

# Human Osteology: The Skull

So, last Friday....UGH

Change of plans, today working on  
the Skull exercise 5 & Exercise 7

# Mid Term

- If all goes well, April 21<sup>st</sup>.....If not the week after

# Intro

- Bone is living, so it can and does change
- Bones are part of an organism's genotype and phenotype
- There is a lot of variation

# Functions of the Skeleton

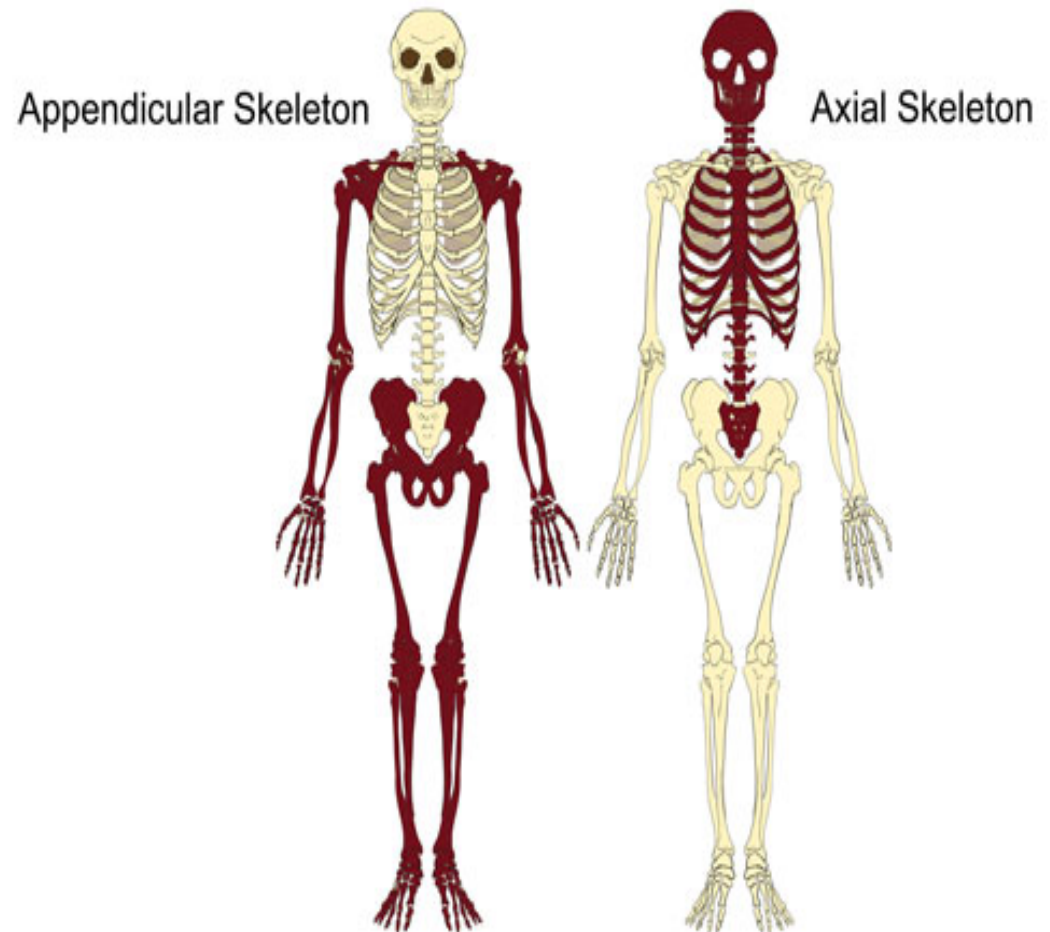
- 1. support
- 2. protection
- 3. movement/leverage
- 4. mineral and lipid storage
- 5. blood cell formation and storage

# Classification, Development, and Anatomy

- 4 main categories:
- Long bones: limbs, fingers, toes
- Short bones: blocky, cube-shaped bones of wrist/ankle, and **sesamoid** bones (small bones within joints), kneecap
- Flat bones: cranium, shoulder, pelvis, ribs
- Irregular bones: vertebrae, facial

# Classification, Development, and Anatomy

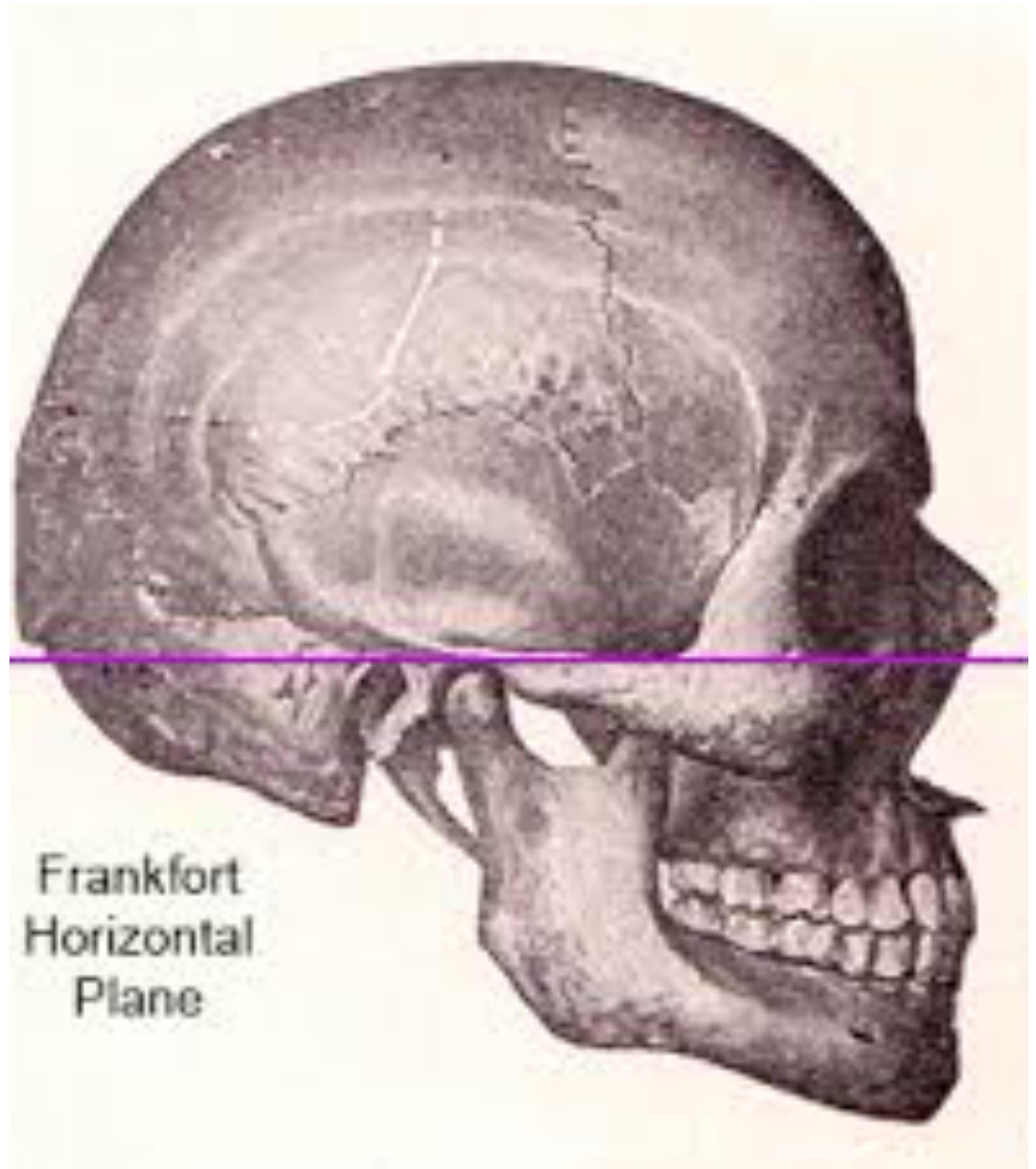
- You can view skeleton 2 ways:
- **Axial:** develops first. Midline structures like skull, vertebrae, ribcage
- **Appendicular:** develops later. Limbs and connections to axial skeleton



# The Skull Standard Position

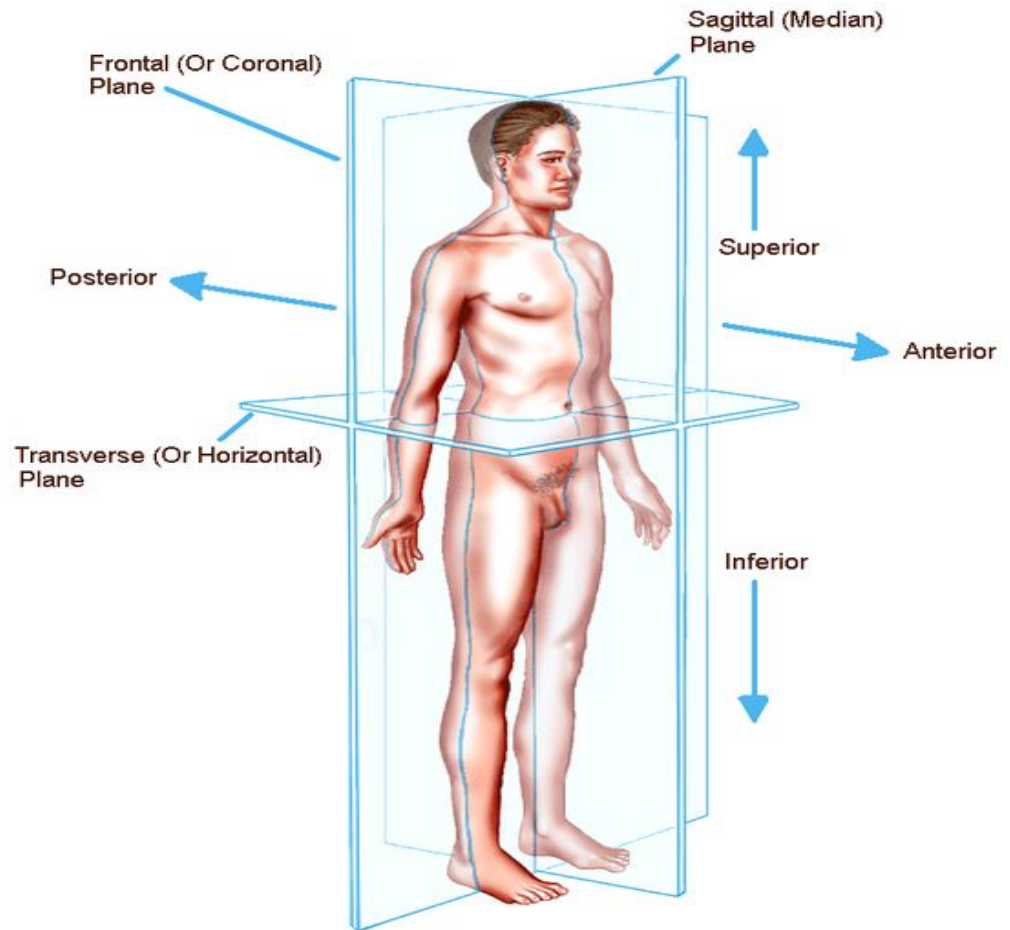
Frankfort Plane

Pg. 213 figure 6.12



# 5 Standard Positions

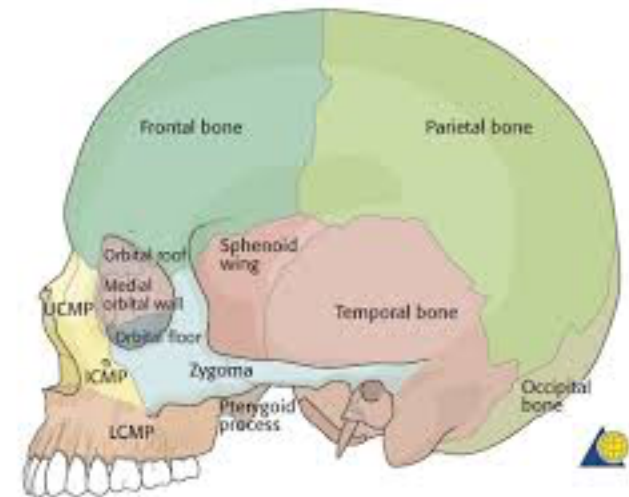
- Frontal
  - Lateral
  - Posterior
  - Superior
  - Inferior
- 
- Pg. 20-21
  - Figures 2.2-2.4





# Axial Skeleton Part I: The Skull

- Frontal: forehead
- Parietal: “walls,” pair with frontal
- Temporal: side of head, houses ear holes
- Occipital: back of skull, base, by foramen magnum
- Maxilla: upper jaw
- Mandible: lower jaw
- Zygomatics: cheekbones
- Nasals: superior to nasal opening



- Sphenoid: behind maxilla and in front of temporal
- Mastoid process: bulbous knob at bottom of temporal

# Axial Skeleton Part I: The Skull

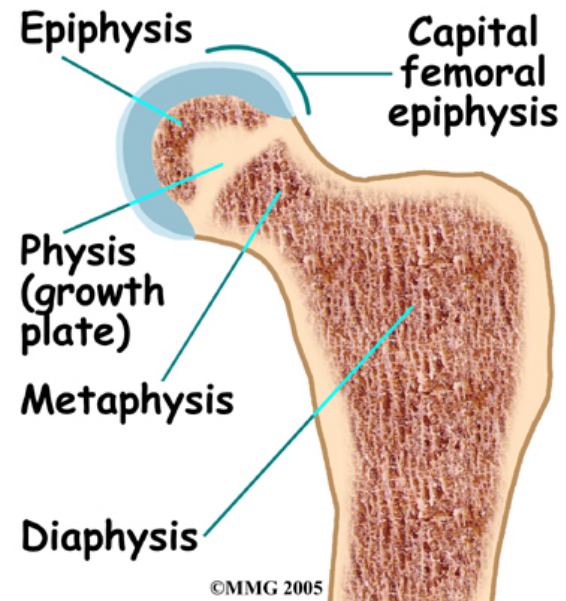
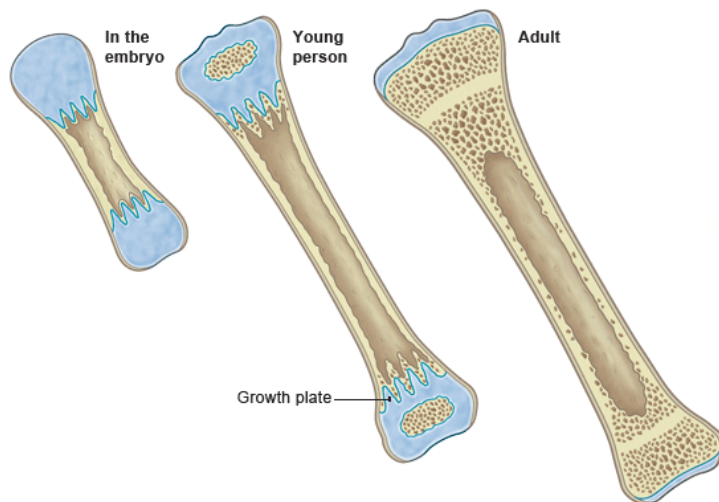
- **Sagittal:** running down midline of head
- **Coronal:** separates frontal from parietals
- **Squamosal:** separates parietal from temporals
- **Lambdoidal:** separates parietal from occipital
- **Metopic:** separates two halves of frontal bone until age 2

# Teeth

- We are mammals, so we have **heterodont** dentition
- Incisors, canines, premolars, molars
- **Dental formula** is 2:1:2:3 in adult humans
- 2:1:0:2 in children's deciduous teeth
- Tooth is made of three parts: crown, neck, root
- More dental vocabulary on page 142
- Not working on the Exercise, but info you'll need for later

# Bone: Classification, Development, and Anatomy

- A bone has to grow for the first 20-30 years of life
- Diaphysis (shaft)
- Epiphysis (ends)
- Articular Cartilage (covers ends)



# Anatomical Terminology

- Important in discussing or studying bones
- 3 imaginary planes:
  - 1. midsagittal or medial: equal L and R halves
  - 2. coronal or frontal: front and back
  - 3. transverse or horizontal: upper and lower
- **This Information can be found in the Photographic Atlas**

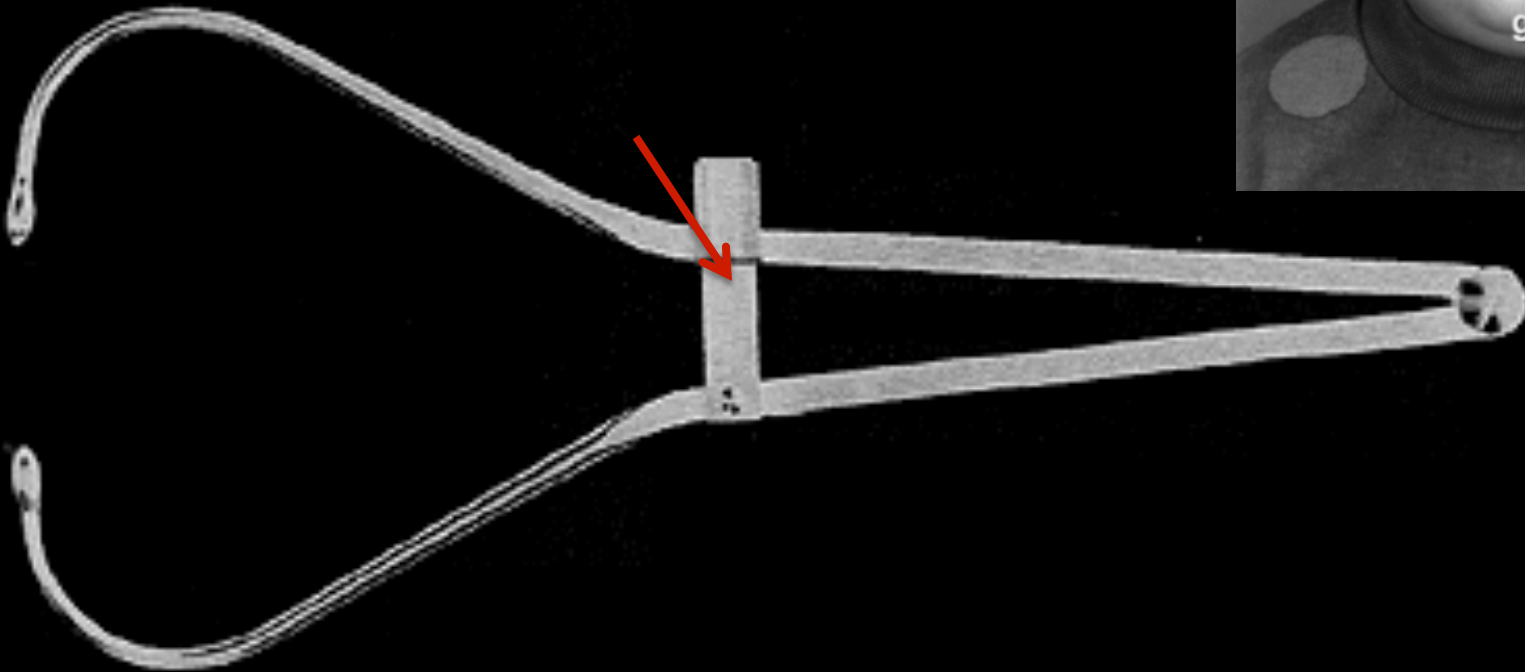
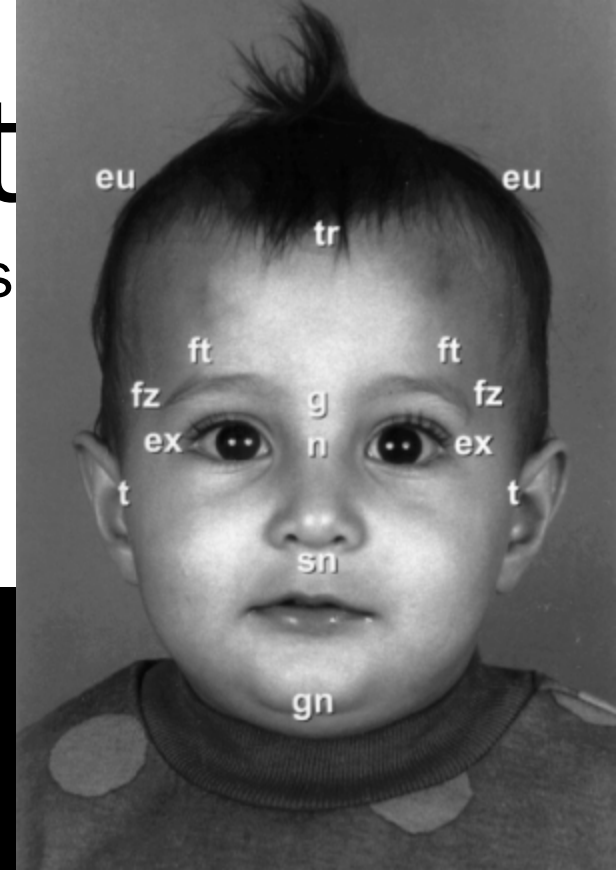
# Anatomical Terminology

- Major terms that will help:
- **Medial**
- **Lateral**
- **Anterior**
- **Posterior**
- **Superior**
- **Inferior**
- **Superficial**
- **Deep**
- **Proximal**
- **Distal**
- **Ventral**
- **Dorsal**
- **Cranial**
- **Caudal**
- Use the  
Photographic Atlas

# Anthropomet

A.K.A “Measuring Humans

- *Spreading Calipers*



# Sliding Calipers

- Zero Out
- Choose Measurement Type (MM/CM)
- Always Turn it Off
- Store Correctly





- *Osteometric Board*



# Heads Up!

- Always carry bones/skulls in both hands
- When measuring bones, please keep them on the mat never on the table
- Please use caution.....