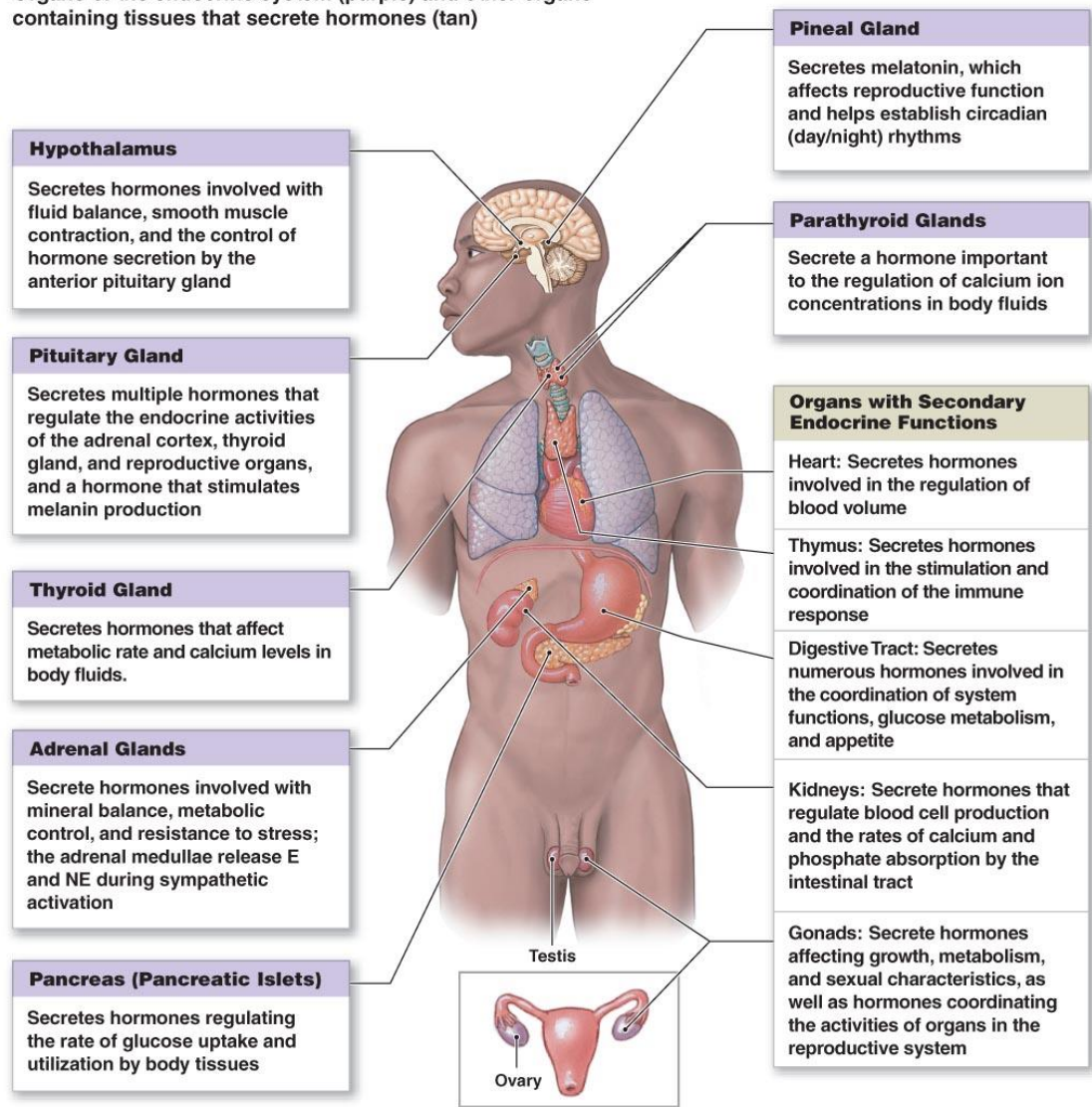


# Chapter 19: Hormones & Reproduction



# The Endocrine System

Organs of the endocrine system (purple) and other organs containing tissues that secrete hormones (tan)



- Produces chemical messengers called

that control body activities

# How It Works

- Endocrine glands produce and/or release hormones
- 
- 

- \_\_\_\_\_ turn on, turn off, speed up, or slow down body organs & activities.



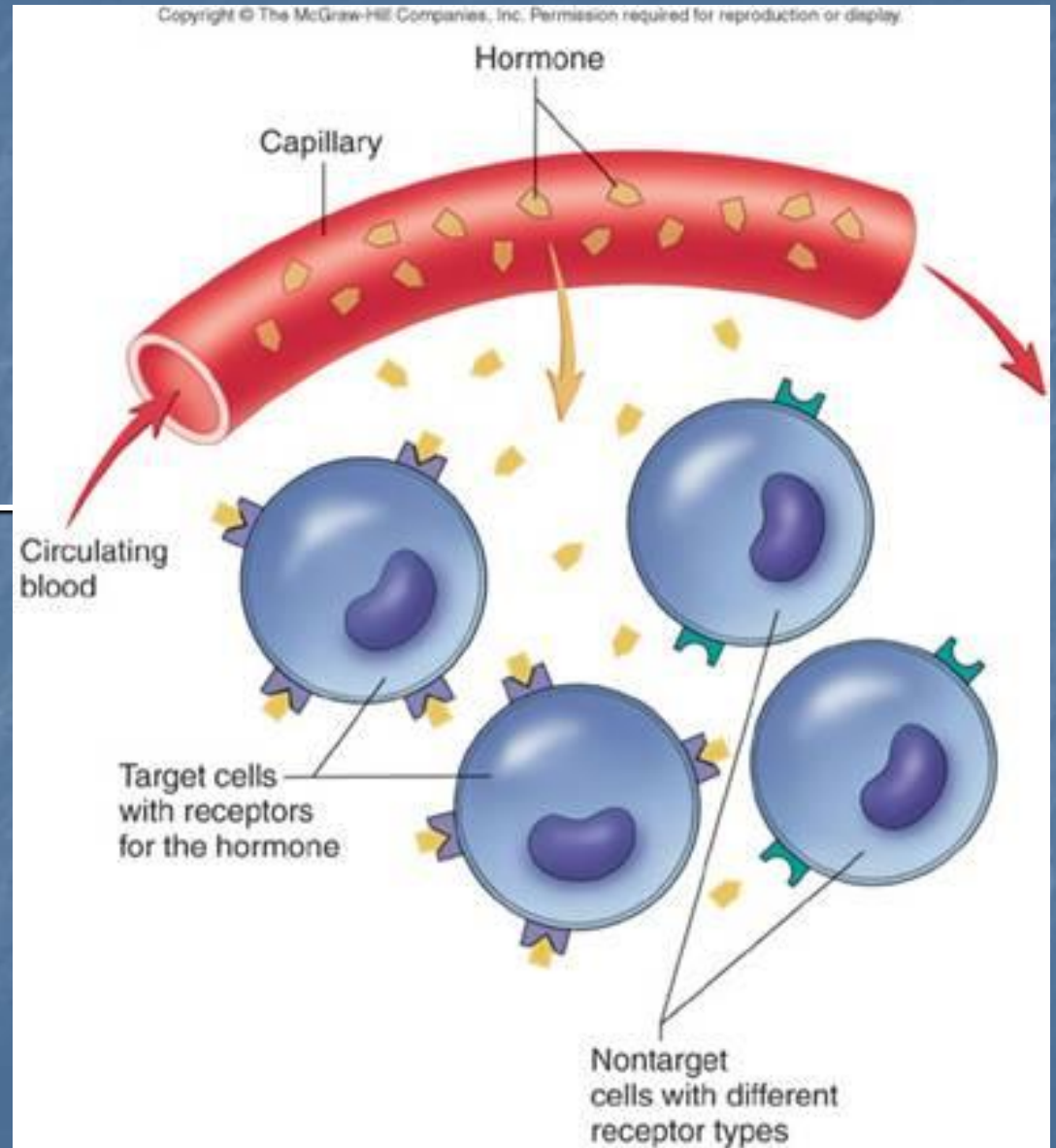
# For Example

- You see a burglar
- Nerve impulse to brain
- Brain sends impulse to adrenal glands to release adrenaline
- Heart and breathing rates increase

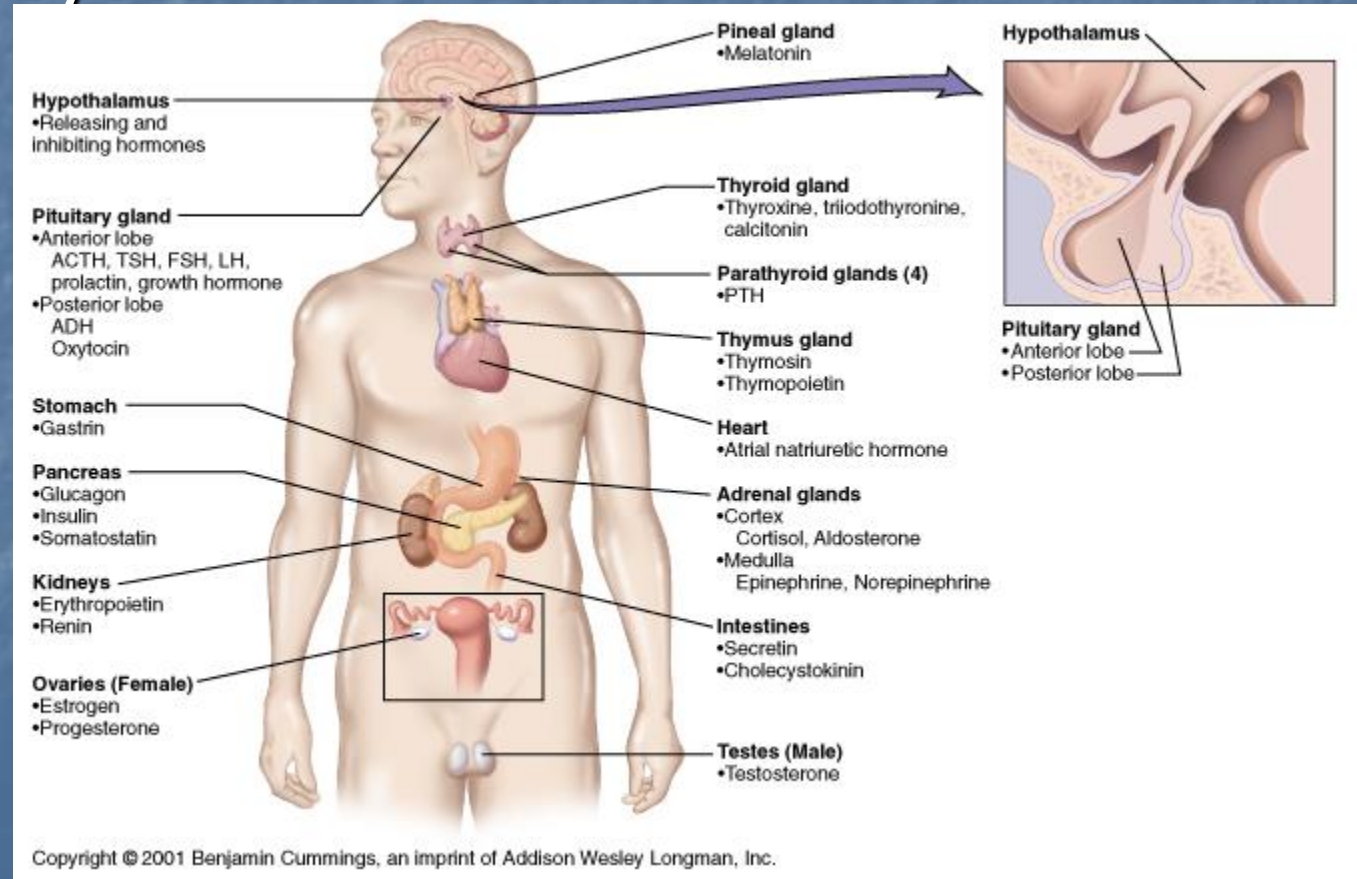


# How Does It Know?

- Hormones only interact with
- 
- 



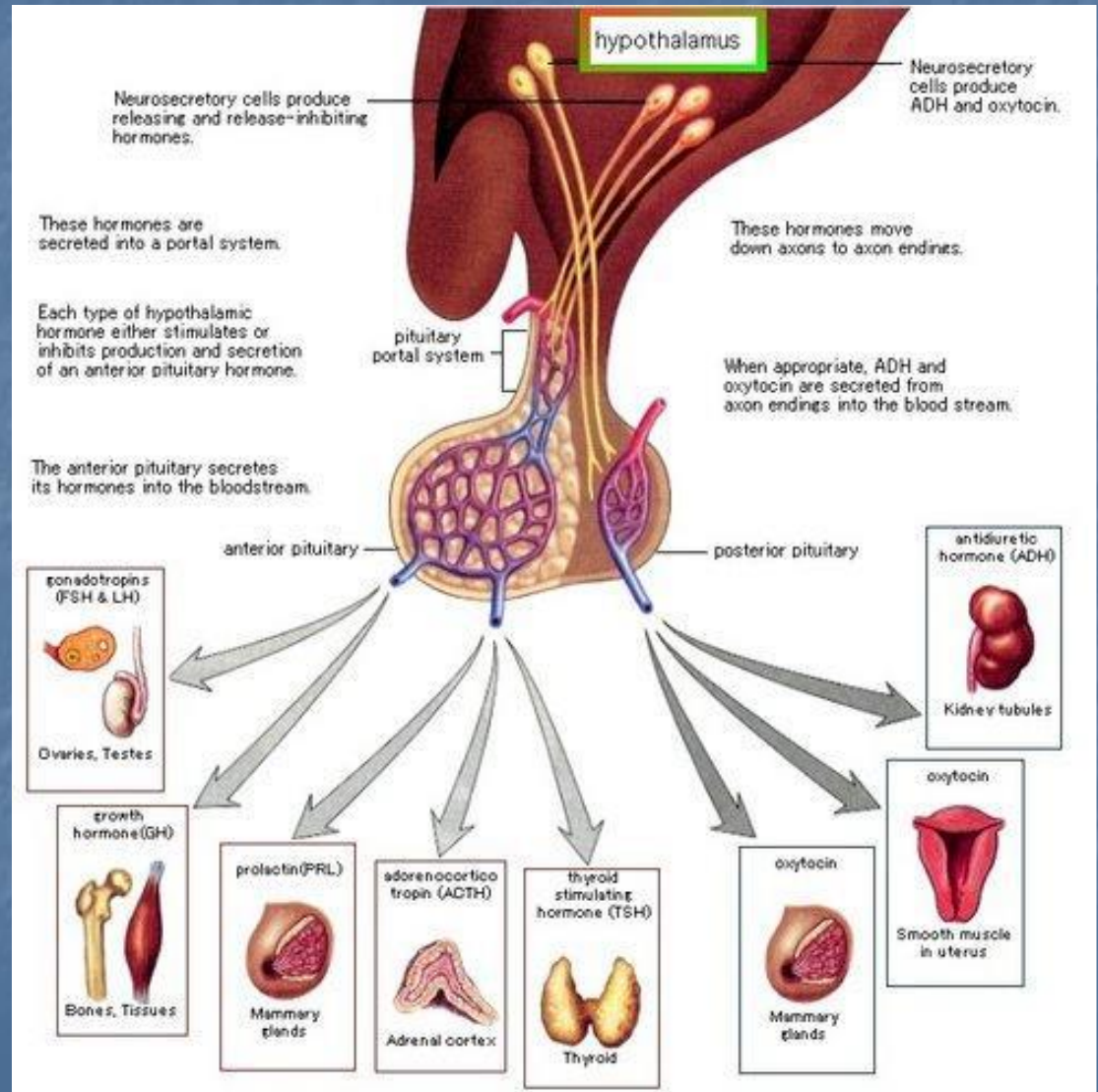
# ■ Links Nervous System to Endocrine System



# Pituitary Gland

“ ”  
that regulates

- metabolism (thyroid)
- growth (bones)
- puberty (gonads)
- water regulation (kidneys)



# Negative Feedback

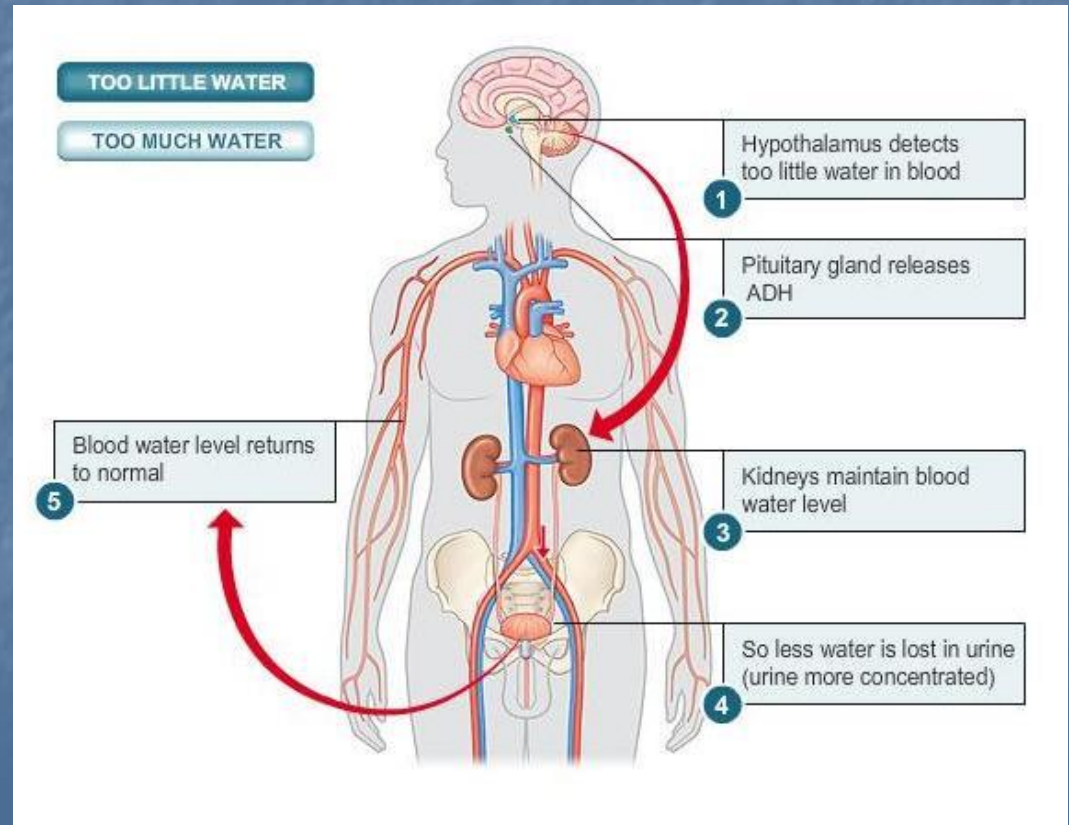
- When levels

\_\_\_\_\_/  
endocrine system  
signals to

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





# Puberty “Wake Up” Hormones

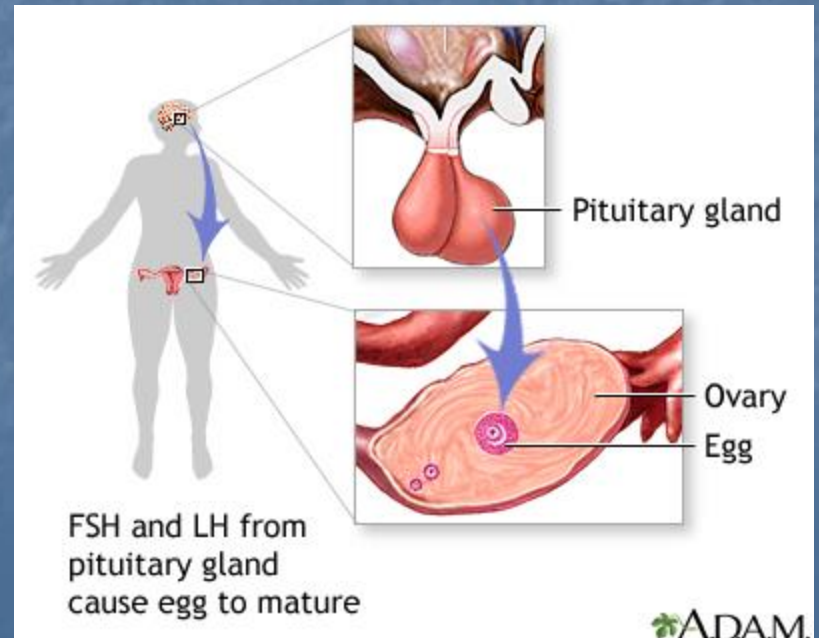
- Follicle Stimulating Hormone (FSH) from pituitary

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- Luteinizing Hormone (LH), also from pituitary, signals

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- Both rise and fall together during menstrual cycle



# Sexual Reproduction

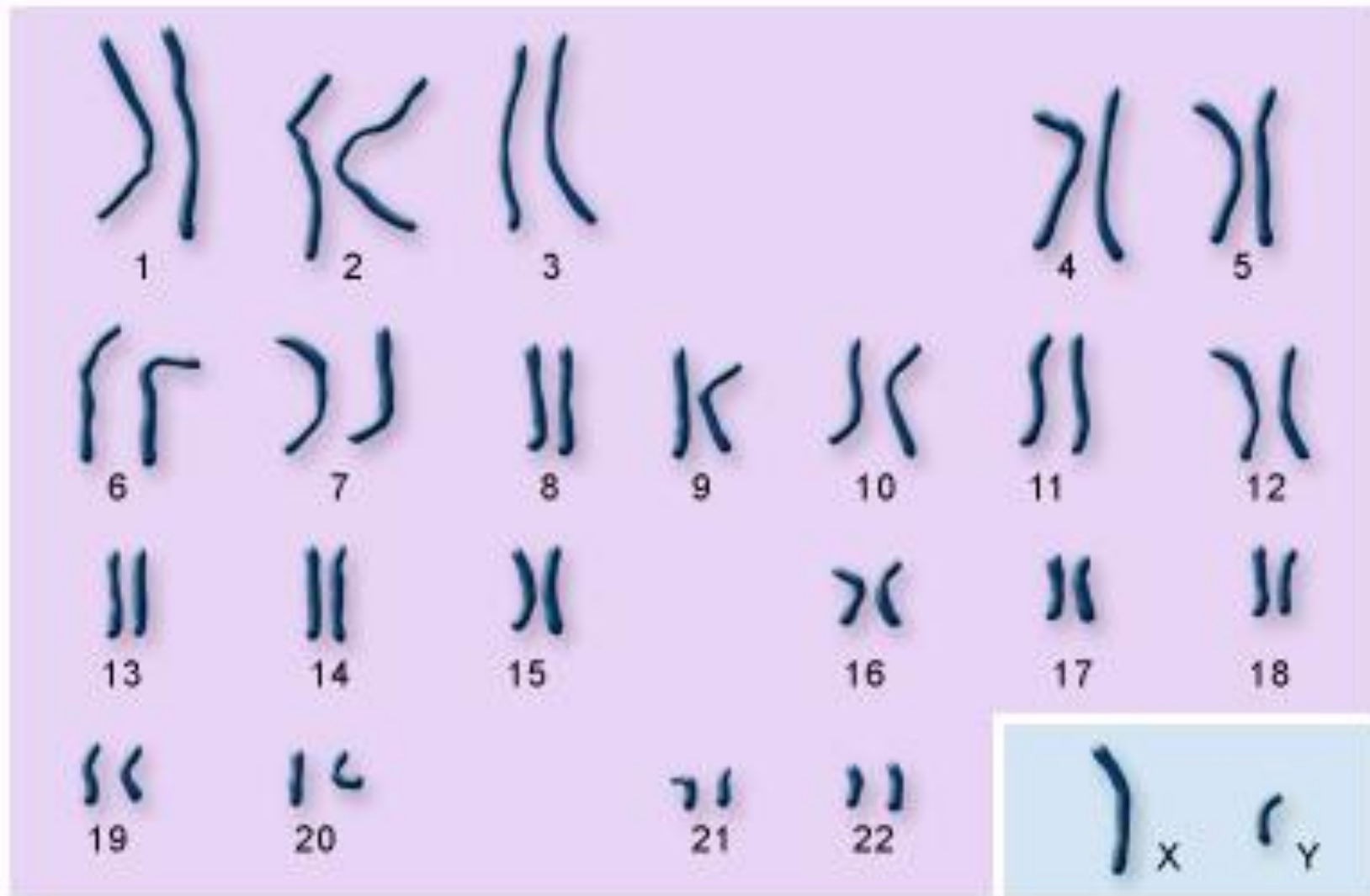
- Egg – female sex cell
- Sperm – male sex cell
- \_\_\_\_\_ – joining of sperm & egg
- Zygote – \_\_\_\_\_



# Chromosomes

- Found in nucleus
- Contain DNA
- Gametes (sperm & egg) carry  $\frac{1}{2}$  genetic code
- When combined make a whole – YOU!





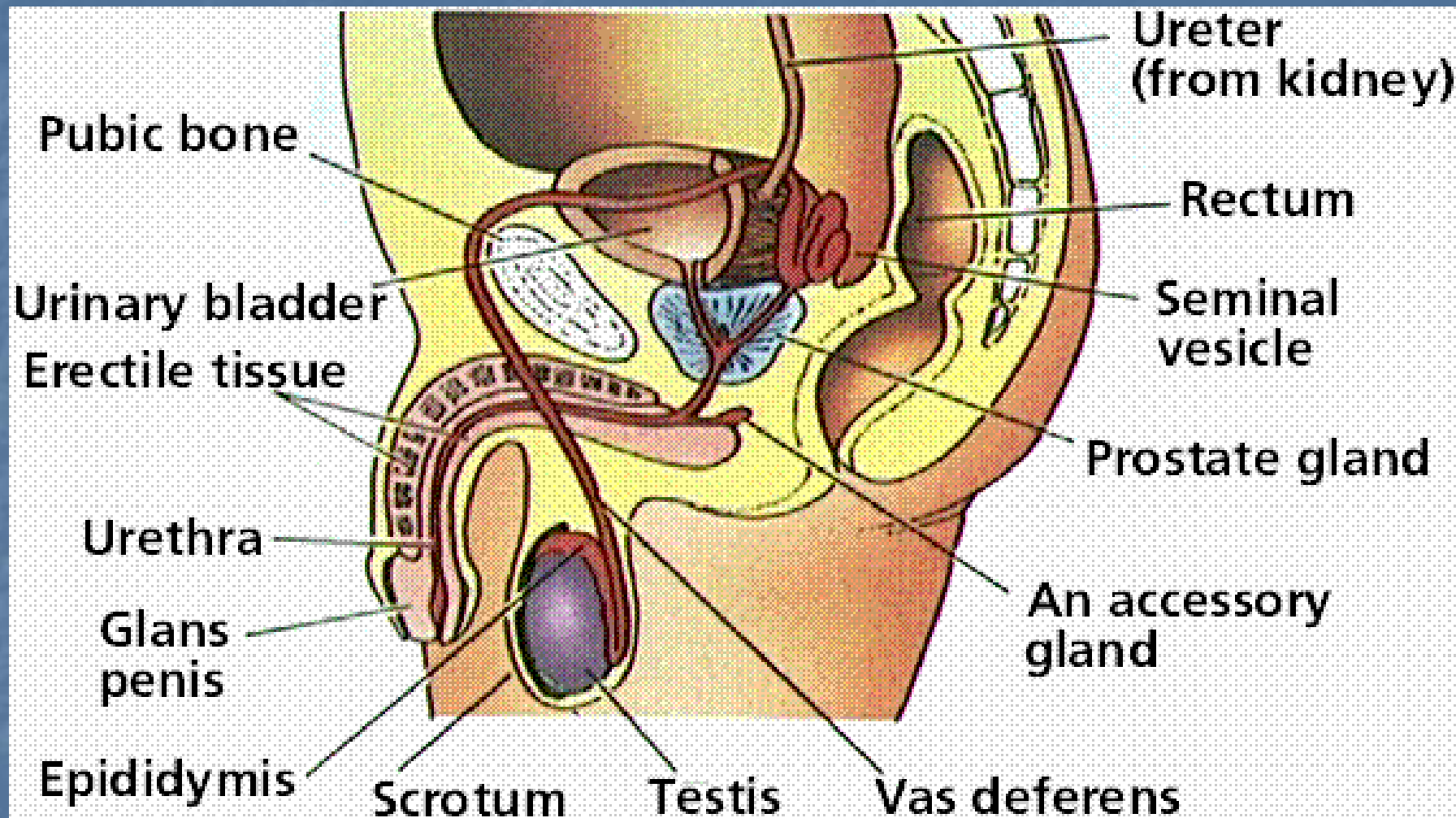
autosomes

sex chromosomes



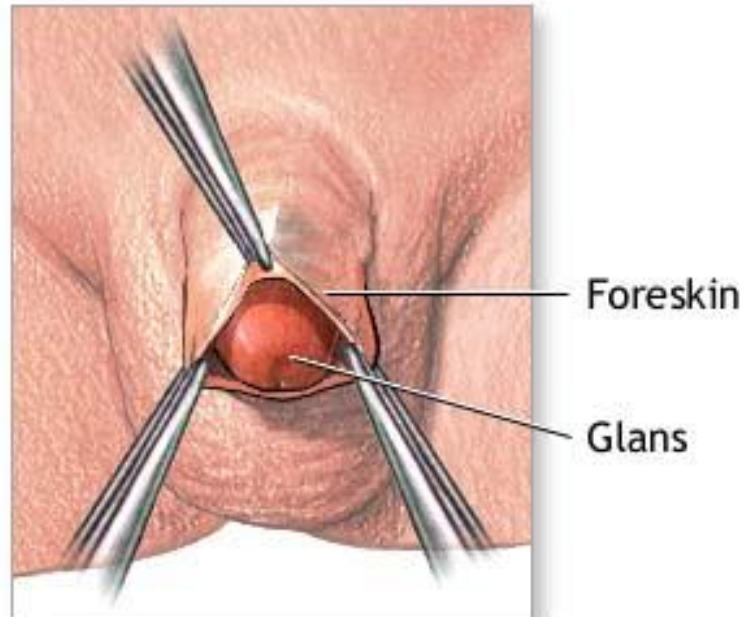
# Male Reproductive System

- Produces \_\_\_\_\_  
\_\_\_\_\_
- 2 testes produce sperm
- Testes protected in \_\_\_\_\_ (external sac)
- \_\_\_\_\_ mix with \_\_\_\_\_ to form semen
- \_\_\_\_\_ when semen leaves the body thru \_\_\_\_\_ of penis



# Circumcision

- Removal of \_\_\_\_\_ on penis

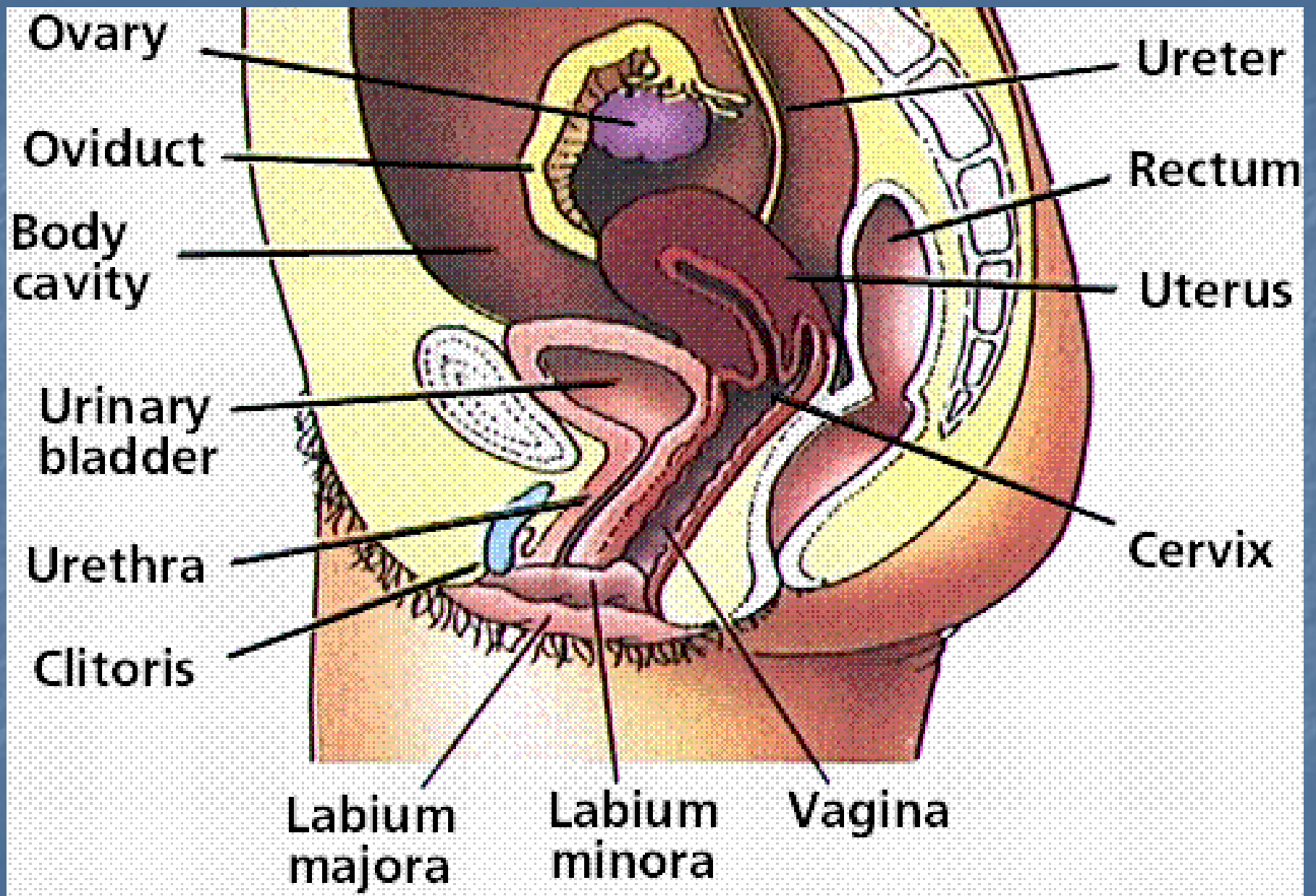


# Female Reproductive System

- To produce eggs, \_\_\_\_\_, and nourish a developing baby until birth
- 2 \_\_\_\_\_ house eggs
- Egg \_\_\_\_\_
- \_\_\_\_\_ tubes lead to uterus
- Base of the uterus is the \_\_\_\_\_ [\(a common site of cancer in women: story of Henrietta Lacks\)](#)
- \_\_\_\_\_ to outside of body

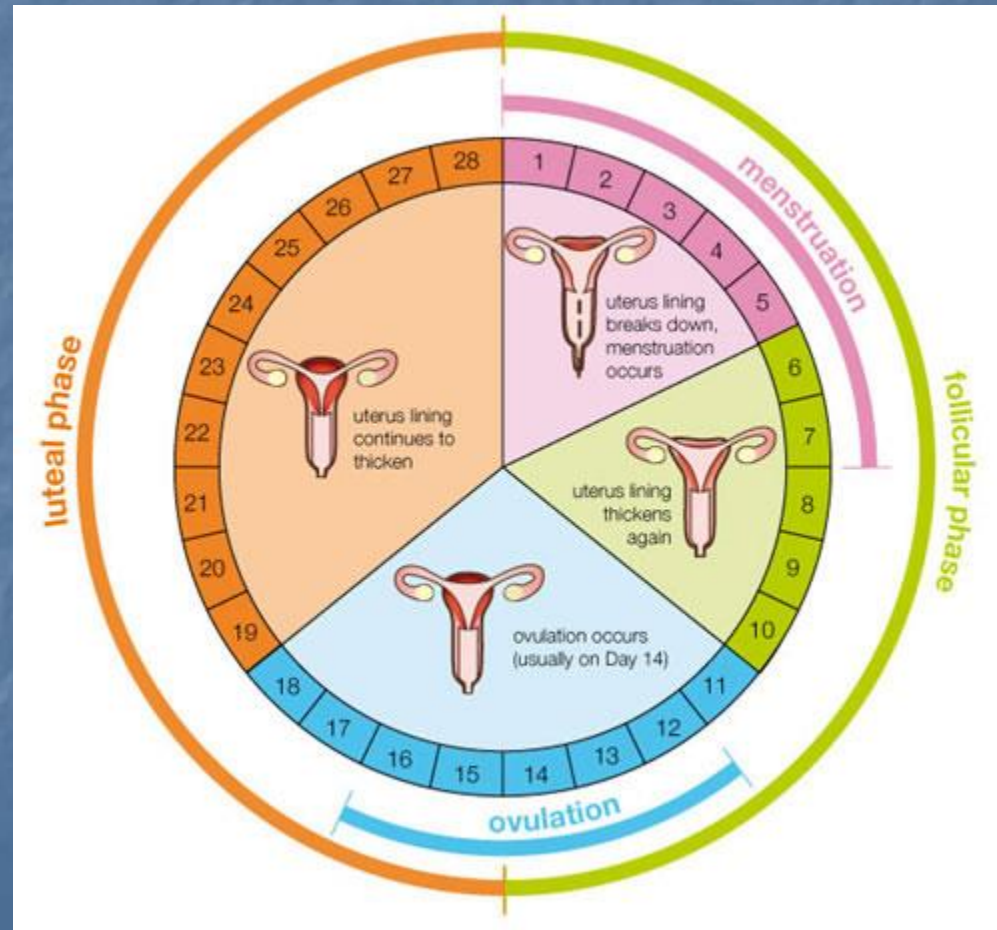






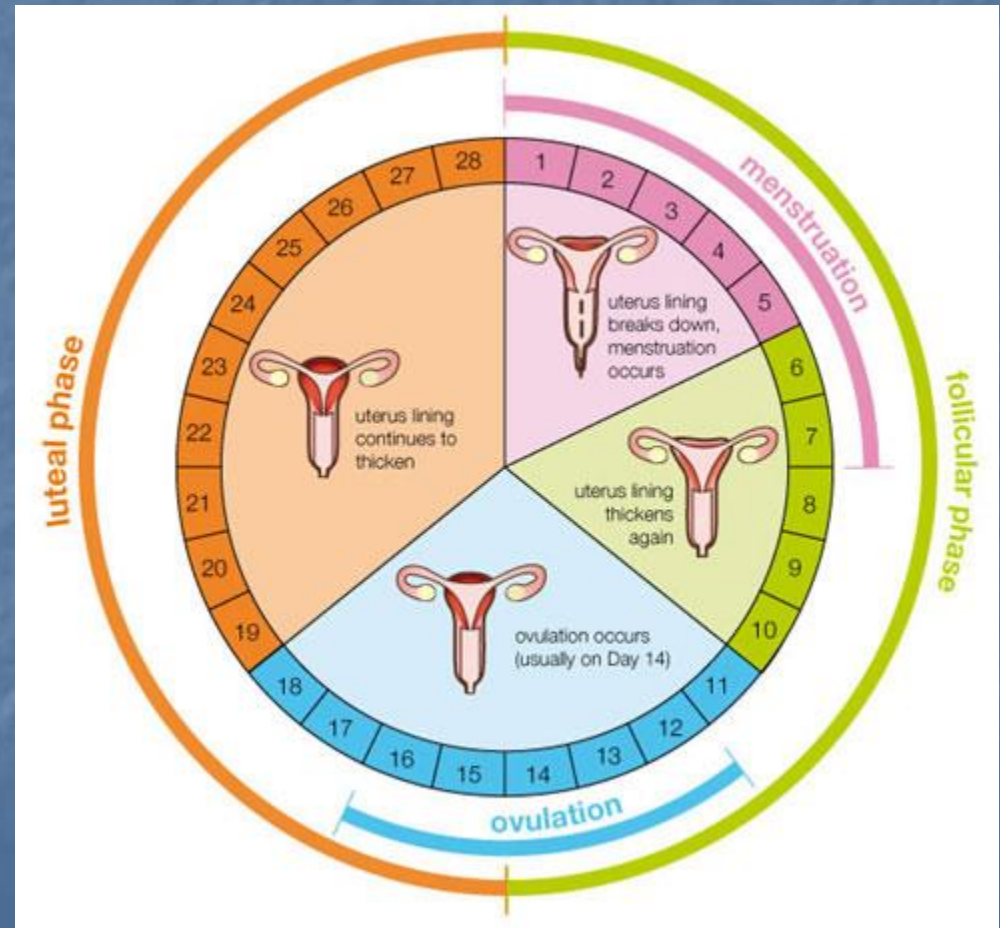
# The Menstrual Cycle (about 28 days)

- An egg matures in an \_\_\_\_\_
- Lining of uterus begins to thicken
- During \_\_\_\_\_ a mature egg is released while cervical mucus thins



# The Menstrual Cycle (about 28 days)

- If egg not fertilized in a few days, will break down (along with uterine wall)
- \_\_\_\_\_  
Thickened lining passes out of body for 4 – 6 days
- Another egg begins to mature





# What About the Egg?

- Fertilization? = Pregnant
- No Fertilization? = Menstruation



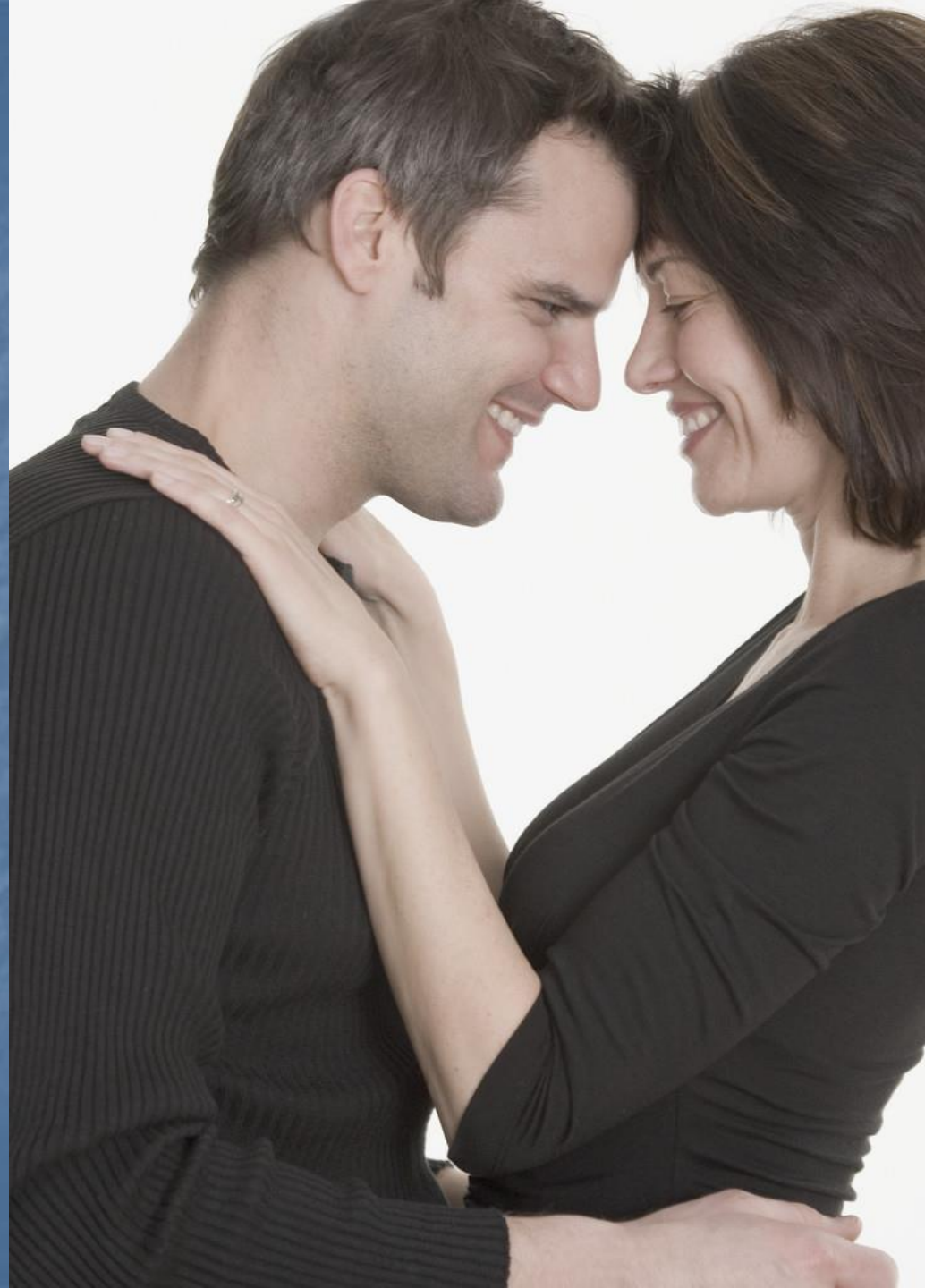
# Human Development

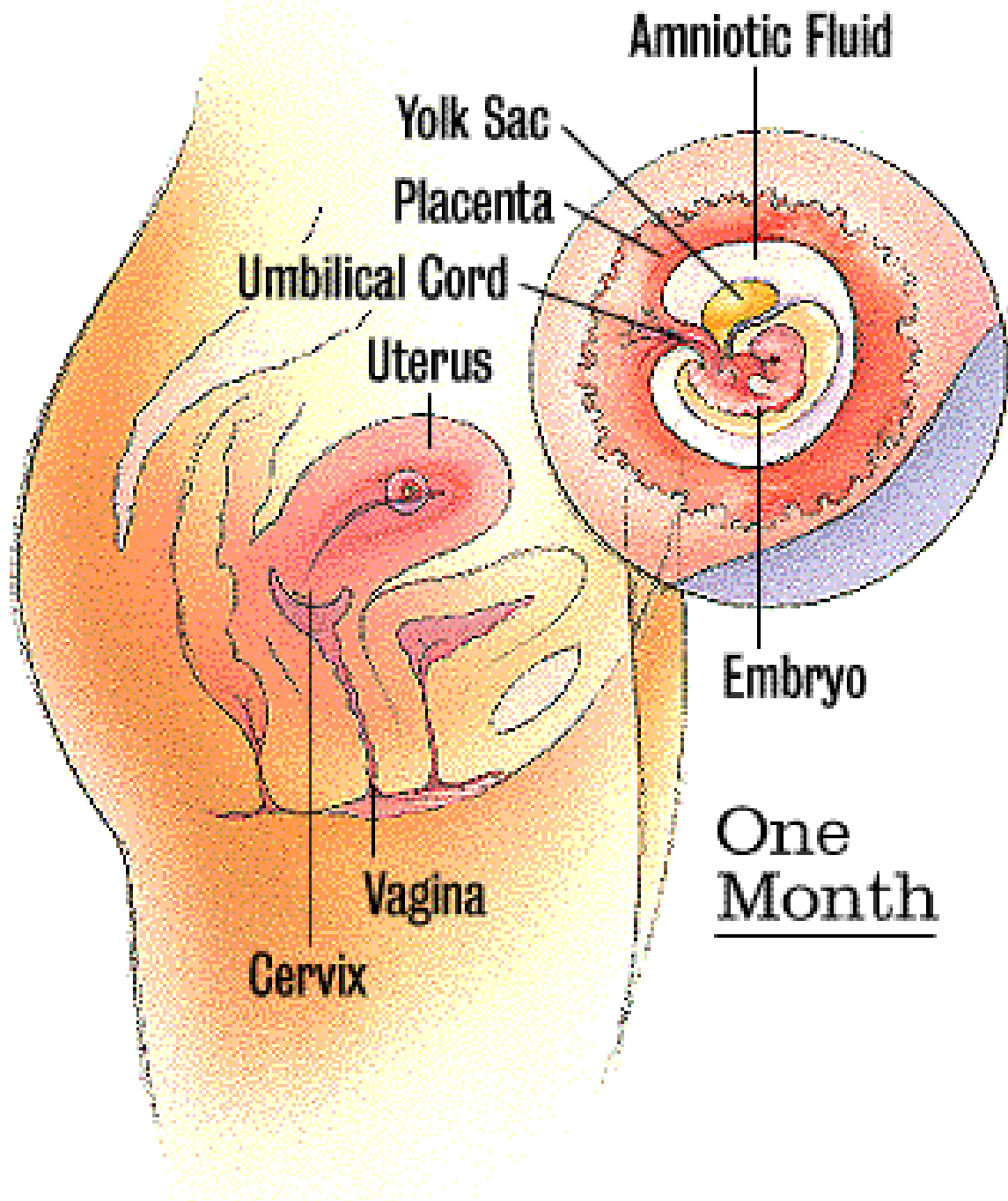
- Zygote – fertilized egg
- \_\_\_\_\_ – til 8 weeks
- \_\_\_\_\_ – 9 wks to birth



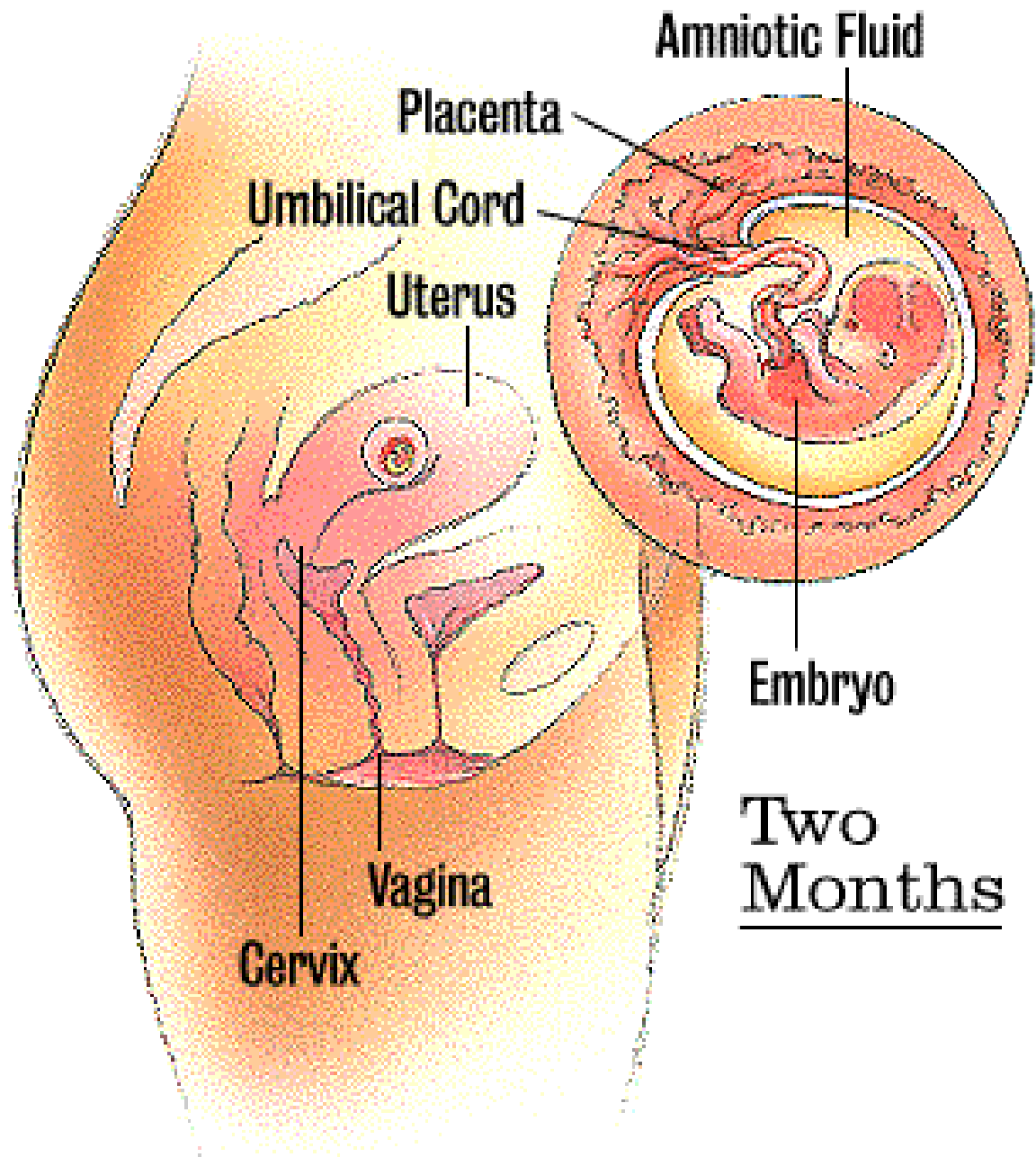
# 3 Stages of Pregnancy

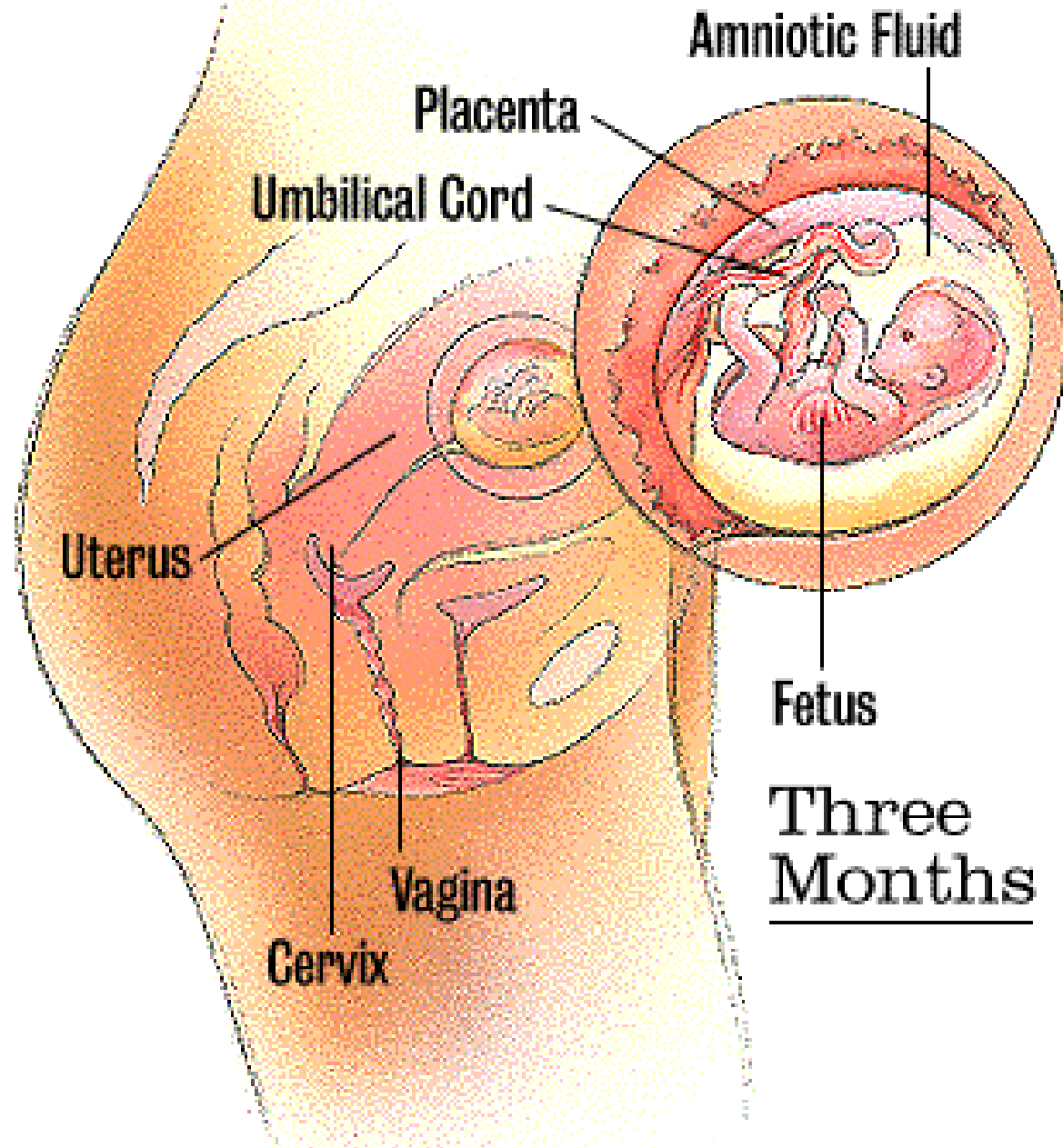
- 40 week Gestation
- 1<sup>st</sup> Trimester
  - 1<sup>st</sup> 12 - 14 weeks
  - Organs forming
  - Most critical time







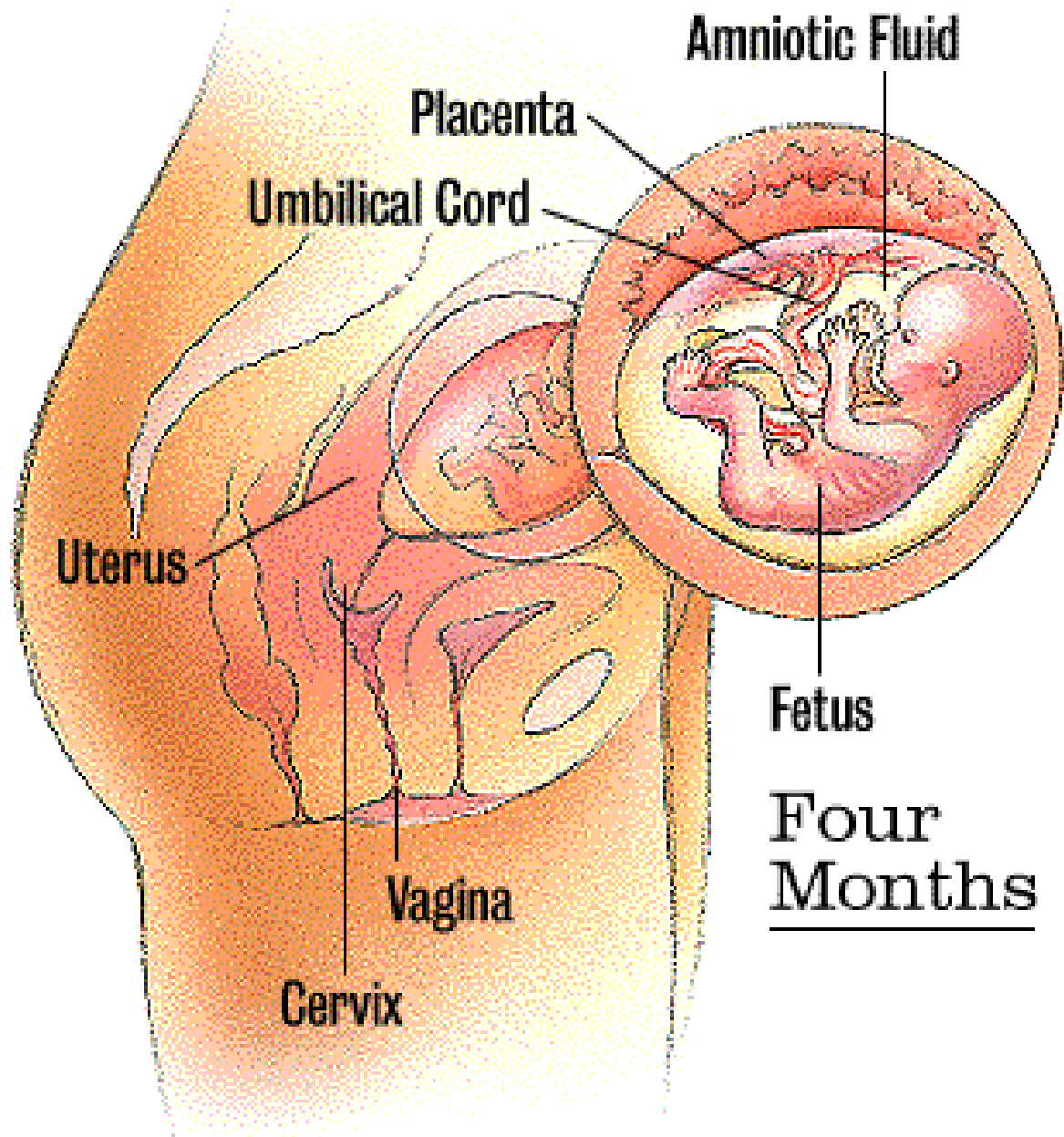


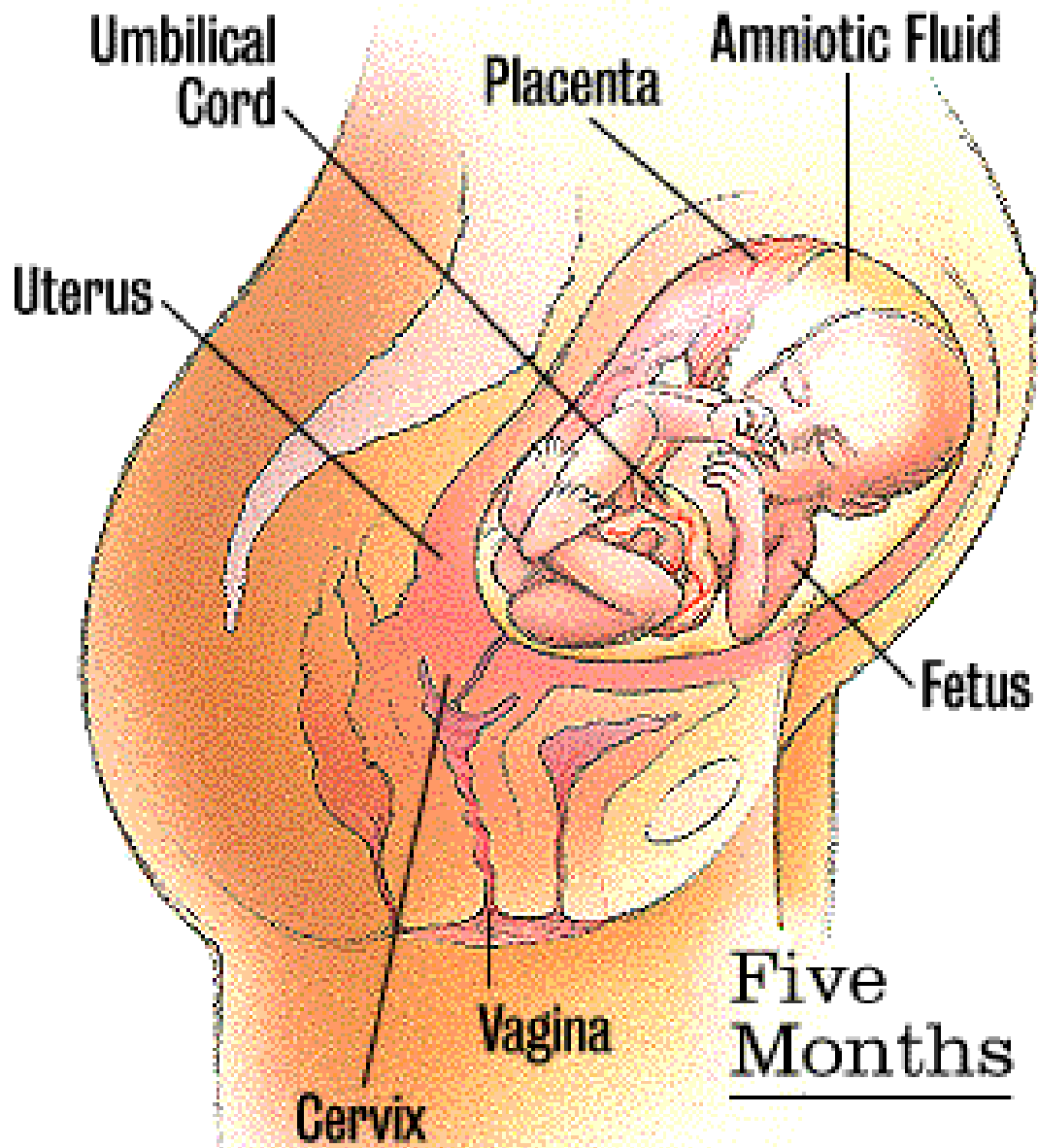


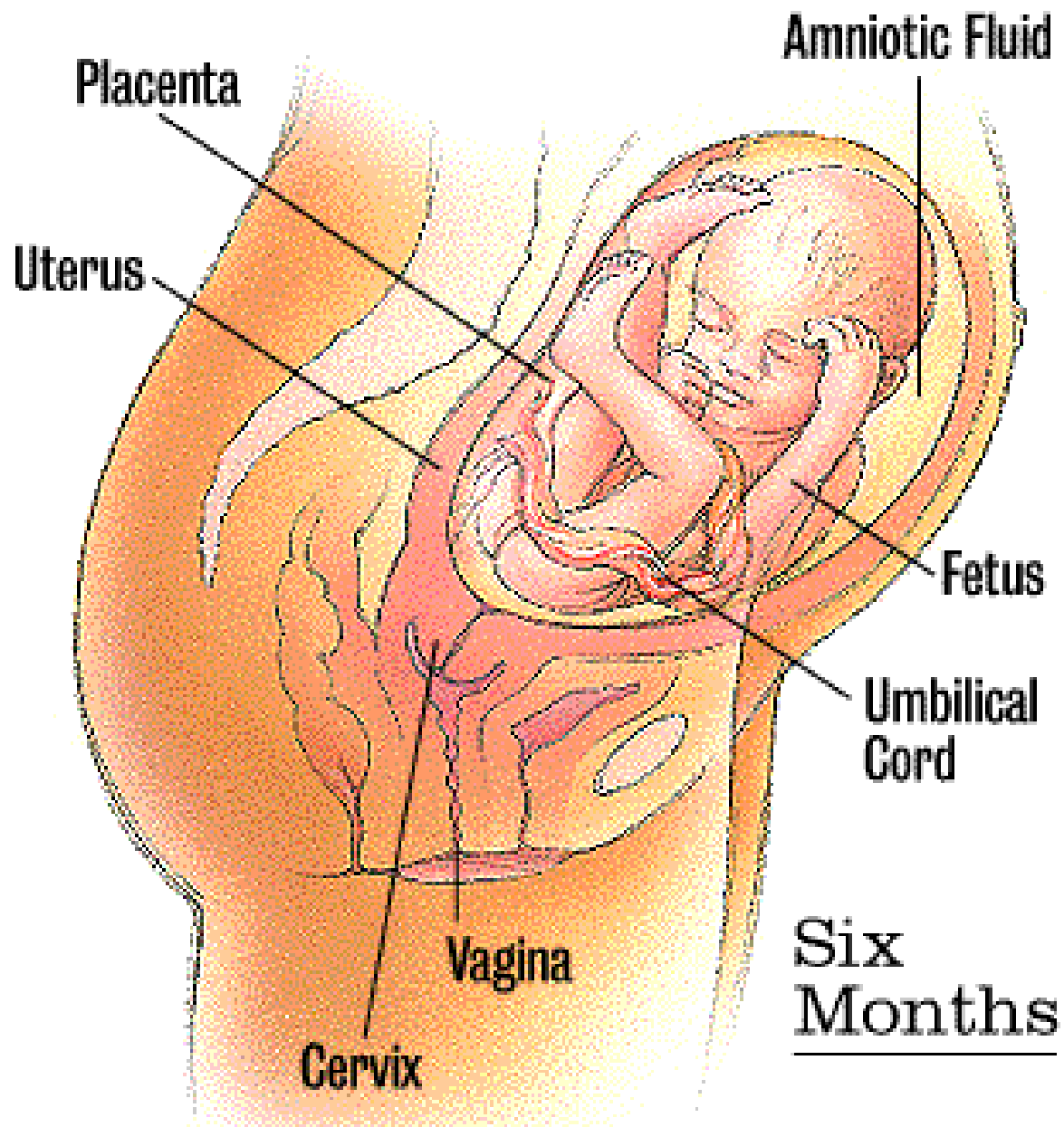


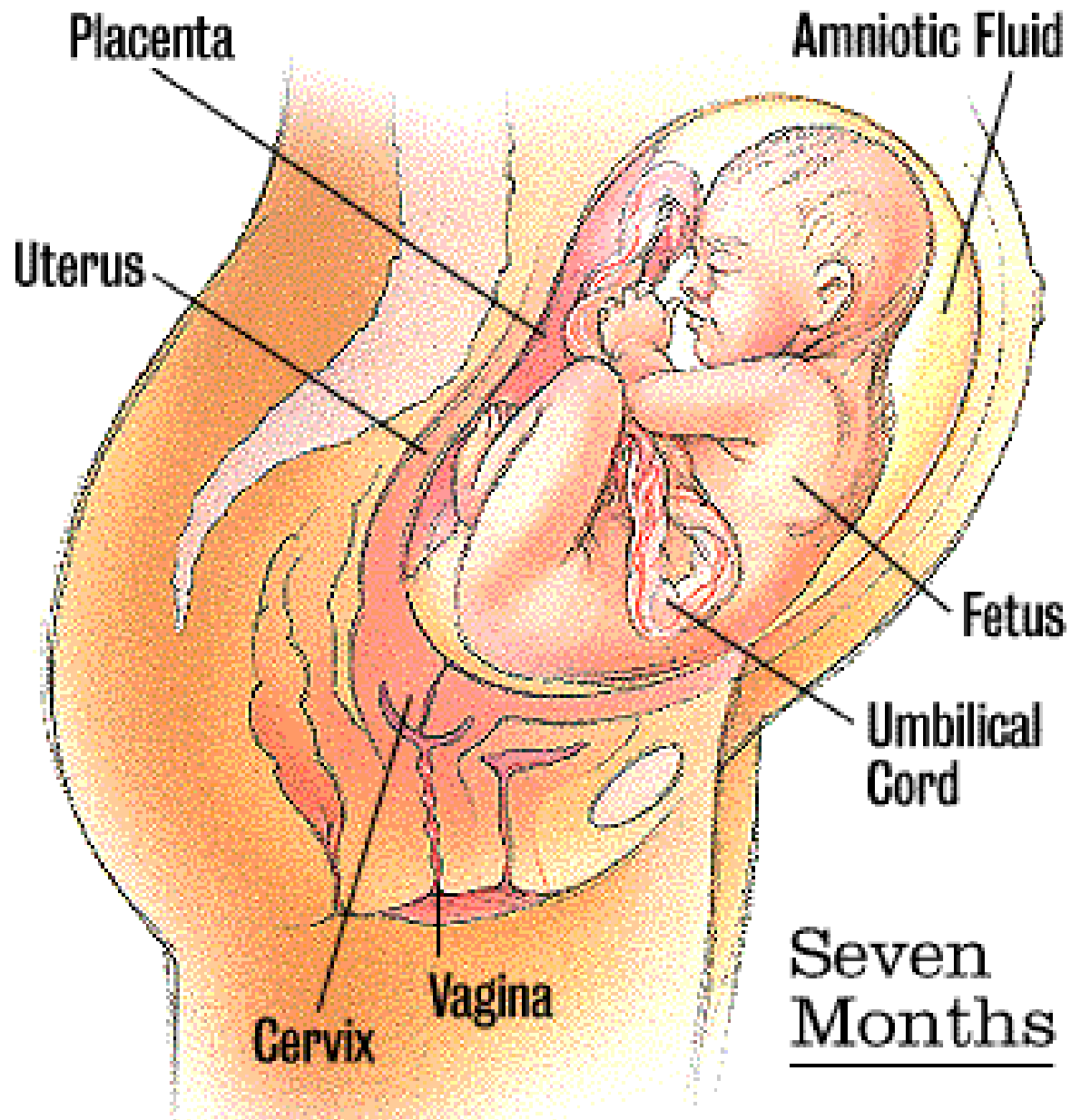
## 3 Stages of Pregnancy (cont.)

- 2<sup>nd</sup> Trimester
  - Til end of 7<sup>th</sup> month
  - Organ systems formed & maturing







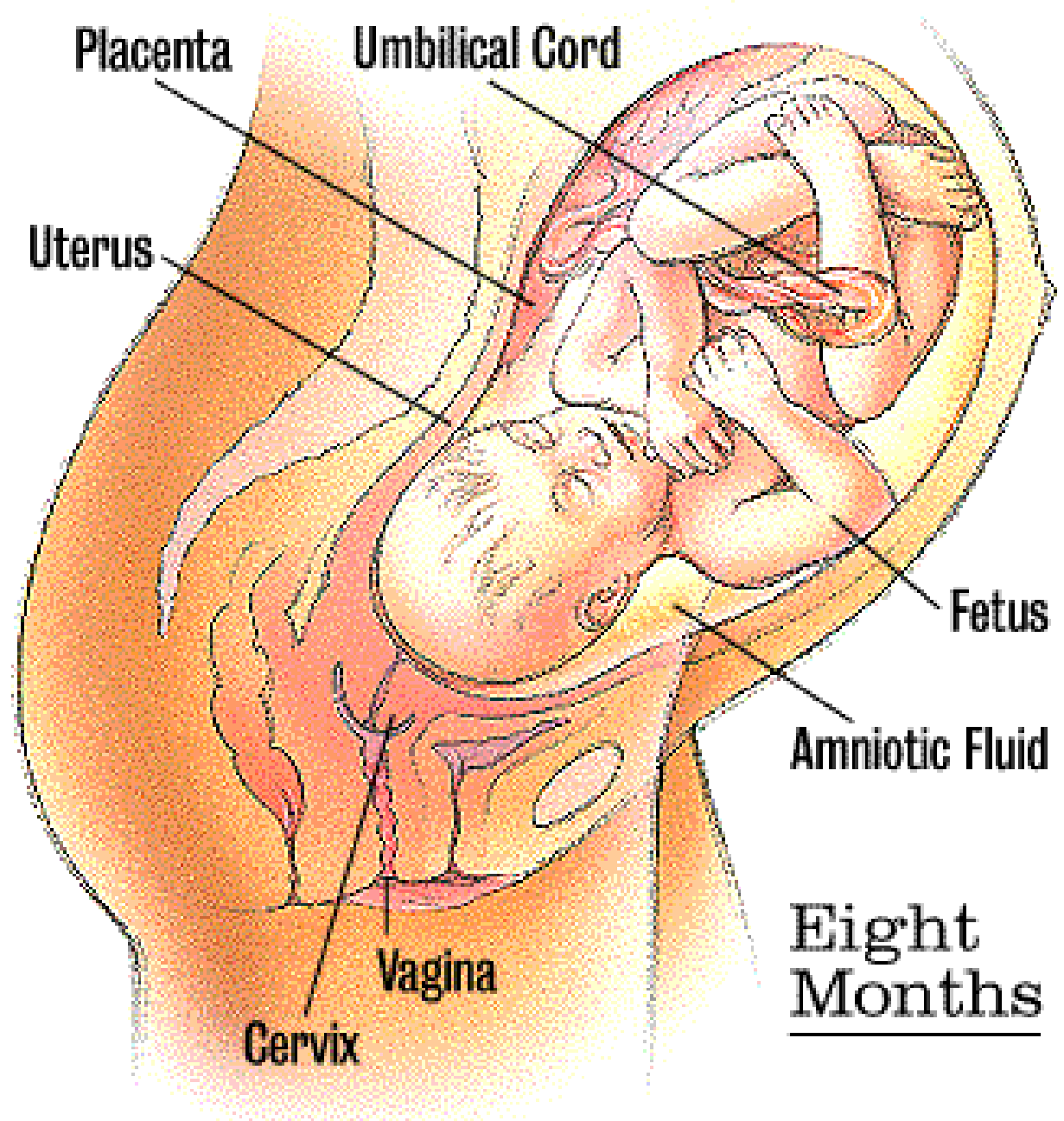


# 3 Stages of Pregnancy (cont.)

- 3<sup>rd</sup> Trimester
  - Final weeks
  - Rapid growth and weight gain of fetus







Placenta

Umbilical Cord

Uterus

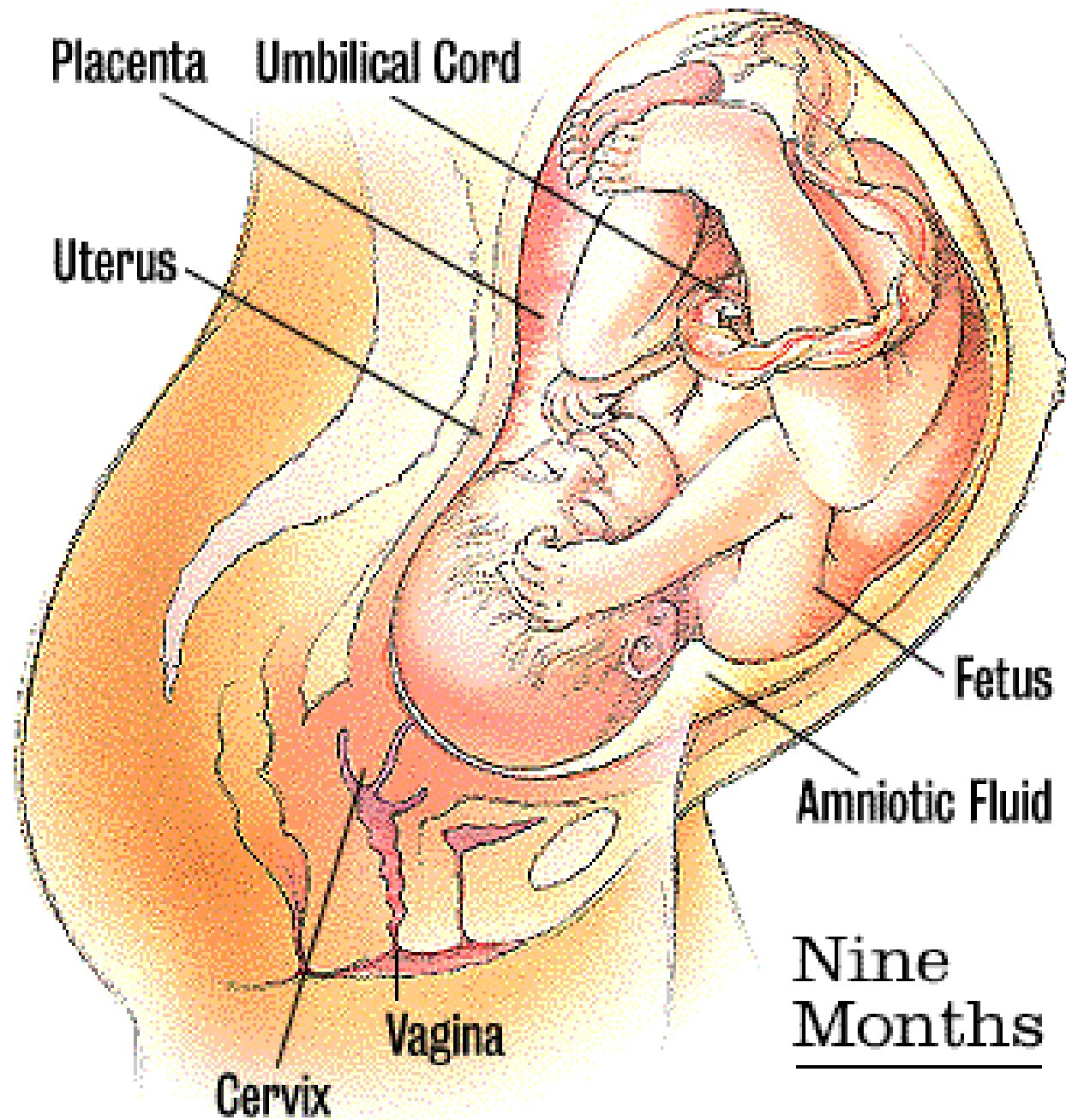
Fetus

Amniotic Fluid

Eight Months

Vagina

Cervix



# Ready?

- Between 38 & 42 weeks, all systems mature
- Baby's size puts pressure on cervix & amniotic sac



# *Cervical Effacement & Dilation*

## *(Borramiento y Dilatación Cervical)*

**Effacement** - the gradual thinning, shortening and drawing up of the cervix measured in percentages from 0 to 100%.

**Borramiento** - el adelgazamiento, acortamiento y encogimiento gradual del cervix medido en porcentajes del 0 al 100 %.



0%  
Effaced



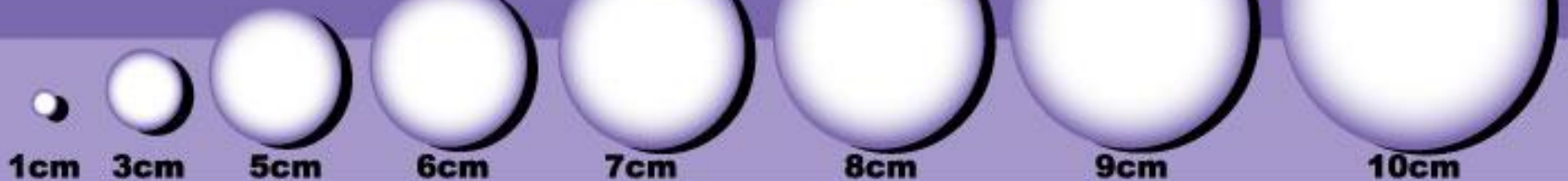
50%  
Effaced



100%  
Effaced

**Dilation** - the gradual opening of the cervix measured in centimeters from 0 to 10 cms.

**Dilatación** - La apertura gradual del cérvix medida en centímetros de 0 a 10 cms.



1cm

3cm

5cm

6cm

7cm

8cm

9cm

10cm

# Stages of Childbirth

- \_\_\_\_\_ – cervix dilates, uterus contracts
- \_\_\_\_\_ – baby pushed out through vagina (aka birth canal)
- Afterbirth – Placenta is delivered
- Caesarean Section (\_\_\_\_\_) – baby is removed surgically from abdomen

# Other Pregnancy Terms



- Siblings – brothers and sisters
- Fraternal Twins – 2 eggs and 2 sperm
- Identical Twins – zygote splits



# Infancy

- 1<sup>st</sup> two years
- Rapid learning, growth, and development





# Toddlers

- Continued growth and independence





# Childhood

- Growth slows but continues, more coordinated in activities

# Adolescence

- “Awkward” stage between childhood and adulthood
- Puberty – sexual development



# Adulthood

- Body peaks at 22 and by 27 body and brain starts its slow decline, which varies depending on individual.



# Aging

- skin wrinkles, muscles decrease, sense organs decline
- Slow aging process by diet & exercise

