urology associates

Information for Patients

Urinary Tract Stones

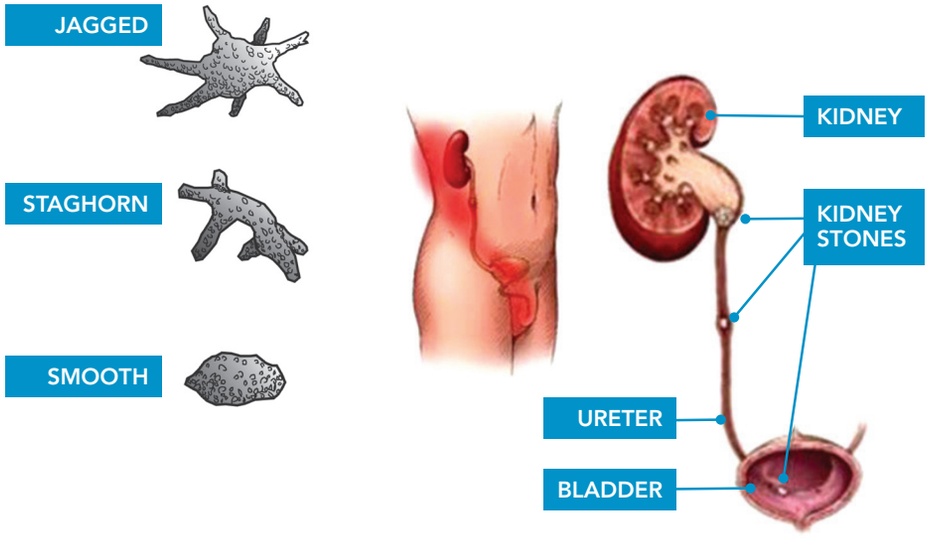
What is a Urinary Tract Stone?

Some of the body's waste products are removed in the urine. When urine becomes concentrated crystals form and most people pass these crystals out in their urine. In a small amount of people the crystals stick together and form stones.

Most stones are made of calcium and oxalate, others may be made of uric acid. Some stones are associated with urine infections. Stones can grow in many shapes and sizes.

This booklet will give you information about stones and how to prevent them. This booklet also has information about the different surgical methods of removing stones: Your Urologist will advise which is the right surgical option for you.

- Ureteroscopy and laser stone/s
- Lithotripsy (ESWL)
- Percutaneous Removal of Kidney Stones (PCNL)
- Cystolitholapaxy (bladder stone)
- Removing your stent



What are the symptoms of Stones?

Common symptoms of stones include:

- Pain: usually severe, which can come and go in waves. It may be felt in the back, side of stomach and groin
- Blood seen when passing urine
- Urge or discomfort with passing urine
- Nausea or vomiting
- Fever
- No symptoms at all

How are Stones diagnosed?

Some form of imaging will be done to diagnose a stone. This may be an ultrasound scan, x-ray of your abdomen or maybe a CT scan.

Preventing Urinary Tract Stones

Diet

Some stones may respond to reducing the amount of salt and acid producing foods in the diet such as meats, fish and poultry. Aim to have a high fibre diet.

Fluid

Most people who form stones do not drink enough fluid. Water is the best fluid to drink. Your urine should be a pale yellow colour when you are drinking enough. Drinking more in the summer months or when working or sweating is important. Caffeinated tea and coffee can be consumed in moderation. Cola, Lemonade and other soft drinks high in sugar as well as alcohol beverages are not suitable.

Oxalate

The intake of oxalate containing foods may need to be reduced. Spinach, rhubarb, strawberries, nuts, beetroot, chocolate and tea are high in oxalate.

Vitamin supplements

B vitamins do not cause stones. High intakes of calcium containing vitamin C, vitamin D and fish liver oil all increase kidney stone formation in some people.

URETEROSCOPY AND LASER STONE

This involves passing a small telescope up the ureter (tube from the kidney to the bladder) to remove the stone.

This procedure also includes cystoscopy (looking in the bladder) and x-ray screening.

A laser is used to break the stone up to allow the fragments to be removed or flush out.

A stent (tube) may be left in the ureter for a few days to help stone fragments to flow out.

What to expect after the operation

Expect to go home the same day as your operation. If you have a catheter in your bladder, this will be removed before you leave.

After discharge

You will receive a follow up appointment for 6 weeks after your operation.

When you get home you should drink twice as much as you would normally to flush your system through and minimise any bleeding.

You may experience pain in the kidney over the first 24-72 hours due to the swelling caused by insertion of the instrument or by the presence of a stent. Anti-inflammatory painkillers will help this pain which normally settles after 72 hours.

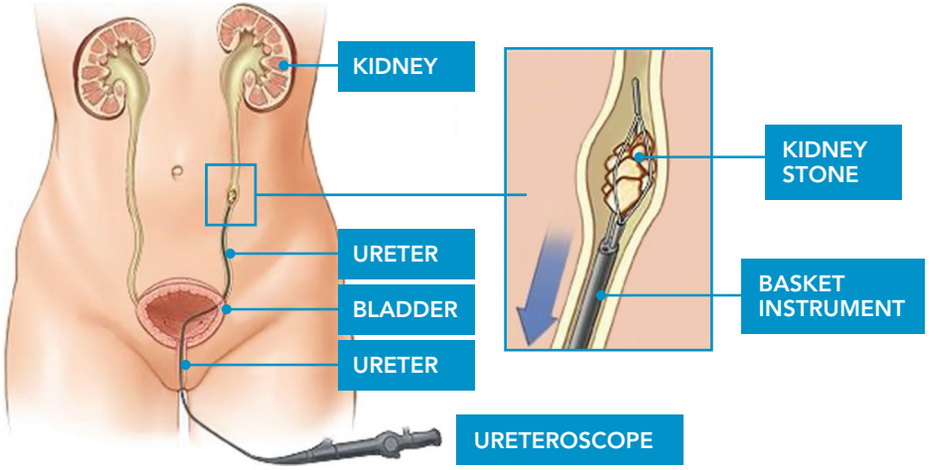
If a stent (tube between kidney and bladder) is inserted you will be informed before your discharge when the stent needs to be removed.

Possible complications

Most procedures have a potential for side effects.

- It is common to have blood in the urine
- It is common to have a raised temperature
- Small blood clots or stone fragments may travel from your kidney resulting in renal colic. Renal colic may present as intense pain in the side of your abdomen which may spread down into the lower abdomen or groin.

If you develop a fever, severe pain on passing urine, inability to pass urine or worsening bleeding you should contact Urology Associates.



Ureteric injury

- It is common for the inside of the ureter to suffer an "abrasion" during the procedure and usually this requires no further treatment
- A hole/perforation in the ureter is uncommon and usually will heal by the Urologist leaving a stent for a longer period of time (6-12 weeks)
- Serious injury to the ureter is very rare

ESWL

Extra-corporeal Shock Wave Lithotripsy (ESWL), or lithotripsy, is a commonly used non-invasive alternative to surgery for the treatment of kidney stones.

The procedure is done under sedation or anaesthetic on the lithotripsy bus. It works by focusing high energy acoustic pulses that pass through the skin and disintegrate the stones. The sand-like fragments can then pass out of the body in the urine.

What happens on the day of my treatment?

An x-ray of your abdomen may be performed to check the location of the stone.

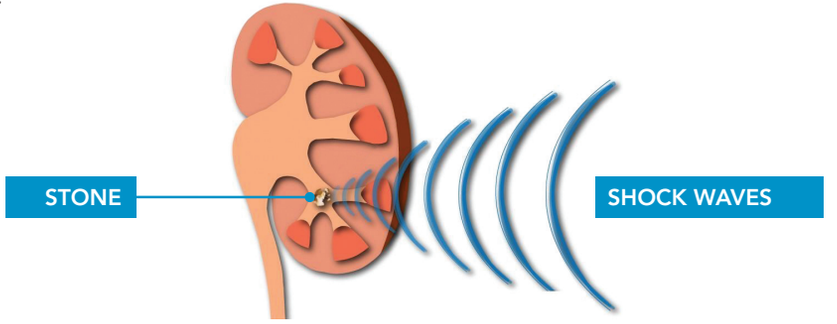
When it is time for treatment a nurse will escort you from the ward to the bus which is parked outside the hospital. You will meet the Urologist who is performing your lithotripsy when you are on the bus. This may be a different Urologist to the one that you met at your consultation.

What happens during my procedure?

After meeting your Urologist, you will be taken through to the treatment room on the bus. You will lie down on the lithotripsy table and an IV drip is inserted into a vein in your arm. Through this drip the anaesthetist can give you sedation medicine and pain relief during the treatment.

You will be positioned so that you are in the ideal place for treatment. Using ultrasound or x-ray guidance, the shock waves are focused on the stone and treatment will begin.

The lithotripsy machine makes a sound like a hammer tapping. During the treatment x-rays or ultrasound will be performed to check on the progress of the treatment. The treatment normally lasts around 1 hour. At the end of the treatment you will be transferred to a wheelchair and taken to the ward for recovery.



What to expect after my operation

You will go to the day stay area after your procedure. Once able, you will be encouraged to drink plenty of fluid to assist flushing out the stone fragments.

After a period of observation you will be discharged home.

It is not uncommon to have a little nausea immediately following the treatment but this is usually resolved by the time of discharge.

After discharge

Some blood in the urine can occur after this treatment.

It is possible to develop an infection following this treatment. If you develop high fevers and pain you should **seek advice from Urology Associates immediately.**

Likewise, seek prompt advice from Urology Associates if you experience difficulty urinating or the blood in your urine does not resolve.

There is often bruising or a mild graze on the skin where the shock waves have passed through the body. There may be some bruising to the kidney which can be painful.

Stone fragments will pass out of the body in the urine. Occasionally this can cause discomfort and pain as they travel out. You will be given a prescription for pain relief in case this happens.

You may eat and drink normally following this treatment and it is important to keep up a good fluid intake.

You will receive a follow-up appointment to see your Urologist at 6 weeks to discuss the treatment of your stone. Prior to this you will have an x-ray to check that the stone has been passed.

Unsuccessful treatment

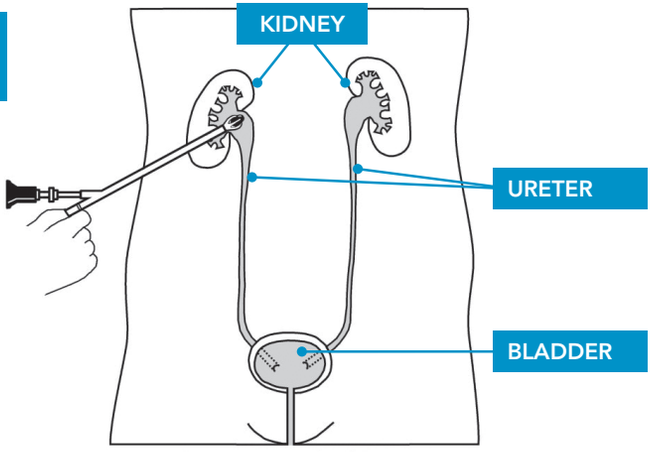
There is a chance that lithotripsy may not be successful in breaking up a stone on the first attempt. If the stone is not fully treated, a second lithotripsy may be recommended. Alternatively a surgical option may be explored if it is decided that further lithotripsy is unlikely to help.

If re-treatment of the same stone is required within 12 months, the Urologist's fee will not be rebilled. There will still be charges for the anaesthetist and hospital fees. Mobile Medical Technology (who own the lithotripsy equipment) will review the case before deciding whether to rebill their fees for a second treatment.

PERCUTANEOUS REMOVAL OF KIDNEY STONES

Percutaneous nephrolithotomy (PCNL) is keyhole surgery. Under general anaesthetic, the stone is removed by passing a telescope through your side directly into the kidney. The stone is broken up and the fragments are removed.

PERCUTANEOUS NEPHROLITHOTOMY



What happens during my operation?

A small (keyhole) incision is made into the kidney, using x-ray guidance. A Radiologist (a specialist doctor in the use of x-rays) is present for this part of your operation, to help gain access into your kidney correctly.

A telescope is passed into the kidney. The Urologist locates and removes the stone by breaking it into pieces using laser.

When you wake up you will have a small tube coming from your kidney draining the urine into a bag. This is usually removed the next day and is called a nephrostomy.

You will also have a catheter in your bladder draining urine. This will also be removed the next day.

What to expect after the operation

On the day after surgery, a further x-ray is normally done to assess stone clearance. If the x-ray is satisfactory, the tube in your kidney and the catheter in your bladder will be removed.

There is often some leakage from the kidney tube site for 24-48 hours. This is nothing to be concerned about and you will be provided with some dressings to go home with.

Most people will be in hospital for between 1 and 2 nights.

Possible complications

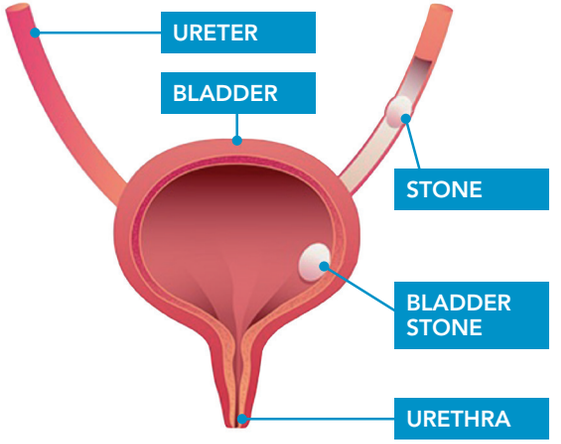
All procedures have a potential for side effects.

- It is common to have blood in the urine
- It is common to have raised temperature
- Not all stones may be removed
- Failure to gain access to the kidney resulting in the need for further surgery
- Very serious bleeding requiring a further procedure or, in extremely rare circumstances, loss/removal of the kidney

CYSTOLITHOLAPAXY

Cystolitholapaxy involves passing a small telescope up the urethra (water pipe) to look inside the bladder to locate the stone or stones. A laser then breaks up the bladder stones into smaller pieces. The small stone pieces are then washed out of the bladder.

Expect to go home the same day as your operation. When you get home you should drink twice as much as you would normally to flush your system through and minimise any bleeding.



REMOVING YOU STENT

Your Urologist will tell you when you can remove your stent. It's best to do this in the morning.

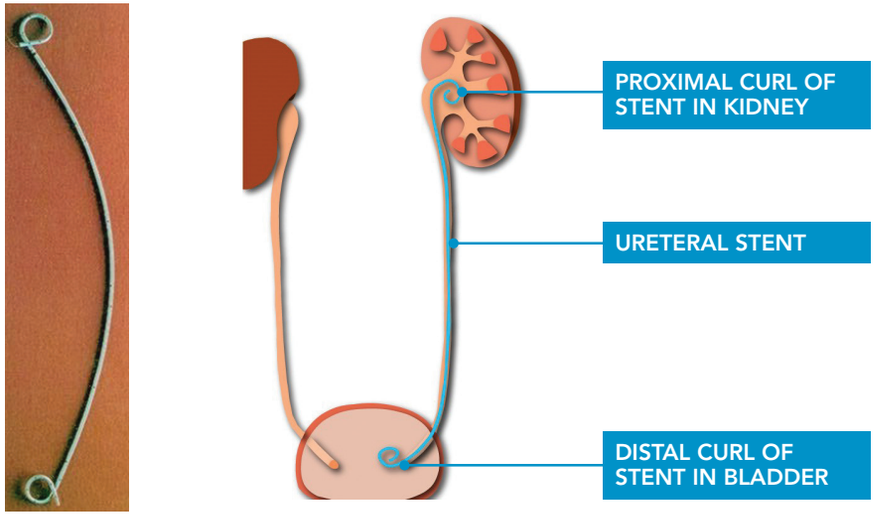
It is important to try and relax. This will make it easier. Removing your stent gives an unusual sensation, but it should not be painful.

1. Take hold of the string and with a firm, steady motion, pull the stent until it is out. Take a long slow breath out as you pull out the stent.
2. It is approximately 25-30 cm long.
3. Once the stent is removed you may experience some pain the next time you pass urine and notice blood in your urine. This is quite normal and will pass.

Make sure you drink enough fluid to keep your urine a pale yellow colour. This will reduce the likelihood of blood clots in your urine.

If you feel that you are unable to remove the stent by yourself, don't be concerned. Contact Urology Associates and arrange a time to have the stent removed by a nurse.

Occasionally you can have severe pain after removing the stent, nothing has gone wrong. Contact Urology Associates for advice.



urology
associates

George Acland
MB ChB, FRACS
Urologist

Kevin Bax
MB ChB, FRACS
Urologist

Nick Buchan
MB ChB, FRACS
Urologist

Deborah Friberg
MB ChB, FRACS
Urologist

Frank Kueppers
Dr. med.
Urologist

Giovanni Losco
MB ChB, FRACS
Adult & Paediatric
Urologist

Jane MacDonald
MB ChB, FRACS
Urologist

Stephen Mark
MB ChB, FRACS
Adult & Paediatric
Urologist

Louise Rouse
BHB, MB ChB, FRACS
Urologist

Urology Associates
Forte Health, 132 Peterborough Street
PO Box 917, Christchurch 8140
P: 03 355 5129
E: reception@urology.co.nz
www.urology.co.nz

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