

What is Extracorporeal Shock Wave Lithotripsy (ESWL)?

Extracorporeal shock wave lithotripsy (ESWL) uses sound waves to break a kidney stone into small pieces that can more easily pass into the bladder and out of the body.



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EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (ESWL)

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This procedure usually is not used if you:

- Are pregnant. The shock waves and X-rays may be harmful to the fetus.
- Have a bleeding disorder.

Are all stones treatable by ESWL?

NOT all stones can be treated.

90% of urinary stone can be treated by ESWL therapy and this includes stones that are not too large and not causing obstruction or infection.

How does ESWL work?

- The shock wave from an energy source are transmitted through the patient's skin and pass harmlessly through the patient's soft tissue.
- The shock wave passes through the kidney and strikes the stone. At the stone boundary, energy is lost, and this causes small cracks to form on the edge of the stone. The same effect occurs when the shockwave exits the stone. With successive shocks, the cracks open up, and in turn, smaller cracks form within the large cracks. Eventually, the stone is reduced to small particles, which are then flushed out of the kidneys or ureter naturally during urination.
- The process generally takes about 1 hour during which up to 45,000 shocks are administered.
- The patient may experience some discomfort during the treatment depending on the patient's pain tolerance. Analgesics may be administered to make the patient more comfortable.

How do I prepare for the examination?

- This can be done as an inpatient or an outpatient basis.
- No overnight fasting is necessary, although a heavy meal before the procedure is not advisable. However, please check with the urologist upon appointment. If there is sedation by anaesthetist, fasting of 6 hours is required.
- If you are on medication, please let your doctor know, as some medicines may need to be stopped temporarily for the treatment.

What happens during the treatment?

- The patient lies on a water-filled cushion, X-rays or ultrasound tests are used to precisely locate the stone. High-energy sound waves pass through the body without injuring it and shatter the stone into small pieces. These small pieces move through the urinary tract and out of the body more easily than a large stone.
- The process takes about an hour.
- Sedatives or painkillers may be used.

What happens after the treatment?

- Blood may be seen in the urine for a few days after ESWL.
- The stone fragments may pass over a period of a few days or weeks. Some people may have pain as the small stone fragments pass through the urinary system.
- You are encouraged to drink plenty of fluids to flush out stone fragments.
- Some patients may develop fever. You should get in touch with your doctor if it happens.

Benefits & Risks of ESWL

BENEFITS

- ESWL is a safe procedure and may be used on children and on individuals with only one working kidney. ESWL may still be used if you have a pacemaker but a cardiologist has to determine that it is safe.
- ESWL can also be used to break up a stone that is in the ureter, not necessarily in the kidney.

RISKS

About 10% or less of people who are treated with ESWL have complications. These include:

- Pain caused by the passage of stone fragments.
- Blocked urine flow as a result of stone fragments becoming stuck in the urinary tract. The fragments may then need to be removed from a ureteroscope.
- Urinary tract infection.
- Bleeding around the outside of the kidney.

Alternative

Whether ESWL is suitable for you or not may depend on other factors too e.g., stones which are too big, visibility of the stone on x-rays or ultrasound etc; and these will have been considered by your doctor.