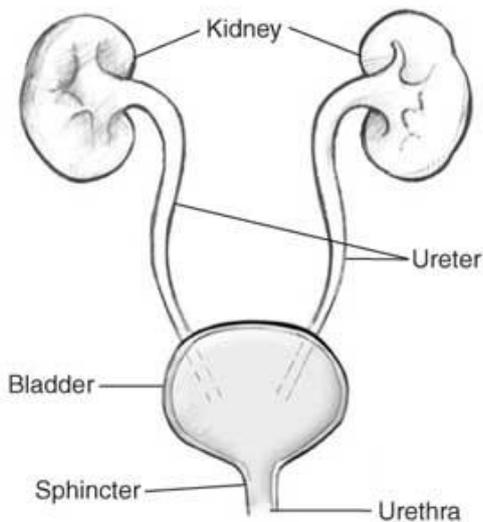


# Antenatal hydronephrosis

## Information for patients

This leaflet explains the causes of antenatal hydronephrosis, and what to expect during pregnancy and once your baby is born.



**Diagram 1: The urinary tract**

## What is hydronephrosis?

Hydronephrosis is a condition where one or both of the kidneys become larger due to a build-up of urine inside them. Antenatal hydronephrosis (hydronephrosis in babies) is common and is estimated to occur in at least 1 in 100 pregnancies.

## What causes hydronephrosis?

Urine from the kidneys flows through the ureters into the bladder and then exits via the urethra (see above diagram). There are valves between the ureters and bladder which prevent urine flowing backwards into the ureters, and also a ring of muscle (sphincter) at the junction of the bladder and urethra, which does the same.

Hydronephrosis can occur for many reasons:

- **Transient dilatation** – during pregnancy, mothers experience hormonal changes which can have a temporary relaxing effect on the muscles, including the baby's ureters.
- **Blockage** – a blockage can occur between the kidney and ureter (pelviureteric junction), between the bladder and ureter (vesicoureteric junction) or in the urethra (posterior urethral valve).

- **Veisco-ureteric reflux (VUR)** – this occurs when the valve between the ureter and bladder is not working properly, causing urine to travel back up to the kidney.
- **Ureteric duplication** – this is where there are two ureters leading from one kidney to the bladder. Occasionally there can be a blockage at the lower end of one of the ureters which is known as ureterocele.
- **Multicystic dysplastic kidney** – this is a non-functioning kidney made up of many cysts. These may shrink and disappear, or may need to be removed at a later stage.

## What are the symptoms of hydronephrosis?

Hydronephrosis is usually picked up on antenatal scans, but rarely causes problems in the baby before birth. It should not cause any symptoms in the mother, although you will require monitoring with ultrasound to make sure that the baby is growing normally and the kidneys are not getting too large.

## What happens once the baby is born?

Once your baby is born we will start them on an antibiotic called trimethoprim to reduce the risk of urine infection; this will not harm your baby. Treatment needs to be continued until your baby has been reviewed by a paediatrician (children's doctor) at an out-patient clinic appointment or via telephone.

Following birth, the hydronephrosis will be monitored using ultrasound scans and further tests. The first ultrasound scan will be carried out within a week of birth and possibly a second one in the first six weeks of life. Further investigations will be arranged if necessary depending on the results of these scans.

The overall treatment depends on the cause of hydronephrosis, however the vast majority of babies do not need an operation:

- VUR is the most common cause of antenatal hydronephrosis and this will usually be treated with antibiotics.
- In the case of a blockage, the child may need an operation called a pyeloplasty to remove it. If this is the case, we will explain the procedure to you beforehand.
- A multicystic kidney normally shrivels up and disappears. It therefore does not always need to be removed unless it is causing problems.

## What is the outlook for babies with hydronephrosis?

Most babies will just need monitoring and in many, the hydronephrosis improves and requires no further monitoring.

If the cause is an obstruction and this is removed, your child's kidneys will be able to start working properly. If the obstruction is mild, doctors will monitor your child's progress by repeating scans every 6 months initially until there is an improvement or refer to them to the paediatric urology team at Great Ormond Street Hospital if an operation is needed.

If the hydronephrosis has been caused by VUR that is not too severe, your child's kidneys are also likely to work properly. If the VUR is severe, your baby will need to remain on the

antibiotic medicine. The duration will be decided based on the results of follow-up scans and whether your child has any urine infections.

In a very small number of children the kidneys may not function properly and this will require long term monitoring at clinic visits. In some children, the outlook may be less good. In some cases, your child may need an operation to correct the reflux (the backwards flow of urine). However, the earlier the hydronephrosis is discovered, the better the outcome is for your child.

In all cases, a doctor will keep you informed your child's condition and provide further details of the treatment they need.

### **How to recognise if your baby has a urine infection while on antibiotics**

If your baby is unwell with a fever, is vomiting or not feeding properly, it is important to take them to your GP for a urine sample test. The results may indicate a urine infection which is resistant to the antibiotic your baby is taking.

If you would like further information, or have any particular worries, please do not hesitate to speak to your nurse or doctor.

If you have any questions that are not answered in this leaflet, please contact the relevant neonatal unit:

- Barnet Hospital: 020 8216 4600
- Royal Free Hospital: 020 3758 2000

### **More information**

For more information about the children's service at the Royal Free London, please visit our website: [www.royalfree.nhs.uk/services/services-a-z/childrens-services/](http://www.royalfree.nhs.uk/services/services-a-z/childrens-services/)

### **Your feedback**

If you have any feedback on this leaflet or for a list of references for it, please email: [rf.communications@nhs.net](mailto:rf.communications@nhs.net)

### **Alternative formats**

This leaflet is also available in large print. If you need this leaflet in another format – for example Braille, a language other than English or audio – please speak to a member of staff.

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