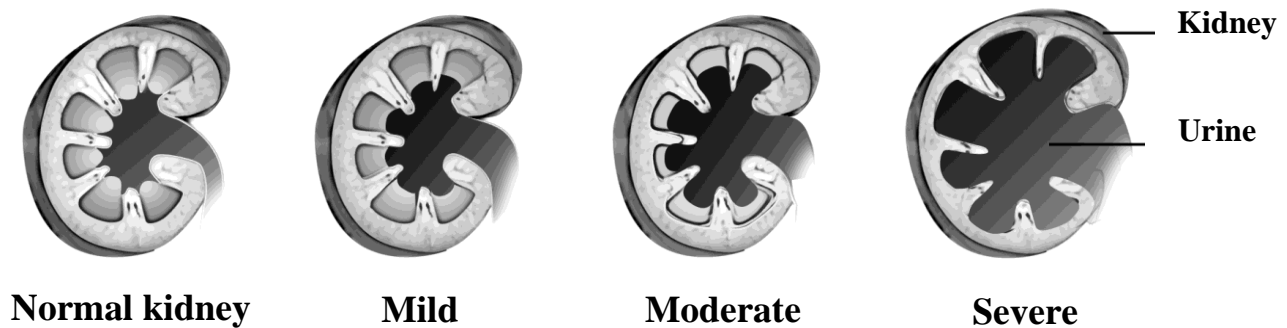


What is hydronephrosis?

Hydronephrosis is the buildup of urine (pee) that gets stuck inside the kidney. It can be mild, moderate or severe.

- Doctors may see hydronephrosis in a baby during the pregnant mother's ultrasound. It is called congenital hydronephrosis when a baby is born with extra urine in their kidneys.
- Hydronephrosis can also happen in children and adults at any time.



What causes it?

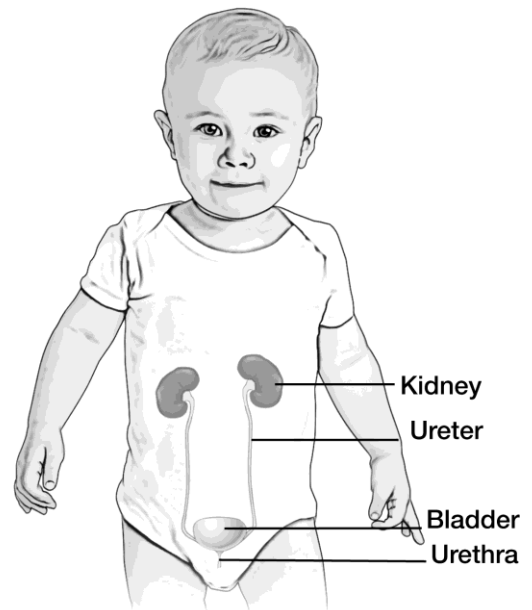
The urinary tract is the path of urine from the kidney to outside the body.

- Normal urine flow leaves the kidneys and drains down the ureters to the bladder where it is stored.
- The bladder then squeezes, and the urine is sent down the urethra and out of the body.

The cause for hydronephrosis in some children is due to urine not flowing the right way through the urinary tract. For many children, the cause is not known.

There are two reasons for hydronephrosis:

1. **Vesicoureteral reflux (VUR):** Urine goes back from the bladder up to the kidneys. It can happen in one kidney or both kidneys. Not all children with VUR have hydronephrosis. VUR can get better as your child grows.



In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

Hydronephrosis, continued

2. **Obstruction, or blockage:** Urine cannot flow from the kidney to the bladder. A blockage can happen anywhere in the urinary tract. The most common blockage sites are:
- **Ureteropelvic junction obstruction (UPJ)** – where the ureter connects to the kidney
 - **Ureterovesical junction obstruction (UVJ)** – where the ureter connects to the bladder
 - **Posterior urethral valves (PUV)** – inside the penis
 - **Kidney stone** – a tiny pebble that forms in the urine that gets stuck in the urinary tract

What are the possible symptoms?

- Most children do not have symptoms.
- Some children have urinary tract infections (UTIs). Symptoms of a UTI may include:
 - Blood in the urine
 - Pain when urinating (peeing)
 - Fever (temperature of 100.4°F or higher)
 - Urinating more than normal
- Severe hydronephrosis can cause back or side pain.
- Hydronephrosis caused by a kidney stone can be very painful.

What tests could my child have?

Your child could have one or more of these:

- **Kidney bladder ultrasound**
 - An ultrasound uses sound waves to show pictures of the inside of the body.
 - This test looks for fluid inside the kidneys.
 - It is the most common test used to check for hydronephrosis.
- **Voiding cystourethrogram (VCUG)**
 - This test looks for blockages or reflux.
 - A care team member will put a catheter, or tube, into the urethra and up to the bladder. They will push a special liquid through the tube. They will then take X-rays, or pictures, of the urine moving through the urinary tract.
 - This test is often used for severe hydronephrosis.
- **Mag 3 renal scan**
 - This test shows how the kidneys are draining.
 - A care team member will put a catheter, or tube, into the urethra and up to the bladder. Urine drains out of the tube, so the bladder is empty. The care team member will give a special liquid through an I.V. They will then take pictures of the kidneys draining the liquid into the bladder.

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Hydronephrosis, continued

What is the treatment?

Hydronephrosis can go away without treatment. Your child's doctor will order kidney ultrasounds to see if the hydronephrosis is getting better. If your child needs treatment, it may include:

- Antibiotics to prevent UTIs if your child has VUR
- Surgery to fix VUR
- Surgery to fix a blockage

When should I call the doctor?

Call the doctor if your child has:

- Very bad back or side pain
- Symptoms of a UTI:
 - Blood in the urine
 - Pain when urinating
 - Fever (temperature of 100.4°F or higher) without another explanation such as a cold
 - Urinating more than normal

This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.