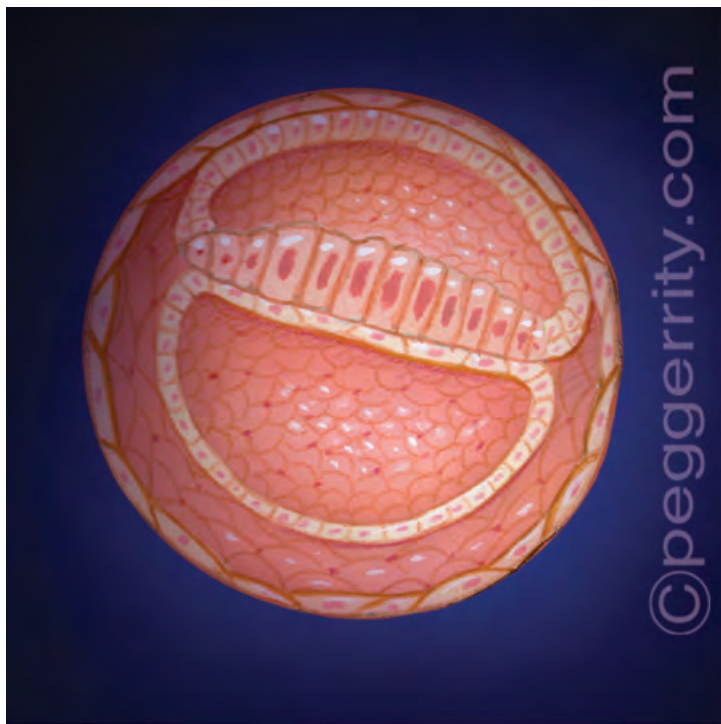


Development of the embryo and fetus

The following is a description of fetal growth and development.

3-4 weeks after the last menstrual period

- The female egg has been fertilized by the male sperm and begins to divide and multiply.
- The cluster of dividing cells, called an embryo, nests in the lining of the womb.
- The embryo is too small to be seen.



Size: The embryo is too small to be seen.

5-6 weeks after the last menstrual period

- A yolk sac nourishes the embryo while the placenta and bag of waters begin to form.
- The spine and head are forming.
- The heart is forming and blood circulation begins.
- Bumps appear where arms and legs will develop.
- The embryo is less than one-fifth of an inch in size.



Size: Less than one fifth of an inch.

7-8 weeks after the last menstrual period

- The head is over one-half of the body length.
- The ears and eyes are forming.
- The heart is pumping. The heartbeat is visible by ultrasound examination.
- Internal organs (liver, kidneys, and intestines) are growing.
- The limbs are growing longer.
- The embryo is about one-third of an inch in size.



Size: About one third of an inch.

9-10 weeks after the last menstrual period

- The nose and mouth are forming
- The fingers and toes lose their webbing and become separate.
- Movement can be seen on ultrasound examination.
- The fetus is about one-half to one inch in size.

Note: After 8 weeks of development, the embryo is called a fetus.



Size: One half to one inch.

11-12 weeks after the last menstrual period

- The face is broad and the eyes are widely separated.
- The kidneys are making urine.
- All organs are basically complete but immature.
- The heart beat can be heard.



Size: About 1 to 2½ inches.

13-14 weeks after the last menstrual period

- Bones become solid.
- Joints and muscles allow full-body movement
- The fetus is about 3½ inches in length.
- The weight increases from ½ to 1½ ounces



Length: About 3½ inches.

15-16 weeks after the last menstrual period

- The inner sex organs are nearly complete.
- The brain is becoming more complex.
- The fetus is about $4\frac{1}{2}$ to $5\frac{1}{2}$ inches in length.
- The weight increases from $1\frac{1}{2}$ to 4 ounces.



Length: $4\frac{1}{2}$ to $5\frac{1}{2}$ inches.

17-18 weeks after the last menstrual period

- The head is about $\frac{1}{3}$ of the total body length.
- Myelin (insulation layer covering nerves) begins to form.
- Hair and nail beds begin to form.
- The fetus is about $5\frac{1}{2}$ to $6\frac{1}{4}$ inches in length
- Weight increases from 4 to 7 ounces.



Length: $5\frac{1}{2}$ to $6\frac{1}{4}$ inches.

19-20 weeks after the last menstrual period

- The mother begins to feel fetal movements and kicking.
- The fetus is about $6\frac{1}{4}$ to $7\frac{1}{2}$ inches in length.
- Weight increases from 7 to 11 ounces.
- Fetuses born before 20 weeks gestation are not able to survive outside the womb.



Length: $6\frac{1}{4}$ to $7\frac{1}{2}$ inches.

21-22 weeks after the last menstrual period

- Eyebrows and eyelashes begin to form.
- The skin is very thin and red with no fat underneath.
- Blood vessels are easily seen beneath the skin.
- The ears are flat and bend easily.
- The fetus is about $7\frac{1}{2}$ to $8\frac{1}{4}$ inches in length.
- Weight increases from 11 to 16 ounces.
- Of fetuses born before 23 weeks, about ten percent survive.



Length: $7\frac{1}{2}$ to $8\frac{1}{4}$ inches.

23-24 weeks after the last menstrual period

- Myelin (nerve insulation) begins to form in the brain.
- The network of nerve connections becomes more complex.
- The fetus is about 8¹/₄ to 9 inches in length.
- Weight increases from 1 pound to 1 pound, 6 ounces.
- The chance for survival outside the womb is about 20 percent (about one in five) at 23 weeks and 55 percent (about 1 in two) at 24 weeks.



Length 8¹/₄ to 9 inches.

25-26 weeks after the last menstrual period

- The sucking reflex begins.
- Fingernails begin to grow.
- The fetus is about 9 to 9³/₄ inches in length.
- Weight increases from 1 pound, 6 ounces to 1 pound, 13 ounces.
- The chance for survival outside the womb is about 70 percent at 25 weeks and 80 percent at 26 weeks.



Length: 9 to 9³/₄ inches.

27-28 weeks after the last menstrual period

- The eyes are partly open and can perceive light.
- Reaction to sound may be observed.
- The fetus is about $9\frac{3}{4}$ to $10\frac{1}{2}$ inches in length.
- Weight increases from 1 pound, 13 ounces to 2 pounds, 3 ounces.
- The chance for survival outside the womb is about 85 percent at 27 weeks and 90 percent at 28 weeks.



Length: $9\frac{3}{4}$ to $10\frac{1}{2}$ inches.

29-30 weeks after the last menstrual period

- The eyes open.
- Cycles of sleeping, turning, kicking and sucking are established.
- The skin is slightly wrinkled.
- The fetus is about 10½ to 11 inches in length.
- Weight increases from 2 pounds, 3 ounces to 2 pounds, 13 ounces.
- The chance for survival outside the womb is about 95 percent.



Length: 10½ to 11 inches.

31-32 weeks after the last menstrual period

- The skin grows thicker and pinker as fat begins to form.
- The body begins to fill out.
- Toenails begin to grow.
- The sucking reflex is coordinated with swallowing.
- Head control is beginning.
- The fetus is about 11 to 11³/₄ inches in length.
- Weight increases from 2 pounds, 13 ounces to 3 pounds, 12 ounces.
- The chance for survival outside the womb is about 95 percent.



Length: 11 to 11³/₄ inches.

33-34 weeks after the last menstrual period

- The ears begin to curve and hold their shape.
- Muscle tone increases steadily.
- The fetus is about $11\frac{3}{4}$ to $12\frac{1}{2}$ inches in length.
- Weight increases from 3 pounds, 12 ounces to 4 pounds, 10 ounces.
- Survival rate outside the womb is about 95 percent.



Length: $11\frac{3}{4}$ to $12\frac{1}{2}$ inches.

35-36 weeks after the last menstrual period

- Scalp hair becomes silky and lays flat against the head.
- Neck muscles can raise the head.
- Trunk muscles can hold the back straight.
- The fetus is about 12½ to 13½ inches in length.
- Weight increases from 4 pounds, 10 ounces to 5 pounds, 5 ounces.
- Survival rate outside the womb is greater than 95 percent.



Length: 12½ to 13½ inches.

37-38 weeks after the last menstrual period

- Arm and leg muscles are flexed.
- Sucking and rooting reflexes are well established.
- Lungs usually are mature.
- The fetus is about 13½ to 14½ inches in length.
- Weight is from 5 pounds, 5 ounces to 6 pounds, 5 ounces.
- Survival rate outside the womb is greater than 95 percent.



Length: 13½ to 14½ inches.

39-40 weeks after the last menstrual period

- The skin is pink and plump with a generous layer of fat underneath.
- The length from the head to the buttocks is approximately 14½ inches (or 19-21 inches from head to toe).
- Weight increases from 6 pounds, 5 ounces to 7 pounds, 6 ounces.
- Survival rate outside the womb is greater than 95 percent.



Length: 14½ inches or 19 21 inches from head to toe.