

## Fact Sheet

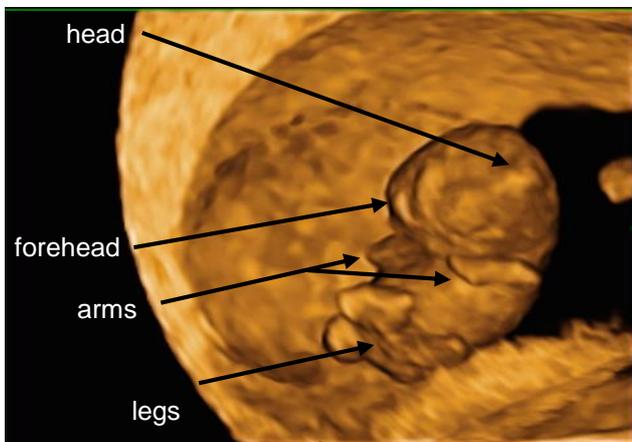
# Ultrasound in early pregnancy (before 12 weeks) – Dating Scan

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### Ultrasound in early pregnancy

Ultrasound:

- Is a scan that uses sound waves to create a picture.
- Has been used for about 40 years to see a pregnancy inside a woman's body.
- Can tell us how big the baby is and therefore how far along the pregnancy is.
- Can tell us if the pregnancy and other structures look reasonably normal.
- Is considered safe for use throughout pregnancy, including in the very early weeks.



A 3-D image of a baby at about 9 weeks. The head is normally quite big in early pregnancy. Small arms and legs are becoming visible.

### Working out how far along a pregnancy is

Before discussing ultrasound, it is important to understand how doctors and midwives calculate 'weeks of pregnancy'.

It may take you by surprise.

- All around the world, doctors and midwives date a woman's pregnancy from the first day of proper bleeding of the last menstrual period (**LMP**), with the baby due about 40 weeks later.
- However, a woman usually releases the egg (ovulates) and gets pregnant (conceives) about 14 days after that LMP day if she has a 28-day menstrual cycle.
- So, when we say a woman with a 28-day cycle is '**10 weeks** pregnant' based on the LMP, she actually became pregnant about **8 weeks** ago.
- For longer cycles or irregular cycles, working out how far along a pregnancy is using the LMP can be less reliable.

It is also important to understand that the '**due date**' for the baby's birth is always called an '**estimated**' due date because the actual timing of birth is unpredictable

- Most babies are born **within a time period of 2 weeks before to 2 weeks after** the due date.
- However, only about **4%** are born on the due date given!

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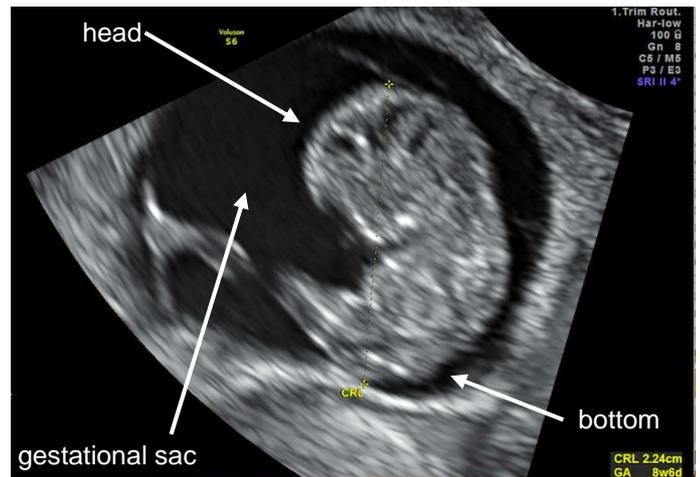
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### Measuring the baby with ultrasound in early pregnancy

As well as using the LMP, we can use ultrasound to work out how far along a pregnancy is and when the baby is due.

- In calculating the baby's size and the due date, an ultrasound scan in the first few months of pregnancy - up to about 20 weeks - is much **more reliable** than one done in the second half of pregnancy.
- This is because all babies are **about the same size in early pregnancy** while the situation is quite different later in pregnancy. As you know, a healthy newborn baby at full term may weigh 2.7 kg or 4.3 kg. These babies are the same age, but very different in size – but both are usually completely normal.
- To work out how far along you are in your pregnancy in the first 13 weeks, we measure the **'head to bottom' length** of the whole baby (called crown-rump length or CRL).
  - Later in pregnancy we measure the size of different parts of the baby, usually the head, the bone in the top half of the leg (thigh bone, femur) and stomach (abdomen) and combine the measurements to give an average size.
- If the head to bottom length of the baby (CRL) measures **2.2 cm**, that means the baby is approximately **8 weeks + 5 days** in size / age.
  - However, even in early pregnancy, each measurement is not absolutely accurate. Instead, it covers **a range of possible ages**.
  - At **2.2 cm** length, the baby's size is **between 8 weeks + 0 days and 9 weeks + 3 days**.

This is why if you have more than one scan you will often be given a slightly different estimated due date each time. This is normal – but also a bit frustrating.



This baby measures about 2.2 cm from 'head to bottom' (crown-rump length, CRL). This gives the pregnancy a gestation of **approximately 8 weeks + 5 days** (with the range of possible ages being within the range 8 weeks + 0 days to 9 weeks + 3 days).

### LMP vs ultrasound for due date calculation

For women with a **regular** cycle and a **certain** LMP, an early ultrasound usually gives about the same estimate of the baby's age and due date as the LMP.

- If both estimates are within a few days of each other, we can use either the LMP or the ultrasound estimate for the due date.
- However, if they are quite different, the ultrasound due date is more reliable.

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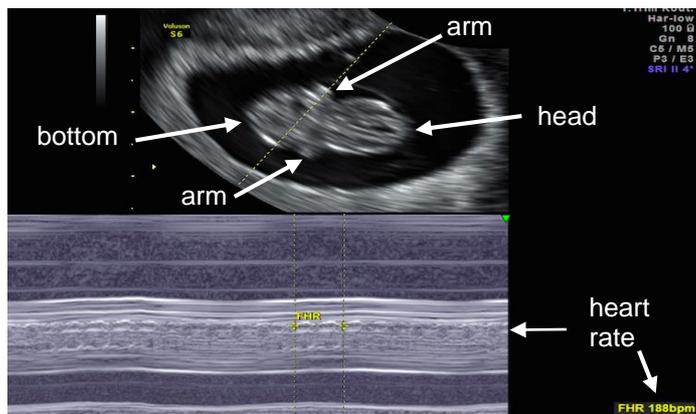
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### Dating ultrasound

A 'dating ultrasound' or 'dating scan' is a scan done early in pregnancy (before 12 weeks). It is usually done to check how many weeks pregnant you are and therefore to calculate the estimated due date, but it can be done for other reasons.

- Only a few women need a dating scan.
- **Most women** – those with a regular cycle, certain LMP and no serious health issues - can instead have their **first scan** at **around 12 weeks** (or sometimes even at 18 - 20 weeks) rather than earlier.
  - By 12 weeks, the structure of the baby is quite well developed and we can get a lot of information about how the baby is doing.
  - At this time in your pregnancy (gestation), we can also combine the scan with a risk calculation for Down syndrome and other chromosomal (gene) abnormalities using the nuchal translucency (NT) screening.
- However, some women do need a scan before 12 weeks. **Between 8 – 12 weeks of pregnancy** is a good time for a dating scan.



A 2-D image of a baby at about 8-9 weeks. Small arms are becoming visible, sticking out slightly in the middle of the baby. The wavy line near the bottom of the image measures the heartbeat which in this baby is 188 beats per minute. It is normal to have a very fast heart rate at this gestation.

### Why might I need a scan before 12 weeks?

A scan before 12 weeks may be needed if you:

- Are uncertain about your LMP or if you have a very long or irregular menstrual cycle.
- Became pregnant while taking the oral contraceptive pill or other hormone medication.
- Are having bleeding in the pregnancy.
- Have an important medical illness which could affect your pregnancy like diabetes, epilepsy, or major heart disease – having an accurate due date can help plan the pregnancy.
- Have had a previous miscarriage - while it is not necessary to have a scan if you have no bleeding this pregnancy, many couples find it reassuring to see the baby and the heart beat at around 8 weeks. If everything is looking good at 8 weeks, the chance of miscarriage drops to very low (although not quite to zero).
- Have had a previous ectopic pregnancy (pregnancy in the tube or other location outside the uterus) – an early scan will let you know if the pregnancy is in the right place this time.

An early scan generally gives much **less information** than a scan at 12 weeks or later.

However, very early scans may occasionally identify:

- A serious abnormality – of course, that most abnormalities are not visible until 12 weeks or often much later. Some are not visible until long after birth.
- A twin pregnancy – and also identify whether the twins will have two placentas or will share one placenta, which is important to know.

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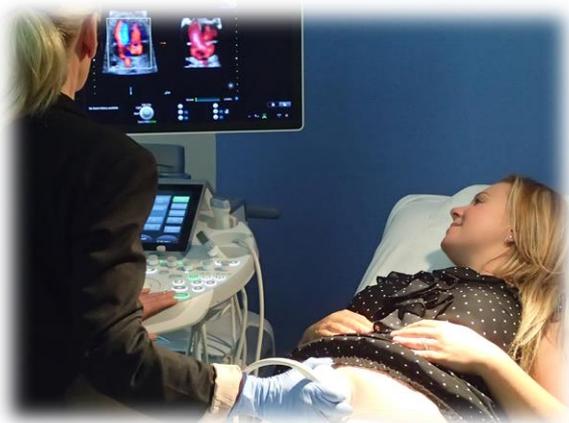
### How is the early pregnancy scan done?

Generally, the most important thing when doing an ultrasound is to try and get a very clear picture

In early pregnancy, that means the ultrasound can be done in **two different ways** – though the stomach or through the vagina. Which way is better depends on a number of things including how far along the pregnancy is.

### Transabdominal (TA) Scan

- A transabdominal (TA) scan is where the ultrasound is done through the stomach (abdomen).
- You will be asked to come to your appointment with a moderately full bladder (you don't have to be uncomfortably full). A full bladder gives a clearer picture of the pregnancy.
- It's a good idea to wear loose clothing so that your abdomen can be easily scanned.
- A warm gel will be placed on your abdomen and the scanning probe moved gently across it.
- You should be able to see the baby's heartbeat. Other parts of the baby may also be pointed out to you.
- Apart from the moderately full bladder, the ultrasound examination is not uncomfortable. The baby will not feel or hear anything.



### Transvaginal (TV) Scan

- Sometimes it is not possible to get a good, clear picture of the pregnancy with a TA scan.
- This may be because the pregnancy is very early (before 8 weeks), or because of the position of the uterus (womb) or for other reasons.
- In this situation it is often necessary to have a transvaginal (TV) scan:
  - During a TV scan, your bladder is usually empty
  - A small ultrasound probe is placed in the vagina
  - Because this is close to the uterus, a TV scan in early pregnancy generally gives excellent pictures and very useful information
  - A TV scan should not be painful for you and is not harmful for your baby
  - It does not increase your risk of miscarriage.

### Are there any risks of having an early pregnancy ultrasound scan?

40 years of research has shown that there are **no physical risks** to you or your baby from one or more early pregnancy ultrasounds performed by a trained expert using a high quality machine.

However, as with any technology or medication in pregnancy, **ultrasound should only be used when there is a reason to use it.**

You also need to be aware that a downside of the very high quality of modern ultrasound is that it sees so much detail it sometimes raises the possibility of a minor 'abnormality' in a baby which later disappears or turns out to be completely normal. Unfortunately, this can cause worry for pregnant women and families in the meantime.

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### Organising a dating scan

If you think you need an early pregnancy scan you should speak with **your GP** as it will almost always need to be done before you attend your **booking in pregnancy visit** in the antenatal clinic at the hospital.

Please bring the scan, and all other results, with you when you come to the **booking in** visit.

Dating scans are covered by Medicare but many radiology practices will charge an out of pocket amount as well.

Ultrasound gives a wonderful and exciting window into your pregnancy, and women and their partners usually enjoy seeing their baby on the screen.

Sadly, sometimes ultrasound also sees problems with the pregnancy. Even then however, having more information generally helps women and their doctors make better decisions.

Ultrasound is considered very safe in pregnancy if carried out by fully trained professionals using high quality equipment.

Your GP, obstetrician or midwife will discuss with you the best time to have your first pregnancy ultrasound.

We welcome further feedback on this brochure as a way of continually improving our service.

**Send your feedback to:**

[WSLHD-Get\\_Involved@health.nsw.gov.au](mailto:WSLHD-Get_Involved@health.nsw.gov.au)