

The Second Trimester

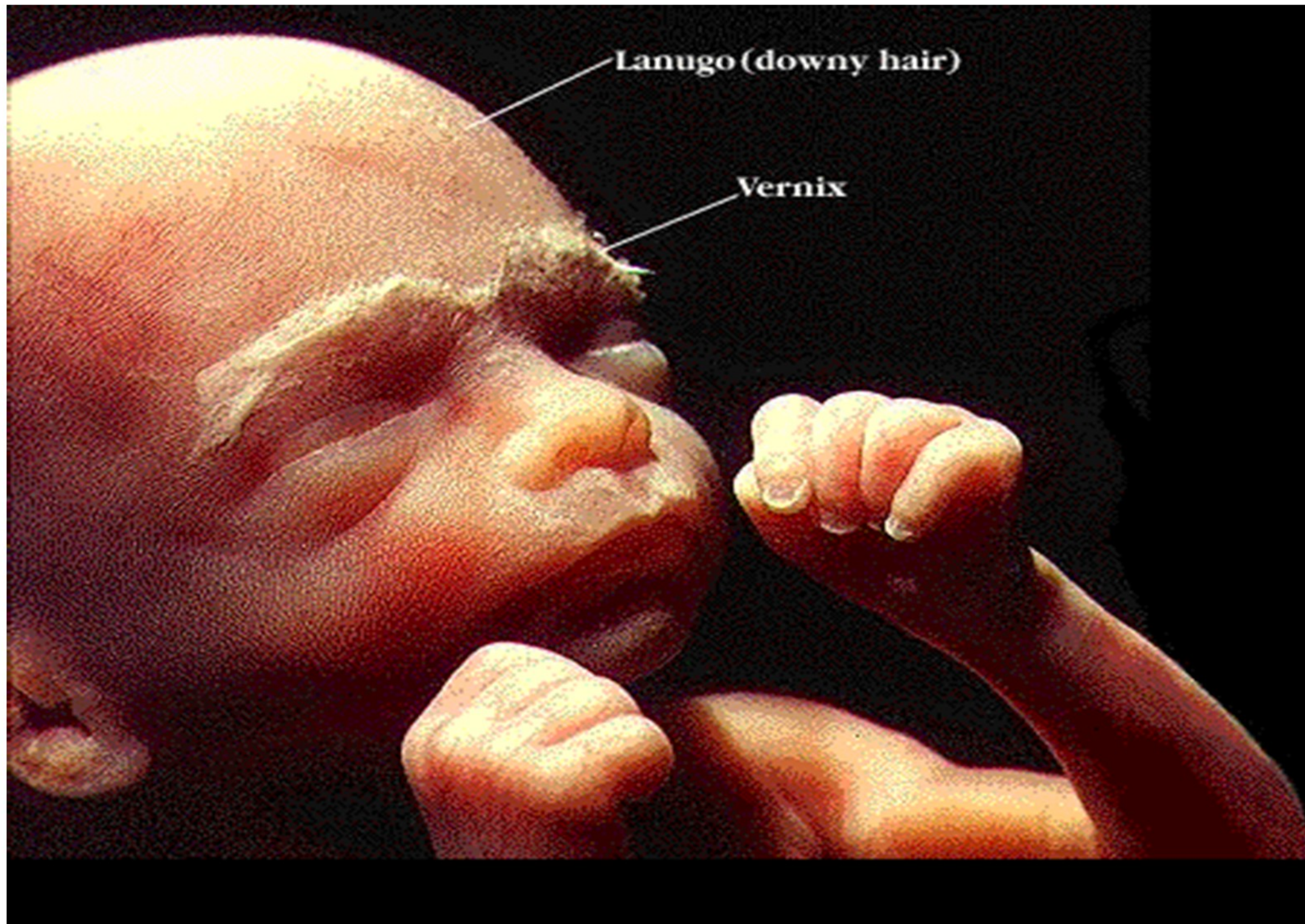
- **As we said before: from the end of the 2nd month up to the birth “fetal period” will be .**
- The following changes will occur during the second trimester:
- 1. There will be a decline in **hCG** secretion and finally the corpus luteum deteriorate.
- Placenta takes over the production of progesterone and estrogen to maintain the pregnancy.

- 2. Uterus grows and pregnancy becomes obvious.
- 3. Fetus is very active, movements of the fetus can be felt by the mother.
- 4. Head becomes half of the length of the body.
- 5. External genitalia are developed so we can distinguish the sex by the ultrasound imaging.
- 6. **Length** of the fetus 20 – 23cm
- **Weight** of the fetus $\leq 500\text{g}$

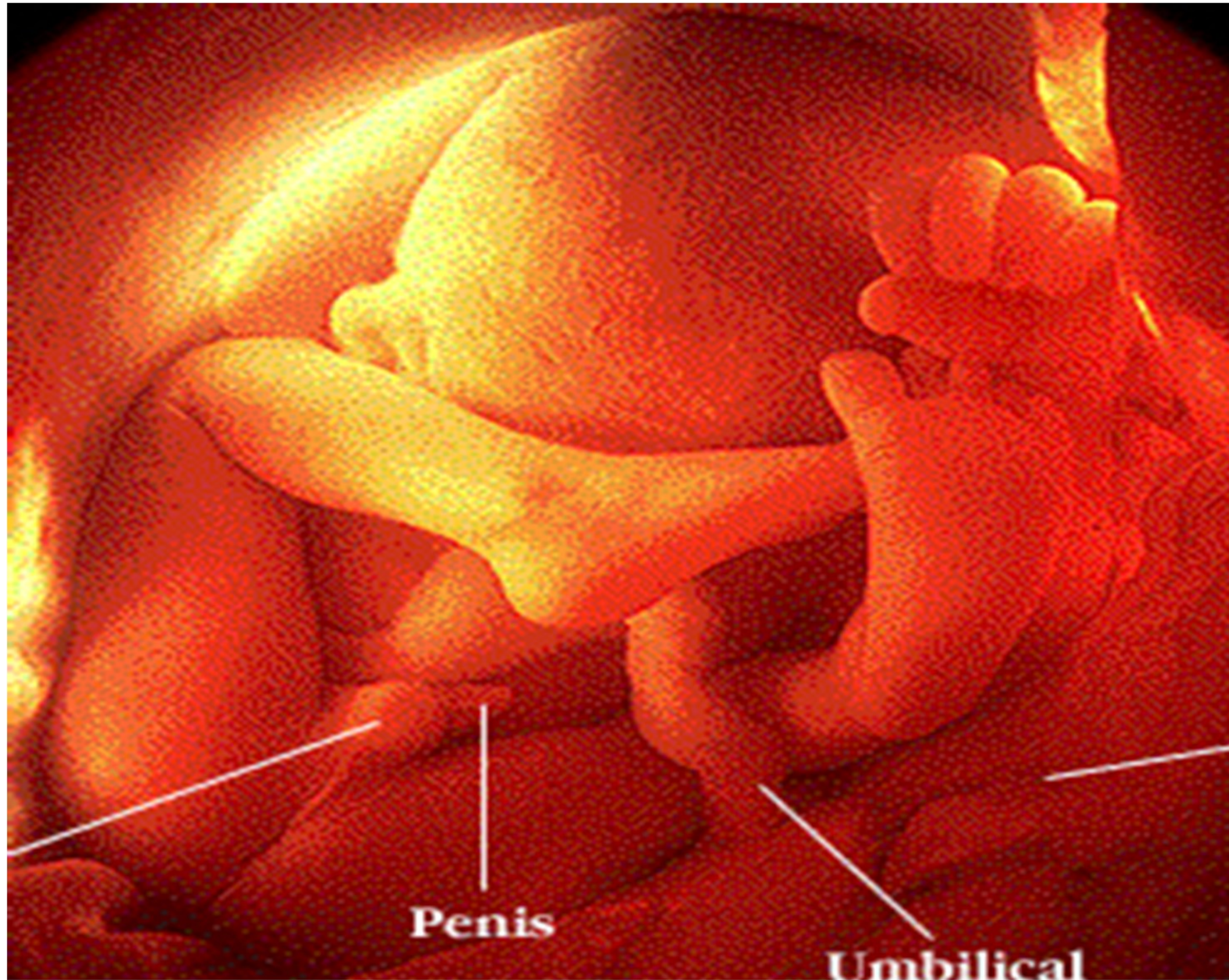
Four months fetus



Fifth month



sixth month



The Third Trimester

Month seven of Pregnancy

- At the end of the seventh month of [pregnancy](#), fat begins to be deposited on your baby. Your baby is about 36 cm long and weighs from about 900 - 1800g (two to four pounds). Your baby's hearing is fully developed and he or she changes position frequently and responds to stimuli, including sound, pain, and light.

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28 weeks



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Months Eight of Pregnancy

- The baby, who is now about 46cm long and weighs as much as about 2.27 kg (five pounds), will continue to mature and develop body fat reserves. You may notice that the baby is kicking more. Baby's [brain](#) is developing rapidly at this time, and he or she can see and hear. Most internal systems are well developed, but the [lungs](#) may still be immature.



Month Nine of Pregnancy

- Towards the end of the [third trimester](#), the baby continues to grow and mature. His or her lungs are nearly fully developed. Maternal antibodies are transferred toward the fetus, giving him temporary immunity. Your baby's reflexes are coordinated so he or she can blink, close the [eyes](#), turn the head, grasp firmly, and respond to sounds, light, and touch.

- The baby's position changes to prepare it self for labor and delivery. The baby drops down in the pelvis, and usually his or her head is facing down toward the birth canal.
- By the end of this pregnancy month, the baby is about **46- 51cm** long and weighs about **3.2kg** (seven pounds).
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Physiology of the placenta

- The **placenta** (also known as **afterbirth**) is an organ that connects the developing fetus to the uterine wall to allow:
 - 1. nutrient uptake.
 - 2. waste elimination.
 - 3. gas exchange via the mother's blood supply.
 - 4. fight against internal infection.

- 4. Produce hCG during the first trimester(indicator for pregnancy).
- 5. produce hormones to support pregnancy (progesterone & estrogen) during the second and third trimesters.
- Estrogen: increases up to maximum level at the end of pregnancy:
 - A. stimulates uterine growth
 - B. development of mammary glands.

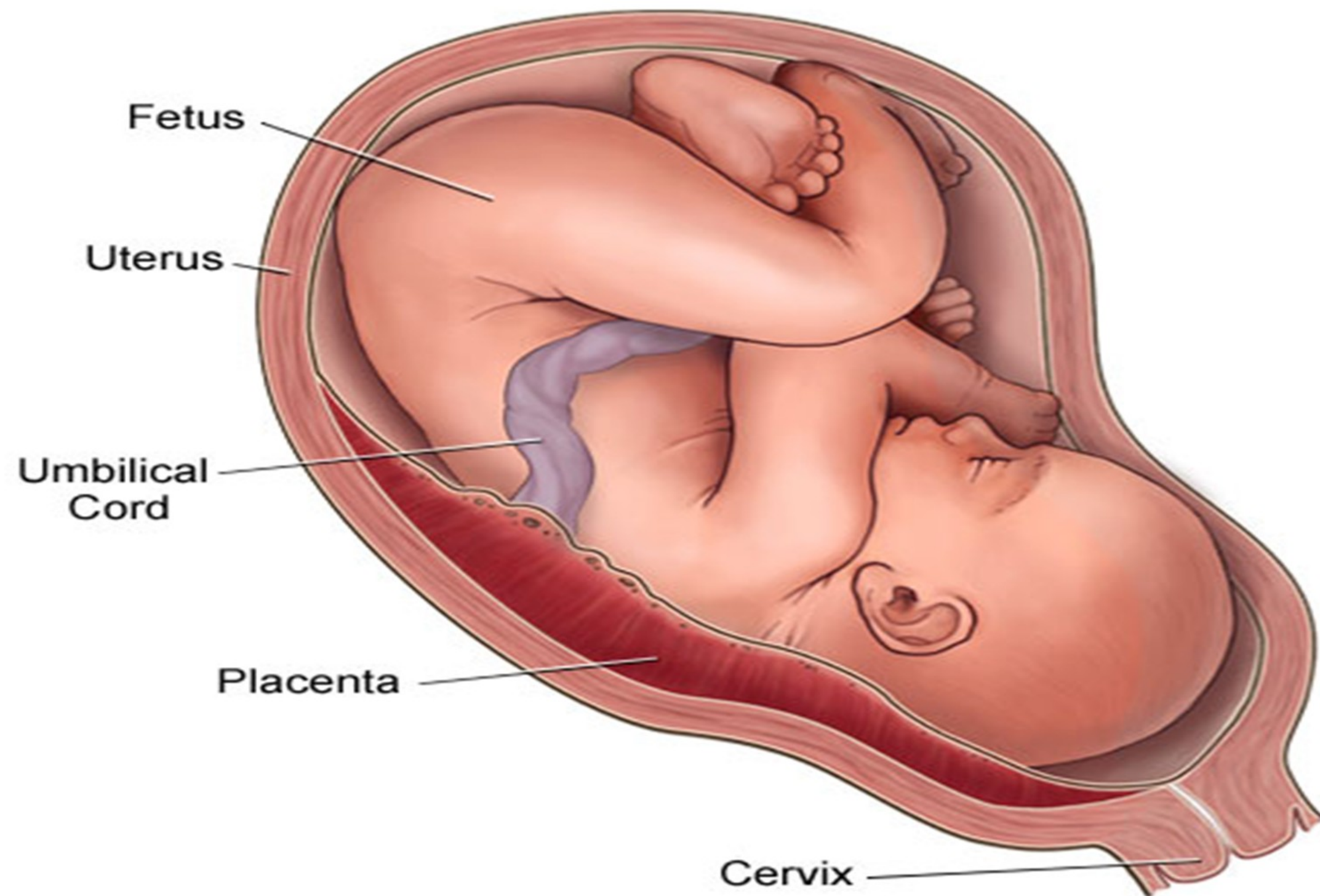
- 6. Secretes **Somatomammotropin**(placental lactogen):
 - a. It is a growth hormone like.
 - b. Gives the fetus the priority of maternal glucose & make the mother some what “Diabetogenic”.
 - C. Promotes breast development for milk production

- 7. Secretes **Oxytocin** hormone:
 - a. stimulates uterine muscles contraction during labor and birth.
 - b. eject milk from breast after birth.
- this type is secreted from the pituitary gland.
- 8. Secretes **Prostaglandins** during labor and birth.

- If the mother ingests any toxic substances, such as drugs or alcohol, the baby receives these as well through the placenta and the baby could be borne **addicted**.
- If the mother was infected with **AIDS**, the placenta can pass the virus and the baby born infected.



Marginal Placenta Previa





Amniotic Fluid during The Gestation Period

Amniotic fluid is a clear, watery, slightly yellowish liquid that surrounds the unborn baby (fetus) during pregnancy. It is contained in the **amniotic sac**. While in the womb, the baby floats in the **amniotic fluid**.

Functions of the Amniotic Fluid

- 1. Absorbs jolts.
- 2. Prevents adherence of the embryo to the amnion.
- 3. Allows fetal movements.

Sizes of AF during the 3 trimesters

- 30 ml at 10 weeks of gestation.
- 450 ml at 20 weeks of gestation.
- 800 – 1000 ml at 37 weeks of gestation.

The volume of the amniotic fluid is replaced **every 3 hours.**

- From the beginning of the 5th month of gestation, the fetus swallows its own amniotic fluid (**drink \approx 400 ml daily**)

