

Extracorporeal Shock Wave Lithotripsy (ESWL)

Patient Information – Urology Service

What is a urinary tract stone?

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

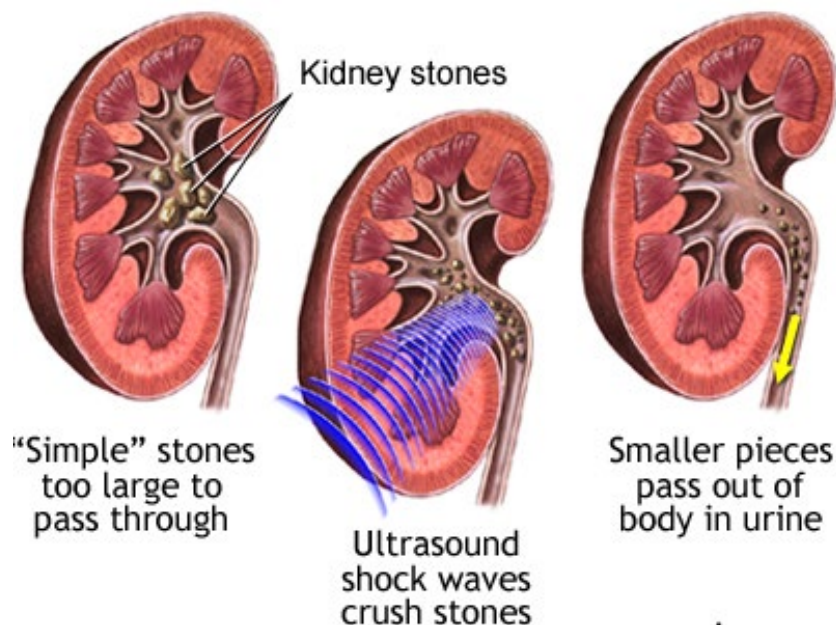
Urine normally has chemicals that stop stones forming. In some people with kidney stones, these chemicals do not work properly.

Urinary tract stones have nothing to do with gall bladder stones.

Extracorporeal shock wave lithotripsy (ESWL)

Lithotripsy, which simply means "breaking up stones," is a technique used to treat kidney stones. There are various forms of lithotripsy, the most common of which is extracorporeal shock wave lithotripsy (ESWL). Extracorporeal means outside the body.

During this treatment, high energy shockwaves, which are sound waves, pass through the body to the area of the kidney stones. The waves break the stones into tiny pieces. It is easier for smaller pieces to pass out of the body during urination.



What happens before my treatment?

You have a kidney stone that is visible on x-ray and that is suitable for ESWL. The treatment and outcomes will be explained to you by your urologist before the treatment.

When you feel comfortable that you understand what is to be done and have had all your questions answered, you will be asked to sign a consent form. This consent form should be signed by both yourself and your urologist and forwarded to the hospital prior to your admission.

An x-ray may be performed a few days before your treatment to check the position of your stone(s).

If you are over 60 years of age, or have other medical conditions, you may also have an electrocardiogram (ECG) prior to your treatment to check the health of your heart.

You will be advised when to stop eating and drinking before treatment. This includes water and chewing gum. You can swallow tablets with a small sip of water.

You should bring your own medications with you to the lithotripsy unit.

It is important to avoid constipation. Try to establish and maintain a regular, soft bowel habit leading up to your treatment. Identify the foods that can help you maintain a regular bowel habit for your post-op period.

Please inform your urologist if you are taking anti-coagulant (blood thinning) medication (e.g. warfarin, clopidogrel, dabigatran, rivaroxaban or ticagrelor), or any medication for diabetes. Your urologist will advise when to stop and restart these medications. If you are taking aspirin, it is okay to continue taking this.

What happens on the day of my treatment?

You will go to Forté Health on the day of your treatment. On arrival, the staff will guide you through what is required prior to your treatment.

Immediately prior to the procedure you will have the opportunity to talk to the anaesthetist and the urologist.

Once you have been transferred to the lithotripsy unit, you will be asked to lie down on the lithotripsy bed.

You will have a clean hospital gown and protective stocking fitted.

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

Since lithotripsy can cause mild discomfort, the treatment is usually undertaken with continuous intravenous sedation. It should not be painful. On rare occasions, a general anaesthetic is required.

You may be given a medication to prevent blood clots.

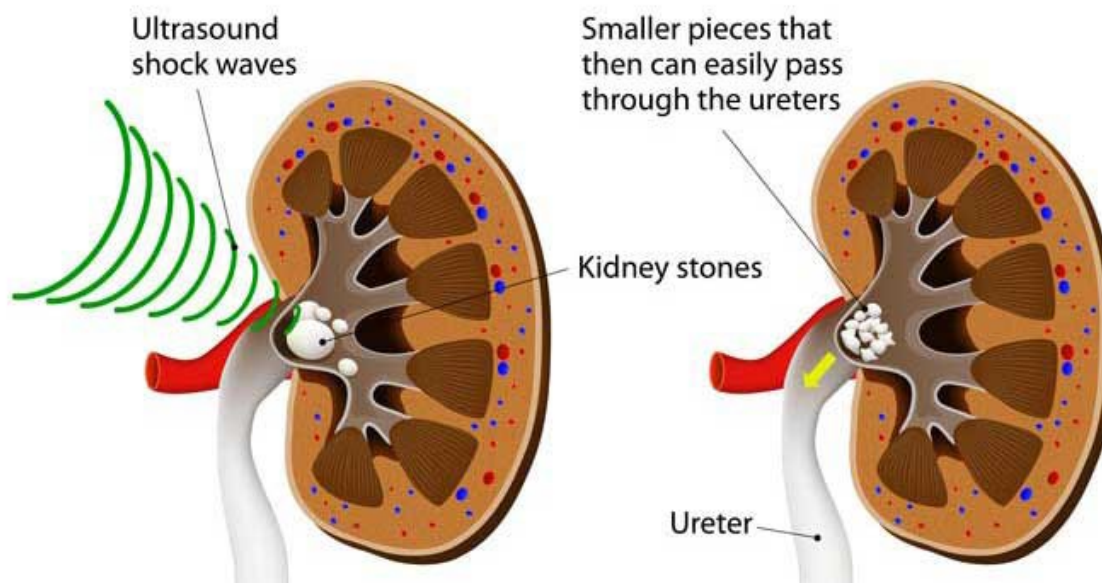
You will be encouraged to commence deep breathing and coughing exercises pre-operatively. This prevents any breathing complications or chest infection from occurring, following the treatment and anaesthetic.

Just prior to your treatment, you may be given a pre-medication tablet to relax you. You may also be given an alpha blocker at the time of the stone treatment to relax the ureter (tube from the kidney to the bladder) and helps the passage of stone fragments.

You must have somebody to collect and care for you for 24 hours following the procedure.

What happens during my treatment?

You will be positioned with a soft, water-filled cushion on your kidney region. This is where the focused shockwaves will be sent into your body. Your radiographer and urologist will use x-ray or ultrasound images to see where the stones are and, once the treatment is started, you may feel a tapping sensation in the kidney region and hear a loud “ticking” noise. Each “tick” corresponds to one shockwave being sent into your body.



What to expect after the treatment?

The treatment will take about an hour and once completed, you will be returned to the recovery room of the hospital where you may stay for up to two to four hours. You will be discharged when you are comfortable.

It is extremely important that you have someone to drive you home from the hospital, and you should rest when you get home.

How you will feel after your procedure depends on the number, size and location of the stones. Most people can fully resume daily activities within one to two days of treatment.

It is important not to get dehydrated, so following the treatment it is recommended you drink well (1 to 1.5 L per day) to help the passage of stone fragments. More fluid may be necessary in the summer months but avoid excessive drinking as well (over two litres a day).

You will be given medication to use if you have pain or discomfort after treatment.

Passing the stones

The stone(s) that have been treated may take a few days or a week to pass, and this may cause mild pain. They will pass out of the body in the urine as sand or small fragments.

Possible complications

The passage of shockwaves through the body may result in **bruising on the skin** at the entrance of the site. This is not serious and will resolve quickly. There may also be some **blood in your urine**. This is not unusual, but should you have concerns, consult your GP.

Observe for signs of urinary infection

Symptoms include frequent passing of urine, burning in the urethra (tube from the bladder that empties urine), offensive smelling urine, and fever.

Observe for signs of stone obstruction

Symptoms include excessive pain, nausea, vomiting and fever. If you have these symptoms, consult your GP.

If you have signs of rigors (uncontrollable shaking) and/or high temperature, or an overall feeling of unwellness, please visit the Emergency Department at either Christchurch or Ashburton Hospitals immediately.

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. In this event, please contact your GP immediately.

Follow-up

You will receive an appointment notification to attend the Urology Outpatient clinic with your urologist in the weeks following the lithotripsy treatment – sometimes this may be a telephone consultation. The wait for this appointment will depend on how busy the clinics are but is generally around six weeks after your treatment.

Before this appointment, you will have a follow-up x-ray organised to check the success of the treatment. Sometimes a second treatment may be recommended.

Contact information

For more information about:

- Hospital and specialist services, go to www.healthnz.govt.nz/hospitals-services/hospitals/canterbury
- Your health and medication, go to www.healthnz.govt.nz/health-topics