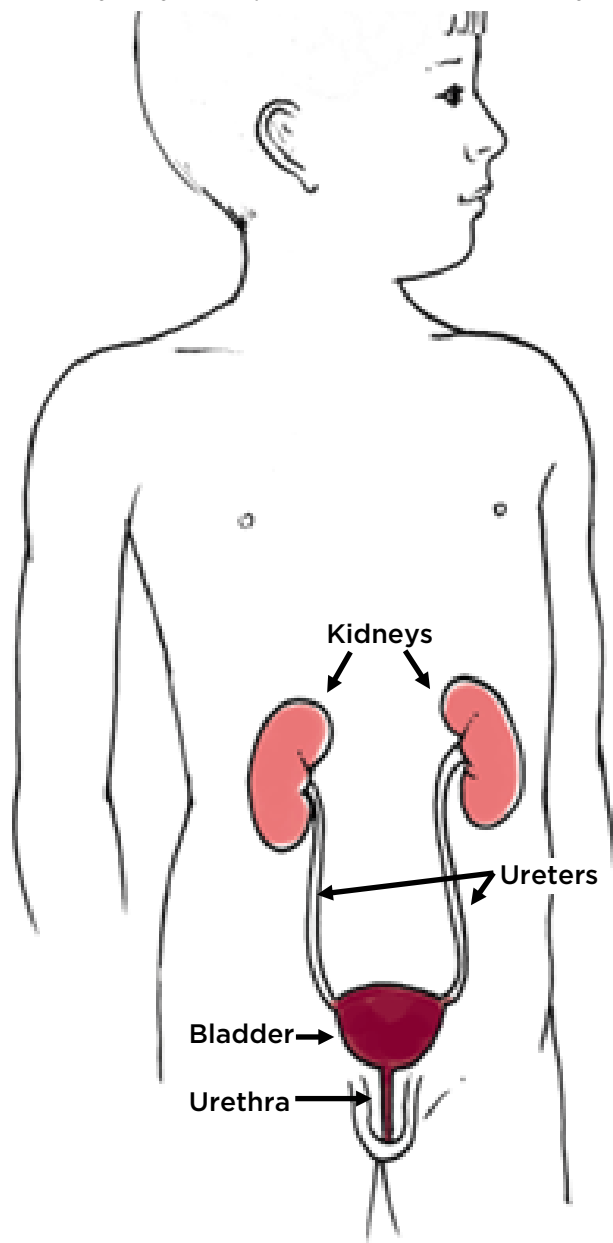


# Hydronephrosis

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

## 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 problem with the kidney). Hydronephrosis can be in 1 kidney (unilateral) or both (bilateral).



The Urinary Tract

### To Learn More

- Urology  
206-987-2509
- Ask your child's healthcare provider
- [seattlechildrens.org](http://seattlechildrens.org)

### Free Interpreter Services

- In the hospital, ask your 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.

### How is hydronephrosis diagnosed?

Ultrasound can diagnose hydronephrosis. Often, pregnant people have ultrasounds to check on the health of their unborn child (fetus). Doctors may detect hydronephrosis in a fetus during pregnancy (in utero). Hydronephrosis is graded on a scale called the Urinary Tract Dilation (UTD) from P1 to P3. P1 is the mildest and P3 is the most severe.

### What causes hydronephrosis?

A blockage (obstruction) or backup (reflux) of pee (urine) anywhere along the urinary tract can cause hydronephrosis. There is nothing you did or did not do during pregnancy that caused hydronephrosis.

The urinary tract includes the kidneys, ureters, bladder and urethra. The kidneys filter blood that makes urine. Urine drains down through tubes called ureters into the bladder. The bladder stores urine and leaves the body from a tube called the urethra when your child pees.

The common causes of hydronephrosis are:

- When the ureteral pelvic junction (UPJ) is narrow or blocked (obstructed)
- Your child was born with it (congenital) or non-obstructive (physiologic) hydronephrosis
- When the urine flows up from the bladder towards the kidneys instead of down (urinary reflux)

### How is hydronephrosis treated?

- We need to monitor all new cases of hydronephrosis. It can improve or get worse with time. Most mild and moderate cases of hydronephrosis do not harm the kidneys. Hydronephrosis that is left unchecked can cause kidney damage.
- More than half of prenatal hydronephrosis goes away by itself by the time your baby is born or soon after. This is called physiologic hydronephrosis. We will do an ultrasound with newborn babies at 1 to 2 weeks of age when their kidneys start working completely. Physiological hydronephrosis does not need long term follow-up.
- Some children may take a low dose of an antibiotic to help prevent urinary tract infections. Your urologist will tell you if your child needs antibiotics.
- If the hydronephrosis is caused by a blockage or urinary reflux, we may recommend surgery.

### What follow-up is needed for hydronephrosis?

- Ultrasounds show us the degree of the hydronephrosis, and whether it is stable, getting better or worse. 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 an x-ray of the bladder called Voiding Cysto-Urethrogram (VCUG).
- We may refer some children to a kidney doctor (nephrologist). They may recommend blood tests to monitor the kidneys.
- Kidney health and growth are especially important in children, because they need healthy kidneys into adulthood. The follow-up your urologist recommends is very important to keep their kidneys healthy.

### 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° F or 38.6° C)

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### Where can I learn more?

For more information, see our handouts:

- "Ultrasound"  
[seattlechildrens.org/pdf/PE667.pdf](https://seattlechildrens.org/pdf/PE667.pdf)
  - "Voiding Cystourethrogram (VCUG)"  
[seattlechildrens.org/pdf/PE021.pdf](https://seattlechildrens.org/pdf/PE021.pdf)
  - "Urinary Reflux"  
[seattlechildrens.org/pdf/PE181.pdf](https://seattlechildrens.org/pdf/PE181.pdf)
  - "Lasix Renal Scan"  
[seattlechildrens.org/pdf/PE677.pdf](https://seattlechildrens.org/pdf/PE677.pdf)
  - "Kidney Stones"  
[seattlechildrens.org/pdf/PE701.pdf](https://seattlechildrens.org/pdf/PE701.pdf)
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