

## Posterior Urethral Valves

### What are posterior urethral valves?

Posterior urethral valves are obstructing flaps of tissue in the male urethra (the tube that carries urine from the bladder to the tip of the penis) that prevent normal urine flow from the bladder. They are the most common cause of urinary tract (kidneys, ureters, bladder, and urethra: the organs that produce, store, and excrete urine) obstruction in males.

### What are the symptoms?

The severity of symptoms and age at presentation depend on the degree of obstruction that the valves cause in the urinary tract. The majority of cases of posterior urethral valves are detected prenatally due to swelling of the urinary tract on ultrasound. The symptoms vary from mild cases that present at a later age to severe cases that are detected prenatally with low levels of amniotic fluid and problems with lung and kidney development. In severe cases a newborn child may have difficulty balancing fluids and electrolytes and require mechanical ventilation due to difficulty with breathing.

### How are posterior urethral valves diagnosed?

The diagnosis of posterior urethral valves is made by radiographic imaging with ultrasound and voiding cystourethrogram. Ultrasound will usually show a dilated urethra, bladder, and kidneys; it is supportive of the diagnosis of posterior urethral valves, but not confirmatory. Voiding cystourethrogram is the most definitive study for diagnosis and will show a characteristic tapering of the urethra. Occasionally, confirmation of valves with cystoscopy (small camera is inserted into the urethra for direct visualization of valves) is required.

### **How are posterior urethral valves treated?**

Shortly after delivery a catheter will be placed into the urethra to continuously drain the urine from the bladder. Once your child is stable the posterior urethral valves are treated. This is done inserting a camera into the urethra. The valves are cut from the inside using the camera (endoscopic valve ablation). Occasionally the urethra is too small for the camera to fit. In this case the bladder is temporarily brought up to the skin on the belly so that the urine can directly drain into the diaper and not have to flow through the urethra.

Fetal intervention is possible at specialized centers if amniotic fluid levels are dangerously low and the fetus is between 20-32 weeks gestation.

### **What happens after treatment of posterior urethral valves?**

Ongoing medical management is important for boys with posterior urethral valves. Most boys will need to be monitored for kidney function and bladder function. There is up to a 20% chance that kidney failure can develop over time. It is also common for boys to have problems with bladder storage and emptying such as leakage of urine or inability to completely empty the bladder.

**See the next page for contact information.**

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