



Lithotripsy Information for patients and carers

What is ESWL / lithotripsy?

Extracorporeal shockwave lithotripsy (ESWL) is the application of special sound waves (shockwaves) which are directed through the skin and on to urinary tract stones. These shockwaves are produced by a machine called a lithotripter and are guided on to stones using either ultrasound or x-rays. The stones are broken up into tiny fragments which can then be passed out in the urine. The advantage of lithotripsy is that most (~80%) stones can be treated this way avoiding surgery and general anaesthesia.



A patient lying on a lithotripter machine

What are the risks / side effects?

Lithotripsy is generally a very safe procedure with a few well recognized side effects. The majority of patients do not suffer any problems afterwards.

Common (greater than 1 in 10)

- Passing blood in the urine temporarily afterwards is normal
- Pain as small fragments pass out (20%)
- Urinary tract infection requiring antibiotics (10%)
- Failure to break the stone needing an alternative treatment
- Recurrence of stones
- Bruising on the skin where the shockwaves pass through

Occasional (between 1 in 10 and 1 in 50)

- Stone fragments getting stuck in the ureter (tube connecting the kidney to the bladder) causing pain and hospital admission, and occasionally requiring surgery to unblock the kidney with an internal tube called a stent.

Rare (less than 1 in 50)

- An infection requiring hospital admission and intravenous antibiotics (<1%). Occasionally the kidney has to be drained by a small tube passed through the back and into the kidney.
- Bleeding or bruising in and around the kidney called a haematoma (<1%).

What are the alternatives?

Some stones maybe observed and pass spontaneously. This is usually aided by taking medication to relax the tubes. Alternatively surgery maybe considered requiring a general anaesthetic:

- Ureteroscopy. This is where a small telescope is passed up through the natural tubes to the stone, which is destroyed and removed with a laser
- PCNL. This is a keyhole operation where a telescope is passed through a small cut on the back and into the kidney. This is used for very large stones.
- Open surgery. This has all but disappeared with advances in minimally invasive surgery.

Which patients should not have lithotripsy?

There are certain patients for whom lithotripsy is contra-indicated:

- Patients who are pregnant
- Patients on anticoagulants (blood thinners) such as: warfarin & clopidogrel
- Patients with pacemakers or internal defibrillators
- Patients who have recently had a heart attack
- Patients with untreated / uncontrolled high blood pressure
- Patients with abdominal aneurysms or an artificial blood vessel graft

Where do I go?

You will be asked to attend the Lithotripsy centre at Princes Royal Hospital at Hayward's Heath. When you arrive at the hospital follow the signs to the first floor and Ansty ward. Please take a seat in the comfortable waiting area specifically for lithotripsy patients. We will ask you to arrive at a specific time, but some treatments take longer than expected, and you may have to wait for a short time. It is important to eat and drink as normal – do not come starved. **Please bring a spare pair of underwear with you, as your underwear may become wet during treatment.**

What will happen before the treatment?

Please bring someone with you for your first treatment as we do not advise driving afterwards. After your first treatment most patients find that an escort is unnecessary. You will be met by our lithotripsy nurse who will ask you some questions, take your blood pressure and pulse, and who is likely to send you for an X-ray. The X-ray department is on the ground floor. Once you scan is performed please return to Ansty ward. **Provided you are not allergic we would like you to take some simple painkillers such as paracetamol and ibuprofen one hour before the procedure at home.** Alternatively you will be offered a painkiller suppository (tablet in back passage).

What happens during treatment?

You will be walked around to the lithotripsy suite which is based just inside the theatre complex on the first floor. You will be provided with a gown and asked to change behind a curtain. The treatment takes place on a special couch filled with a shallow puddle of warm water, so your back will get wet, and you will be given a towel to dry off at the end. Each session lasts around 30-45 minutes. Stones will be identified using an x-ray or ultrasound scan and normally 3000 'shocks' are delivered into a stone. The machine starts at a very low power and feels like someone gently flicking your back. The power is gradually built up, and it may be slightly uncomfortable. The machine makes a loud clicking noise. There will always be someone there with you, and if the treatment becomes too uncomfortable the power can be turned down or switched off. Entonox gas is available for pain relief, but it is rare to require this. When the treatment is finished you can dry off and get changed. You will return to Ansty ward, and we normally ask that you stay with us for 30 minutes afterwards.

What should I expect after treatment?

Patients usually feel back to normal after the treatment is finished, but generally we advise you to take the day off and rest at home. Many people will return to normal activities straight away once they get used to the treatment. It is important to drink plenty of water afterwards (aim for around 2 litres a day) in order to flush the small fragments of stone out. **This can be painful, and it is important that you have a supply of paracetamol and ibuprofen at home in case of pain.** It is normal to pass blood in the urine for a few days afterwards, which should get lighter as days go by. Occasionally you will be given antibiotics to take home for a few days. Lithotripsy may take up to 3 treatment sessions which are usually spaced about 3-4 weeks apart, and you will be given a follow up appointment before you leave. If you have a stent, you maybe given an appointment to have this removed under local anaesthetic.

What should I watch out for?

If you develop a fever, severe pain, worsening bleeding or passing large clots, or difficulty passing urine you should contact your G.P. immediately, or alternatively attend A&E.

Contact details?

Booking co-ordinator.....phone.....email.....fax.....