

Reach
REPRODUCTIVE HEALTH

Understanding Fetal Development

WHEN DOES A PREGNANCY START?

The start of pregnancy is actually the first day of your last menstrual period (LMP). This is the gestational age of the fetus. It's about two weeks ahead of when conception actually occurs. Though it may seem strange, the date of the first day of your last period will be an important date when determining your due date. Your healthcare provider will ask you about this date and will use it to figure out how far along you are in your pregnancy.*

HOW LONG IS A PREGNANCY?

Traditionally, we think of pregnancy as a nine-month process. However, this isn't always the case. A full-term pregnancy is 40 weeks, or 280 days. Depending on what months you're pregnant during (some are shorter and some longer) and what week you deliver, you could be pregnant for either nine months or 10 months. This is completely normal and healthy.*

*Cleveland clinic: https://my.clevelandclinic.org/health/articles/7247-fetal-development-stages-of-growth

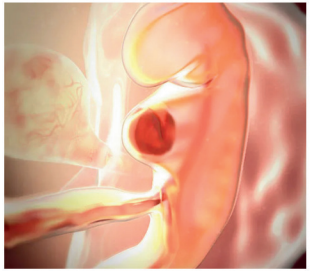
FIRST TRIMESTER

4 WEEKS PREGNANT



- The rapidly growing cells—now known as a blastocyst—has begun to burrow into the uterine lining. This process is called implantation.
- Within the blastocyst, the inner group of cells will become the embryo. The outer layer will give rise to part of the placenta, which will nourish the embryo/fetus throughout the pregnancy.

5 WEEKS PREGNANT



- The embryo now has three layers:
  - The top layer forms the brain, nerves, eyes, and inner ears.
  - The middle layer becomes the heart, bones, kidneys, and reproductive organs.
  - The inner layer develops into the lungs and intestines.
- By the end of this week, the tiny heart tube will beat around 110 times per minute.

6 WEEKS PREGNANT



- Growth is rapid this week. Just four weeks after conception, the neural tube along the back is closing. The brain and spinal cord will develop from the neural tube. The heart and other organs also are starting to form.
- Structures necessary for the formation of the eyes and ears develop. Small buds appear that will soon become arms. The body begins to take on a C-shaped curvature.

7 WEEKS PREGNANT



- The brain and face are growing. Depressions that will give rise to nostrils become visible, and the beginnings of the retinas form.
- Lower limb buds that will become legs appear, and the arm buds that appeared last week now take the shape of paddles.

8 WEEKS PREGNANT



- Lower limb buds take on the shape of paddles.
- Fingers have begun to form. Small swellings appear where the ears will develop, and the eyes become obvious.
- The upper lip and nose have formed. The trunk and neck begin to straighten. By the end of this week, the fetus is about 0.5" long from crown to rump.

9 WEEKS PREGNANT



- Arms are growing more and elbows appear.
- Toes are visible and eyelids form.
- The head is getting larger.
- By the end of this week the fetus might be a little less than 0.75" long from crown to rump.

10 WEEKS PREGNANT



- By this week the head has become rounder.
- The fetus can now bend the elbows.
- Toes and fingers lose the webbing and become longer.
- The eyelids and external ears continue to develop.
- The umbilical cord is clearly visible.

11 WEEKS PREGNANT



- The head still makes up about half of the length, however, the body is about to catch up.
- This week the buds for future teeth appear. Red blood cells are beginning to form in the liver. By the end of this week the external genitalia will start developing.
- By now the fetus might measure about 2" long from crown to rump.

SECOND TRIMESTER

12 WEEKS PREGNANT



- This week the fingernails are sprouting.
- The face has taken on a more developed profile.
- The intestines are now in the abdomen.
- By now the fetus might be about 2.5" long from crown to rump.

13 WEEKS PREGNANT



- The organs, nerves, & muscles are starting to work.
- Bones are beginning to harden in the skeleton, especially in the skull and long bones.
- The fetus is beginning to make urine and release it into the surrounding amniotic fluid.
- The skin is still thin and transparent, but it will start to thicken soon.

14 WEEKS PREGNANT



- The neck has become more defined. Red blood cells are forming in the spleen.
- The sex will become apparent this week or in the coming weeks.
- By now the fetus might be almost 3.5" long from crown to rump and weigh about 1.5 oz.

15 WEEKS PREGNANT



- The fetus is growing rapidly.
- Bone development continues and will soon become visible on ultrasound images.
- The scalp hair pattern is also forming.

16 WEEKS PREGNANT



- The head is now more erect in the womb. The eyes can now slowly move. The ears are close to reaching their final position. The skin is getting thicker.
- Limb movements are becoming coordinated and can be detected during ultrasound exams however, these movements are still too slight to be felt by you.

17 WEEKS PREGNANT



- Toenails begin developing.
- The fetus is becoming more active in the amniotic sac rolling and flipping which you may feel.
- The heart is pumping about 100 pints of blood each day.
- The fetus might begin hiccupping, which causes small jerking movements.

18 WEEKS PREGNANT



- The ears begin to stand out on the sides of the head. The fetus might begin to hear sounds.
- The digestive system has started working.
- By now the fetus might be 5.5" long from crown to rump and weigh 7 oz.

19 WEEKS PREGNANT



- A coating called vernix begins to cover the fetus. This helps protect the delicate skin from abrasions, chapping, and hardening that can result from exposure to amniotic fluid.
- The baby also is starting to release urine that now makes up most of the amniotic fluid.

20 WEEKS PREGNANT



- At this stage you might be able to feel movements (quickening).
- The fetus is regularly sleeping and waking and might be awakened by noises or your movements.
- By now the fetus might be about 6.33" long from crown to rump and weigh more than 11oz.

21 WEEKS PREGNANT



- The fetus is now completely covered with a fine, downy hair called lanugo. The lanugo helps hold the vernix caseosa on the skin.
- The sucking reflex is also developing, enabling the fetus to suck the thumb. (thumb/fingers)

22 WEEKS PREGNANT



- The eyebrows and hair are visible.
- Brown fat also is forming, the site of heat production.
- For girls, the reproductive system is developed.
- For boys, the testes have begun to descend.
- By now the fetus might be 7.5" long from crown to rump and weigh about 1 lb.

23 WEEKS PREGNANT



- The fetus begins to have rapid eye movements.
- Ridges also form in the palms of the hands and soles of the feet that will later create the foundation for fingerprints and footprints.
- The lungs are beginning to produce surfactant, the substance that allows the air sacs in the lungs to inflate.

24 WEEKS PREGNANT



- The skin is now wrinkled, translucent, and reddish because tiny blood vessels (capillaries) are visible underneath.
- The fetus might be about 8.25" long from crown to rump and weigh more than 1.33 lbs.

25 WEEKS PREGNANT



- The fetus might be able to respond to familiar sounds, such as your voice, with movement.
- During sleep the fetus is spending most of that time in rapid eye movement (REM), when the eyes move rapidly even though the eyelids are closed.

26 WEEKS PREGNANT



- Eyebrows & eyelashes have formed.
- By now the fetus might be 9" long from crown to rump and weigh nearly 2 lbs.
- Fetus eyes also are developed.

27 WEEKS PREGNANT



- This week marks the end of the second trimester.
- The nervous system continues to mature.
- The fetus is also gaining fat, which will help the skin look smoother.

WEEKS 12-27

THIRD TRIMESTER

28 WEEKS PREGNANT



- The eyelids can now partially open. Might blink in response to startle.
- The central nervous system can trigger breathing movements and control body temperature.
- By now the fetus might be nearly 10" long from crown to rump and weigh nearly 2.25 lbs.

29 WEEKS PREGNANT



- The fetus can now kick, stretch, and make grasping movements.

30 WEEKS PREGNANT



- The eyes can now open wide.
- The fetus might have a good head of hair by this week.
- Red blood cells are forming in the bone marrow.
- By now the fetus might be more than 10.5" long from crown to rump and weigh nearly 3 lbs.

31 WEEKS PREGNANT



- The fetus has now finished most of the major development.
- Now it's time to gain weight—quickly.

32 WEEKS PREGNANT



- Toenails are visible.
- The layer of soft, downy hair that has covered the skin for the past few months (called lanugo) starts to fall off this week.
- By now the fetus might be 11" long from crown to rump and weigh 3.75 lbs.

33 WEEKS PREGNANT



- The pupils can now change size in response to detect light. (light/dark)
- The bones are hardening; however, the skull remains soft and flexible.

34 WEEKS PREGNANT



- The fingernails have now reached the fingertips.
- By now the fetus might be nearly 12" long from crown to rump and weigh more than 4.5 lbs.

35 WEEKS PREGNANT



- The fetus fills most of the space in the amniotic sac and has much less room to move. You'll still feel lots of stretches, rolls, and wiggles.

36 WEEKS PREGNANT



- Skin is becoming smooth.
- Limbs start to look chubby.
- Most fetuses have turned their head down by this point.

37 WEEKS PREGNANT



- The fetus now has a firm grasp with the hands and fingers.
- To prepare for birth, the head might start descending into your pelvis.
- If not head down yet, your healthcare provider will talk to you about ways to deal with this issue.

38 WEEKS PREGNANT



- The measurements of the head and abdomen are now about the same size.
- The toenails have reached the tips of the toes.
- The lanugo hair on the body is mostly gone now.
- By now the fetus might weigh about 6.5 lbs. pounds, but some sizes vary quite a lot, some weighing heavy—9 lbs.

39 WEEKS PREGNANT



- The chest is becoming more prominent.
- Fat is added all over the body to keep the fetus warm after birth.



40 WEEKS PREGNANT

- The fetus might have a crown-to-rump length of around 14" and weigh 7.5 lbs.
- Remember, however, that healthy pregnancies come in different sizes.
- Don’t be alarmed if your due date comes and goes with no signs of labor starting.
- Your due date is simply a calculated estimate of when your pregnancy will be 40 weeks. It’s normal to give birth before or after your due date.

Fetal Development Information: Cleveland Clinic | Fetal Development Images: WebMD



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