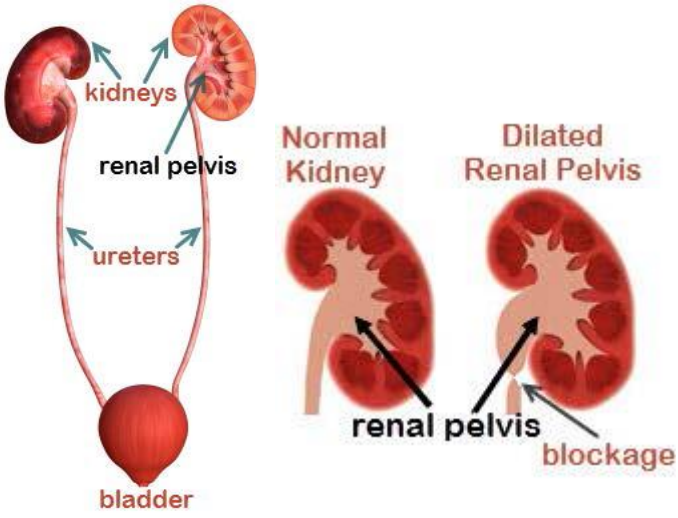
Dilated Renal Pelvis

During a second trimester prenatal ultrasound the baby's kidneys are routinely evaluated. The sonographer looks at the size and shape of the kidneys and measures the amount of urine in the renal pelvis. The renal pelvis is where urine collects inside the kidney before passing through a narrow tube called the ureter and into the bladder. The renal pelvis is considered dilated (larger than usual) when it measures 4 mm (~1/6 inch) or more before 24 weeks in pregnancy. About 1 out of every 30 or 50 pregnancies shows a slightly larger size of the renal pelvis. This can affect either one or both kidneys. There are several terms used to describe this particular ultrasound finding, including dilated renal pelvis, renal pelvis dilatation, mild pyelectasis, pelviectasis, and mild hydronephrosis. The term "hydronephrosis" is usually used when renal pelvis measures 10 mm or more, which is much less common. Most developing babies with a mildly dilated renal pelvis are healthy when they are born and have normal working kidneys.



What causes a dilated renal pelvis?

A dilated renal pelvis is normal for many babies. However, the dilation is sometimes due to a block (**obstruction**) in the ureter, or urine moving back into the kidney (**reflux**). Both of these conditions are treatable.

UPJ obstruction: The most common type of block in the ureter is called ureteropelvic junction (UPJ) obstruction. This is when the connection between the renal pelvis and the ureter is narrowed or partially blocked. This causes urine build up in the renal pelvis.

VUS reflux: Reflux happens when urine moves backwards from the bladder into the ureter and kidney. The medical term is for this vesicoureteral (VUS) reflux. Normally, a valve located between the ureter and bladder only lets urine move one direction - into the bladder. If this valve is not working well, urine is able to flow backwards and can collect in the renal pelvis.

What are the risk factors for a dilated renal pelvis?

This finding can happen in any pregnancy, but there are risk factors that make it more likely:

- Male fetus
- Family history of similar kidney problem

Can a dilated renal pelvis cause problems for the baby?

A dilated renal pelvis is common and does not usually cause problems for the baby. However, sometimes this is a sign of a medical condition that could affect the baby's health. Knowing about this finding during pregnancy lets the pregnancy be watched more carefully.

Urinary tract problems: A dilated renal pelvis can be the sign of a minor urinary tract problem, such as UPJ obstruction or VUS reflux. These conditions often go away on their own, but sometimes follow-up is needed after delivery. Less often, a dilated renal pelvis is an early sign of a more serious problem with the bladder, kidney, or ureter.

Down syndrome: Some studies raised concerns about a small risk for Down syndrome with this ultrasound finding. However, most studies do not find a higher risk for Down syndrome when dilated renal pelvis is the only ultrasound finding. Blood tests or amniocentesis are a better way to look for Down syndrome during pregnancy.

Are any additional tests needed?

A dilated renal pelvis is usually seen during a routine ultrasound. A targeted (level II) ultrasound may be offered to look carefully at the kidneys and check for other ultrasound findings. Other testing, such as amniocentesis, may be discussed, especially if there are more ultrasound findings.

An ultrasound may be done in the third trimester (at about 32 weeks) to check for changes in the fetal kidney. Results from this ultrasound can help determine whether or not follow-up is needed after delivery. Many babies with a mildly dilated renal pelvis do not need any follow-up after birth. However, in some cases, additional tests are recommended for the newborn.

When newborn follow-up is recommended, the most common tests include an ultrasound of the baby's kidneys and urine testing. These tests are usually arranged a few days to a few weeks after delivery.

Will my baby need surgery?

Surgery is rarely needed, especially when the size of the renal pelvis stays the same or gets smaller. Even when there is a minor problem in the urinary tract, such as UPJ obstruction or VUS reflux, only a small number of babies ever need surgery.

UPJ obstruction - In the vast majority of babies with UPJ obstruction, the blockage is mild and surgery is not needed.

VUS reflux - Reflux usually goes away on its own. As a baby gets older, the valve between the bladder and ureter begins to work better. Some babies with reflux are given medication to help prevent urinary tract infections. Less often, surgery is needed to correct this problem.

Where can I get more information?

You can speak with your OB provider or a genetic counselor if you have additional questions about this ultrasound finding.

Kaiser Genetics Departments

Fresno	(559) 324-5330
Modesto	(866) 916-4075
Oakland	(510) 752-6298
Sacramento	(916) 614-4075
San Francisco	(415) 833-2998
San Jose	(408) 972-3300