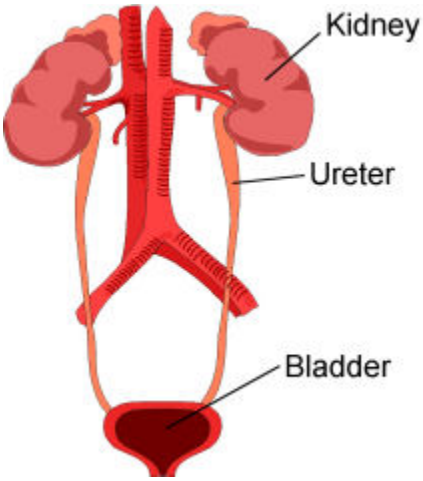
Lithotripsy For Treatment of Kidney Stones

WHAT ARE KIDNEY STONES?

The kidneys filter blood for chemicals the body can't use. These waste chemicals are eliminated in the urine. They are removed from the body. Under some conditions, these chemicals may become concentrated. When this happens, they form crystals in the urine. When these crystals build up and stick together, stones may form. When these stones block the flow of urine through the urinary tract, they may cause severe pain. The urinary tract is very sensitive to blockage and stretching by the stone.



WHAT IS LITHOTRIPSY?

Lithotripsy is a treatment that can sometimes help eliminate kidney stones and pain faster. A form of lithotripsy, also known as *ESWL* (extracorporeal shock wave lithotripsy), is a nonsurgical procedure that helps your body rid itself of the kidney stone with a minimum amount of pain. EWSL is a method of crushing a kidney stone with shock waves. These shock waves pass through your body. 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.

POSSIBLE COMPLICATIONS

Complications of lithotripsy are uncommon, but include the following:

- Infection
- Bleeding of the kidney
- Bruising of the kidney or skin
- Obstruction of the *ureter* (the passageway from the kidney to the bladder)
- Failure of the stone to *fragment* (break apart)

HOW LITHOTRIPSY IS DONE

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

LET YOUR CAREGIVERS KNOW ABOUT THE FOLLOWING:

- Allergies
- Medicines taken including herbs, eye drops, over the counter medicines (including aspirin, aleve, or motrin for treatment of inflammatory conditions) and creams
- Use of steroids (by mouth or creams)
- Previous problems with anesthetics or novocaine
- Possibility of pregnancy, if this applies
- History of blood clots (*thrombophlebitis*)
- History of bleeding or blood problems
- Previous surgery
- Other health problems

DESCRIPTION OF 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 caregiver 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 receive an intravenous (IV) line 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 fluid-filled cushion or in a warm-water bath. After an x-ray or ultrasound locates your stone, shock waves are aimed at the stone. If you are awake, you may feel a tapping *sensation* (feeling) 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 caregiver know if you are uncomfortable, anxious, or in pain.

AFTER THE PROCEDURE

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 may be prescribed *antibiotics* (medicines that kill germs) to help prevent infection. You may also be prescribed pain medicine if needed. In a week or two, your doctor may remove your stent, if you have one. Your caregiver will check to see whether or not stone particles remain.

PASSING THE STONE

It may take anywhere from a day to several weeks for the stone particles to leave your body. During this time, drink at least 8 to 12 eight ounce glasses of water every day. It is normal for your urine to be cloudy or slightly bloody for a few weeks following this procedure. You may even see small pieces of stone in your urine. A slight fever and some pain are also normal. Your caregiver may ask you to strain your urine to collect some stone particles for chemical analysis. If you find particles while straining the urine, save them. Analysis tells you and the caregiver what the stone is made of. Knowing this may help prevent future stones.

SEEK IMMEDIATE MEDICAL ATTENTION IF:

- You develop an oral temperature above 102° F (38.9° C), or as your caregiver suggests.
- Your pain is not relieved by medicine.
- You develop *nausea* (feeling sick to your stomach) and vomiting
- You develop heavy bleeding
- You have difficulty urinating.

PREVENTING FUTURE STONES

- Drink about 8 to 12, eight-ounce glasses of water every day.
- Follow the diet your caregiver recommends.
- Take your prescribed medicine.
- See your caregiver regularly for checkups.

Document Released: 04/07/2004 Document Re-Released: 10/20/2009
ExitCare® Patient Information ©2011 ExitCare, LLC.