



**Sussex  
Lithotripter  
Centre**



**Brighton and Sussex  
University Hospitals**  
NHS Trust

# Lithotripsy

## 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 recognised 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 may be 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, high dose Aspirin
- 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 Princess 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 (The first door on the right as you enter the ward). You will be given appointment times however some previous patients treatment may take longer than expected so please do allow time for this.

**Take painkillers an hour before treatment begins. (Such as paracetamol, Ibuprofen, diclofenic also known as Volatrol suppositories). Please bring spare pair of underwear.**

You will be meet by the lithotripsy nurse on Antsy Ward who will go through some questions including medication and allergies. You will be asked to provide a urine sample and blood pressure will be noted plus medical history. Once this is complete you will need an x-ray to see the position of the stone each time you come.

It is important to eat and drink as normal – do not come starved.

## 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. Once you scan is performed please return to Ansty ward.

## 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.

## 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 three treatment sessions which are usually spaced about 3-4 weeks apart.

If you have a stent, you may be given an appointment to have this removed under local anaesthetic.

## Before treatment

Foods to try and avoid 2 days before treatment begins as the build-up of bowel gas can obstruct the vision of the x-rays in seeking the stone. Please read the following:

### Food to avoid

Weetabix, Shredded Wheat,  
All Bran, Bran Cereals,  
Wholemeal flour, wholemeal bread.  
Cakes and pastries made with wholemeal.  
Lentils, pulses, beans, baked beans.  
All types of vegetables.  
Dried fruit, spicy food, pickles and  
Fizzy drinks.

### Foods Allowed

Cornflakes, rice krispies, rice  
white bread, cakes, biscuits and pastry  
Pastries made with white flour. Potatoes  
Root vegetables, tinned fruit, butter  
Margarine, clear soups, gravy, Oxo  
Marmite, Bovril, tea, coffee, coco  
Horlicks, sugar, jelly and honey.

## After treatment

Patients normally feel back to normal after treatment, but generally it is advised to **rest and drink plenty of fluids, you will see some blood in the urine but drinking plenty will help, the blood may re-start after a few days not to worry unless you are in discomfort.**

After care sheet will be given along with further appointments to complete your treatment.

**Any queries please do not hesitate to contact Steph or Leanne  
on 01444 441881 Ext. 8569  
Monday to Thursday 08.00 – 15.30  
answer machine service available or Marco Ext. 8708.  
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**Disclaimer**

The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

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