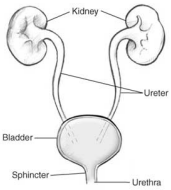


VesicoUreteric Junction (VUJ) Obstruction

What is it?

Vesicoureteric junction obstruction (VUJO) refers to a restriction to urine flow, where the ureter (drainage tube from the kidney) meets the bladder.

What causes it?

Most commonly, there is a narrowed and stiff section of ureter, just as it enters the bladder. Sometimes, there are too many circular (round) muscle fibres in this section that squeeze the bottom end of the ureter and stop it draining properly.

Who gets it?

VUJ obstruction is identified in about 1 per 1500-2000 newborns. It usually occurs without other abnormalities.

How does it present?

When there is a blockage or impairment of urine flow, the urine builds up behind the blockage. This means that the upper part of the ureter becomes distended, all the way up to the collecting system of the kidney. This is commonly picked up on an ultrasound scan performed during pregnancy (See antenatal hydronephrosis information sheet).

If dilatation has not been identified before birth, VUJ obstruction may present with:

- urinary tract infection
- abdominal or flank pain
- abdominal mass or swelling
- urolithiasis (stones in the urinary tract)
- incidentally (found on ultrasound performed for another reason)

What tests are performed?

Ultrasound

This is the same type of scan used during pregnancy. It is able to demonstrate the dilatation of the urinary system, identifying the ureters throughout their length, and to measure the degree of dilatation. The ultrasound is able to assess the state of the kidney and bladder as well.

Micturating cystourethrogram (MCU)

This test helps to determine whether the dilatation of the ureter is due to reflux (backflow) of urine from the bladder, rather than obstruction (see MCU sheet for more information)

Nuclear medicine

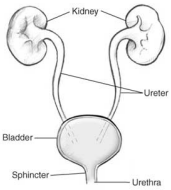
Renal scans help to determine the relative function of the two kidneys, and may provide information about drainage. These studies should be performed in a paediatric centre to obtain the best results. A small amount of radioactive material is injected into the child's bloodstream and a special camera takes pictures of the kidneys, recording the material passing through and draining from the kidneys.

What are the treatment options?

Many VUJ obstructions are diagnosed before birth, so most of these children are healthy and have no symptoms. Many of them will spontaneously correct with time, so factors such as kidney function and degree of dilatation influence whether any treatment is required.

Indications for intervention

- urinary tract infections
- increasing dilatation
- reduction in function of the associated kidney



VesicoUreteric Junction (VUJ) Obstruction

Intervention options

Placement of temporary stent across the obstruction can protect the kidney function while the baby is growing to "buy time" while natural improvement has a chance to occur.

In some cases surgical treatment may be necessary, excising the blocked part of the ureter and reimplanting the good ureter into the bladder (see ureteric reimplantation sheet).

In some severe cases, 'diversion' is necessary in the short term, making a 'stoma' or direct connection between the blocked ureter and skin to allow complete decompression of the affected system. a ureteric reimplantation would then be undertaken some time later, when the child and bladder are bigger, and the ureter less distended.

What are the outcomes?

In up to a half of children with VUJ obstruction, the dilatation improves by itself.

In just over a third of patients, the dilatation will stay the same without deteriorating.

In 10-20% of children, surgery is performed for deteriorating kidney function, or persistent urinary tract infections.

What is the follow-up?

The doctors will review your child regularly with repeated ultrasound scans.

Nuclear medicine studies to monitor function may be arranged by your paediatric urologist.