

The pregnancy step by step through ultrasounds

- Ultrasound frequency
- Pulsenmore ultrasounds
- Societies & additional data



Ultrasound scans frequency

Low risk pregnancies:

- **First Trimester (11-14 weeks):** Dating scan with nuchal translucency (NT) screening for chromosomal abnormalities²
- **Second Trimester (18-20 weeks):** Detailed anatomy scan to check for physical conditions²
- **Additional Scans:** Extra scans may be recommended if there are concerns about the baby's growth or health

In **High-risk pregnancies:** in the later parts of the pregnancy, ultrasounds are performed as often as once a week based on health needs and situation



Every country has different base lines for what test mothers are required undergo, what is subsidized and what is not.

Also, in different countries different stakeholders maybe in charge of different stages and actions when monitoring the pregnancy, dispensing of drugs/tests and diagnosing. A customized approach is required to target each stakeholder in each region.

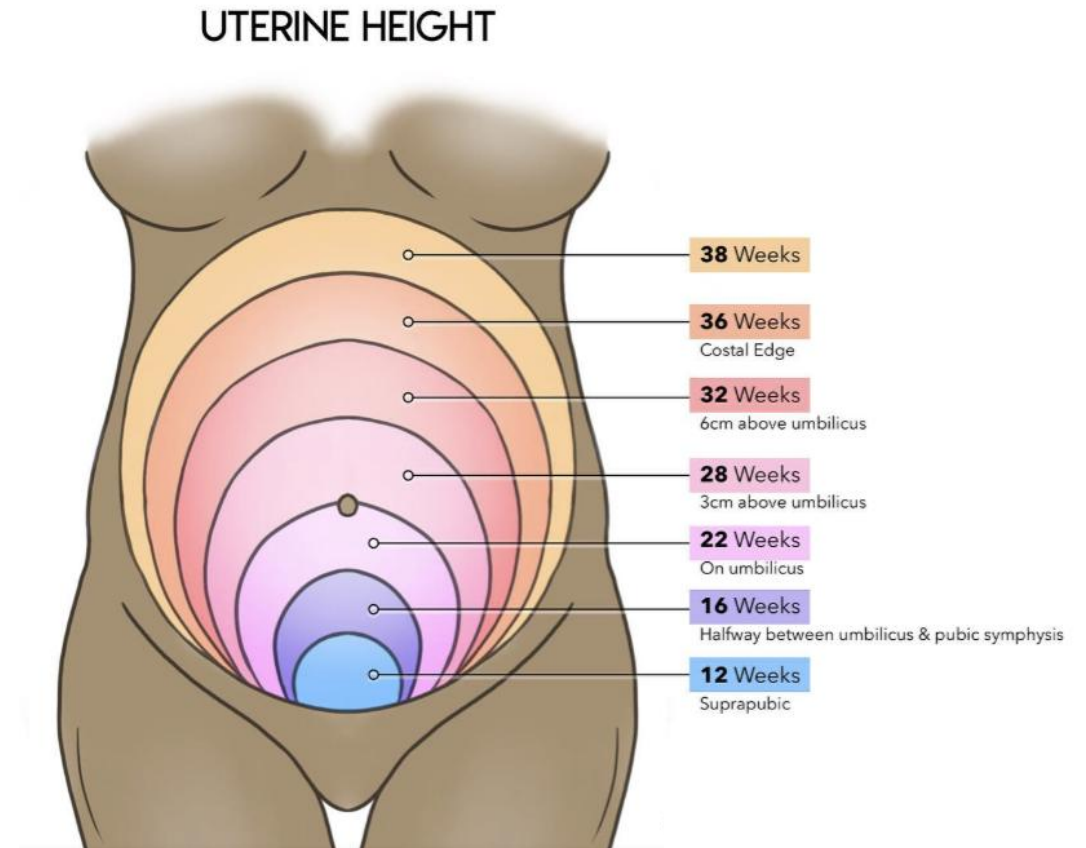


Where is the fetus?

As pregnancy progresses, the fetus grows and changes position within the womb, gradually occupying more space in the uterus.

- In early pregnancy, the fetus is small and typically located low in the uterus.
- As the fetus develops, it moves upward, and the womb expands to accommodate growth.
- The focus of ultrasound imaging must adapt accordingly, shifting to provide clear views of the developing fetus and to account for its size and position at each stage of pregnancy.

Key Insight: Proper placement and movement of the ultrasound transducer ensures accurate monitoring of fetal development throughout the pregnancy.



What do Pulsenmore Ultrasounds
look like?

Week 14

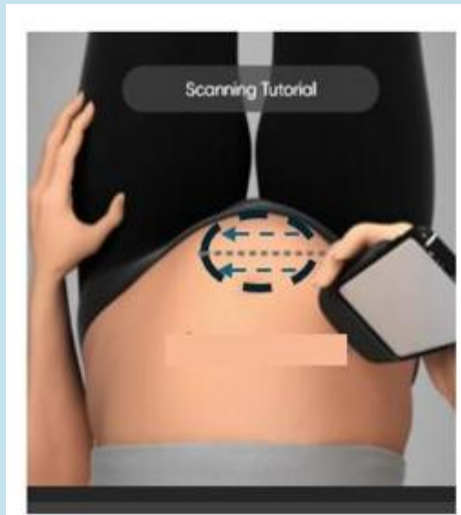
Pulsenmore ultrasounds start at week 14.

The baby is about 85mm long from head to bottom.

The baby begins to swallow little bits of amniotic fluid, which pass into the stomach.

The kidneys start to work and the swallowed fluid passes back into the amniotic fluid as urine.

The baby is kicking around, but this probably won't be felt yet. However, an HCP might be able to hear the heartbeat.



Week 15 - The baby will start to hear – they may hear muted sounds from the outside world and any noises your digestive system makes, as well as the sound of your voice and heart.

The eyes also start to become sensitive to light. Even though the baby's eyes are closed, they may register a bright light outside the tummy

Week 16 - The muscles of the baby's face can now move and the beginnings of facial expressions appear.

The nervous system continues to develop, allowing the muscles in the baby's limbs to flex.

Around this time, your baby's hands can reach each other – they can form a fist and hold each other when they touch.



Week 17 - The baby now weighs around 150g. The eyebrows and eyelashes are beginning to grow. The baby's eyes can move now, although the eyelids are still shut, and the mouth can open and close.

The lines on the skin of the fingers are now formed, so the baby already has their own individual fingerprints. Fingernails and toenails are growing, and the baby has a firm hand grip



Week 18-19



14-19 weeks

The uterus expands upward, moving out of the pelvic area and reaching the level of the belly button.



Week 18 - The baby moves around quite a bit and may respond to loud noises from the outside world, such as music.

The mother may not feel these movements yet, especially if this is her first pregnancy. If she does, they'll probably feel like a soft fluttering or rolling sensation.

Week 22



week 20 - The baby's skin is covered in a white, greasy substance called vernix. It's thought this helps protect the skin during the many weeks in the amniotic fluid.

From about this stage onwards, your baby will weigh more than the placenta, which, until now, was heavier than your baby. The placenta will keep growing throughout pregnancy, but not as fast as your baby.

Week 21 - Baby weighs around 350g.

the baby will weigh more than the placenta, which, until now, was heavier than the baby. The placenta will keep growing throughout pregnancy, but not as fast as the baby.

The baby becomes covered in a very fine, soft hair called lanugo. The purpose of this is not known, but it's thought it may be to keep the baby at the right temperature. The lanugo usually disappears before birth.

Week 22 - Your baby is beginning to get into a pattern of sleeping and waking, which will not necessarily be the same as the mother.

Week 23 - The baby's lungs are not yet able to work properly, but they are practicing breathing movements to prepare for life outside the womb. The baby gets all their oxygen from the mother via the placenta and will do so until they're born.



Week 24



Week 24

The baby has a chance of survival if born now. Most babies born before this time cannot live because their lungs and other vital organs are not developed enough.

The care that can now be given in baby (neonatal) units means more and more babies born early do survive. But for babies born around this time, there are increased risks of disability.

By 25 - The baby is moving about a lot and responds to touch and sound. The baby is regularly passing urine into the amniotic fluid. Sometimes the baby may get hiccups and these can be felt like a jerk of each hiccup.

Week 26 - The baby's eyelids open for the first time around now and they will soon start blinking. It's not until some weeks after the birth that the baby's eyes become the colour they will stay.

Week 27 - By now the baby's heart rate will have slowed to around 140 beats per minute. This is still considerably faster than our own heart rate.

The baby's brain, lungs and digestive system are formed but not fully mature and are still developing.



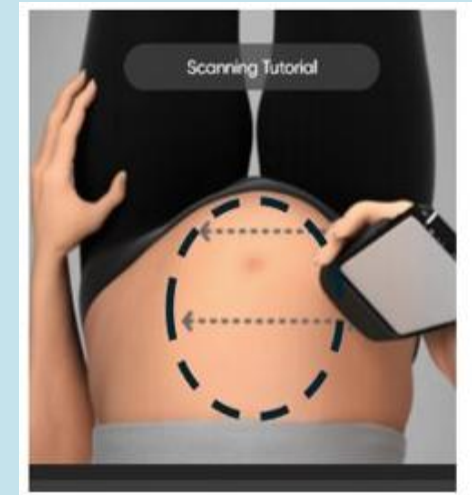
Week 28

Week 28 - The baby weighs around 1kg and is perfectly formed.

The baby's heartbeat can now be heard through a stethoscope. Others may even be able to hear it by putting an ear to the mother tummy, but it can be difficult to find the right place.

The baby keeps putting on weight, as more and more fat appears under the skin.

Week 29 – The baby continues to be very active at this stage and is usually felt each day.



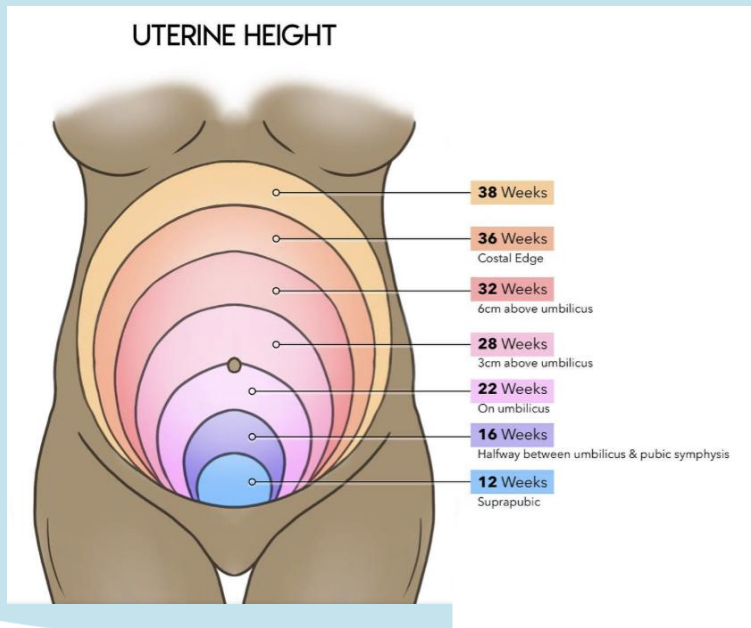
Week 30

Week 30 - The sucking reflex is developing by now and the baby can suck its thumb or fingers.

The baby is growing plumper, and the skin begins to look less wrinkled.

The white, greasy vernix and the soft, furry, fine hair (lanugo) that have covered the baby's skin for some time begin to disappear.

Week 31 – The lungs are developing rapidly, but your baby would not be fully able to breathe on their own until about 36 weeks.



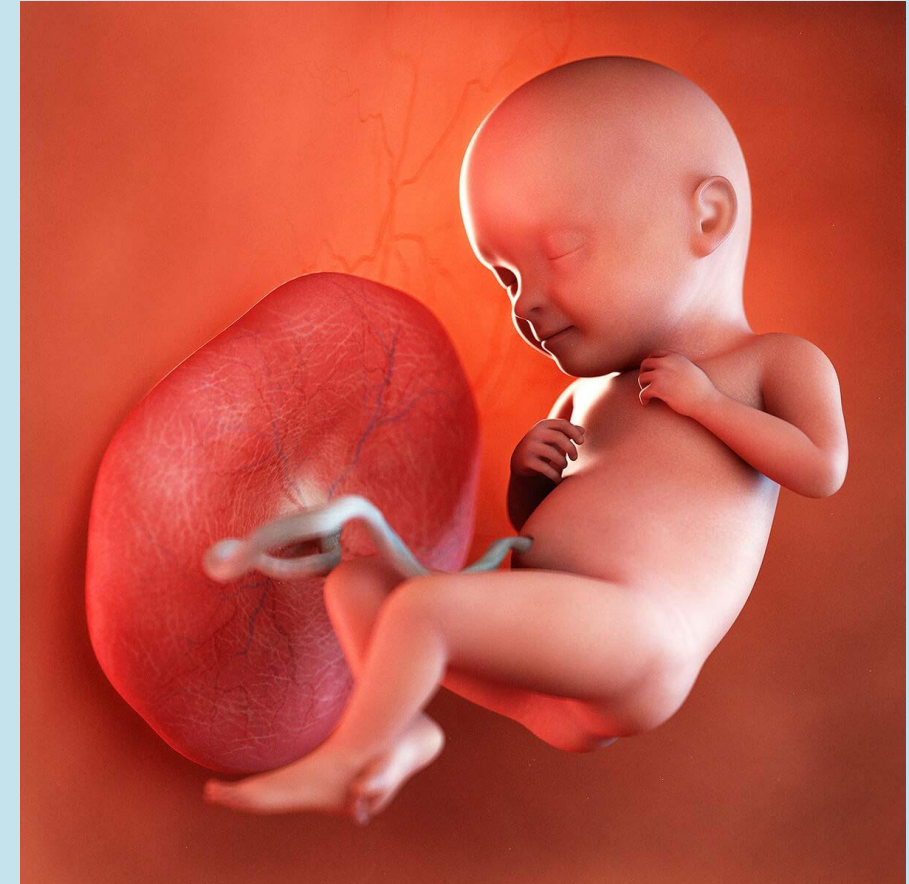
Week 32 - The baby is usually lying with their head pointing downwards, ready for birth. This is known as cephalic presentation. The amount of amniotic fluid in the uterus is increasing, and the baby is still swallowing fluid and passing it out as urine.

Week 34 – The baby's bones are continuing to harden, apart from the skull bones. These will stay soft and separated until after the birth to make the journey through the birth canal easier.

Week 35- The baby is curled up in the uterus now, with legs bent up towards their chest.

There's little room to move about, but they'll still change position, so the mother will still feel movements and be able to see them on the surface of her tummy.

If the baby is a boy, his testicles are beginning to descend from his abdomen into his scrotum.



Week 36 - The baby's lungs are fully formed and ready to take their first breath after the birth. The digestive system is fully developed and the baby will be able to feed if they're born now.

Week 37 - The pregnancy is considered full-term. The average baby weighs around 3-4kg by now . Your baby is ready to be born. The baby's gut (digestive system) now contains meconium – the sticky green substance that will form the baby's first poo after birth. It may include bits of the lanugo (fine hair) that covered your baby earlier in pregnancy.



Week 38-41

Week 39 - Some time before birth, the baby's head should move down into the mothers' pelvis. When the baby's head moves down like this, it's said to be "engaged".

When this happens, the mother may notice her bump seems to move down a little. Sometimes the head does not engage until labor starts.

Week 40 - The fine hair (lanugo) that covered your baby's body is now almost all gone, although some babies may have small patches of it when they're born.

Week 41 - Because of the hormones in your body, the baby's genitals may look swollen when they're born, but they'll soon settle down to their normal size.

Week 42 - In most pregnancies, labour naturally starts by 42 weeks.

There's a higher risk of [stillbirth](#) if pregnancy goes over 42 weeks pregnant, although most babies remain healthy.

At the moment, there's no way to reliably predict which babies are at increased risk of stillbirth, so induction is offered if mother does not go into labour by 42 weeks.

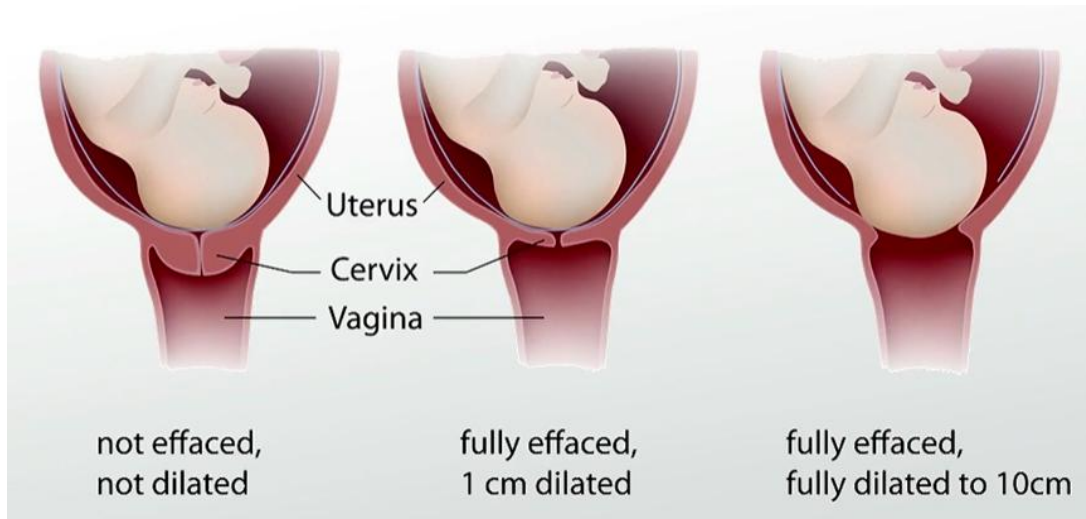


Terminology

Effacement is the thinning and shortening of the cervix. It happens at the end of pregnancy in preparation for childbirth. A pregnant person must be 100% effaced for a vaginal delivery.

Dilation is when your cervix opens. It's measured in centimeters. If your cervix is completely closed, you're 0 centimeters (cm) dilated. You're fully dilated once your cervix is 10 cm wide. At 10 cm, your cervix is as wide as a small cantaloupe.

Braxton Hicks contractions Braxton Hicks contractions are felt during pregnancy and can be mistaken for true labor contractions. Unlike true labor, Braxton Hicks are irregular in frequency, less intense and usually go away if you change positions. They are your body's way of getting ready for labor, but it doesn't mean labor is coming.



Societies & Journals

Societies

USA

ASMR

American Society for Reproductive Medicine

ACOG

American College of Obstetricians & Gynecologists

AIUM

American Institute of Ultrasound in Medicine

ATA

American Telemedicine Association

International

FIGO

International Federation of Gynecology and Obstetrics

RCOG

Royal College of Obstetricians and Gynecologists

SMFM

Society of Maternal Fetal Medicine

WAPM

World Association of Perinatal Medicine

HIMSS

Healthcare Information and Management Systems Society

ISOUG

International Society of Ultrasound in Obstetrics and Gynecology

JSOUG Japan

Society of Ultrasound in Obstetrics and Gynecology

ISOG

Israeli Society of Obstetrics and Gynecology

ISPD

International society of Prenatal Diagnosis

Journals & Libraries

- [BJOG: An International Journal of Obstetricians and Gynecologists](#)
- [American Journal of Obstetrics & Gynecology MFM](#)
- American Journal of Perinatology
- <https://journals.lww.com/greenjournal/pages/default.aspx>
- **[BMC Pregnancy and Childbirth](#)** - <https://bmcpregnancychildbirth.biomedcentral.com/>
- **Telemedicine and e-Health**
- [Journal of Telemedicine and Telecare](#)

Libraries:

Wiley

Pubmed

MDPI

Sage