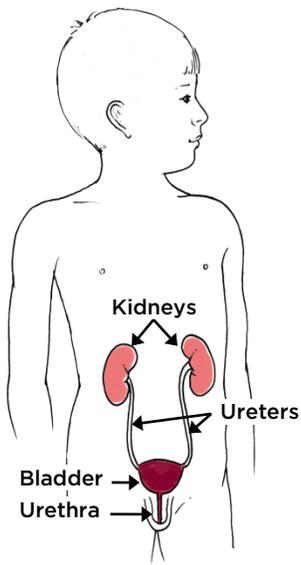


Hydronephrosis

Hydronephrosis is swelling of the kidney. It is caused by a backup of urine. It requires close monitoring by ultrasound.

A blockage anywhere along the urinary tract can cause hydronephrosis



The Urinary Tract

What is hydronephrosis?

Hydronephrosis is swelling (dilation) of the kidney. It is also known as water on the kidney (hydro means water or liquid, nephrosis means kidney). Hydronephrosis can be in one kidney (unilateral) or both kidneys (bilateral).

How is hydronephrosis diagnosed?

Hydronephrosis is diagnosed by ultrasound. It is often diagnosed before a baby is born during a routine prenatal ultrasound. In fact, it is the most common condition found on a prenatal ultrasound. Prenatal hydronephrosis is graded on a scale called the Urinary Tract Dilation (UTD) from P1 to P3. P1 is the most mild and P3 is the most severe.

What causes hydronephrosis?

Hydronephrosis is caused by a blockage (obstruction) or backup (reflux) of urine anywhere along the urinary tract. There is nothing the parents did or did not do during pregnancy that causes hydronephrosis.

The urinary tract includes the kidneys, ureters, bladder and urethra. The kidneys filter blood that makes urine. The kidneys have a solid outer portion and an inner portion that collects fluid. This inner portion drains into a funnel, called the kidney pelvis. From the kidney pelvis, urine drains down through tubes called ureters into the bladder. From the bladder, the urine is stored and emptied through a tube called the urethra when your child goes to the bathroom.

If there is a blockage anywhere along this system it can back up the urine and cause hydronephrosis.

Although hydronephrosis can be caused by a number of conditions, the most common causes of hydronephrosis are:

- UPJ (ureteral pelvic junction) narrowing or obstruction
- Congenital or non-obstructive hydronephrosis
- Urinary reflux

How is hydronephrosis treated?

All newly diagnosed hydronephrosis needs to be monitored. Hydronephrosis can improve or get worse with time. Most mild and moderate hydronephrosis does not harm the kidneys. Hydronephrosis that is left unmonitored can cause kidney damage.

More than half of prenatal hydronephrosis goes away by itself by the time the baby is born or soon after. This is called physiologic hydronephrosis. Newborn babies will have an ultrasound done at 1 to 2 weeks of age when their kidneys start working completely. Physiological hydronephrosis does not need long term follow up.

To Learn More

- Urology 206-987-2509
- Ask your child's healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line 1-866-583-1527. Tell the interpreter the name or extension you need.

Some children may take a low dose of an antibiotic to help prevent urinary tract infections. The decision for antibiotics will be made by your urologist and discussed with you depending on your child's type of hydronephrosis.

If the hydronephrosis is caused by a blockage or urinary reflux, surgery may be recommended.

What follow up is needed for hydronephrosis?

Most children will be followed with ultrasounds. Ultrasounds will show the degree of the hydronephrosis, and whether it is stable, improving or worsening. Ultrasounds can also monitor the growth of the kidney. Your urologist may recommend other tests to determine the cause of the hydronephrosis, such as a Lasix Renal Scan or VCUG.

Some children may need to be referred to a kidney doctor (nephrologist). Blood tests are sometimes needed to monitor the kidneys.

Kidney health and growth are especially important in children, as healthy kidneys are needed through adulthood. The follow up your urologist recommends is very important to keep their kidneys healthy well into the future.

When should I call the doctor?

Call your child's doctor if your child has any of these symptoms:

- Pain in the belly area (abdomen pain)
- Pain in the side (flank pain)
- Blood in the urine
- Fever (any temperature over 101.5)

Additional Resources

See related Seattle Children's flyers:

- "Ultrasound" available at seattlechildrens.org/pdf/PE667.pdf
- "Voiding Cysto Urethrogram (VCUG): Preparing Your Child for a Bladder Test" available at seattlechildrens.org/pdf/PE021.pdf
- "Urinary Reflux" available at seattlechildrens.org/pdf/PE181.pdf
- "Lasix Renal Scan" available at seattlechildrens.org/pdf/PE677.pdf
- "Kidney Stones" available at seattlechildrens.org/pdf/PE701.pdf