

Posterior Urethral Valves

Posterior urethral valves are a relatively common birth defect in boys. The urethra is the tube that carries urine from the bladder to be passed out of the body. In this condition, abnormal valves in the urethra block the flow of urine. This results in enlargement of the bladder and other complications, some of which can be severe.

What are posterior urethral valves?

Posterior urethral valves are a congenital (present at birth) condition in which abnormal tissue develops in the urethra. The abnormality blocks the flow of urine passing from the body. The problem may be recognized before birth on ultrasound scans.

Depending on how severe the blockage is and how long before it is recognized, posterior urethral valves can lead to serious kidney damage, along with other complications. Surgery can be performed to remove the abnormal valves. Your child will need close medical follow-up to assess kidney function once the diagnosis is made.

What does it look like?

Many boys with posterior urethral valves have their condition recognized before birth. The abnormality can be detected on routine ultrasound scans performed during pregnancy. The scan shows enlargement of the fetal bladder and kidneys.

If your son's posterior urethral valves are not diagnosed before birth, you may notice symptoms such as:

- Poor urinary stream or difficulty urinating.
- Urinary tract infections.
- Problems with toilet training or bed-wetting.

What causes posterior urethral valves?

The cause of the abnormal tissue is unknown. Posterior urethral valves are not a genetic condition—your other children are not at increased risk of this or other abnormalities.

What are some possible complications of posterior urethral valves?

The extent of damage to the bladder, kidneys, and other parts of the urinary system depends on how severe the blockage is and how long it has been present.

- Kidney damage may remain after treatment in about 30% of boys with posterior urethral valves.

- Backward flow of urine (from the bladder, through the ureters, up to the kidneys) may occur. This is called *vesicoureteral reflux*, and it is seen in about 50% of patients.
- Even after successful treatment for posterior urethral valves, your son may need long-term medical follow-up to manage problems such as not being able to control urination (incontinence) or frequent urinary tract infections.

What increases your child's risk of posterior urethral valves?

Posterior urethral valves are a relatively common congenital condition, affecting about 1 in 8000 newborn boys. Girls do not develop this condition.

Can posterior urethral valves be prevented?

There is no way to prevent posterior urethral valves. Prompt diagnosis and treatment reduce the risk and seriousness of complications.

How are posterior urethral valves diagnosed and treated?

Diagnosis. Once the problem is suspected, it is usually diagnosed by a procedure called a *voiding cystourethrogram* (VCUG).

- The VCUG is done to take x-ray pictures of your child's urinary tract. A thin tube (catheter) is placed into the urethra (opening of the penis) and gently pushed to the opening of the bladder. Dye is put into the bladder through the catheter.
- X-ray pictures are taken as your child urinates. This allows the doctor to see the abnormal valves or any other problems of the bladder or urethra.
- Once posterior urethral valves are recognized, a doctor specializing in the treatment of urinary or kidney diseases (a urologist or nephrologist) will probably manage your child's care.
- A catheter may be placed to restore normal urine flow. This simply means placing a tube in the bladder to let urine flow out freely.
- Additional tests are performed to find out how well your child's kidneys are functioning and to assess the rest of the urinary system.

Treatment of the abnormal valves is fairly simple. Usually this is done through a procedure called *endoscopy*.

338 ■ Posterior Urethral Valves

- The endoscope is an instrument like a telescope that is placed into your son's urethra. This allows the doctor to see and remove the abnormal tissue.
- Your son will be under anesthesia for the endoscopy procedure. It has a very high success rate with few complications and a short recovery time.

Follow-up care is essential to assess and manage any remaining problems with the kidneys or urinary function.

- Follow-up care may be needed if your son has any lasting kidney damage.
- Antibiotics may be recommended to prevent urinary tract infections. This is particularly true if vesicoureteral reflux (backward flow of urine to the kidney) is present. Yearly follow-up examinations will probably be recommended to monitor your child's kidney function and growth.
- Excessive urination, sometimes called *polyuria*, can be a problem. It can quickly lead to dehydration if your son develops some other illness causing fluid loss, such as vomiting or diarrhea.

- Incontinence (difficulty controlling urination) can be a problem after treatment of posterior urethral valves. Further evaluation and treatment may be needed. Follow-up treatment plays an important role in preventing future kidney damage.

When should I call your office?

Call our office if any of the following problems occur, before, during, or after treatment for posterior urethral valves:

- Slow growth or weight gain.
- Little or no urination.
- Signs of urinary tract infection: frequent urination, pain and pressure or a burning feeling, abnormal-smelling urine, fever.
- Signs of dehydration: dryness inside the mouth, no tears when crying, sunken eyes or "soft spot" (fontanelle) on top of the head.