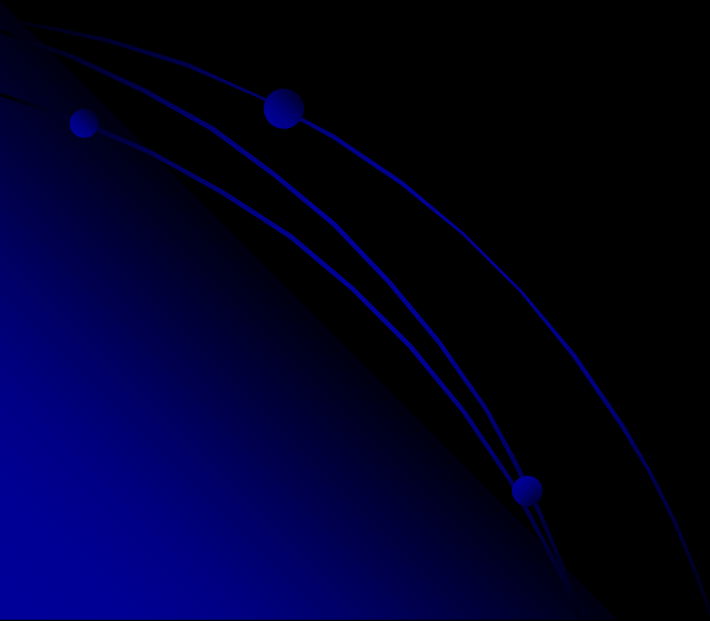


kuliah embriologi
KG\Pembentukan gig.mp4



PERKEMBANGAN EMBRIO

- 0-4 mg: fertilisasi, embrio berjalan dlm tuba, terbentuk bakal susunan syaraf, otk, pencernaan, telinga, tonjolan lengan, mata, hari ke 28 jantung mulai berdenyut
- 5-8 mg: lubang hidung, kelopak mata, hidung, gigi, jari tangan, tungkai, kaki, jari kaki, tulang, ovarium atau testes berkembang, sist kardiovaskuler, panjang: 22 mm

Human Development

It takes 40 weeks for a fertilized egg to develop into a human infant. This amazing process involves millions of events that occur in a precisely timed and orderly sequence.

- 1** Most organs have begun to form in this embryo, which is about 5 weeks old and 1 centimeter (cm) long. The embryo's heart—the dark, rounded structure in the photo—is beating. Notice that both the arms and legs are developing.



- 2** After 8 weeks, all body systems are present, and the embryo is called a fetus. Muscles move, the nervous system develops, and blood cell formation starts. This fetus is about 10 weeks old and weighs as much as an ordinary letter.



- 3** By 14 weeks, a fetus's hands, arms, legs, and feet have reached their birth proportions. Notice the well-developed eyes, nose, and ears. This fetus is about 6 cm long.



- 4** By 22 weeks, a fine downy hair—including eyebrows—and a waxy substance covers the body. The fetus is about 30 cm long and has regular sleep patterns. When awake, the fetus is active, and the mother can feel the movement.



- 5** By 32 weeks, the fetus is fully developed. The bones have hardened, and the lungs and heart are ready for breathing air. As the fetus grows and runs out of space, it becomes less active. At birth, after 40 weeks, the average baby weighs 3.4 kilograms (kg).

PERKEMBANGAN JANIN

- 9-12 mg: sejak minggu ke 9 embrio menjadi janin, penis, dagu, struktur muka mulai tampak, kepala dominan, panjang 36 mm
- 13-16 mg: mengejapkan mata, menghisap, tumbuh dengan cepat, ibu merasakan aktifitas janin, panjang: 140 mm.

PERKEMBANGAN JANIN

- 17-20 mg: anggota badan proporsional, kening mata, panjang badan: 190 mm
- 21-30 mg: berat badan terus bertambah, kulit berkerut, berwarna merah, panjang: 280 mm
- 30-40 mg: kuku jari tangan dan kaki mulai tumbuh, panjang badan: 360 mm

Fetal Period

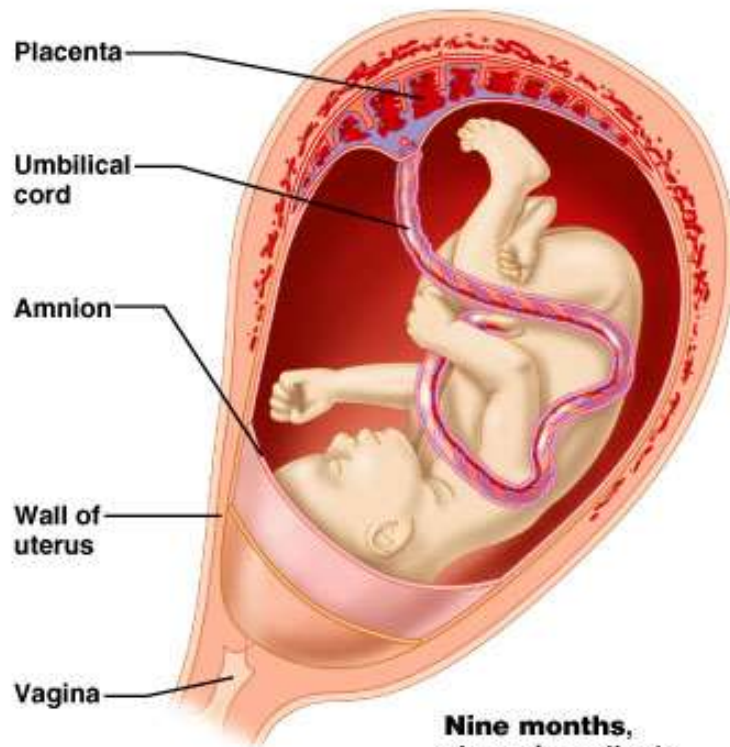
Duration: Weeks 9 to 38 after conception (or until birth).

Major fetal events: Organs grow in size and complexity.



18.5 cm

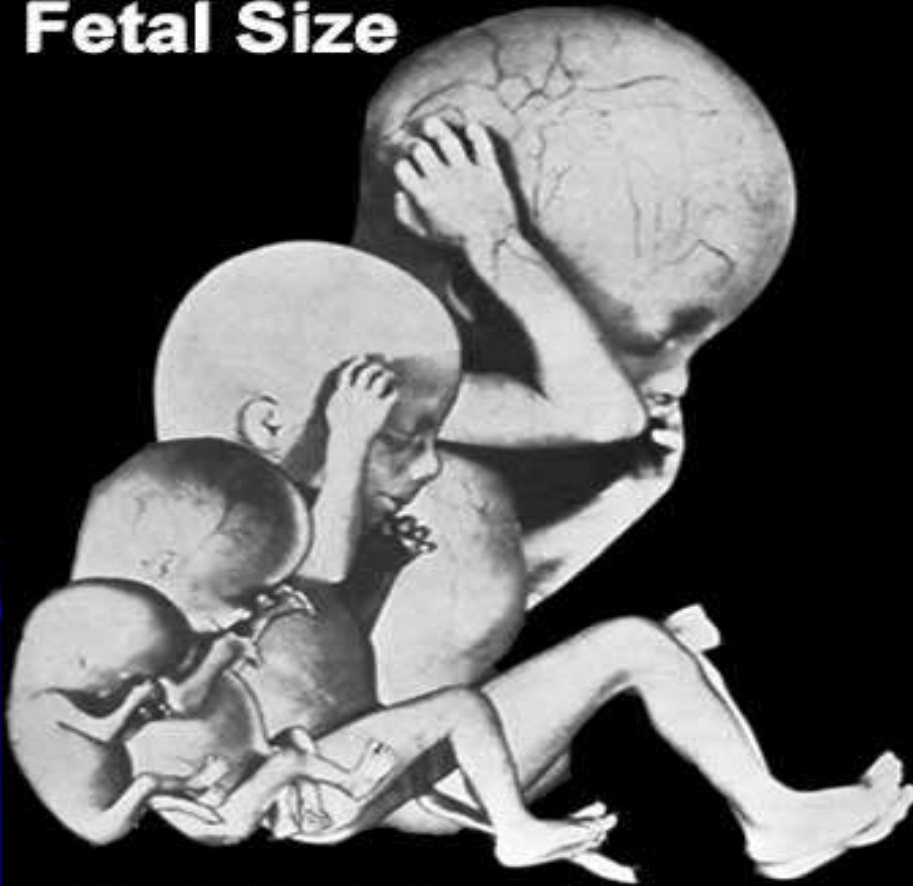
20-week fetus



Nine months, shown in mother's womb (uterus)

Perkembangan janin (bulan ke3 –aterm)

Fetal Size

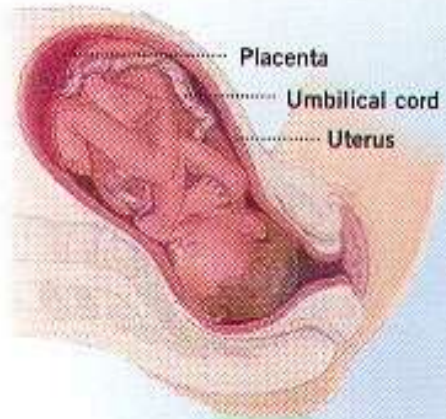


44 66 93 126 mm CRL
3 months 5 months



Human Birth

During a normal birth, a baby is delivered headfirst through the vagina. The muscles of the uterus contract to push the baby out.



PLASENTA DAN TALI PUSAT

- Plasenta adalah organ embrio yang berfungsi sebagai alat: pernapasan, nutrisi dan ekskresi
- Darah janin dan darah ibu tidak pernah bercampur
- Tali pusat mengandung: 2 arteri dan 1 vena
- Setelah 270 hari setelah fertilisasi janin sudah siap untuk menjalani proses persalinan dan hidup diluar rahim

Faktor yang mempengaruhi organogenesis & perkembangan janin

- **Environmental Abnormalities**
relate to lifestyle, infection, maternal health and nutrition.
- **Infections (TORCH: Toxoplasmosis, Other organisms (parvovirus, HIV, Epstein-Barr, herpes 6 and 8, varicella, syphilis, enterovirus), Rubella, Cytomegalovirus and Hepatitis.**
Infections can also lead to Maternal Hyperthermia, which has also been shown in animal models to be a potent teratogen.
- **Maternal drugs effects :**
 - alcohol (fetal alcohol syndrome),
 - smoking, p
 - rescription drugs (therapeutic chemicals/agents, **thalidomide** limb development),
 - non-prescription drugs (smoking, herbal),
 - and illegal drugs (Cannabis/Marijuana, Methamphetamine/Amphetamine, Cocaine, Heroin, Lysergic Acid Diethylamide)

Terima kasih

