Renal Ultrasound: (Kidneys, Ureters, Bladder)

What It Is
A renal ultrasound is a safe and painless test that uses sound waves to make images of the kidneys, ureters, and bladder. The kidneys are a pair of bean-shaped organs located toward the back of the abdominal cavity, just above the waist. They remove waste products from the blood and produce urine. The ureters are thin tubes that carry the urine to the bladder. During the examination, an ultrasound machine sends sound waves into the kidney area and images are recorded on a computer. The black-and-white images show the internal structure of the kidneys and related organs.

Why It's Done
Doctors order renal ultrasounds when there's a concern about certain types of kidney or bladder problems. Renal ultrasound tests can show:
- the size of the kidneys
- signs of injury to the kidneys
- abnormalities present since birth
- the presence of blockages or kidney stones
- complications of a urinary tract infection (UTI)
- cysts or tumors

Preparation
Usually, you don't have to do anything special to prepare for a renal ultrasound, although the doctor may ask that your child not eat or drink anything for several hours before the test. You should tell the technician about any medications your child is taking before the test begins.

Procedure
The renal ultrasound will be done in the radiology department of a hospital or in a radiology center. Parents are usually able to accompany their child to provide reassurance and support. Your child will be asked to change into a cloth gown and lie on a table. The room is usually dark so the images can be seen clearly on the computer screen. A technician (sonographer) trained in ultrasound imaging will spread a clear, warm gel on your child's abdomen over the kidney area. This gel helps with the
transmission of the sound waves. The technician will then rub a small wand (transducer) over the gel. The transducer emits high-frequency sound waves and a computer measures how the sound waves bounce back from the body. The computer changes those sound waves into images to be analyzed. Sometimes a doctor will come in at the end of the test to meet your child and take a few more pictures. The procedure usually takes less than 30 minutes.

What to Expect
The renal ultrasound test is painless. Your child may feel a slight pressure on the abdomen as the transducer is moved over it. You'll need to tell your child to lie still during the procedure so the sound waves can reach the area effectively. The technician may ask your child to lie in different positions or hold his or her breath briefly. Babies might cry in the ultrasound room, especially if they're restrained, but this won't interfere with the procedure.

Getting the Results
A radiologist (a doctor who is specially trained in reading and interpreting X-ray and ultrasound images) will interpret the ultrasound results and then give the information to the doctor. You and your doctor will go over the results. If the test results appear abnormal, your doctor may order further tests.
In an emergency, the results of an ultrasound can be available within a short period of time. Otherwise, results are usually ready in 1-2 days. In most cases, results can't be given directly to the patient or family at the time of the test.

**Risks**

No risks are associated with a renal ultrasound. Unlike X-rays, radiation isn't involved with this test.

**Helping Your Child**

Some younger children may be afraid of the machinery used for the ultrasound test. Explaining in simple terms how the renal ultrasound test will be conducted and why it's being done can help ease your child's fears. You can tell your child that the equipment takes pictures of his or her kidneys. Encourage your child to ask the technician questions and to try to relax during the procedure, as tense muscles can make it more difficult to get accurate results.

**If You Have Questions**

If you have questions about the renal ultrasound, speak with your doctor. You can also talk to the technician before the exam.