

Heminephrectomy

What is it?

Heminephrectomy is an operation to remove part of a 'duplex' kidney.

Background

The kidneys make urine by filtering the blood. This urine accumulates in the collecting system within the kidney (renal pelvis), and then passes down ureters to the bladder, where it is stored until time to void (wee).

In up to 1 in 100 people, the kidney develops in two parts with a separate ureter draining each part. This is called a "renal duplication anomaly", or duplex kidney, (see "renal duplication anomalies" information sheet). The two parts of the kidney will also have their own blood supply.

How does it present?

Most duplex kidneys are uncomplicated and do not cause any symptoms surgery. Sometimes, it is seen on ultrasound performed for other reasons.

In some patients with a duplex kidney, one part has not developed properly (dysplasia) and functions poorly. In other patients, problems arise with respect to blockage or infection in part.

The lower part of a duplex kidney may have reflux and dysplasia, predisposing to infection and high blood pressure.

The upper part of a duplex kidney may show dilatation due to obstruction (blockage), as well as dysplasia. Sometimes, these present in older children with wetting due to an abnormal attachment of the lower end of the ureter (ectopic ureter).

If part of the kidney causes problems and does not work well, it can be selectively removed.

How?

The child is normally admitted on the day of surgery and the operation is performed under general anaesthesia. A dose of antibiotics is given to reduce the chance of urinary tract infection associated with the procedure.

The approach to the procedure will depend on your child, the surgeon and the reason for the operation. This procedure may be done through an incision in the side, an incision in the abdomen, or even as a keyhole ('laparoscopic') procedure.

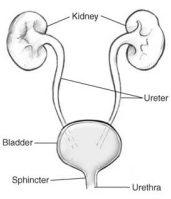
During the operation, the surgeon will identify the part of the kidney which needs to be removed. They will identify, control and divide the blood vessels going to that part. They will divide the ureter associated with it and remove the affected part of the kidney.

The wounds are closed with dissolving sutures and the child can eat and drink once awake. Pain medicine will be given to control pain. Your child will be given intravenous fluids until they are able to drink and eat enough for themselves.

Some children may have some stinging when they pass urine, and there may also be a small amount of blood in the urine. This is temporary.

Your child may continue to need some medicine for the pain when they go home from hospital.

They will have a dressing on their wound, which can be removed after a week.



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What are the complications?

Like any operation, bleeding and infection are the most frequent complications to occur, but they do not occur commonly.

While the parts of a duplex kidney are separate, the exact division between them can be difficult to find. This can mean the good part of the kidney can be injured during the surgery. This may result in bleeding or urine leak:

Bleeding

Care is taken during the operation when dividing the blood vessels to avoid significant blood loss. Occasionally this can be difficult and if blood loss is significant a blood transfusion may be required.

Some blood may be seen in the urine after the operation. This should only be a small amount and may stain the urine pink/red. It should clear after a few days.

Urine leak

There is a risk of urine leak from the remaining kidney part after a heminephrectomy. This may make your child feel unwell, and have a poor appetite. If there is concern that your child has a urine leak, they may need an ultrasound examination to identify this. Often a urine leak will settle by itself and be reabsorbed. Sometimes an additional drainage procedure is required.

Infection

Infection may develop in the urine or in the wound. If your child develops a high temperature after the operation you should take them to a doctor for assessment.

There is a small risk in any operation of damaging nearby structures. Your surgeon is highly trained and will try and avoid this. These injuries are extremely rare.

What is the follow-up?

A follow-up appointment is made 4-6 weeks after the procedure. Your surgeon will ask about your child's recovery and check the wounds.