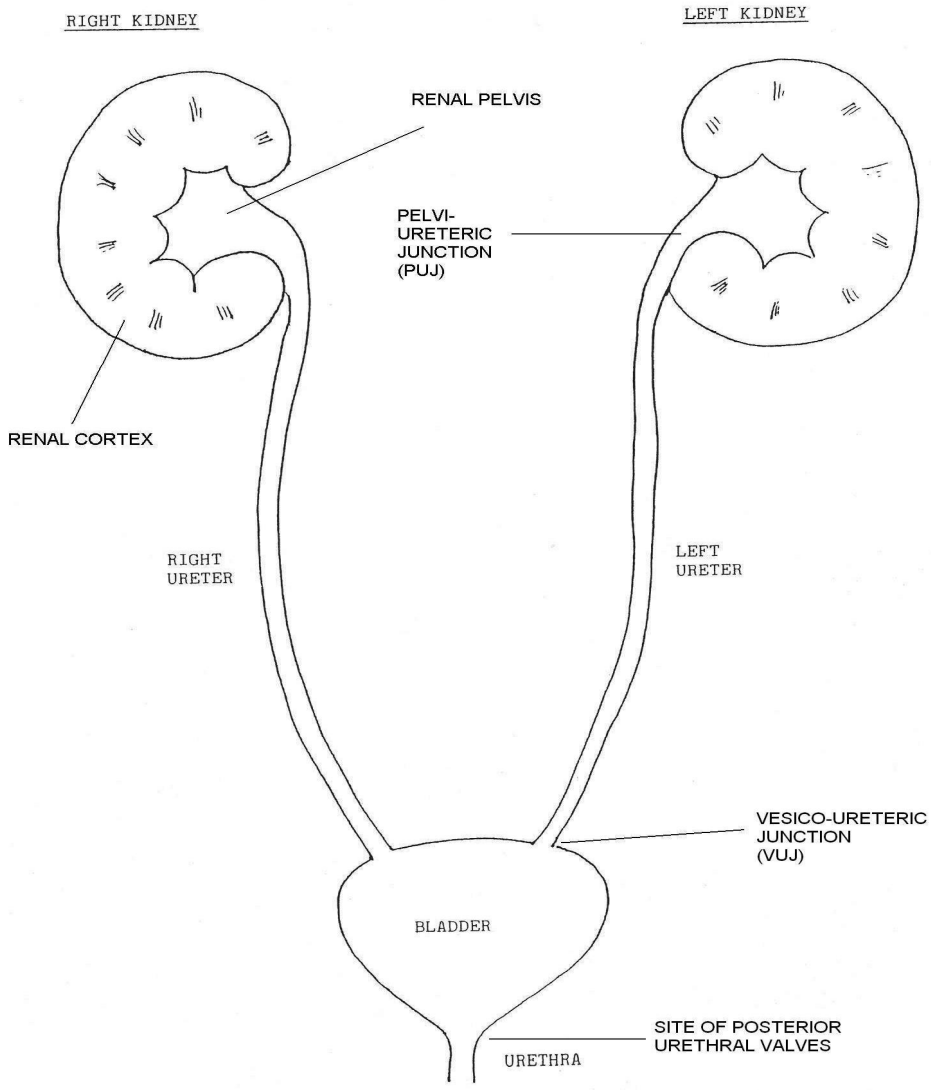
Renal Pelvis Dilation (RPD)

Your baby has been found to have more fluid in its kidneys than normal.
This leaflet will explain what this means for your baby.

First of all, we think it is important for you to understand how kidneys work.

How kidneys work

The kidneys work to filter out water and waste products from the body and dispose of it as urine.



The outer part of the kidney (Renal Cortex) creates the urine, whilst the inner part (Renal Pelvis) collects it and drains it into the ureter.
The ureter drains the urine into the bladder, where it is stored and then passes through the urethra when we pass urine.

This urine makes up the amniotic fluid that surrounds and protects baby, whilst baby is in the womb.

There are valves at the entrance to (ureter) and the exit from the bladder (urethra), to stop urine leaking all the time and to stop it flooding up to the kidney.

What have we seen in your baby?

We have seen that there is more urine in the pelvis part of your baby's kidney. We call this renal pelvis dilation (RPD). It is very common to see this in babies in the womb.

We expect the baby's kidney pelvis to be less than 5mm at 20 weeks and less than 10mm at any other time in pregnancy. When we find RPD at the 20 week scan, we need to do checks before and after birth on baby. This will be explained below.

What happens now?

Fetal Centre Scan

Once RPD has been seen, another ultrasound scan will be performed by a consultant obstetrician within 7-14 days in the Fetal Centre at the Crown Street or Aintree site. You will be given an appointment for this.

The purpose of this scan is to confirm that the RPD is still present and to take a close look at the rest of the urinary system and baby's other organs. Many cases of RPD will have gone away by this scan and are called transient. If this has happened, then the RPD will not recur and no further scans are required.

If the RPD is still present, then further checks will be required (See below). Of all babies with confirmed RPD, approximately 80% will have mild RPD which will almost always return to normal before birth.

Of those with more severe RPD a third will get better on their own, half will stay the same and a few will get worse during the pregnancy. Even if it gets worse, all we usually need to do is keep an eye on the baby by ultrasound.

Why has this happened?

RPD is one of the commonest problems we see on antenatal scans. It is rarely a significant problem and often no cause is found.

The most common cause of RPD is pelvi-ureteric junction (PUJ) obstruction or blockage (see picture). This usually only affects one side and if mild has no long term effects.

An obstruction can also occur where the ureter narrows as it joins the bladder. We call this vesico-ureteric junction (VUJ) obstruction. This is responsible for 1% (1 in 100) of RPD (see picture). In most cases it is difficult to tell the difference between PUJ and VUJ blockage before birth.

Other rarer causes will be discussed with you at the Fetal Centre scan.

In a very small number of babies with RPD (around 1 in 200), there may be a chromosomal cause for the RPD including Down syndrome. However, the vast majority of babies with RPD and nothing else found on antenatal scan will be healthy.

If you want to be absolutely certain that your baby's chromosomes are normal you will need to consider having an amniocentesis (see separate leaflet). This will be discussed with you in more detail at your Fetal Centre appointment.

Will I have any further scans?

If RPD is confirmed on the Fetal Centre scan, you will have a second ultrasound scan at about 30 weeks to check if there is any improvement or worsening of the RPD.

Your baby will also have a scan after birth to see whether the RPD is still present.

What does this mean for my pregnancy?

- Your baby will not have to be born early.
- There is no increased rate of miscarriage or preterm delivery.
- Your baby will grow at the normal rate.
- Your baby will need to be seen by a neonatal (baby) doctor and have passed urine before you go home.
- Your baby may need another detailed ultrasound scan within a few weeks of birth and possibly before going home (see below).

What will happen once my baby is born?

Once your baby is born, he/she will be examined by a neonatal (baby) doctor who will arrange any follow-up that is needed.

Your baby will have an ultrasound scan 3-14 days after birth to assess the RPD. Your baby can go home with you and come back to LWH for this scan. If this scan is normal then your baby will be rescanned a final time when he/she is 6 weeks old. This scan will also be performed at LWH. If this later scan is normal, then your baby will be discharged

If the RPD is more than 10mm on the 3-14 day ultrasound scan, then your baby will be seen by a paediatric urologist (baby doctor specialising in kidneys) and they will organise further investigations. These investigations will be organised by Alder Hey Children's Hospital.

They may feel it is necessary to put your baby on antibiotics to prevent any urinary tract infections (UTI's), and in a small number of cases (3%) they may need to perform an operation at some time in childhood. You will have an opportunity to discuss this at the time.

Leaflet created by Dr Andrew Sharp for
The Fetal Centre, Liverpool Women's Hospital NHS Foundation Trust
December 2005 updated nov 2006

www.lwh.org