Extracorporeal shockwave lithotripsy

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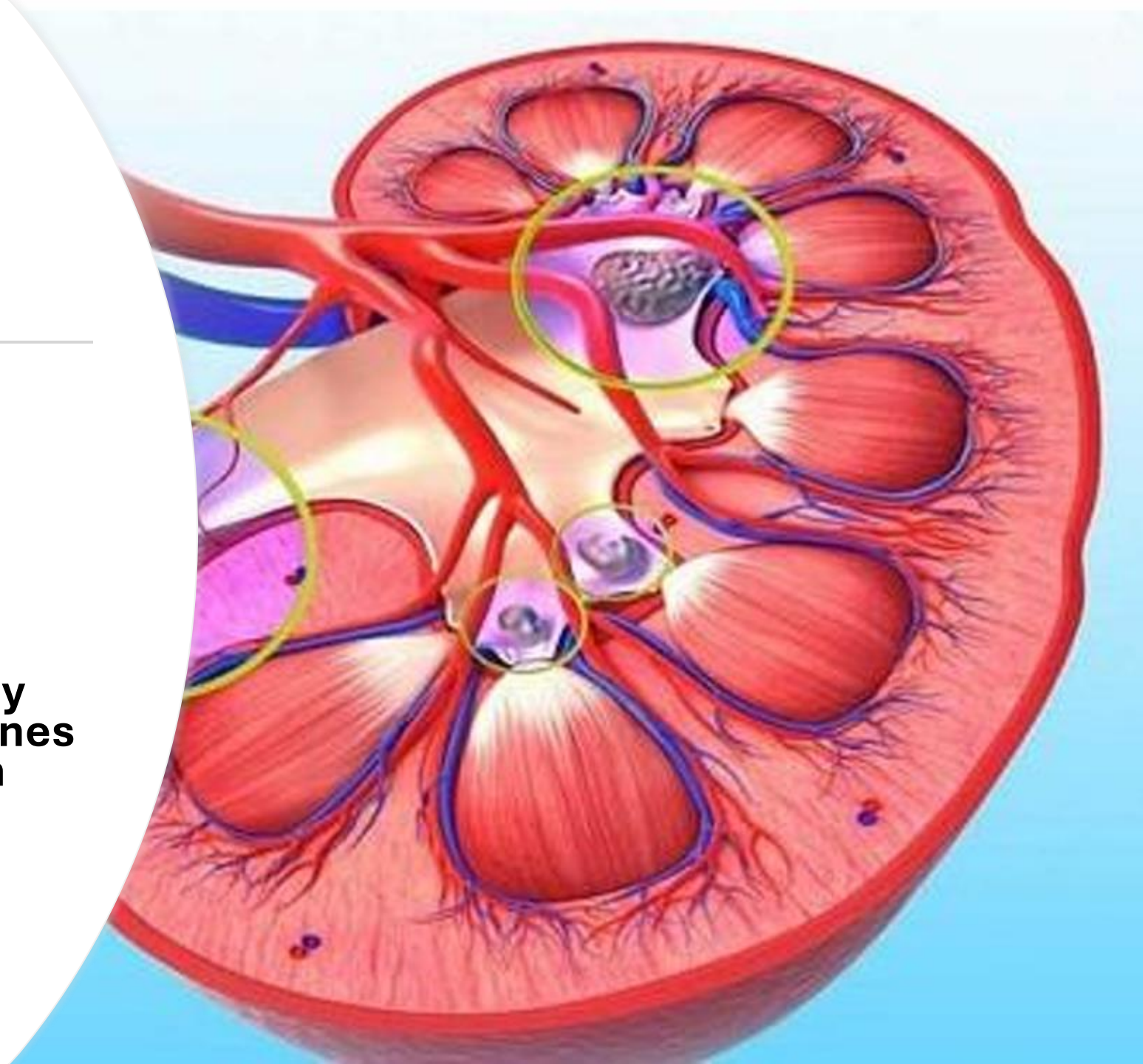
- **What is ESWL?**
- **The introduction of extracorporeal shock wave lithotripsy (ESWL) in the early 1980s revolutionized the treatment of patients with kidney stones. › The more formal name for ESWL is extracorporeal shock wave lithotripsy. It means it occurs outside the body. Lithotripsy comes from the Greek words for “stone” (leto) and “crushing” (trepsis). Health care providers use shock wave lithotripsy (ESWL) to treat kidney stones. › Extracorporeal shock wave lithotripsy (ESWL) is a procedure to break up kidney stones with a series of shock waves produced by a machine called a lithotripter.**

- **› Shock waves enter the body and are targeted using X-rays. The purpose of the operation is to break the stones into smaller pieces that can pass through the body or be easier to remove. For kidney and ureter stones, the pieces will come out in the urine. › It is possible to break urinary stones of different hardness in our ESWL unit. ESWL turns the stone into sand, allowing the patient to move the stone without being aware of it.**

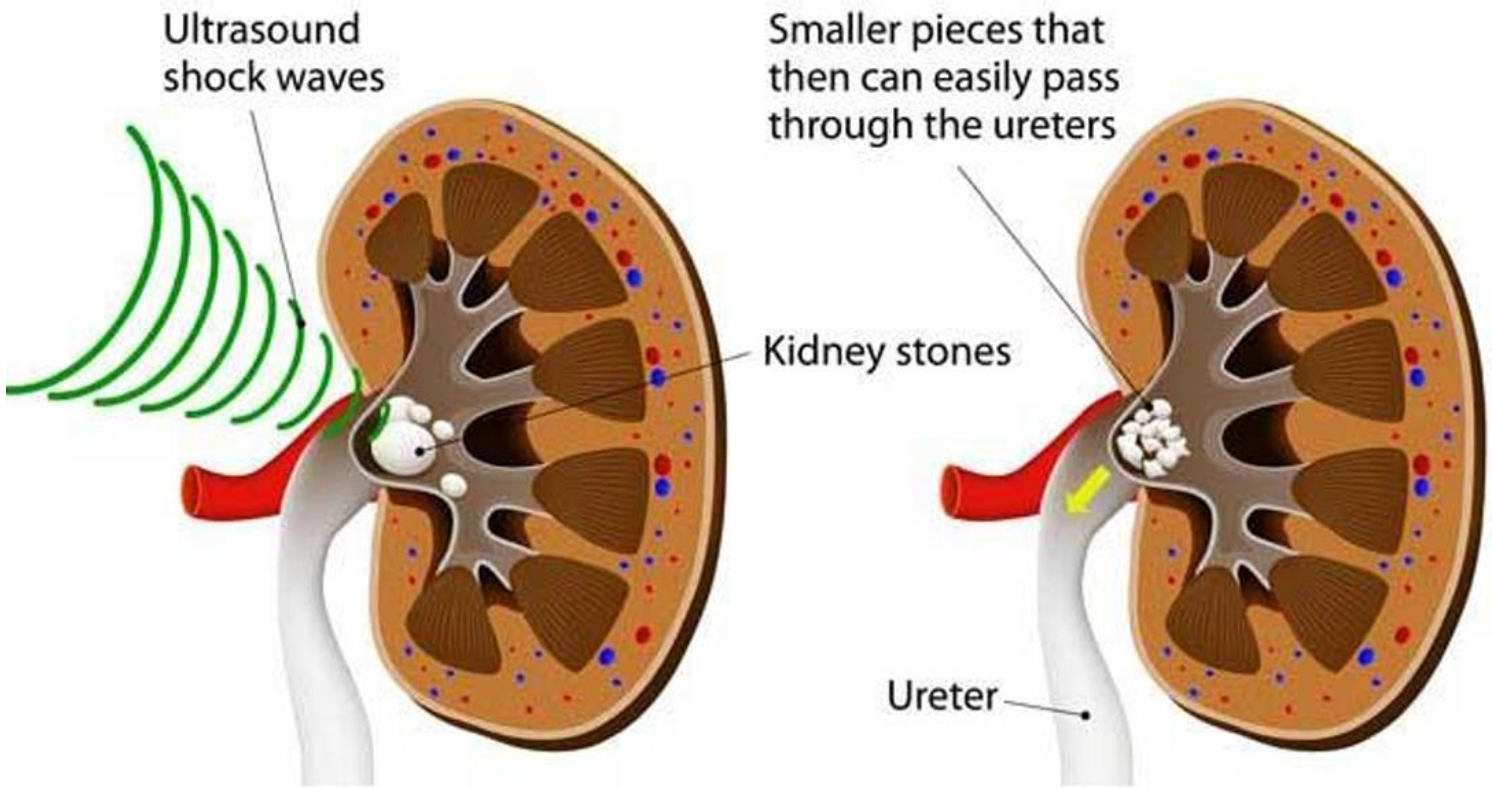
What are kidney stones?

- Kidney stones consist of substances (such as calcium) found in the urine. When high levels of these substances crystallize as a clump, a kidney stone occurs. Most kidney stones form inside the kidney, butcan enter the ureter (the tube that carries urine to the bladder)



When is lithotripsy (ESWL) used?

- **Kidney stones are usually small enough to pass through the urinary tract with urine. In some cases, the stones are too large to be moved alone. Lithotripsy (ESWL) is usually used in the following cases: • When stones are too large to pass (larger than 5 mm) • If the stones prevent the flow of urine • If the stones cause bleeding or infection • If pain medications are ineffective while trying to pass the stone › Some stones may be too large to be treated with shock wave lithotripsy (ESWL). The size, shape, location and number of stones will be evaluated to see if this procedure is appropriate. › Your doctor may recommend an alternative treatment if you are pregnant, have a pacemaker, or take medications for kidney cancer, kidney infection, or heart disease**


Ultrasound
shock waves
Kidney stones
Smaller pieces that
then can easily pass
through the ureters
Ureter

Components of the shock wave lithotripsy device

- **High quality electromagnetic shock wave source**
- **Optimal X-ray imaging**

Arm C The ESWL device uses a spherically movable C-arm for the purpose of imaging the desired location.

- **Ultrasound system schematic The ultrasound system of the shock wave lithotripsy is integrated with the main unit in a schematic way to ensure that the transducer does not get in the way of the X-rays.**

- **Flexible head movement The head of the ESWL Lithotripter is discreetly mounted in a small C-arm colocated concentrically with the X-ray C-arm and shock wave center. This unique design, which allows the device head to rotate around the center, provides a great fit to optimize the angle of shock wave delivery.**

Side effects of using the ESWL

- **device Side effects resulting from lithotripsy through the ESWL device Side effects of the ESWL device are undesirable but are mostly temporary, and may include the following: › Pain and discomfort; Because stone fragments pass through the urinary tract. › A small amount of blood and fragments of stones in the urine, which can last for several days. › Bruising and blistering of the skin where the treatment was done, but this usually disappears within seven days**

thank you