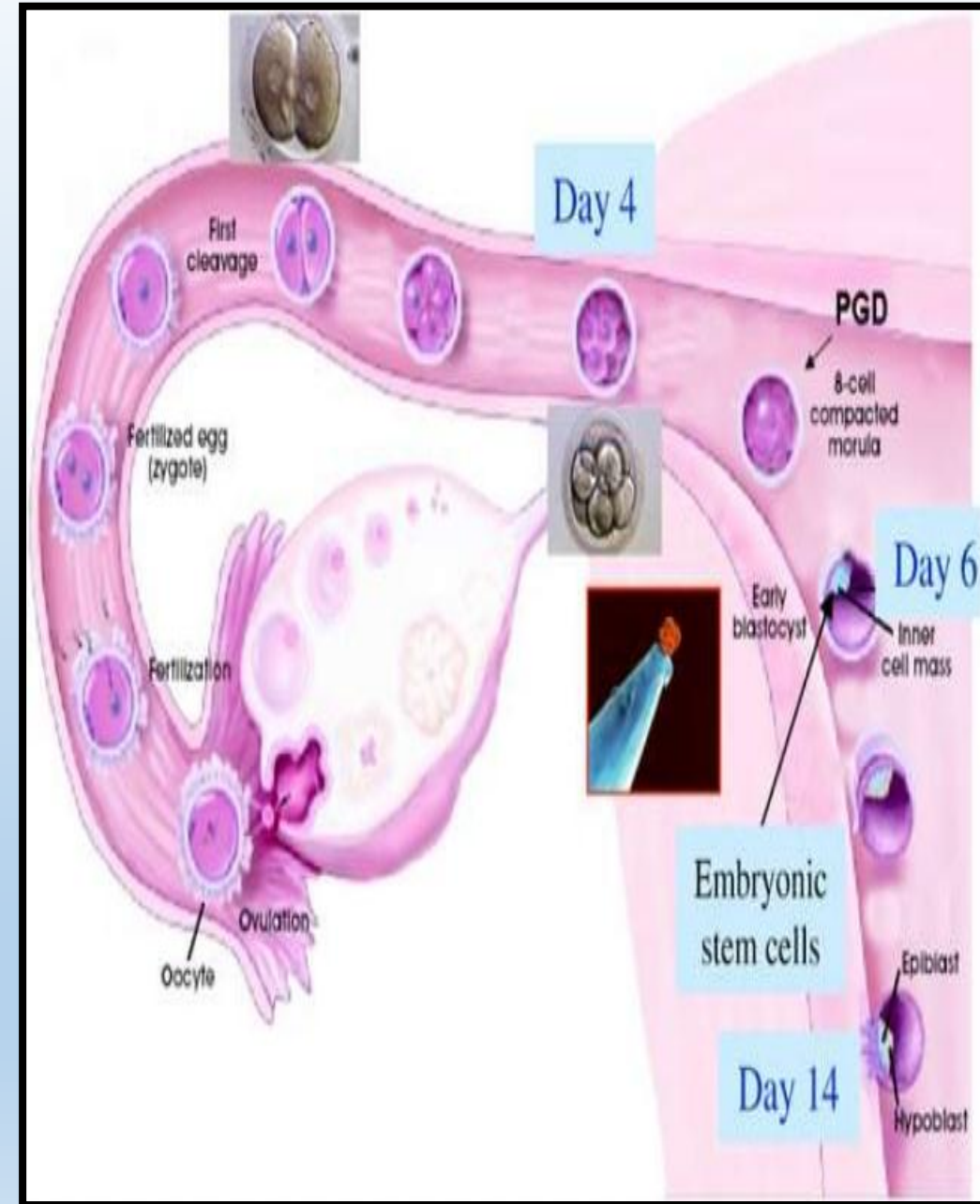


# First & second Trimesters of Pregnancy in human

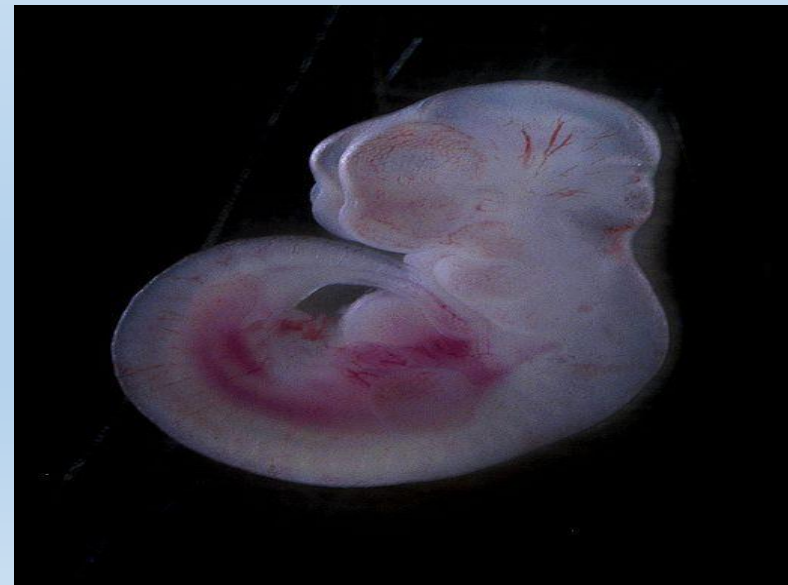
# 1-2 Weeks

- At this stage the egg leaves the ovary and it travels through the fallopian tube towards the uterus.
- The egg and the sperm fuse together, creating a fertilized egg.
- days after fertilization, the [blastocyst](#) attaches to the wall of the uterus ([endometrium](#)). When it comes into contact with the endometrium it performs [implantation](#) .



*(3-4 weeks)*

- Chemicals produced by the embryo stop the mother's [menstrual cycle](#).
- Following implantation, the blastocyst is called an embryo.
- The embryo is about 0.01 of an inch long at this time; its about the size of a pinhead.
- The women's period just finished and the uterus is now building a new layer of endometrium to cushion and nourish the fertilized egg.



# 5 Weeks

- Organogenesis begins
- The head represents about one half of the embryo's axial length, and more than half of the embryo's [mass](#).
- Limb buds appear where arms and legs will grow later.
- The Neurogenesis is underway, showing brain activity at about the 5-6th week and develops into five areas .
- Tissue formation occurs that develops into the vertebra and some other bones.
- The heart starts to beat and blood starts to flow



# 6 weeks

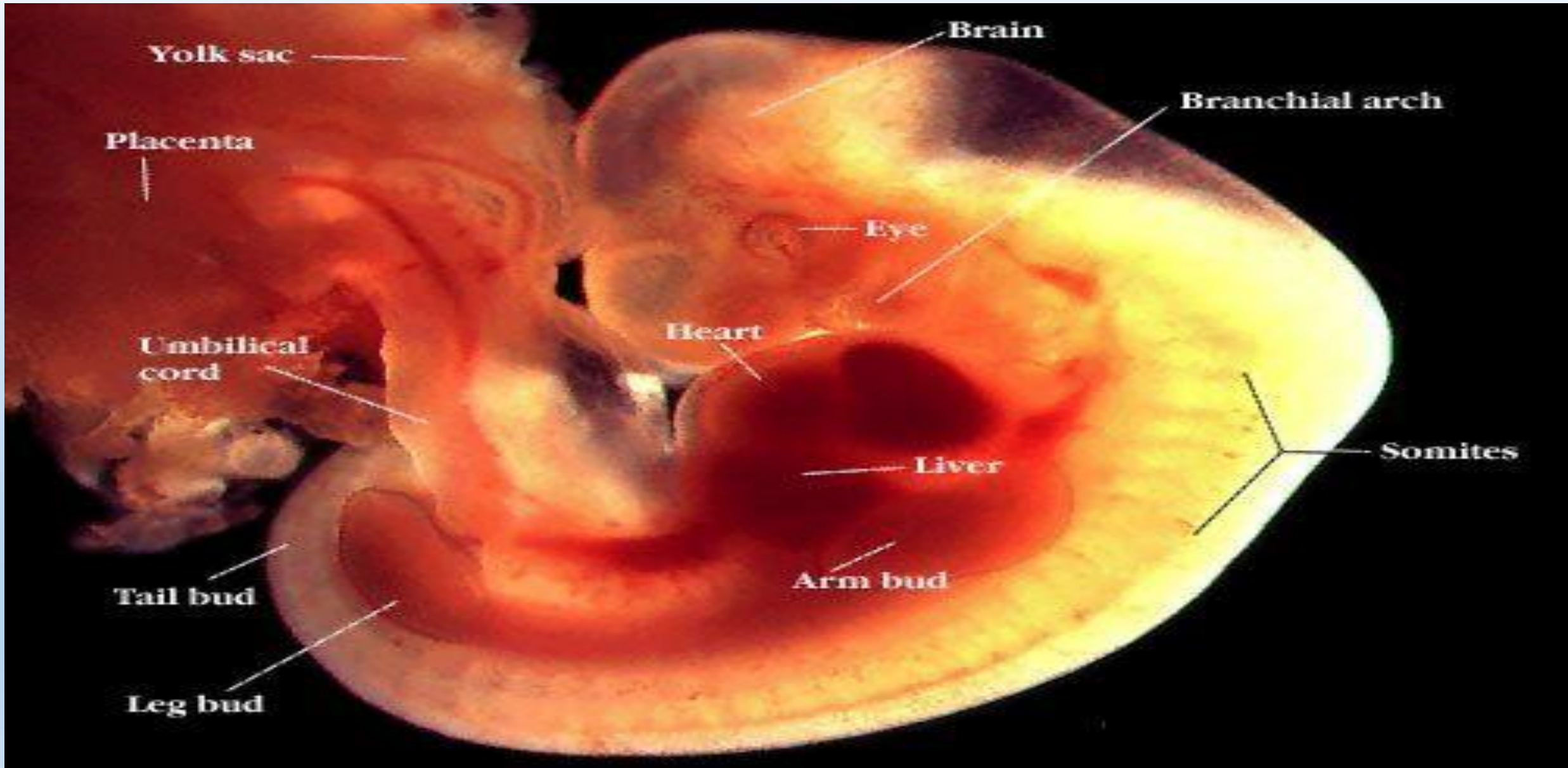
## FIRST HEARTBEATS

- A distinct blood vessel has now formed inside the embryo. It will later develop into the heart and circulatory system of the child. By 5 weeks, the embryo's heart is tubular in shape and begins to beat.
- The connections between the pregnant woman and the embryo are developing to form the placenta. The placenta will nourish the embryo, then the fetus, for the remainder of its stay in the uterus.
- The embryo has developed a head and a trunk structures that will become arms and legs, called limb buds, begin to appear.
- A blood vessel forms which will later develop into the heart and circulatory system. Blood is beginning to be pumped and is visible by ultrasound
- Eyes, ears, and a mouth have started to develop



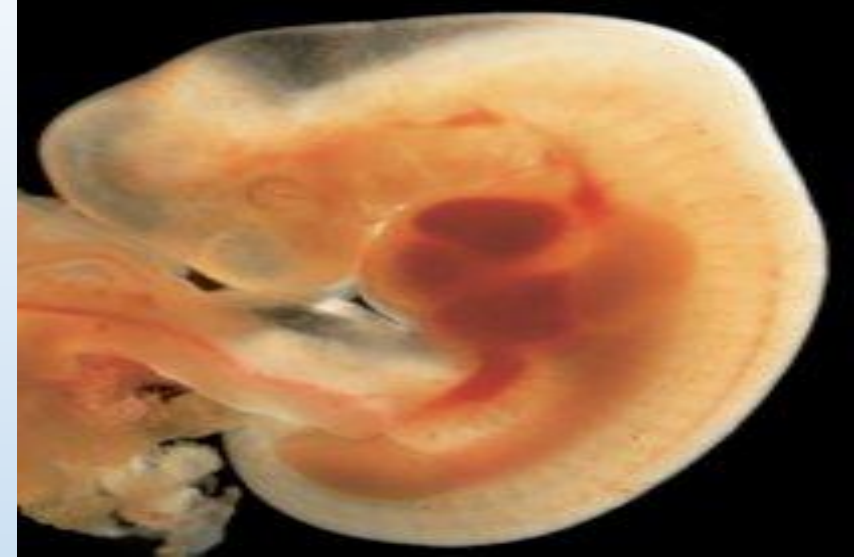


5-6 weeks



# 7 Week

- The baby is now a 1/3 of an inch, which is about the size of a grain of rice.
- The arm buds have grown and now hands are developing along with the brain, intestines, pituitary gland, and pancreas.
- Though the genital tubercle is present, it's still too early to tell the gender of the baby.
- The mother might experience changes in her appetite unexpected because of the change in her hormones.



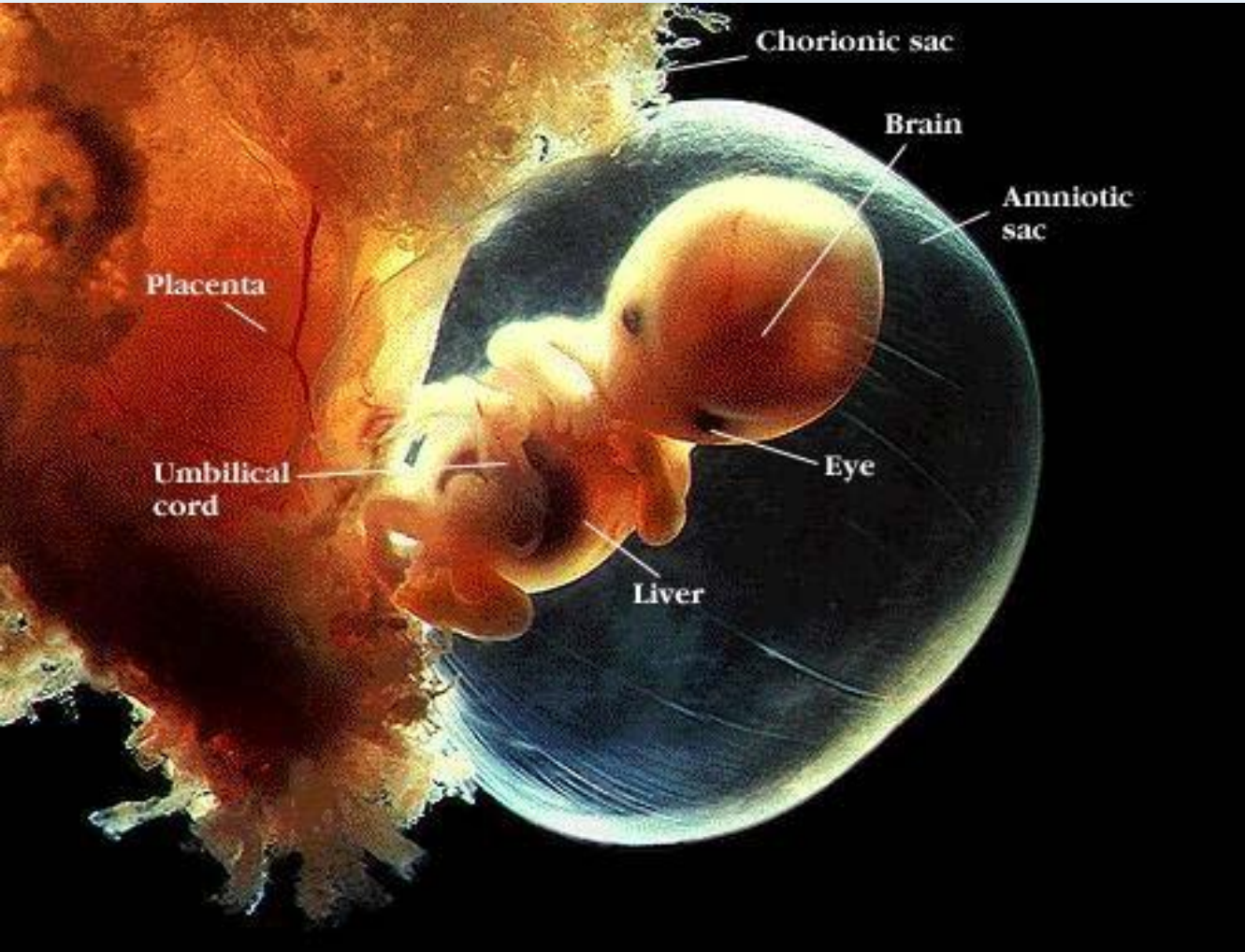
## **8 WEEKS**

### ORGAN FORMATION

- The cells of the embryo are continuing to multiply, forming more organs, including the brain.
- The blood is being pumped through the umbilical cord to and from the embryo.
- The bud of the end of spinal cord, is present. The spinal column is made up of cartilage at this stage.
- The embryo is now surrounded by a sac filled with amniotic fluid. The fluid within this sac protects the embryo.
- During this week, the baby's gonads will either become testes or ovaries. It is the father's sperm that determines the gender of the baby.
- The limbs are growing longer and the arms are bent at the elbow allowing the baby to hug itself.
- The mother's uterus has expanded to the size of a grapefruit. Before pregnancy it's the size of a human fist.



# 8 Week Old Baby



# 9 Week

- The baby has started to develop bones and cartilage.
- The hands and feet are now formed.
- The baby now responds to movement.
- In humans, the fetal stage commences at the beginning of the ninth week.
- The fetus is typically about 30 millimetres (1.2 in) in length from crown to rump, and weighs about 8 grams. The head makes up nearly half of the fetus' size.
- The movement of the fetus is necessary for stimulation of lung development, rather than for obtaining oxygen. The heart, hands, feet, brain and other organs are present, but are only at the beginning of development and have minimal operation.
- At this point in development, uncontrolled movements and twitches occur as muscles, the brain, and pathways begin to develop.



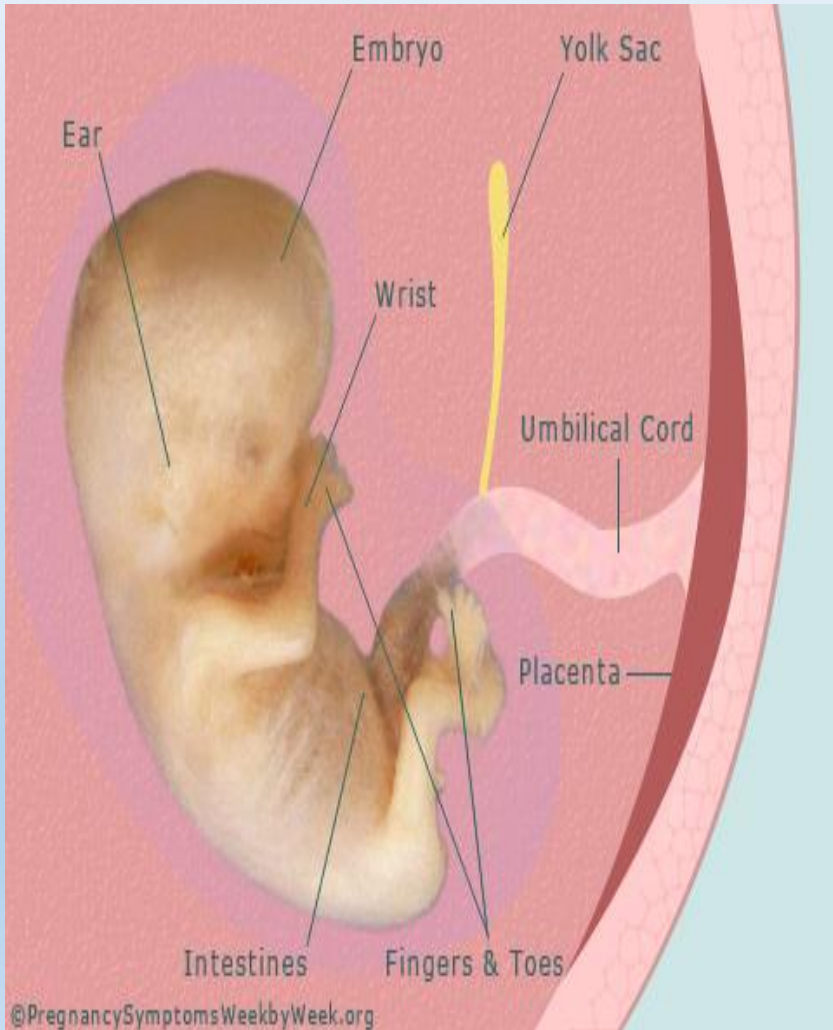
# 10 WEEKS

## A FETUS

- From the end of the eighth week until delivery, the embryo is now called a fetus. The head of the fetus is large and makes up about half of its entire size.
- The tail bud has now disappeared, and the first real bone cells are beginning to replace the cartilage throughout the fetus.
- Facial features are becoming apparent, and the eyes, ears, arms, and legs are more identifiable.
- At this stage most of the baby's joints are formed and all of the organs are present but not fully formed or functional.
- The baby is about  $1 \frac{3}{4}$  of an inch long .
- The mother's veins might become more noticeable because of the blood volume increase.

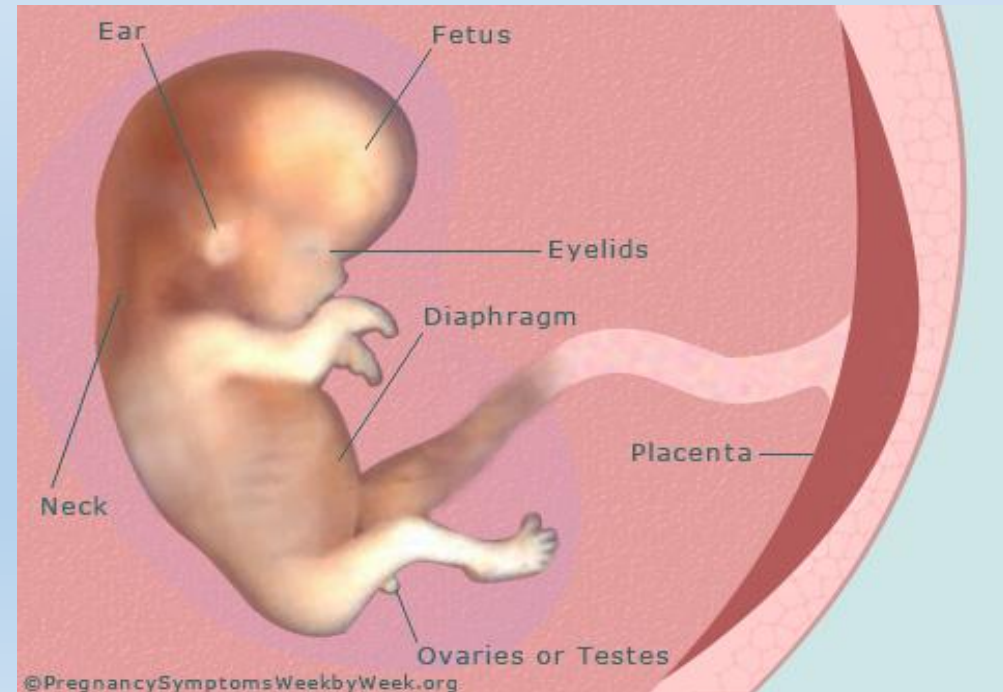


# 10 weeks



# 11 Week

- The baby doubles its size during this week in the pregnancy.
- Finger nails begin to grow and the irises of the baby's eyes develop.

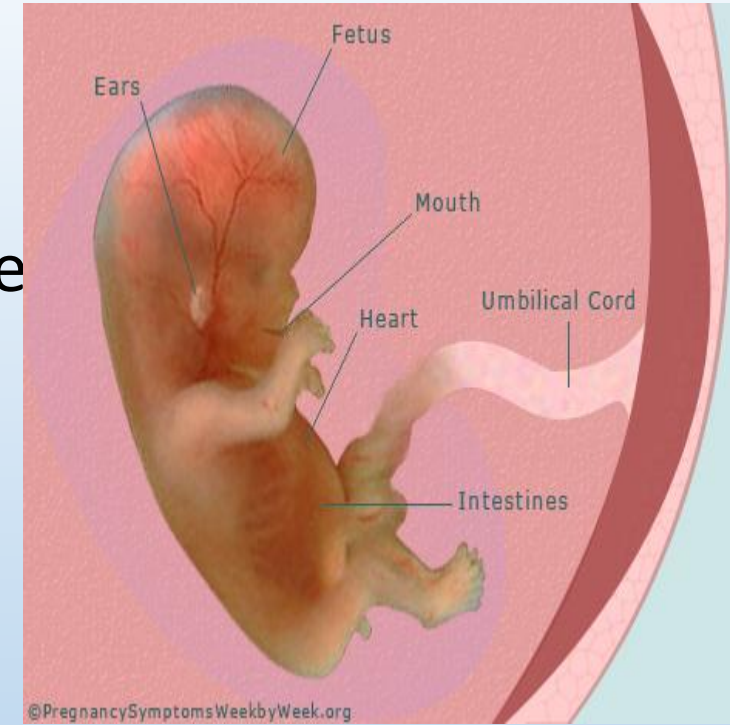




# 12 WEEKS

## RANDOM MOVEMENTS

- At this stage of its development, all major body organs have formed inside the fetus. These organs would not be able to function if the fetus were outside of the uterus.
- Between 10 and 12 weeks, the fetus begins to make small random movements. At 12 weeks, however, these movements are too slight to be felt by the woman.
- The mother's uterus shifts upwards a bit so it doesn't cause pressure to the bladder.
- Fatigue and nausea slowly decrease during this stage.



# 13 Week Old Baby

- All of the baby's teeth are formed and are stored in the gums. The teeth will start to come in when the baby is about four months old.
- The hair has started growing on the baby's head and is white because there isn't any pigment there.



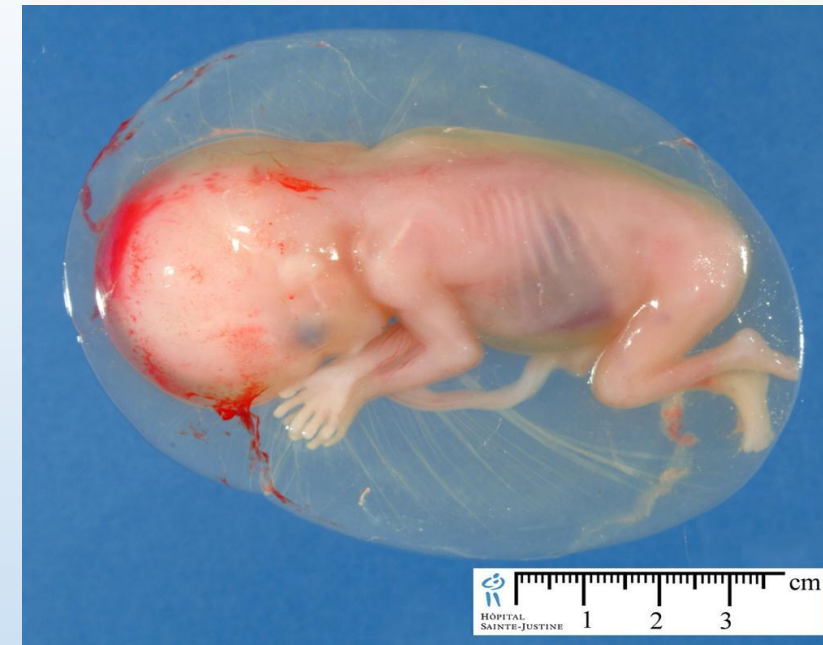
# 14 WEEKS

## BOY OR GIRL?

- The head of the fetus continues to be the largest feature. The eyes are now beginning to grow toward the front of the head and have lids.
- The bridge of the nose is also forming. The fetus now has 20 buds in place for baby teeth and can open and close its mouth as well as swallow.
- The external genitals have also been forming, and a doctor may be able to tell the sex of the fetus using a special test.
- The kidneys make urine, and blood begins to form in the bone marrow.
- Joints and muscles allow full body movement.
- The fetus now sleeps and wakes.

**LENGTH: 3 - 1/2 inches**

**WEIGHT: 1 – 1/2 ounces**





## LIMBS WELL-DEVELOPED

*15-16 WEEKS*

The legs of the developing fetus are becoming well defined. The head of the fetus is still large in comparison to other body parts and is now held erect.

- The skin appears transparent.
- A fine layer of hair has begun to grow on the head.
- Limb movements become more coordinated.

**LENGTH: 5 inches**

**WEIGHT: 4 ounces**



# 17-18 WEEKS

## KICKING AND SLEEPING

All of the body and facial features are now recognizable. The fetus can now grasp, move its mouth, and sleep.

The fetus has also begun to kick, although the pregnant woman most likely can still not feel the movement.

- Ears are now visible on the sides of the head.
- The skin is still transparent.
- Hair and nails begin to grow.

**LENGTH: 5 - 1/2 inches**

**WEIGHT: 8 ounces**





# 19-20 WEEKS

## DOWNY HAIR APPEARS

- By 20 weeks, fine, downy hair has begun to appear on the remainder of the body of the fetus.
- Functions associated with respiratory processes begin, although the lungs of the fetus are not yet fully developed.
- The exchange of oxygen and carbon dioxide is still done in the placenta at this point.
- At 20 weeks, the fetus cannot survive outside of the uterus.
- All organs and structures have been formed, and a period of simple growth begins.
- The skin is covered with vernix – a greasy material that protects the skin.
- By this time, the woman may feel the fetus moving.
- If an ultrasound is performed at this time, the parents may be told the sex.



# 21-22 WEEKS

## TURNING SIDE TO SIDE

At 22 weeks, the kidneys of the fetus are beginning to work and the air sacs of the lungs are continuing to develop.

- The skin and sweat glands begins development. The fetus now becomes more active and can turn side to side. The woman will continue to feel movement.
- The fetus has fingerprints.
- The fetus may suck its thumb and is more active.
- This is a time of extremely rapid brain growth.
- The fetal heartbeat can be heard with a stethoscope.
- There is little chance that a baby could survive outside the woman's body.

**LENGTH: 7 - 1/2 inches**

**WEIGHT: 1 pound**



Baby Rowan was born alive during a 22 week abortion done at a Florida abortion clinic that uses Digoxin injections to cause "fetal demise."