAIN

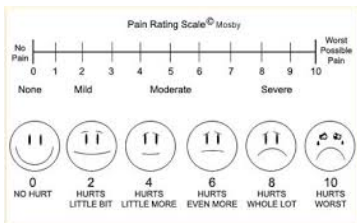
If you have had a Radical Nephrectomy, you may also have a chest drain. The chest drain helps to remove any blood and fluid around the lungs

PAIN RELIEF AFTER YOUR SURGERY

Your nurse will work alongside your doctors and the anaesthetist to keep your pain at a minimum.

The PAIN SCORE is a way of your nurse establishing how much pain you are experiencing by asking you to grade

your pain from 0 to 10 where 0 = no pain and 10 = the worst pain you can imagine



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FOOD AND FLUIDS

After your surgery your food and fluid intake will be increased starting with sips and progressing to light meals over a day or so. Once you are able to tolerate adequate fluids your intravenous infusion (drip) can be removed. It is important to eat balanced diet and chew thoroughly and eat slowly. If you have any special dietary needs, a dietitian will be involved to assist in your recovery.

MOBILITY

You will usually be up in a chair for a short time and assisted to walk a short distance within a day or two of your surgery. Your level of activity will increase as you recover.



SUTURES (STICHES OR STAPLES)

For this surgery, most suture material is dissolvable and does not require removal. However, if non-dissolving suture material has been used, this will need to be removed approximately seven to ten days after surgery. If you are not going to be in hospital at this time, you will be given a date for you to arrange for your GP or practice nurse to remove them.

Your wound will have dissolvable sutures (stiches).

These can take up to 3 months to complete dissolve. You may experience itching until then. To begin with you will have a dressing over the wound. Once it is clean and dry, you will no longer need dressing.

GOING HOME

When you are discharged from hospital your nurse will arrange for you to receive ongoing support, advice and practical help if needed.



When you first leave hospital you will need to get plenty of rest. You may experience aches and twinges for approximately 3 months during the recovery period. These are normal and are due to the tissue and muscle inside, healing together. As the wound heals a few patients may develop scar tissue along the wound. This can sometimes feel like a lump. If you are concerned either see your GP or speak to your nurse specialist or consultant at your next consultation.

You should only take light exercise. Take gentle walks (less than one mile) and avoid vigorous exercise such as golf and cycling for at least six weeks. More strenuous activities such as heavy lifting, digging and decorating should be avoided for three months after your operation. Avoid travelling abroad

for 6 weeks after surgery. You should speak to your GP or consultant if you are planning a trip.

WORK

You can return to work when you feel fit and able, depending on what sort of work you do. Most people should be back to full physical activity 3-4 weeks post laparoscopic surgery. If you have open surgery this will take 8-10 weeks.



DISCHARGE ADVICE.

Even though one kidney functions as well as two, you may be advised to take some precautions to protect the remaining kidney. These precautions include:

- Increase your amount of exercise as tolerated
- Aim for a fluid intake of one to two litres a day.
- Have regular visits to your GP to monitor your blood pressure and have blood tests.
- See your GP promptly if you experience chills, fever or pain in your bladder or back, or your urine is cloudy and offensive

smelling. These symptoms may be indicative of a urinary tract infection and require treatment.

- If you develop a wound infection after being discharged from hospital, you should contact your own GP who will arrange antibiotic therapy for you.

There is a risk you may develop blood clot or deep vein thrombosis (DVT) in the legs after this operation. Once you are discharged your doctor, depending of your renal function is going to give you Clexane sc to be used daily for a month. The nurses will teach you how to do this by yourself.

The majority of wound strength is reached within the first six weeks after surgery so it is important to avoid strenuous activity, heavy lifting and straining during this period. This includes such things as contact sports, mowing lawns, gardening, vacuuming and lifting heavy washing baskets

Sexual activity may be resumed after six weeks of when you feel comfortable to do so

You hospital doctor will provide your first sickness benefit certificate/medical certificate and will advise you when to return to work.

FOLLOW UP

When you are discharged from hospital you will be under the care of your GP who will look after your general health and monitor your progress

You will receive an appointment for Urology Outpatients approximately 2 weeks after discharge.

When you leave hospital, you will be given a draft discharge summary of your admission. This holds important information about your inpatient stay and your operation. If you need to call your GP for any reason or to attend another hospital, please take this summary with you to allow the doctors to see details of your treatment. This is particularly important if you need to consult another doctor within a few days of your discharge.

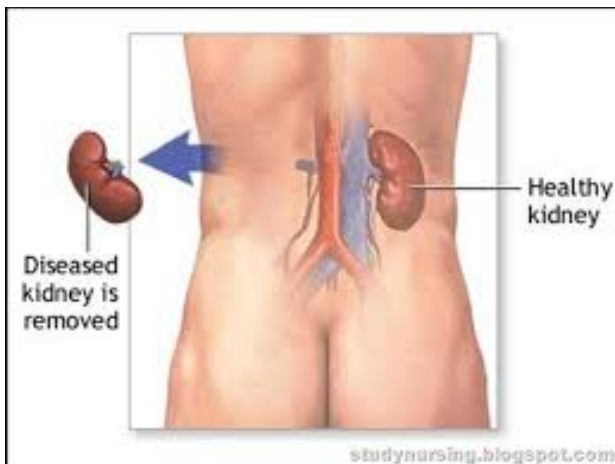


ARE THERE ANY OTHER IMPORTANT POINTS?

A follow-up outpatient appointment will normally be arranged for you 1-2 weeks after the operation. At this time, we will be able to inform you of the results of the pathology tests on the removed kidney.

It will be at least 7-10 days before the pathology results on the removed tissue are available. It is normal practice for the results of all biopsies to be discussed in detail at a multidisciplinary meeting before any further treatment decisions are discussed with you

After removal of one kidney, there is no need for any dietary or fluid restrictions since your remaining kidney can manage fluids and waste products with no difficulty.



WHAT ELSE SHOULD I LOOK OUT FOR?

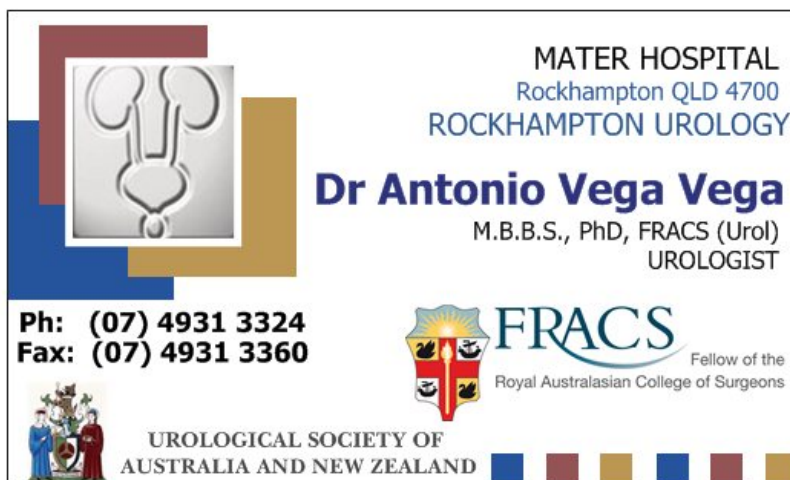
If you develop a temperature, pain in your abdomen, increased redness, throbbing or drainage at the site of the operation, you should contact our clinic or the emergency department.

Blood in the urine. If you have had a partial removal of your kidney there is a risk of bleeding after the operation (experiencing blood in urine). If this does happen, you should contact the ward or urologist immediately as you will need to be admitted at once.

Blood or pus coming from the site of the incision

Bad pain or swelling


NOTIFY THE UROLOGIST OR ATTEND TO THE EMERGENCY DEPARTMENT




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