WASHINGTON UROLOGY

Extracorporeal Shock Wave Lithotripsy (ESWL)

This is a technique by which non-invasive fragmentation of a kidney stone is perfomed using shock waves generated by the lithotripter. Shock waves are focused onto the vicinity of the kidney stone causing fragmentation. The fragmented particles and debris may then pass naturally in the urine over the course of several days to weeks. Shock waves are not electrical shocks but rather are direct physical forces that travel through the tissues of the flank and kidney to the stone

Success of ESWL depends on size, location and composition of the stone. Stones larger than 2cm have poor success rates and are not generally recommended for ESWL. Stones larger than 1cm in the **lower** portion of the kidney have poor clearance rates (50% or less) and are best treated with other techniques. Large ureteral stones >1.5cm are not recommended for ESWL and are generally best treated with ureteroscopy. Other than those situations listed above, stone-free clearance from ESWL reaches 70-80% with rates as high as 80-90% for stones <1cm.

Procedure

The procedure is done in one of our surgical suites at Virginia Hospital Center typically under intravenous or general anesthesia. There is minimal, if any, pain or discomfort during the procedure. The procedure takes about 45 minutes during which time 2500-3000 shocks are delivered to the stone(s).

Flouroscopy, or real time radiologic imaging, is used to locate the stone, ensure the shock waves are focused on the stone during the procedure, and for moinitoring progress of fragmenation. The amount of radiation delivered during the procedure is negligible (equivalent to 4-5 plain chest x-rays.)

This procedure cannot be done on pregnant females or patients that are taking any blood thinning medications. A urine pregnancy test is required prior to this procedure in any women of child-bearing age.

Post Procedure

Following the procedure, patients are taken to the recovery room to wake up from anesthesia. This usually takes about 45 minutes. Once patients have met hospital discharge criteria, they are allowed to go home. A friend or family member is required to accompany the patient home from the hospital.

It is important to avoid strenuous work and exercise for the first few days after the procedure. You should also avoid any heavy lifting. It is important to drink extra fluids,

at least 3 qts/day. Most people resume normal activities within 3-4 days after the procedure. It is common to have some pain over the flank where the shock entered the body and often to have some skin bruising/abrasions in the area as well.

You may be requested to strain your urine and collect any stone fragments that pass so that they can be sent into the lab for analysis of composition.

Complications

Complications after ESWL are rare. Some of the complications are listed below:

-blood in the urine
-urinary infection
-bruising to the kidney or hematoma
-additional procedures
-failure of ESWL to fragment stone
-obstruction due to passing fragments requiring hospital admission or re-treatment

Most patientas have no problems after ESWL. However, if you should have any questions, develop excess pain, nausea or vomiting not relieved with medications, chills and fever >101 F, inability to urinate, bloody urine with large clots or any other unusual problems, you should contact **Washington Urology** at **703-717-4200** during business hours or report to the ER ifafter hours.