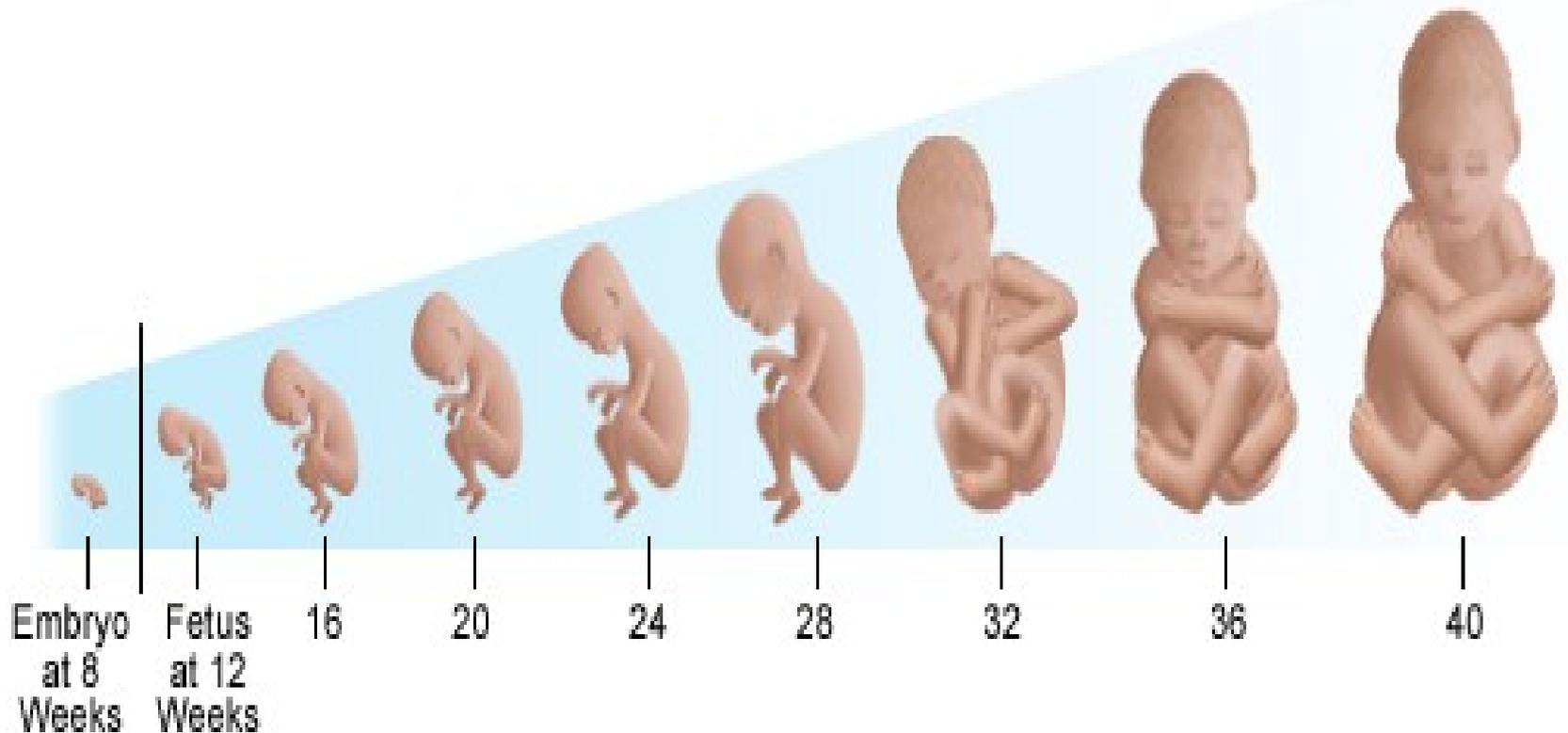


Development of a Fetus

Fetal Growth From 8 to 40 Weeks



Fetal Period

- From 8-9 weeks to Birth
 - Less vulnerable
 - Organs & external structure present
 - From now on a process of maturing, refining and perfecting!
- First Half
 - Continued growth and development, weight same
- Second Half
 - Weight increases

1 - 4 weeks: First Lunar Month

- Implantation
- Germ layers develop
- Heart prominent and begins to pulsate
 - 2 chambered
- Arm and leg buds
- Brain visible

5 - 8 weeks: Second Lunar Month

- Organogenesis completed by week 8
- Heart Formed completely by end of wk 8/start of week 9
 - Fetal circulation truly established
- Face develops
- Limbs recognized
- Largest organ: Brain

9 - 12 weeks: Third Lunar Month



Week 10

- End of 1st Trimester
- Head 1/3-1/2
- Begin to note sex by wk 12
- FHT with Doppler
- Kidney secretion by end of wk 9

13 - 16 weeks: Fourth Lunar Month

- Lanugo on head develops

Week 14

- “Quickening”

- GI development

- Sucking motions
- Swallows amniotic fluid
- Meconium present at 16 wks



17 - 20 weeks: Fifth Lunar Month



5 mos

- Prominent Lanugo
- Brown fat deposits
 - Skin less thin
- Vernix Caseosa
- Nails growing slowly
- Regular habits
 - Sleep, suck, kick

21 - 24 weeks: Sixth Lunar Month

- Fetal respiratory movements
- Substantial weight gain
- Eyebrows/Eyelashes

25- 28 weeks: Seventh Lunar Month



28 weeks

- End of 2nd trimester is at end of wk 26
- Surfactant production
- Eyelids reopen
- Testes descend in males
- Respiratory & circulatory system

29 - 32 weeks: Eighth Lunar Month



- Subcutaneous fat deposits
- Mineral storage in bones
- Sounds/stimuli/light response

33 - 36 weeks: Ninth Lunar Month



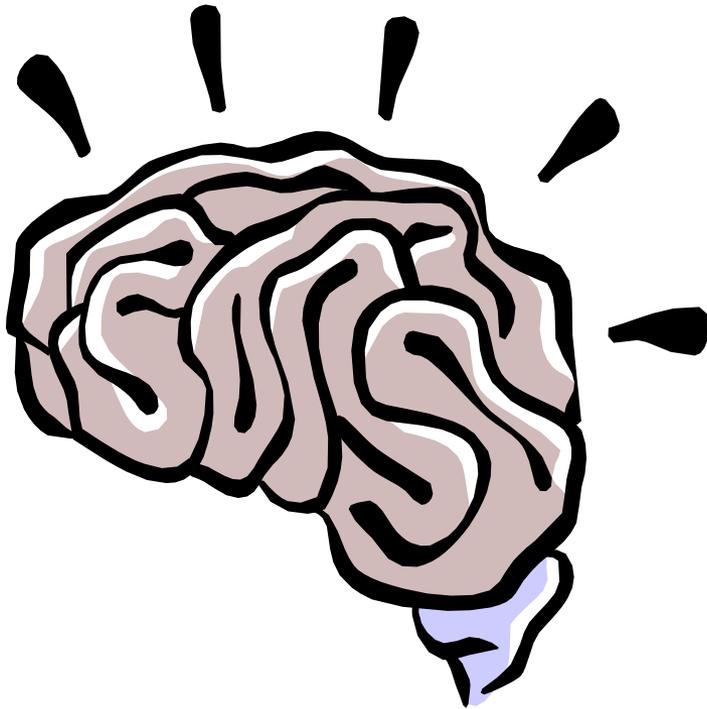
∇ ↑ fat deposits

- Body is rounded and plump
- Lanugo decreasing
- Preparing for the world!

37 - 40 weeks: Tenth Lunar Month

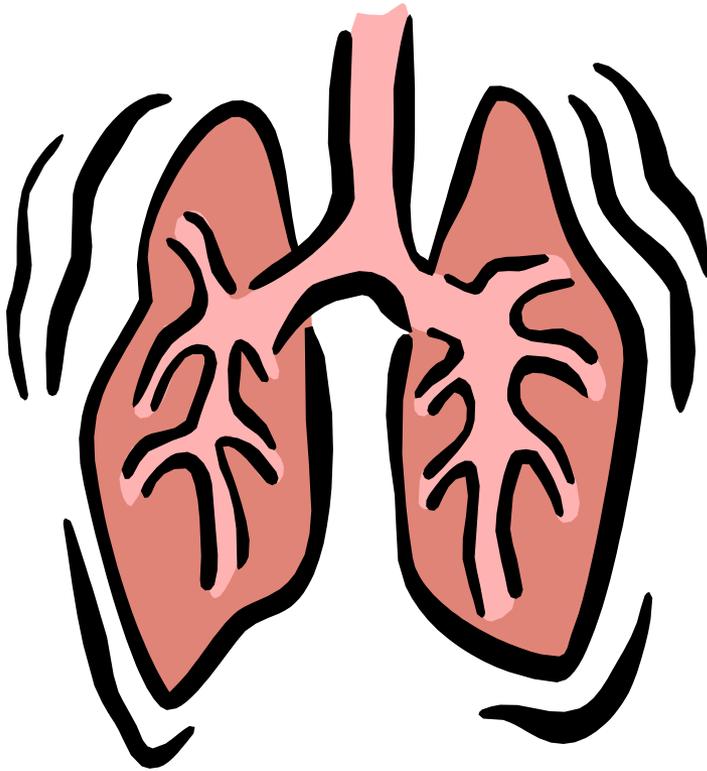
- Considered full term
 - 37 wks after conception
- Fetus totally fills uterus
- Acquires antibodies from mother- IgG crosses the placenta and IgM is produced by the fetus by the end of the first trimester

Fetal Nervous System



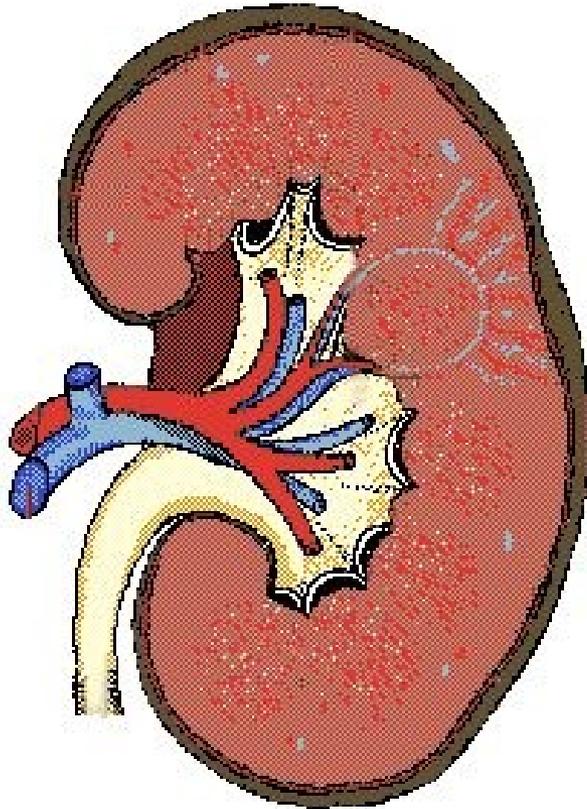
- First to appear and last to mature
- Reflex activity by wk 8
- Grows rapidly
- Sensory and motor nerves develop and function

Fetal Respiratory System



- Continuous stage of maturing from embryonic life to childhood
- Lungs mostly sufficient to support extrauterine life after 32 wks gestation

Fetal Urinary System



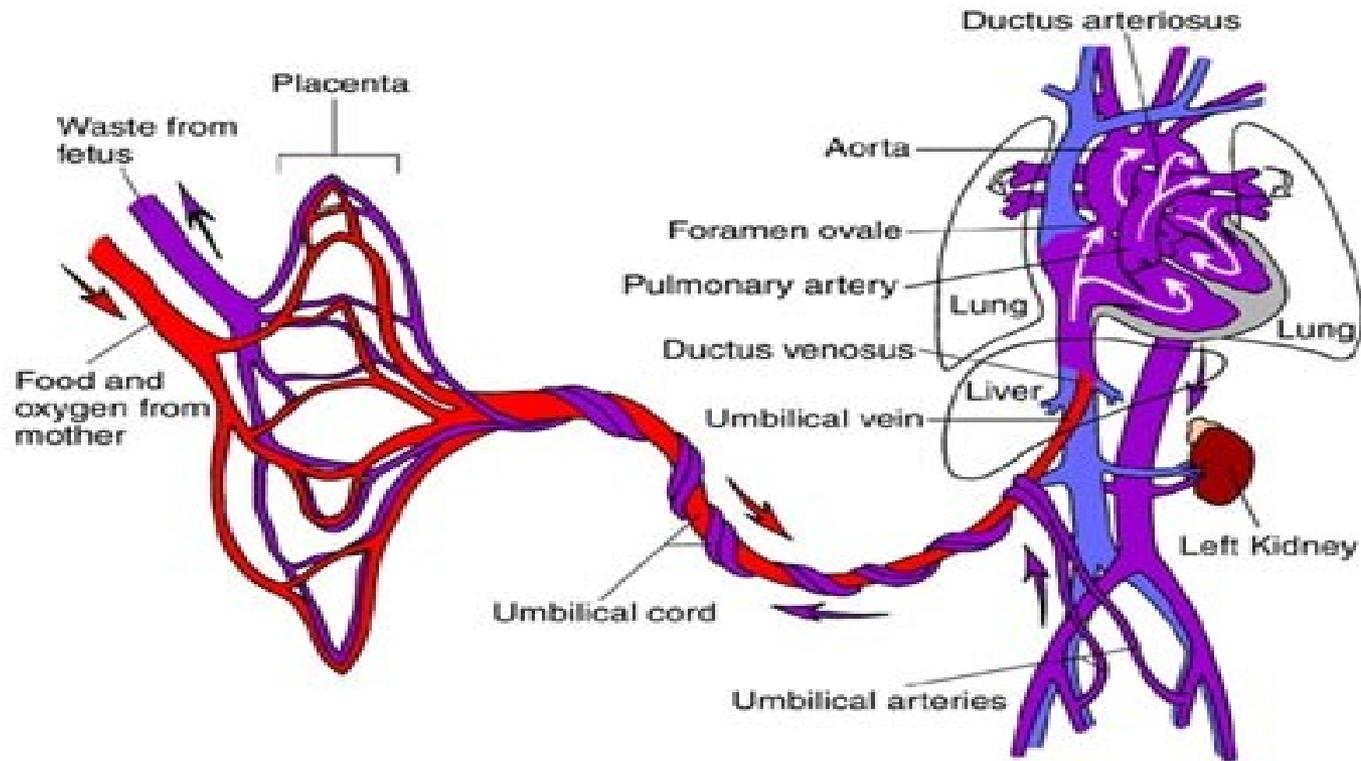
- Develop around week 5
- Urine secretion begins wk 9 into amniotic fluid
- Placenta=functions as kidneys until birth of fetus

Fetal Gastrointestinal System

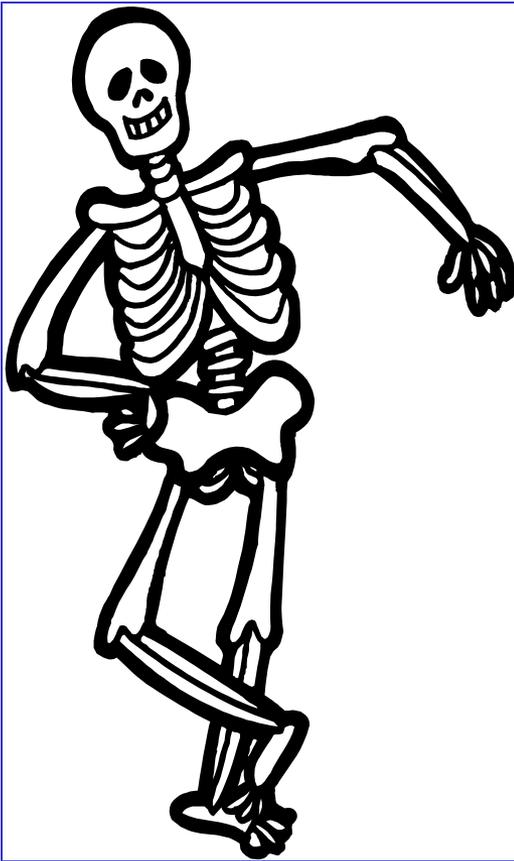
- Fetal nutrition and elimination taken care of by the placenta until birth
- GI system mature around 36 wks with digestive enzymes
- Bowels empty after birth (1st stool-meconium)

Fetal Circulatory System

Fetal Circulation



Fetal Musculoskeletal System



- Continuous skeleton without joints at wk 6
- Ossification in utero until childhood
- Muscles contract spontaneously around week 7