Extracorporeal Shockwave Lithotripsy (ESWL)
For Kidney Stones
Lithotripsy is a treatment that can sometimes help eliminate kidney stones and pain that they cause. A form of lithotripsy, also known as extracorporeal shock wave lithotripsy, is a nonsurgical procedure that helps your body rid itself of the kidney stone when it is too big to pass on its own. Extracorporeal shock wave lithotripsy is a method of crushing a kidney stone with shock waves. These shock waves pass through your body and are focused on your stone. They cause the kidney stones to crumble while still in the urinary tract. It is then easier for the smaller pieces of stone to pass in the urine.

Lithotripsy usually takes about an hour. It is done in a hospital, a lithotripsy center or surgical setting. It usually does not require an overnight stay. Your health care provider will instruct you on preparation for the procedure. Your health care provider will tell you what to expect afterward.

Let Your Health Care Provider Know About:

- Any allergies you have.
- All medicines you are taking, including vitamins, herbs, eye drops, creams, and over-the-counter medicines.
- Previous problems you or members of your family have had with the use of anesthetics.
- Any blood disorders you have.
- Previous surgeries you have had.
- Medical conditions you have.
The Procedure

A stent (flexible tube with holes) may be placed in your ureter. The ureter is the tube that transports the urine from the kidneys to the bladder. Your health care provider may place a stent before the procedure. This will help keep urine flowing from the kidney if the fragments of the stone block the ureter. You may have an IV tube placed in one of your veins to give you fluids and medicines. These medicines may help you relax or make you sleep. During the procedure, you will lie comfortably on a table with a fluid-filled cushion. After an X-ray or ultrasound exam to locate your stone, shock waves are aimed at the stone. If you are awake, you may feel a tapping sensation as the shock waves pass through your body. If large stone particles remain after treatment, a second procedure may be necessary at a later date.

For comfort during the test:

- Relax as much as possible.
- Try to remain still as much as possible.
- Try to follow instructions to speed up the test.
- Let your health care provider know if you are uncomfortable, anxious, or in pain.

Before the Procedure

- Do not eat or drink for 8 hours prior to the procedure. You may, however, take the medications with a sip of water that your physician instructs you to take.
- Do not take aspirin or aspirin-containing products for 7 days prior to your procedure.
- Do not take nonsteroidal anti-inflammatory products for 7 days prior to your procedure.
After Surgery

After surgery, you will be taken to the recovery area. A nurse will watch and check your progress. Once you’re awake, stable, and taking fluids well, you will be allowed to go home as long as there are no problems. You will also be allowed to pass your urine before discharge. You may be given antibiotics to help prevent infection. You may also be prescribed pain medicine if needed. In a week or two, your health care provider may remove your stent, if you have one. You may first have an X-ray exam done 3-4 weeks before your procedure to check on how successful the fragmentation of your stone has been and how much of the stone has passed. Your health care provider will check to see whether or not stone particles remain.

Seek Immediate Care if:

- You develop a fever or shaking chills.
- Your pain is not relieved by medicine.
- You feel sick to your stomach (nauseated) and you vomit.
- You develop heavy bleeding.
- You have difficulty urinating.
- You start to pass your stent from your penis.

Risks and Complications

Generally, lithotripsy for kidney stones is a safe procedure. However, as with any procedure, complications can occur. Possible complications include:

- Infection.
- Bleeding of the kidney.
- Bruising of the kidney or skin.
- Obstruction of the ureter.
- Failure of the stone to fragment.
Lithotripsy, After Care

Refer to this booklet in the next few weeks. These instructions provide you with information on caring for yourself after your procedure. Your health care provider may also give you more specific instructions. Your treatment has been planned according to current medical practices, but problems sometimes occur. Call your health care provider if you have any problems or questions after your procedure.

What to Expect after the Procedure

- Your urine may have a red tinge for a few days after treatment. Blood loss is usually minimal.
- You may have soreness in the back or flank area. This usually goes away after a few days. The procedure can cause blotches or bruises on the back where the pressure wave enters the skin. These marks usually cause only minimal discomfort and should disappear in a short time.
- Stone fragments should begin to pass within 24 hours of treatment. However, a delayed passage is not unusual.
- You may have pain, discomfort, and feel sick to your stomach (nauseated) when the crushed fragments of stone are passed down the tube from the kidney to the bladder. Stone fragments can pass soon after the procedure and may last for up to 4–8 weeks.
- A small number of patients may have severe pain when stone fragments are not able to pass, which leads to an obstruction.
- If your stone is greater than 1 inch (2.5 cm) in diameter or if you have multiple stones that have a combined diameter greater than 1 inch (2.5 cm), you may require more than one treatment.
- If you had a stent placed prior to your procedure, you may experience some discomfort, especially during urination. You may experience the pain or discomfort in your flank or back, or you may experience a sharp pain or discomfort at the base of your penis or in your lower abdomen. The discomfort usually lasts only a few minutes after urinating.
Home Care Instructions

- Rest at home until you feel your energy improving.
- Only take over-the-counter or prescription medicines for pain, discomfort, or fever as directed by your health care provider. Depending on the type of lithotripsy, you may need to take antibiotics and anti-inflammatory medicines for a few days.
- Drink enough water and fluids to keep your urine clear or pale yellow. This helps “flush” your kidneys. It helps pass any remaining pieces of stone and prevents stones from coming back.
- Most people can resume daily activities within 1–2 days after standard lithotripsy. It can take longer to recover from laser and percutaneous lithotripsy.
- If the stones are in your urinary system, you may be asked to strain your urine at home to look for stones. Any stones that are found can be sent to a medical lab for examination.
- Visit your health care provider for a follow-up appointment in a few weeks. Your doctor may remove your stent if you have one. Your health care provider will also check to see whether stone particles still remain.
Seek Medical Care If:

- Your pain is not relieved by medicine.
- You have a lasting nauseous feeling.
- You feel there is too much blood in the urine.
- You develop persistent problems with frequent or painful urination that does not at least partially improve after 2 days following the procedure.
- You have a congested cough.
- You feel lightheaded.
- You develop a rash or any other signs that might suggest an allergic problem.
- You develop any reaction or side effects to your medicine(s).

Seek Immediate Medical Care If:

- You experience severe back or flank pain or both.
- You see nothing but blood when you urinate.
- You cannot pass any urine at all.
- You have a fever or shaking chills.
- You develop shortness of breath, difficulty breathing, or chest pain.
- You develop vomiting that will not stop after 6–8 hours.
- You have a fainting episode.
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