

Skeletal System



The Skeletal System in Action !!

▶ The Skeletal System in Action!



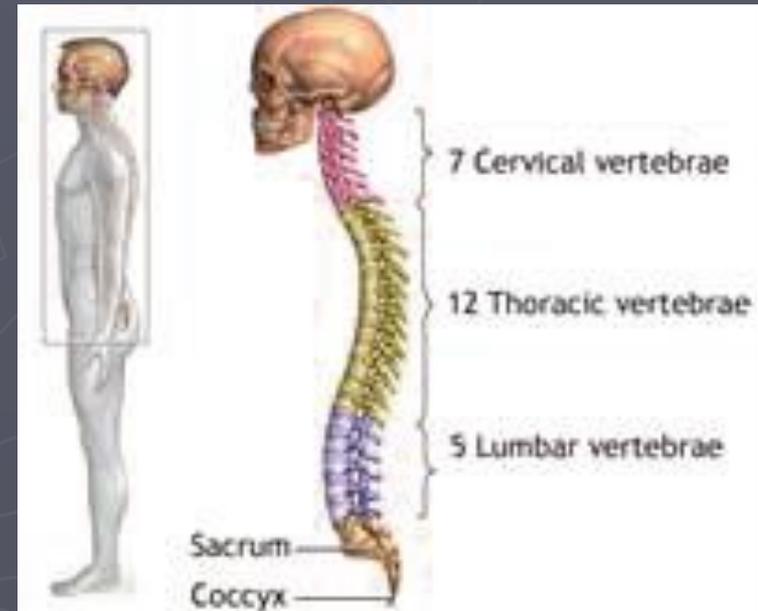
5 Functions of the Skeletal System

1. **Movement:** **Skeletal system provides points of attachment for muscles.** Your legs and arms move when the muscles pull on the bones.

Muscle attached to bones!!

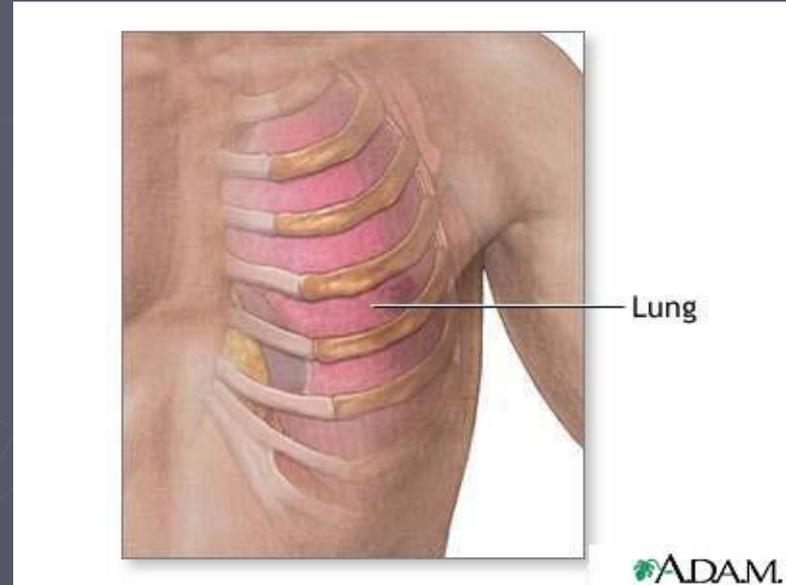


2. **Support:** The backbone is the main support center for the upper body. **It holds your head up and protects your spinal cord.**



5 Functions of the Skeletal System

3. **Protection:** The bones of your skull protect your brain. Your ribs protect your lungs and heart from injury.

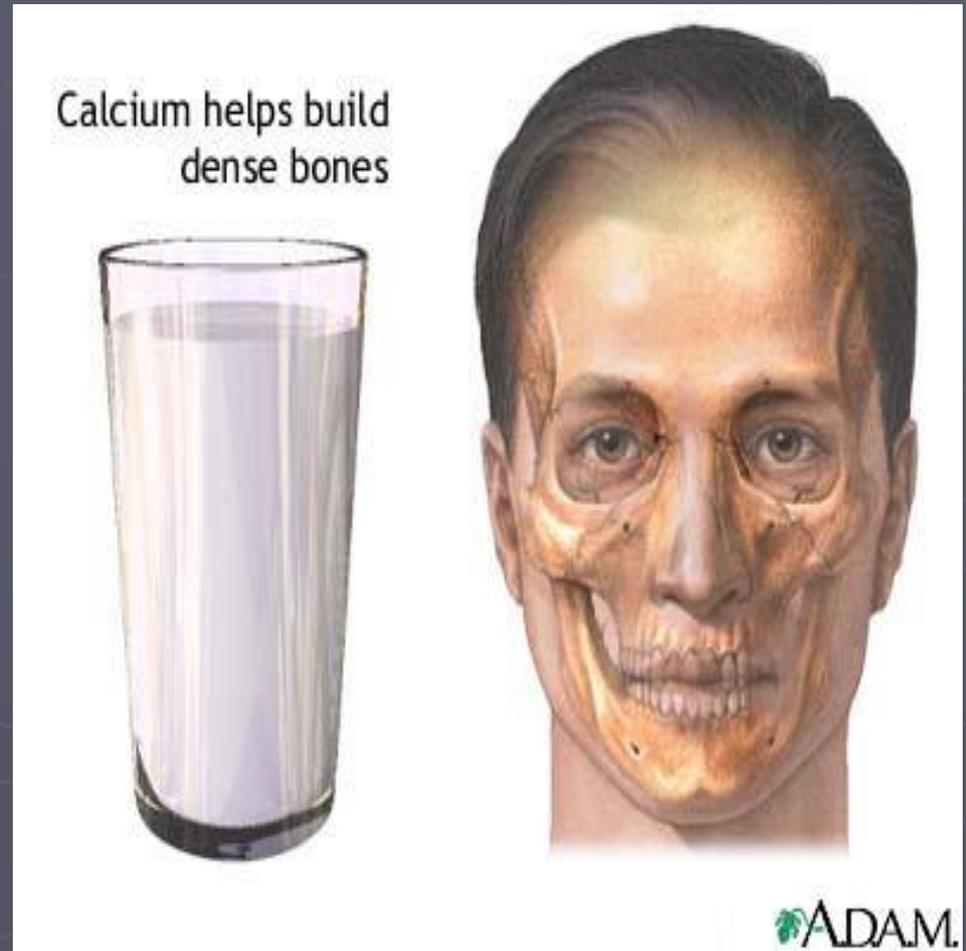


4. **Makes Blood:** Red and white blood cells are formed by tissue called marrow, which is in the center of the bone.



5 Functions of the Skeletal System

- ▶ 5. Storage: **Bones store minerals**, such as calcium and phosphorus, for use by the body



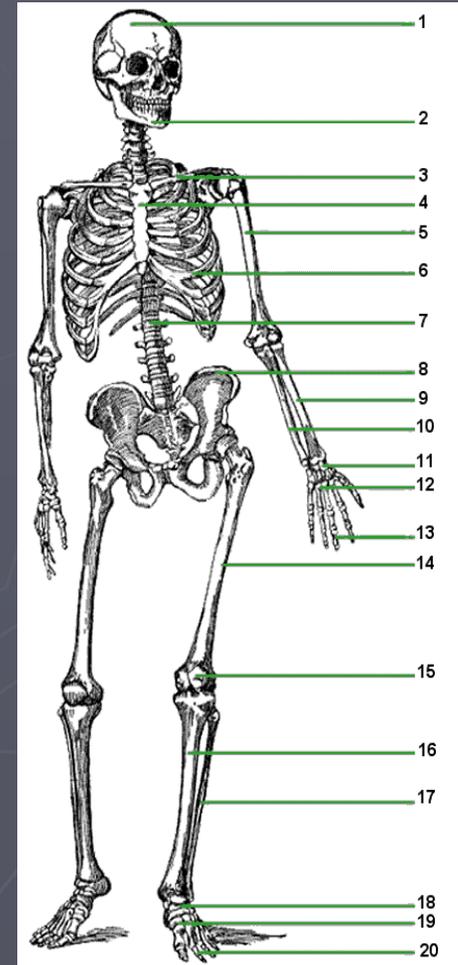
Two Major Skeletal System Parts

- ▶ Axial Skeleton: The axial skeleton includes the skull, spine, ribs and sternum.
- ▶ Appendicular Skeleton: The appendicular skeleton includes the appendages of the body, which are the shoulders, arms, hips, and legs.



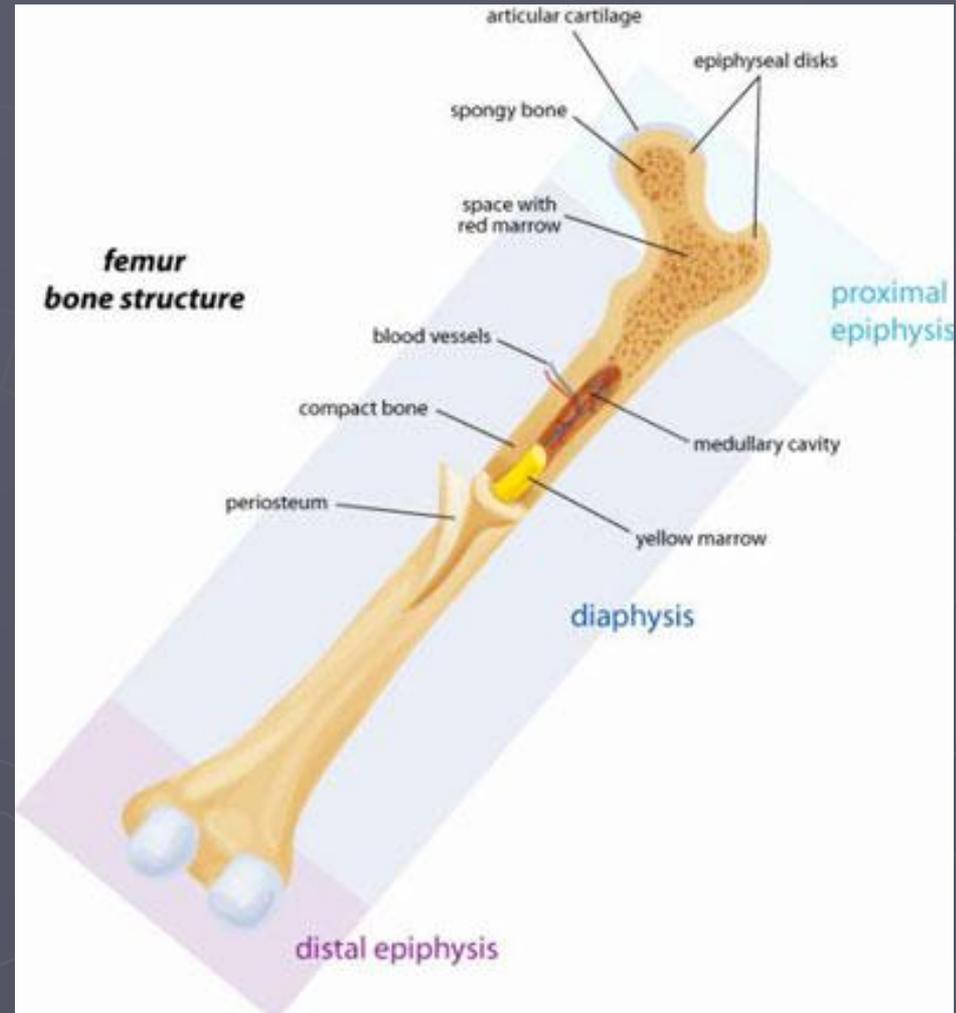
Skeletal System Bones

- ▶ Four basic bone shapes
 - 1. Long- arms, legs and fingers
 - 2. Short- wrist and ankles
 - 3. Flat- skull and sternum
 - 4. Irregular- spine



Bone Structure

- ▶ Typical Four Layers:
 - Periosteum: **Covers Bones**
 - Compact Bone: **Lies beneath the periosteum**
 - Spongy Bone: **Lies beneath the compact bone**
 - Bone Marrow: **Fills the gaps between the spongy bone**

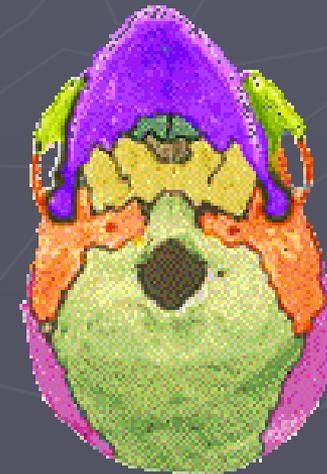
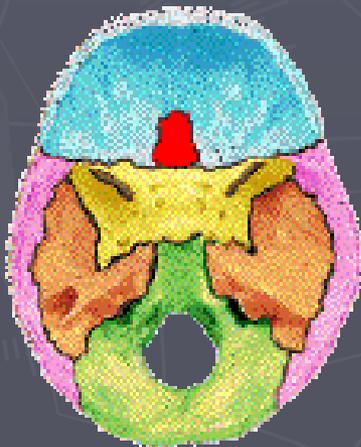
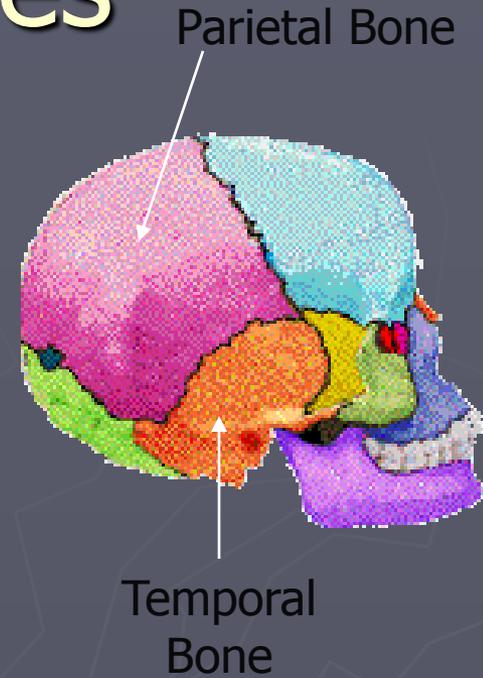
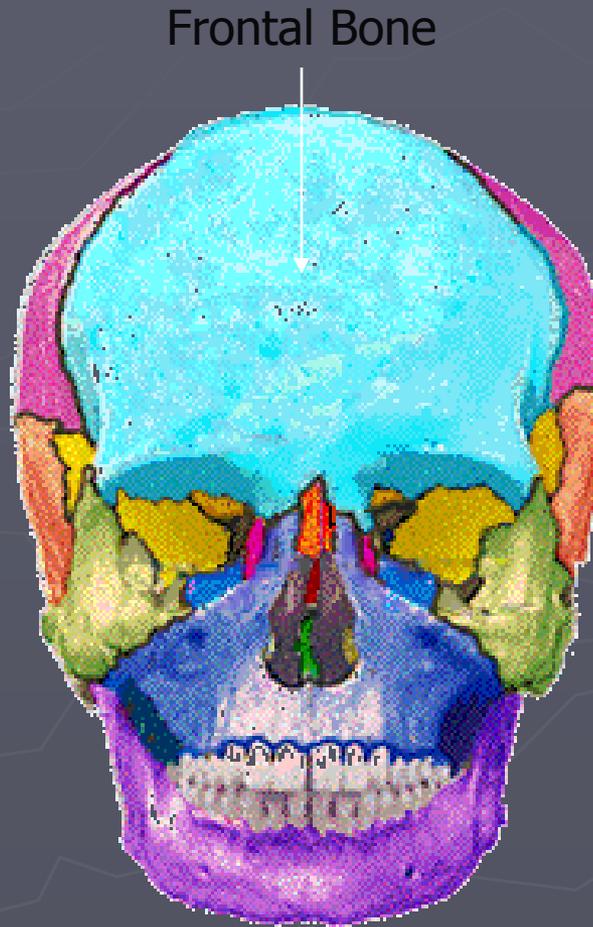
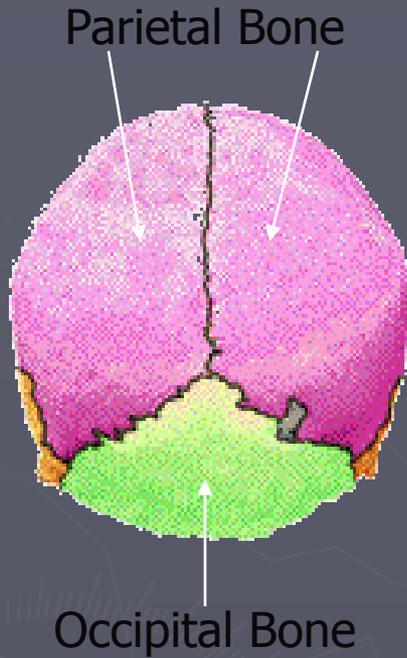


Bones of the Cranium

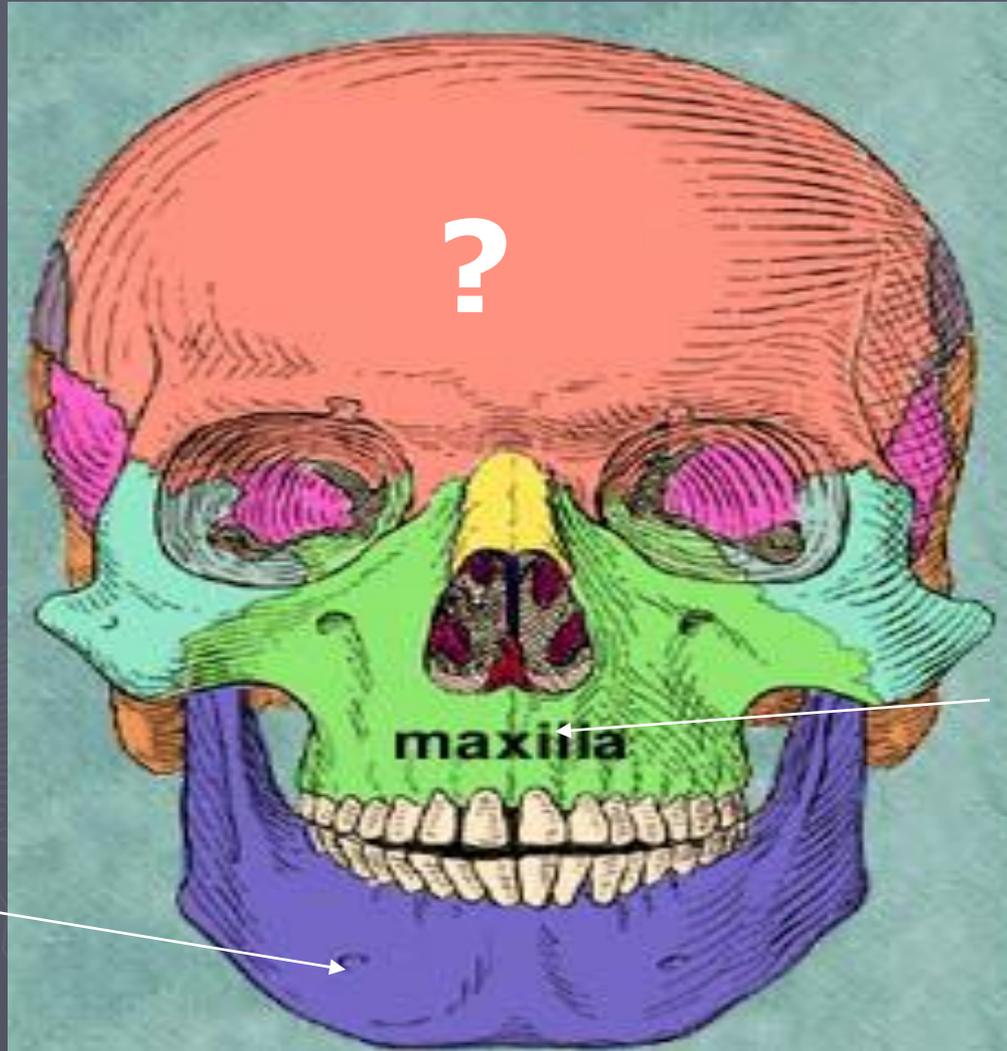
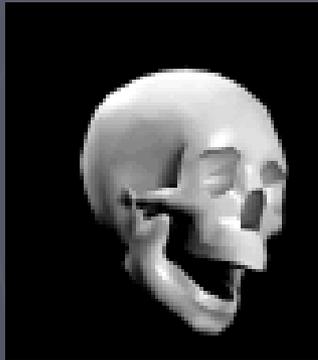
- ▶ Some are thicker than others!!!



Cranium Bones



Maxilla and Mandible

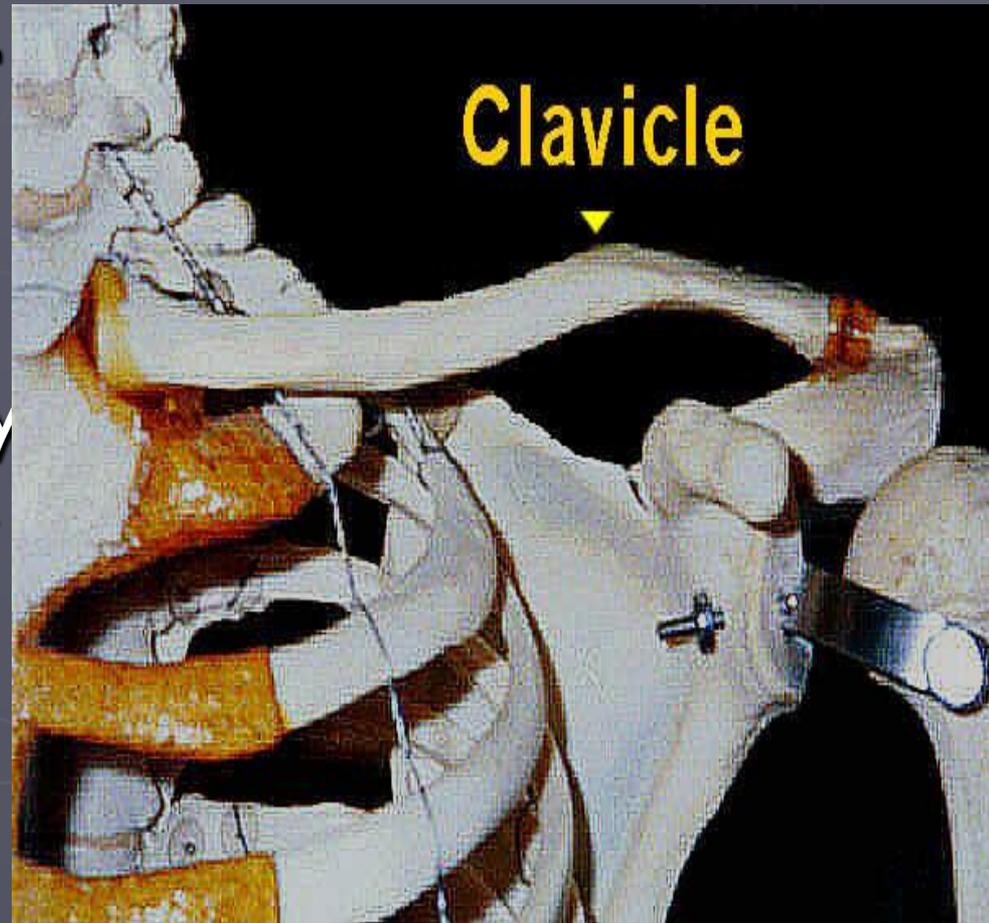


Maxilla

Mandible

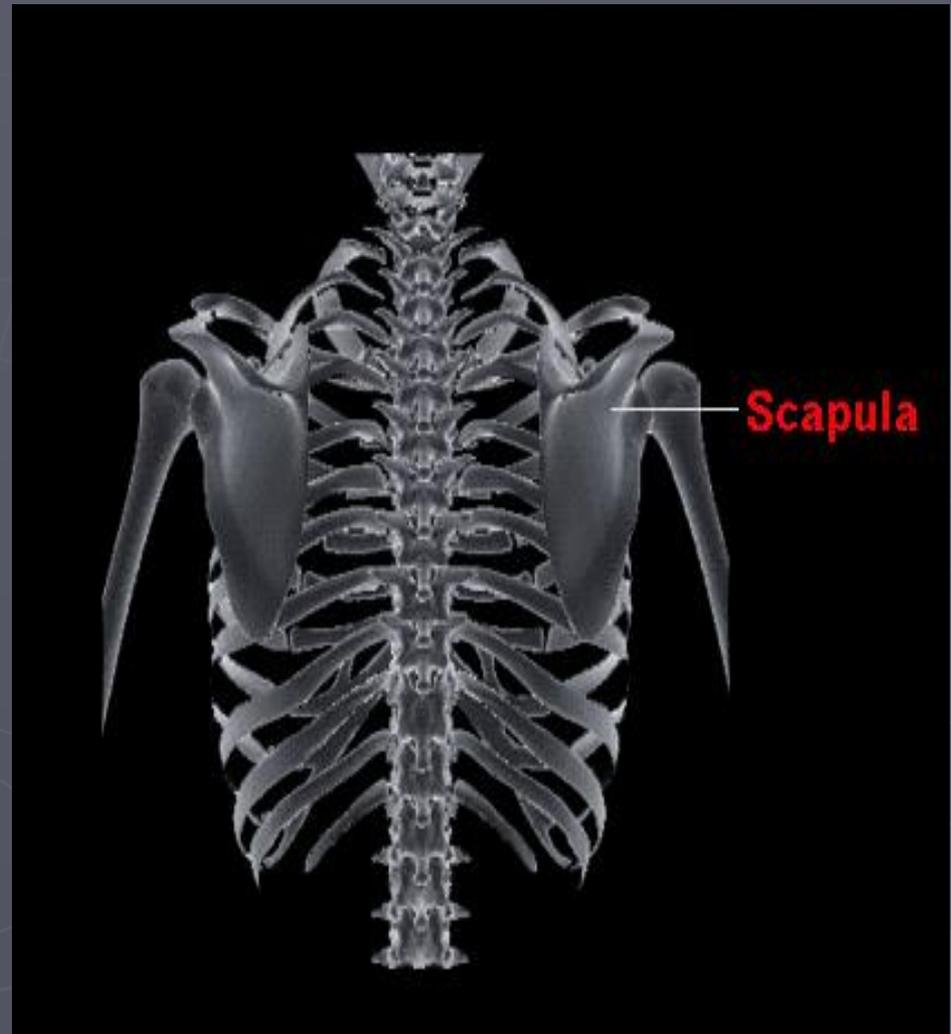
Clavicle or Collarbone

- ▶ The **clavicle**, or collar bone, holds the shoulder joint away from the rest of the upper body and is only as thick as your little finger.



Scapula

- ▶ The **scapula** is located on the back side of the ribcage and helps provide part of the shoulder joint and movement for the arms.



Vertebral Column or Spinal Cord

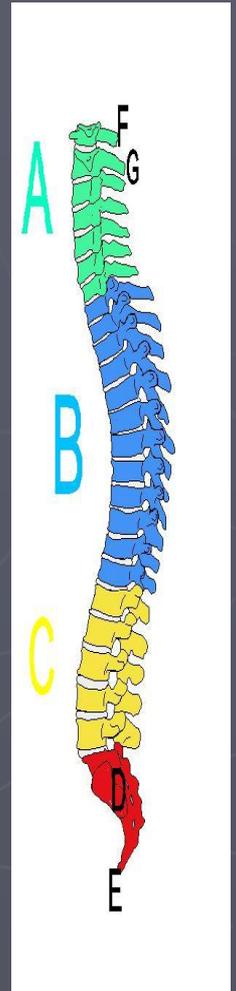
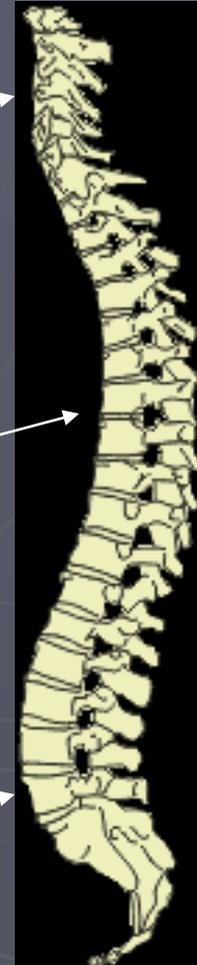
1) The **cervical region** (neck bones)



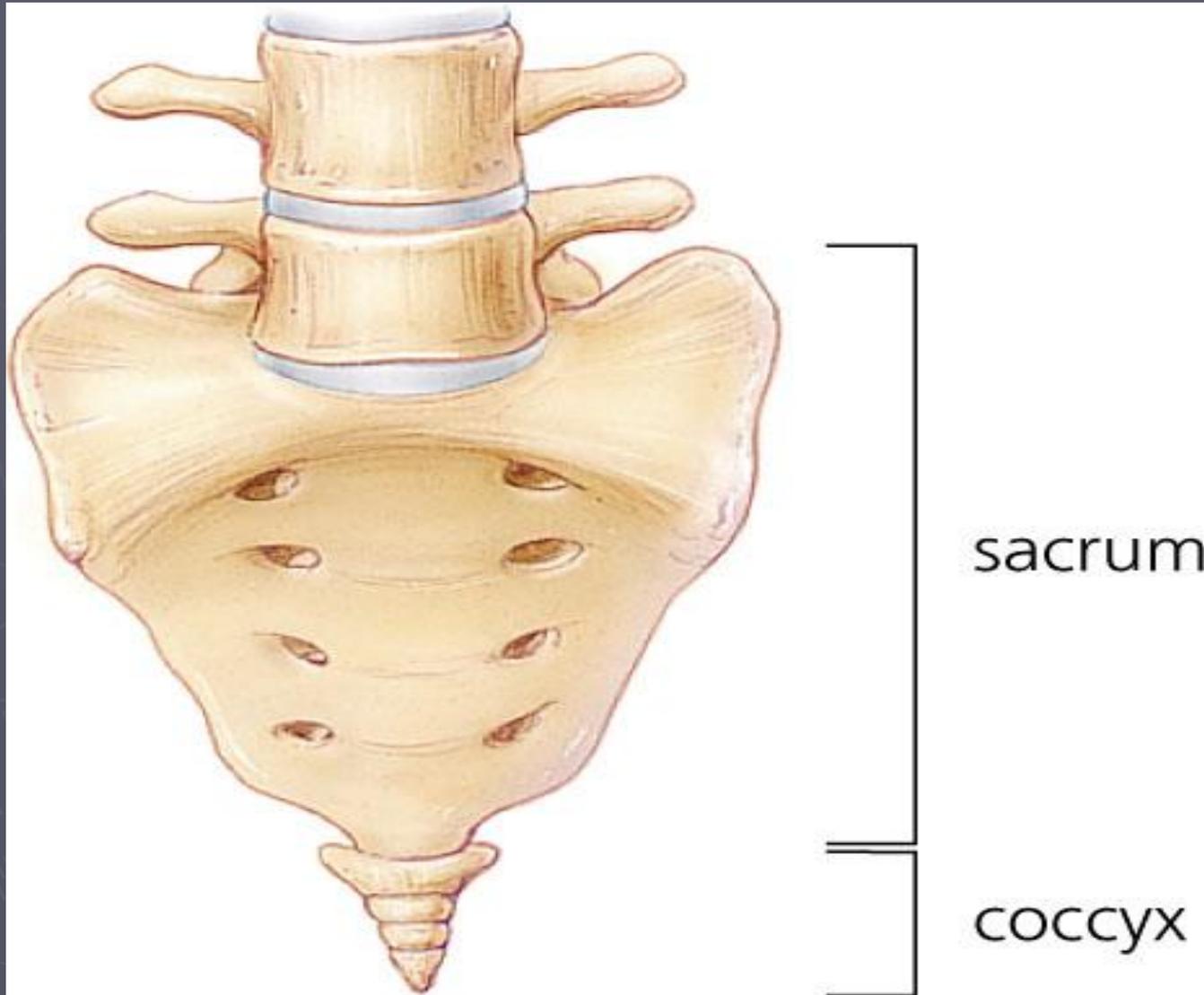
2) The **thoracic region** (what the ribs attach to)



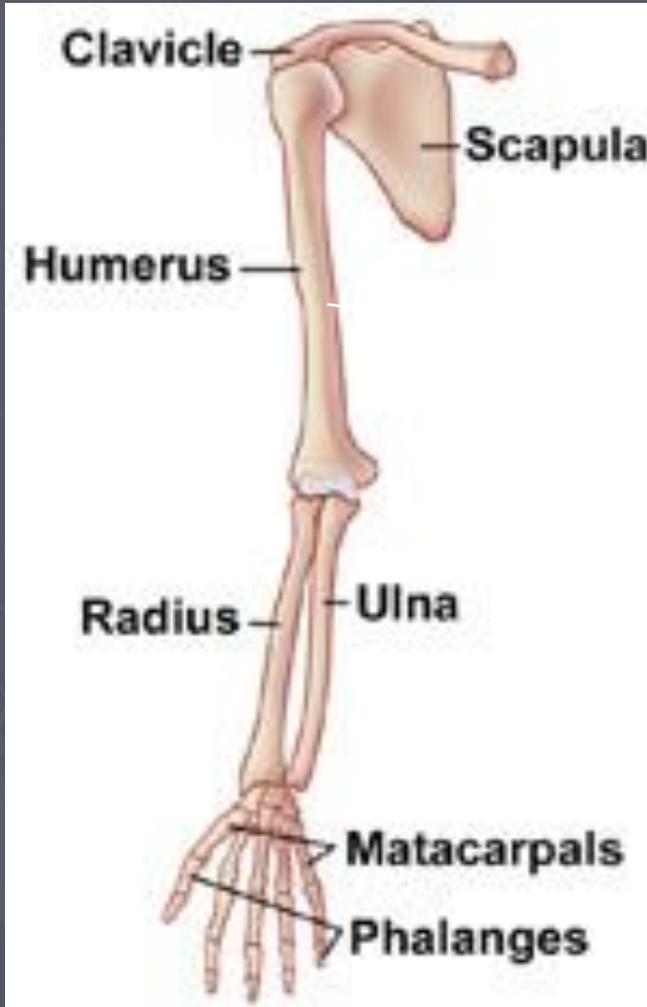
3) The **lumbar region** (the lower part of the back)



Coccyx and Sacrum



Humerus (Upper Arm Bone)

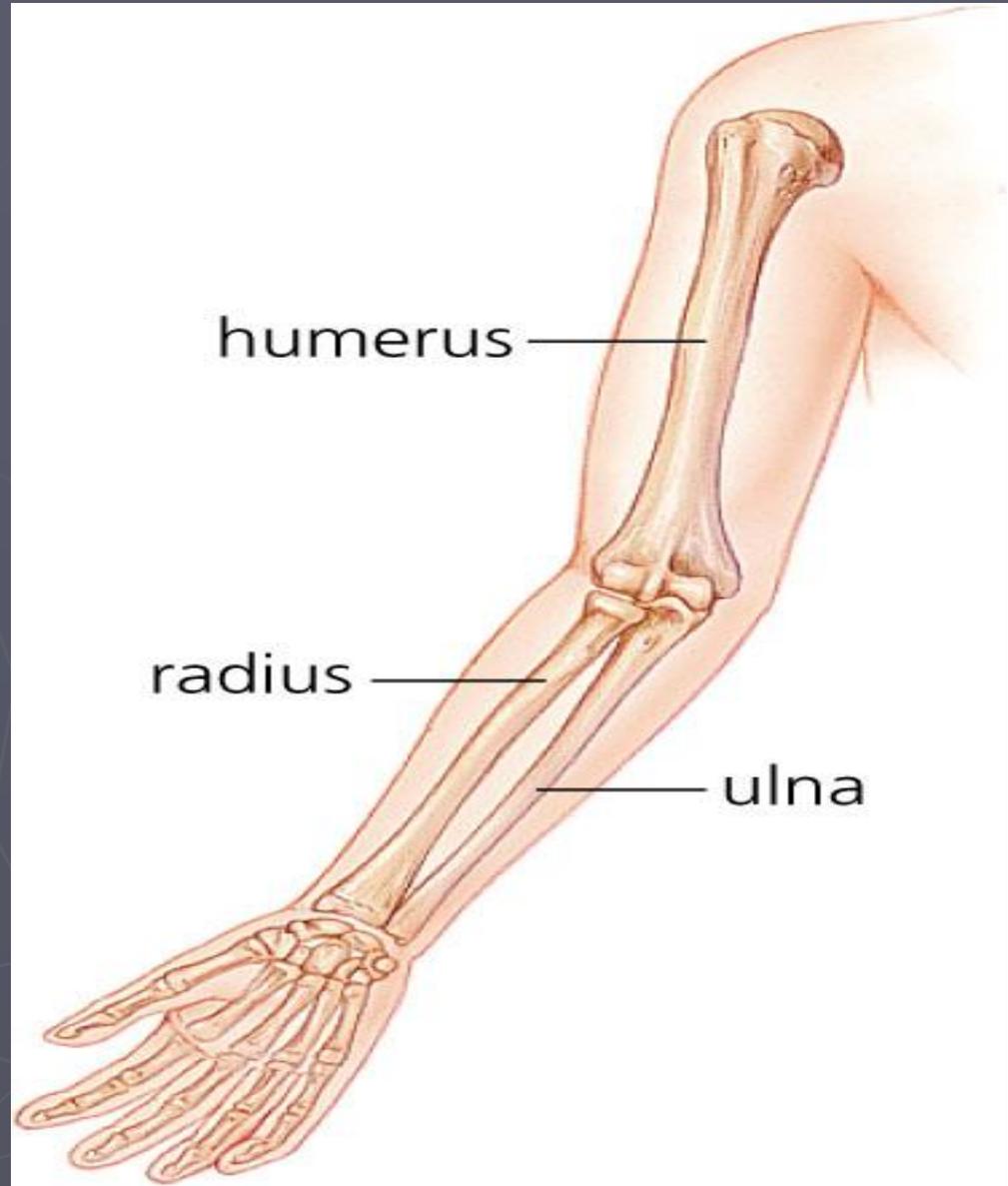


Radius and Ulna

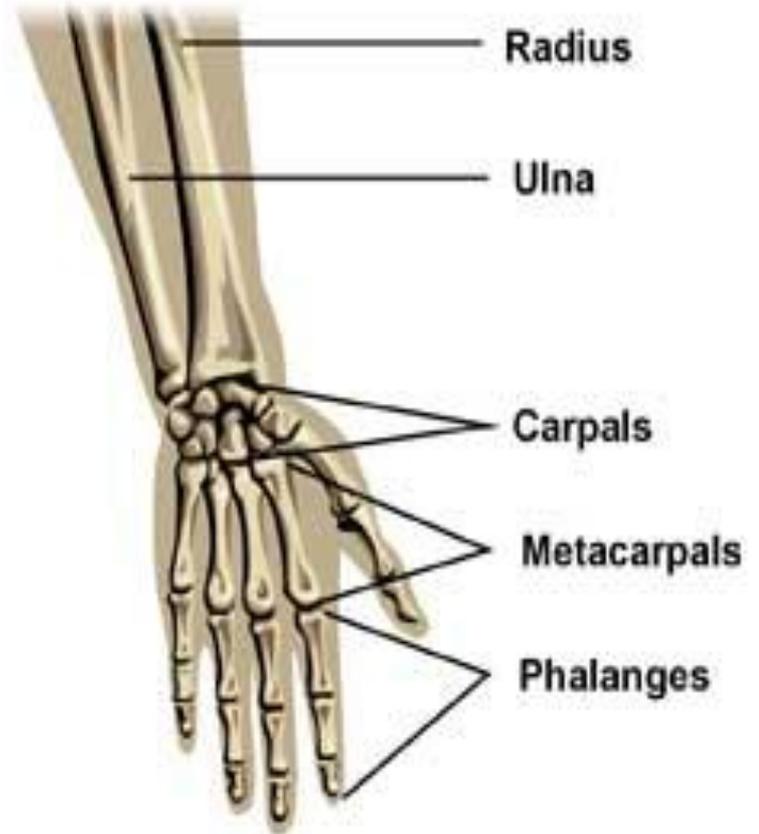
► Radius on Top



► Ulna on Bottom



Carpals or (Wrist Bones)



Metacarpals (Top of Hands)

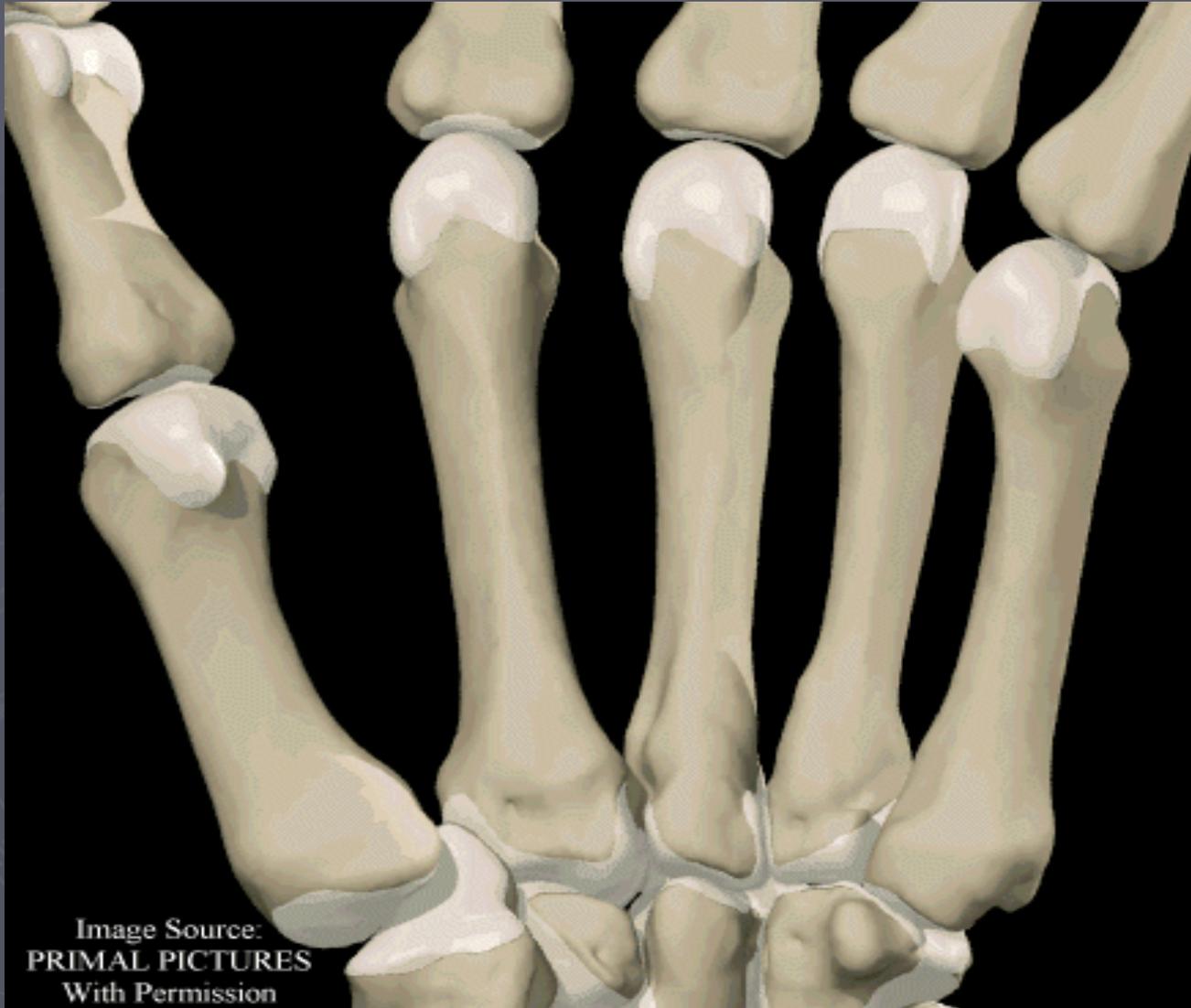


Image Source:
PRIMAL PICTURES
With Permission

Phalanges (Little Fingers)

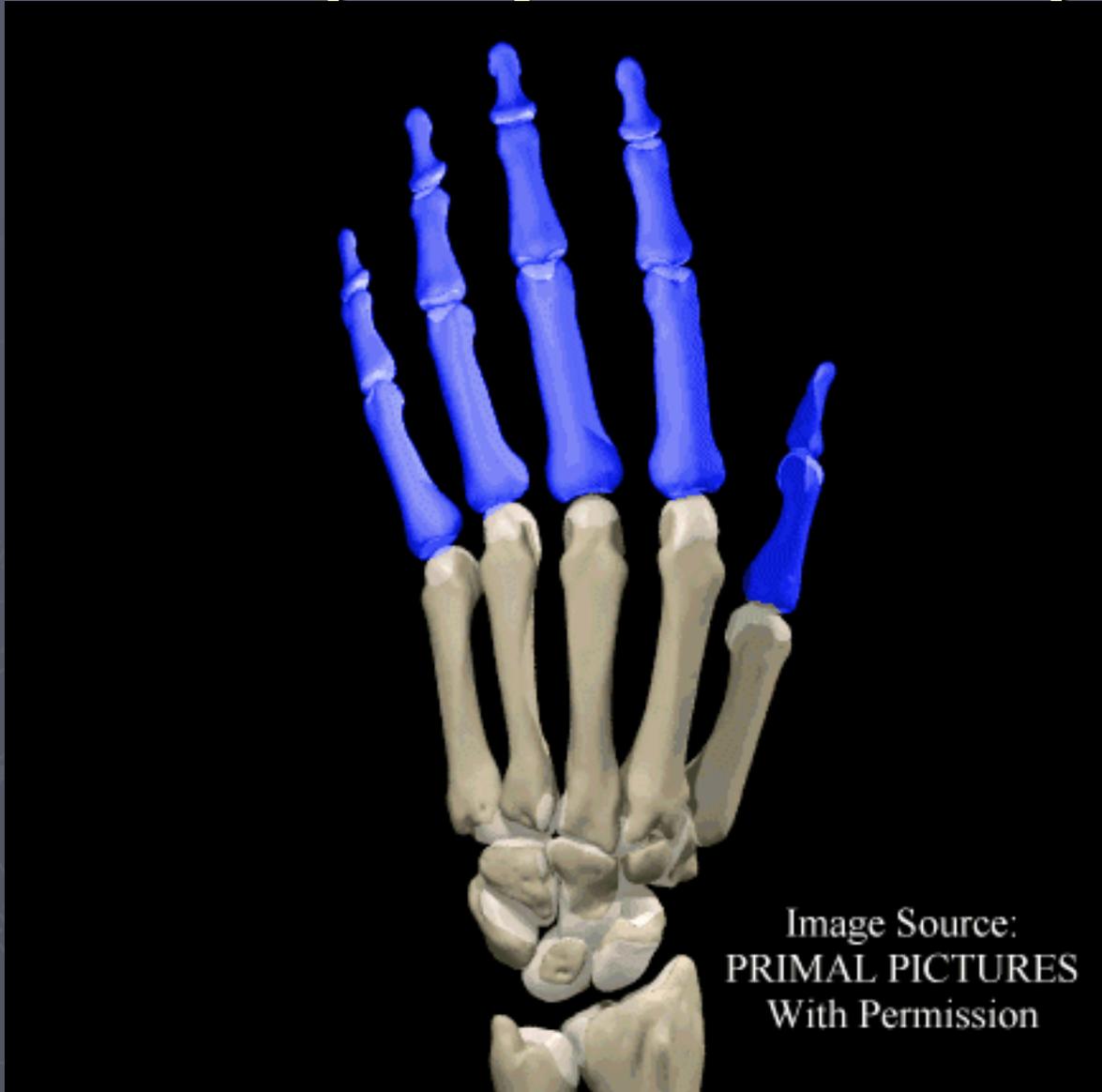
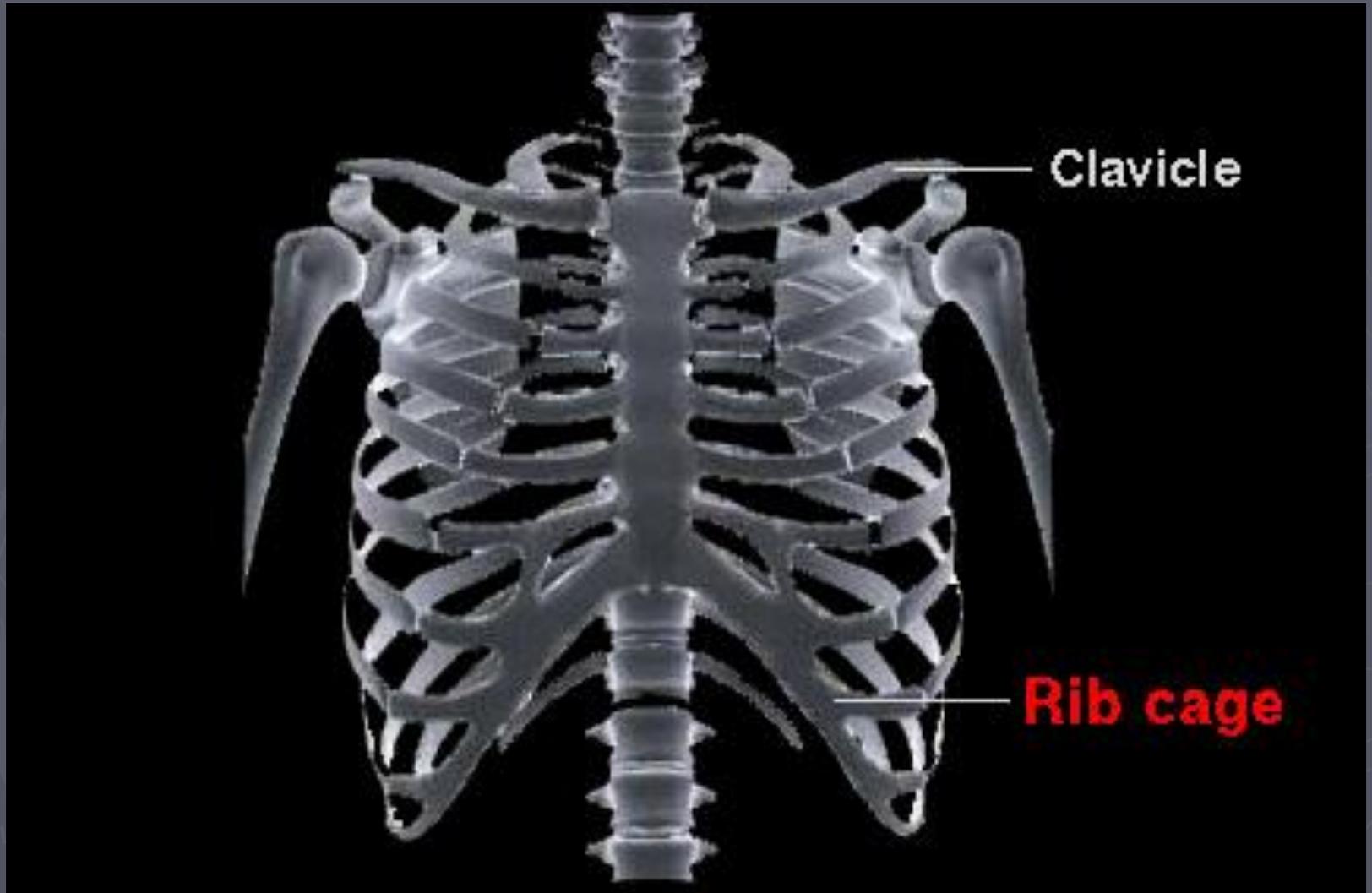
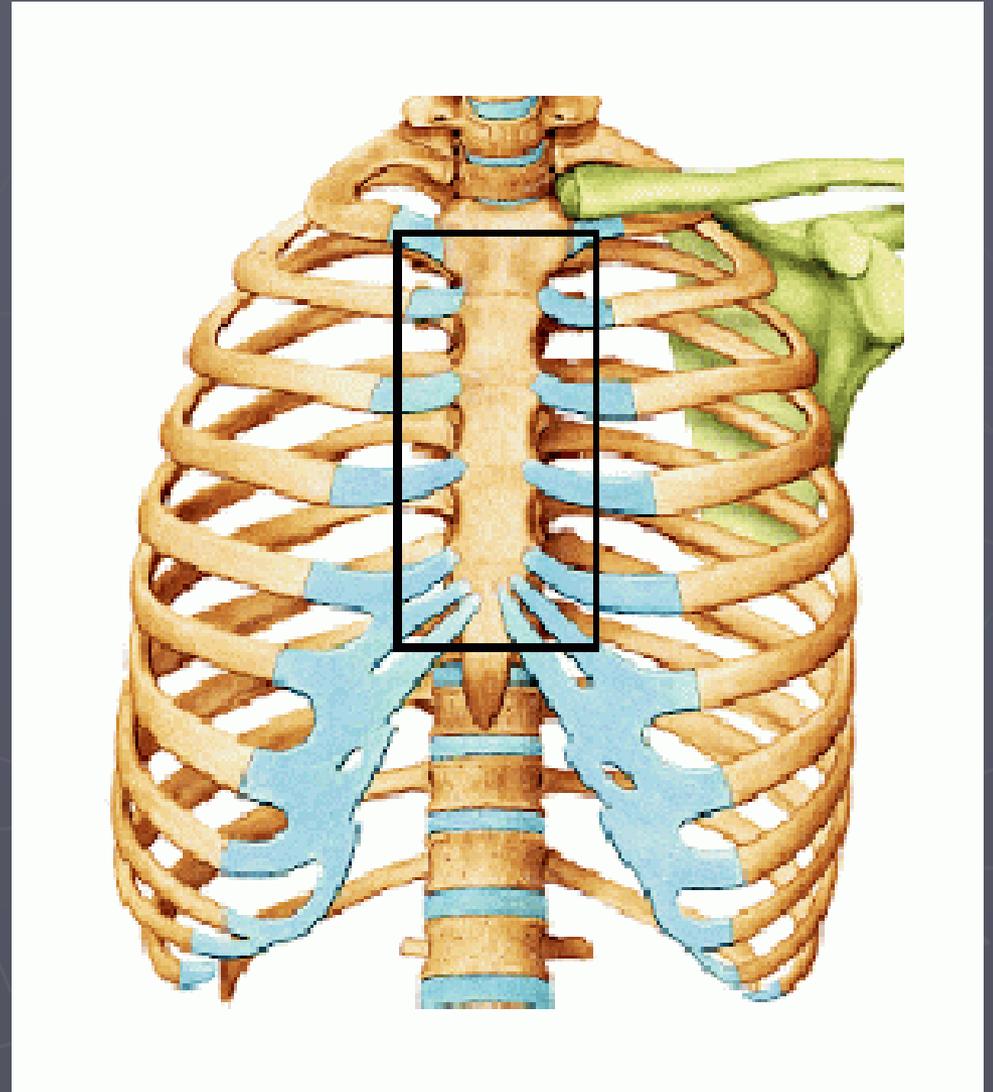
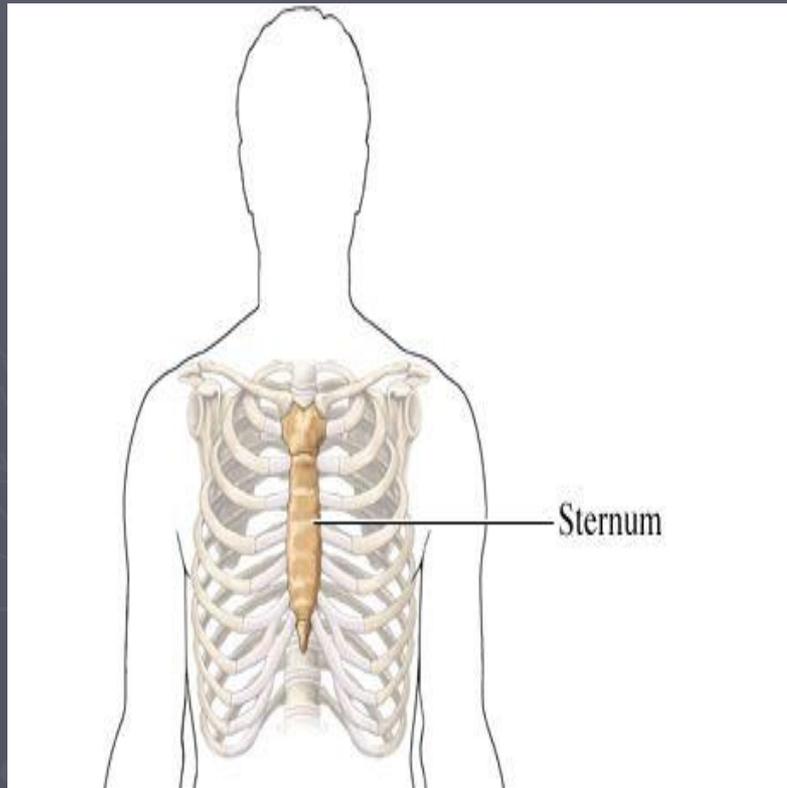


Image Source:
PRIMAL PICTURES
With Permission

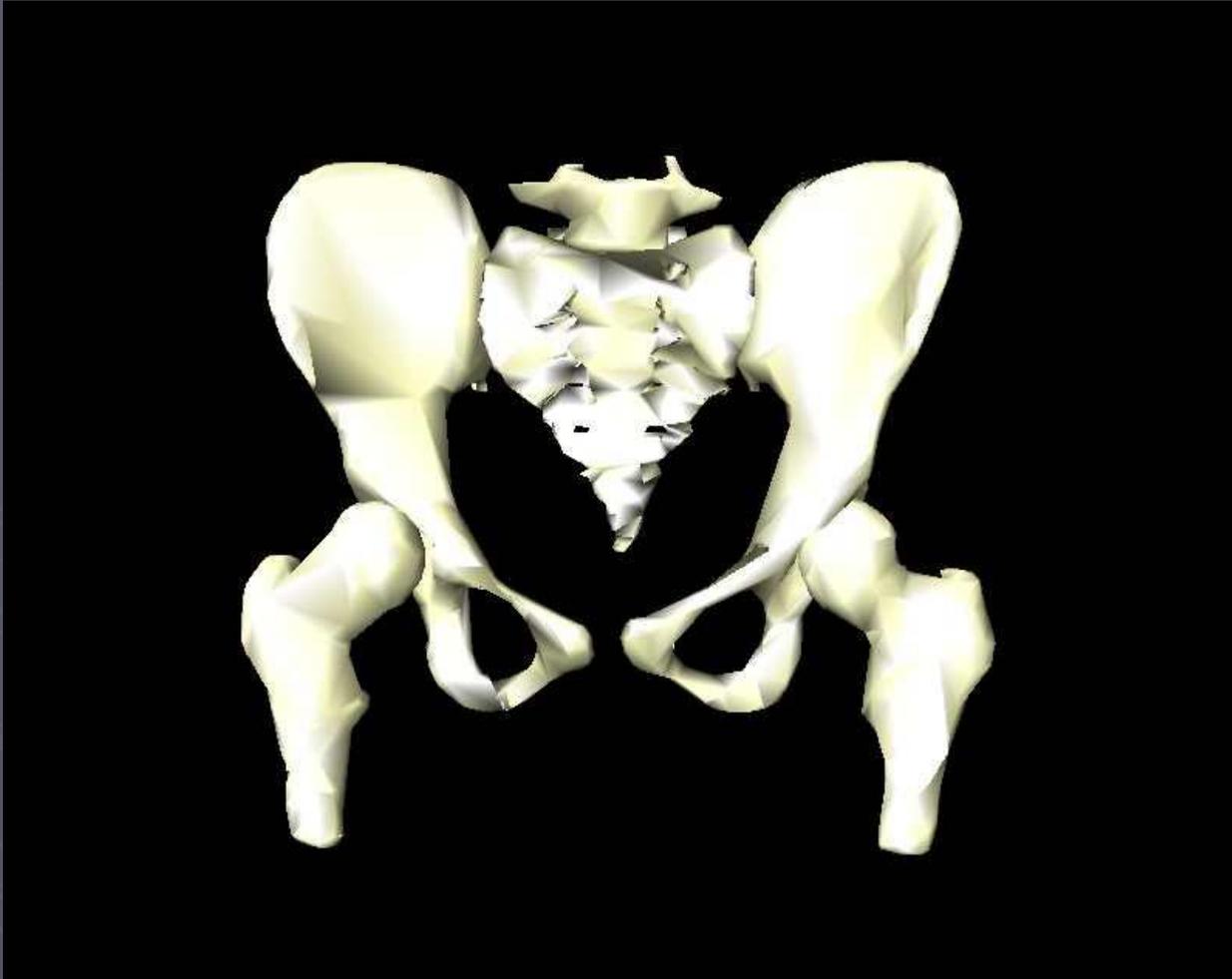
Rib Cage



Sternum (Breastbone)

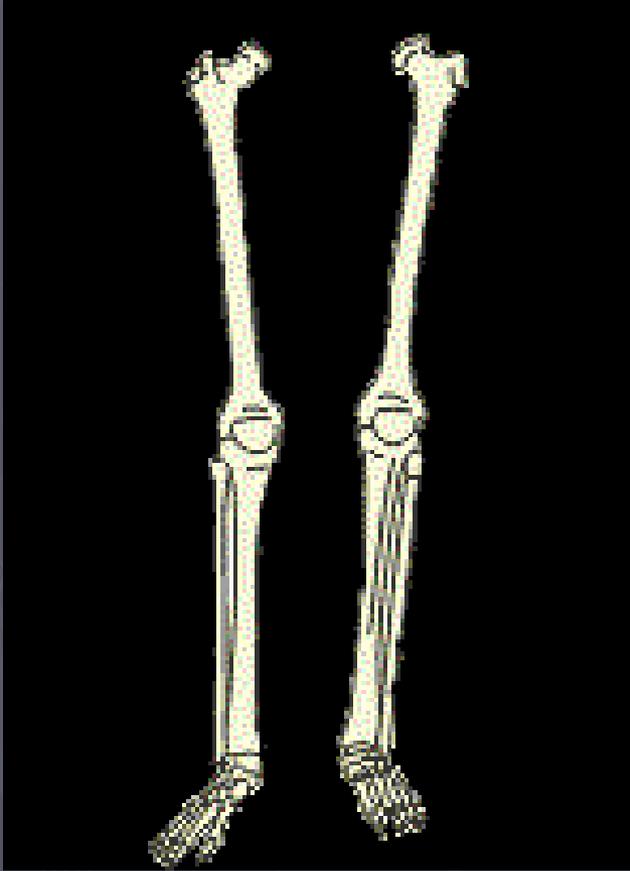


Pelvis (Dancing Bone)

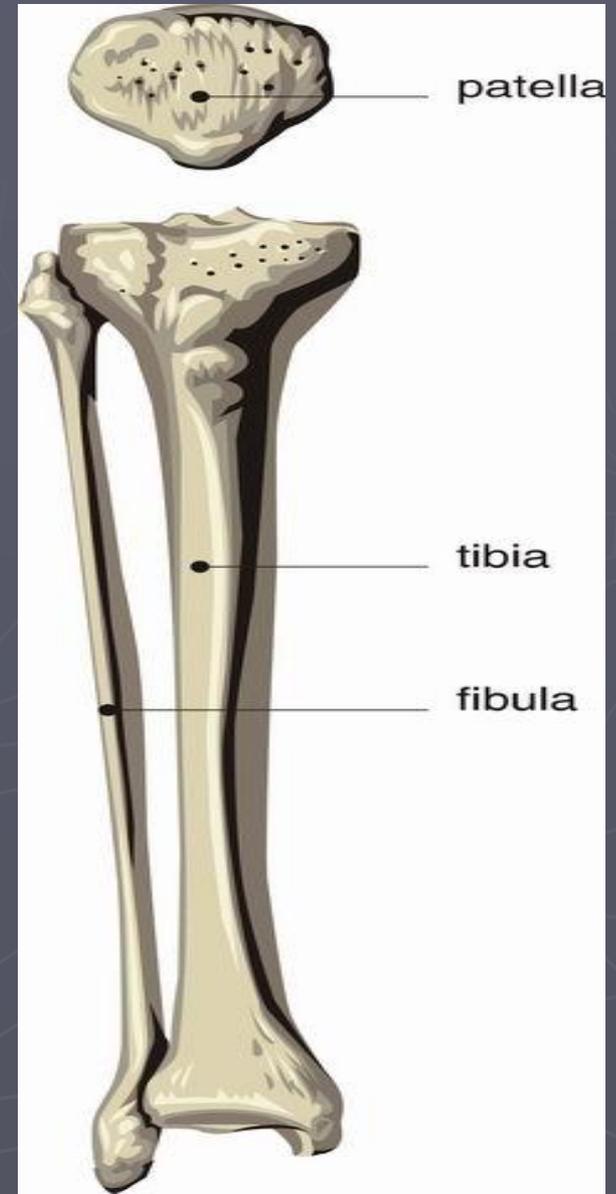
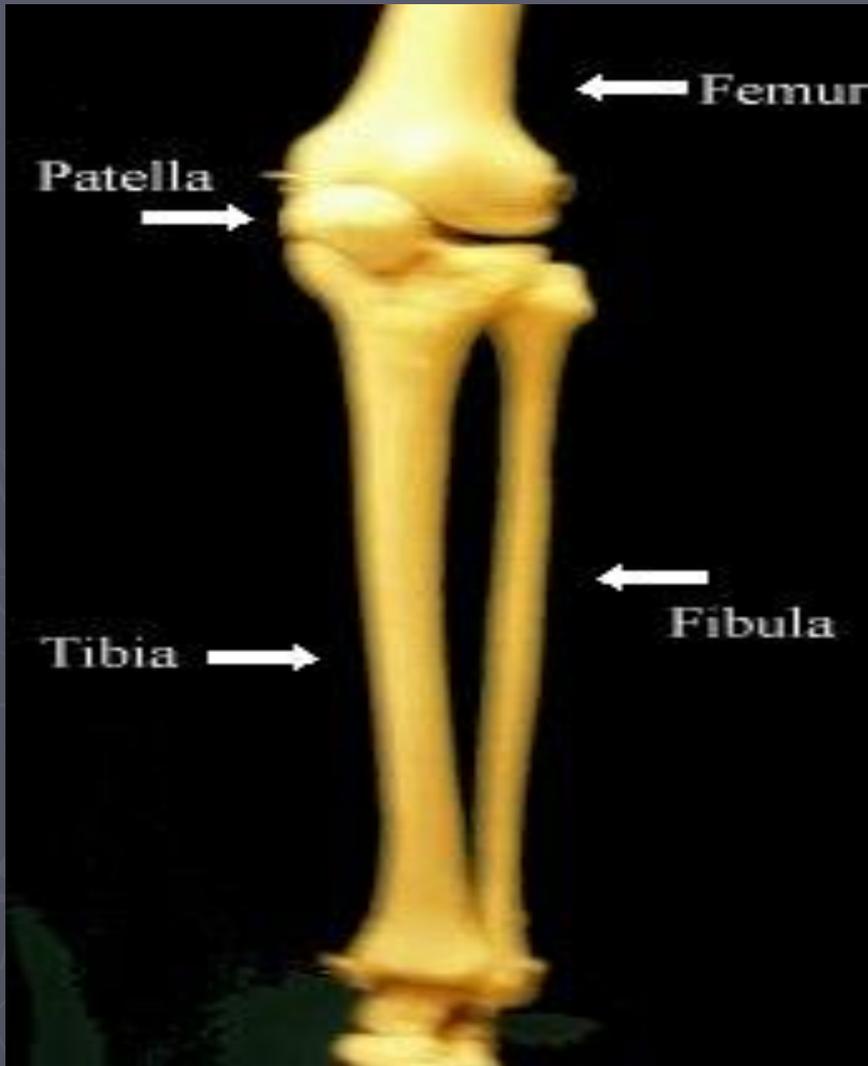


Femur

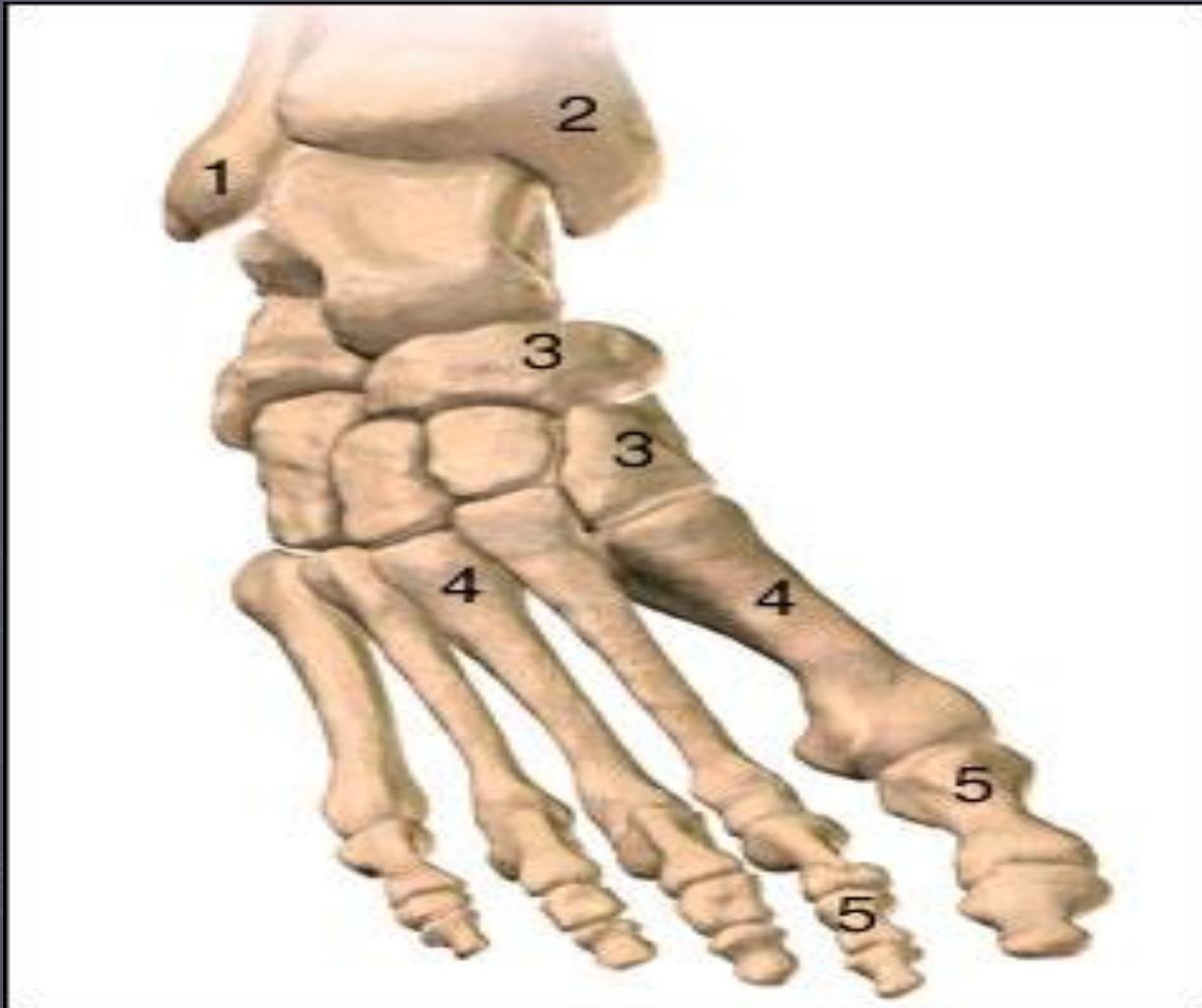
(Largest Bone in the Body)



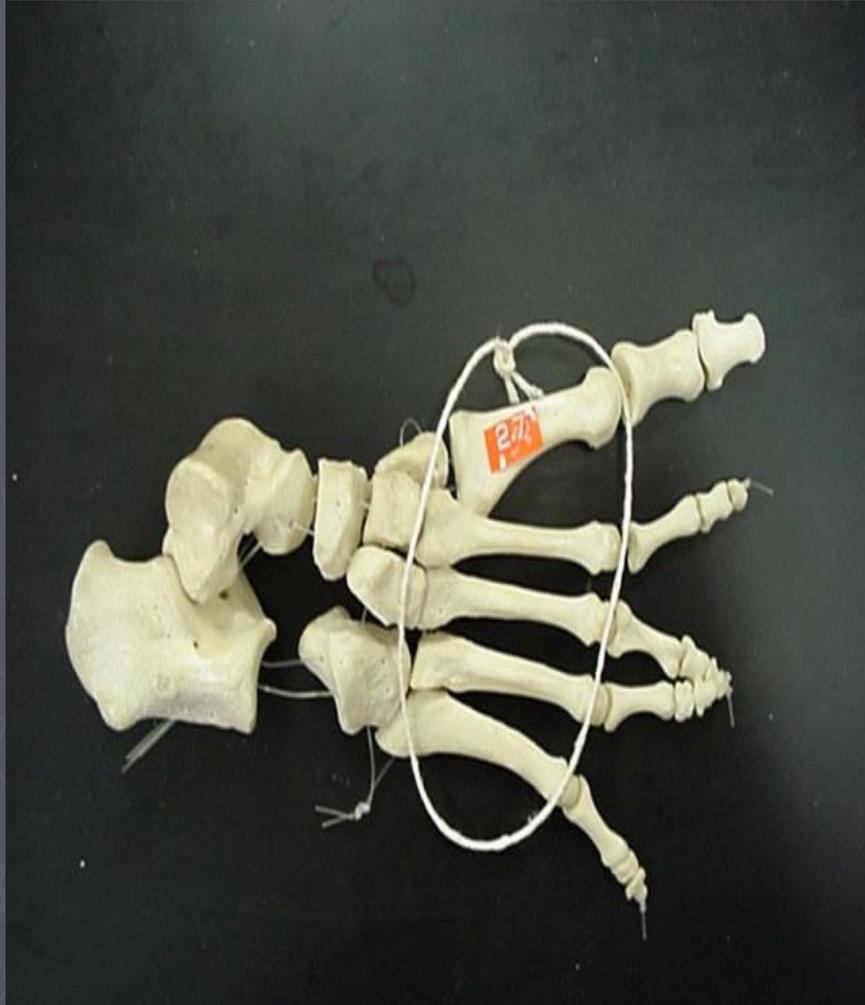
The Tibia and Fibula



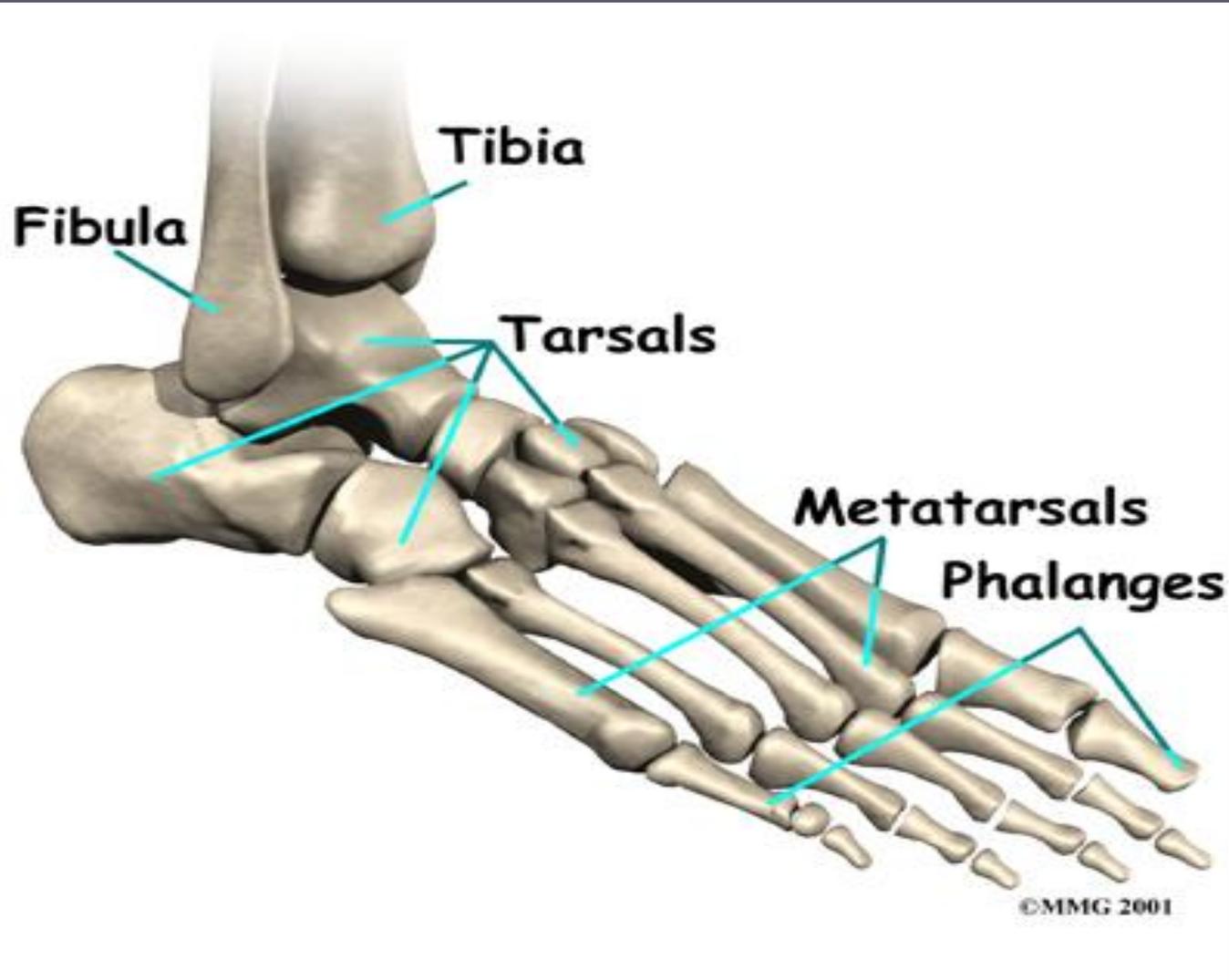
Tarsals



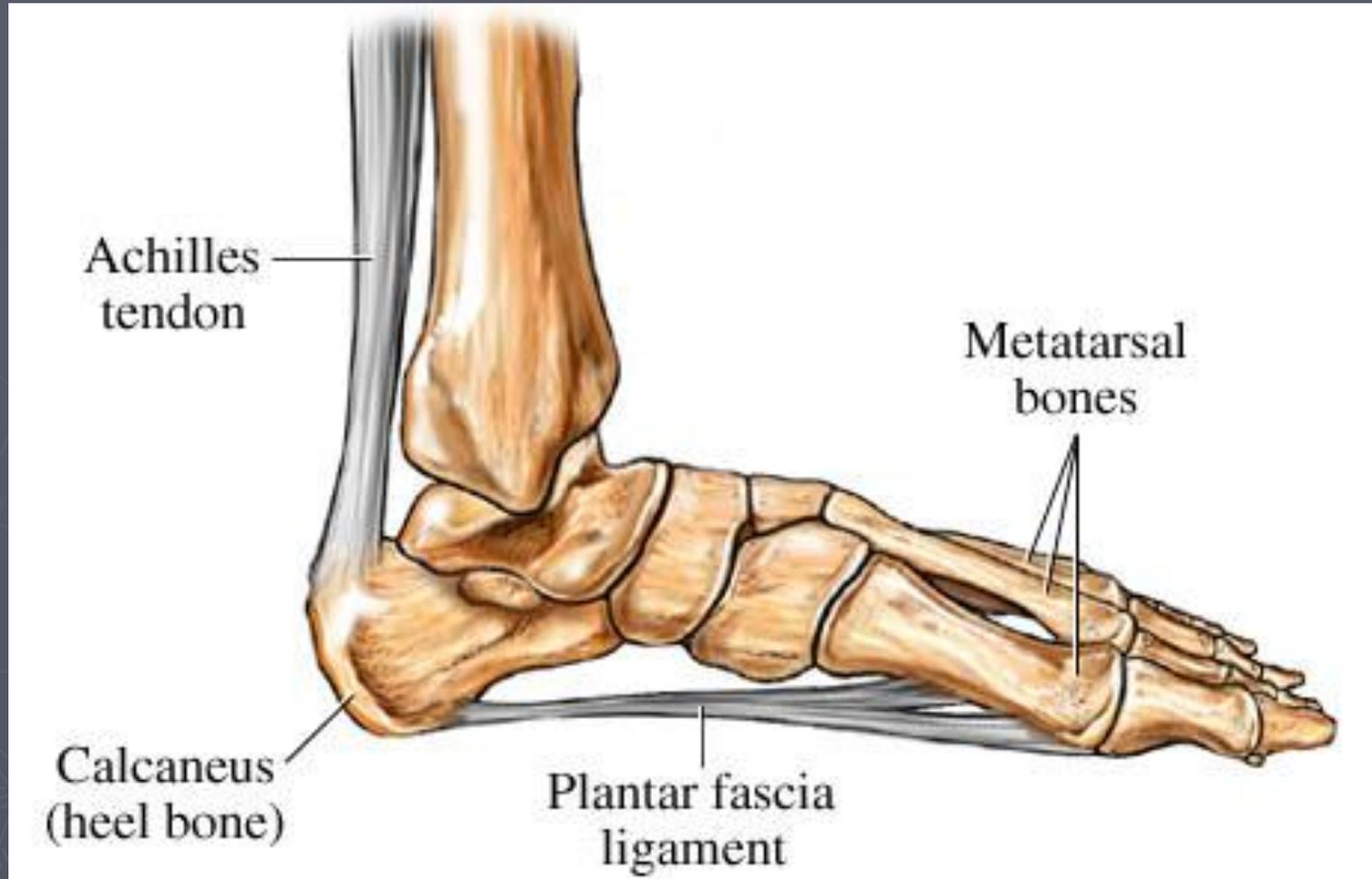
Metatarsals



Phalanges



Calcaneus



Skeletal System Review

[My Videos\wholebodyskeleton.mov](#)

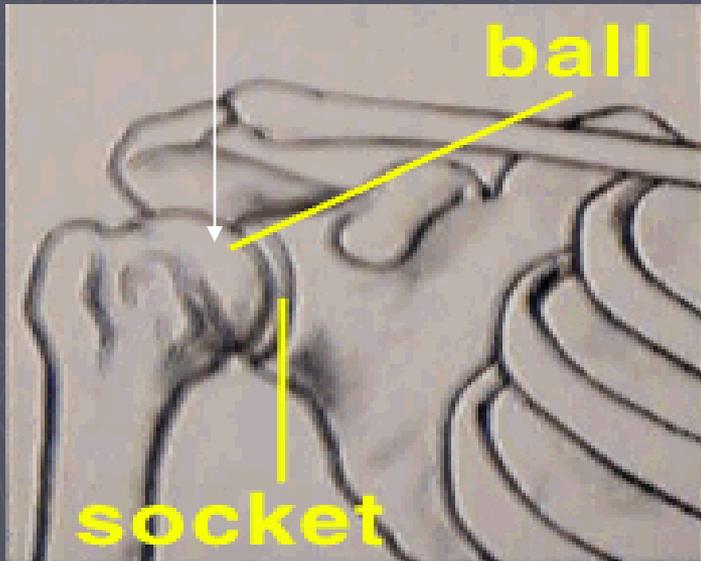


Joints of the Body

► Ball and Socket

Joint: Round end of bone fitting snugly within another bone.

- Ex. Shoulder and Hip



Joints of the Body

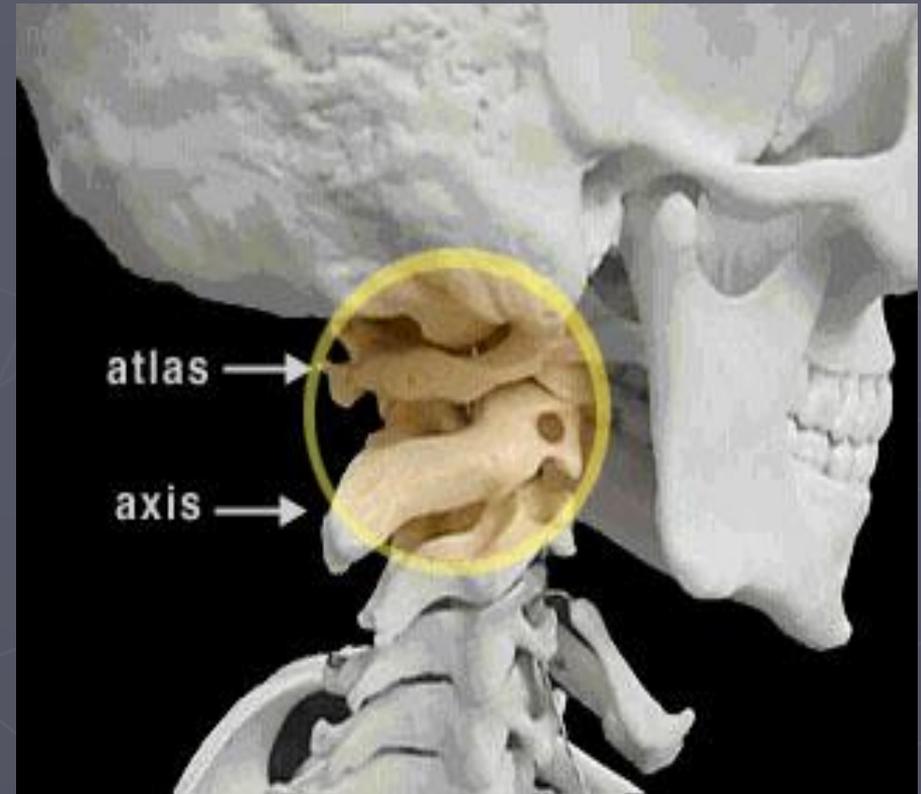
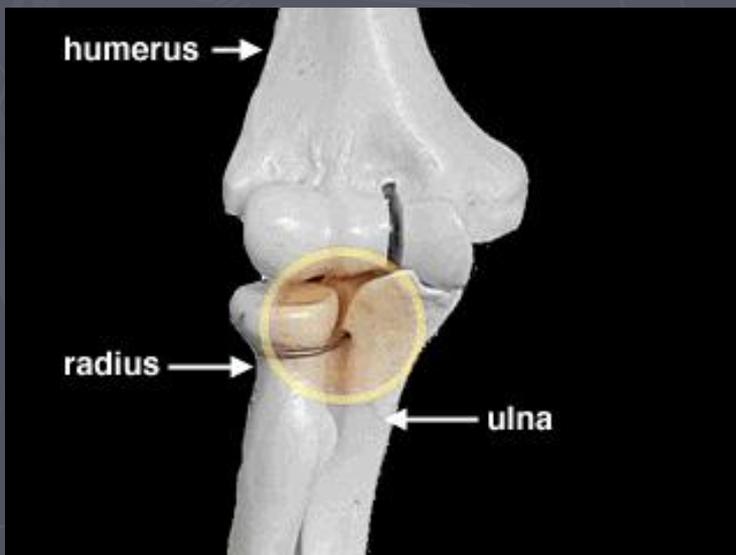
- ▶ **Hinge Joint:**
Movement at joint in one direction **like a door.**
 - Ex. Knee and Elbow



Joints of the Body

► **Pivot Joint:** Bone resting atop another bone permitting free movement.

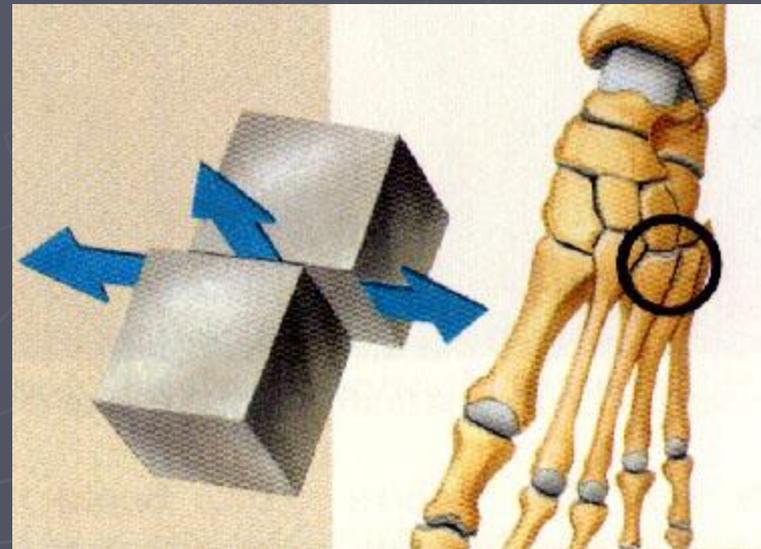
- Ex. Neck, Wrist and Ankles



Joints of the Body

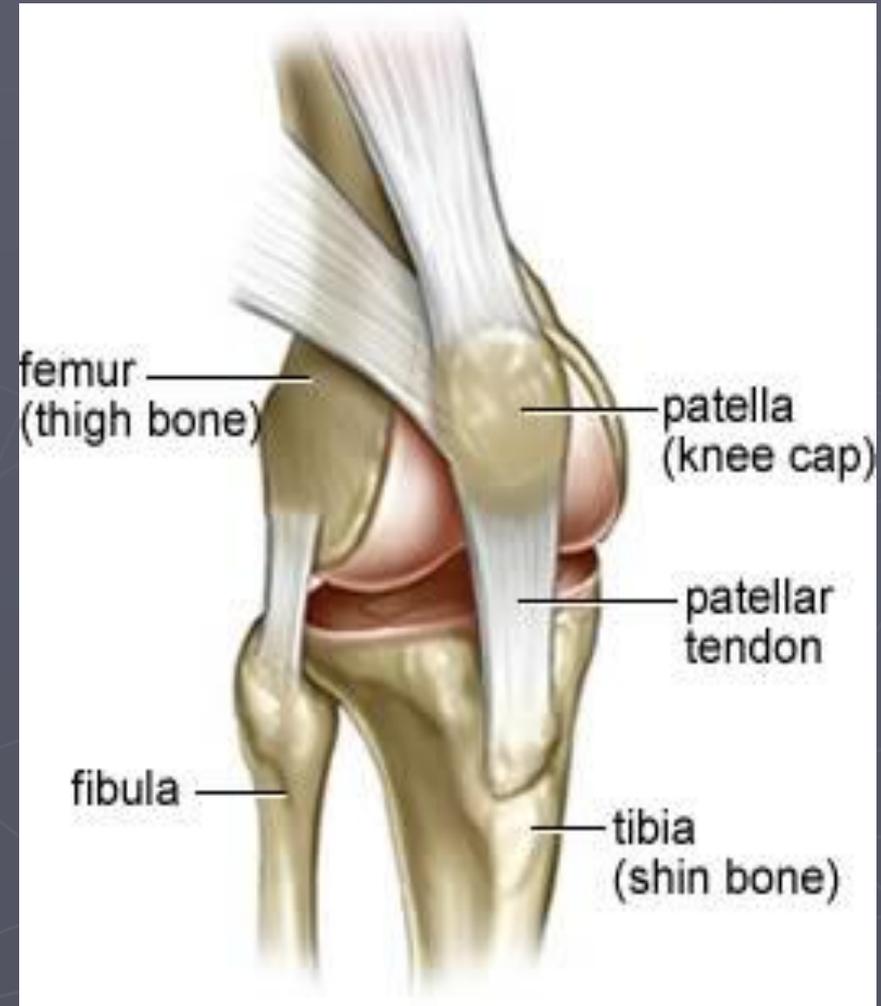
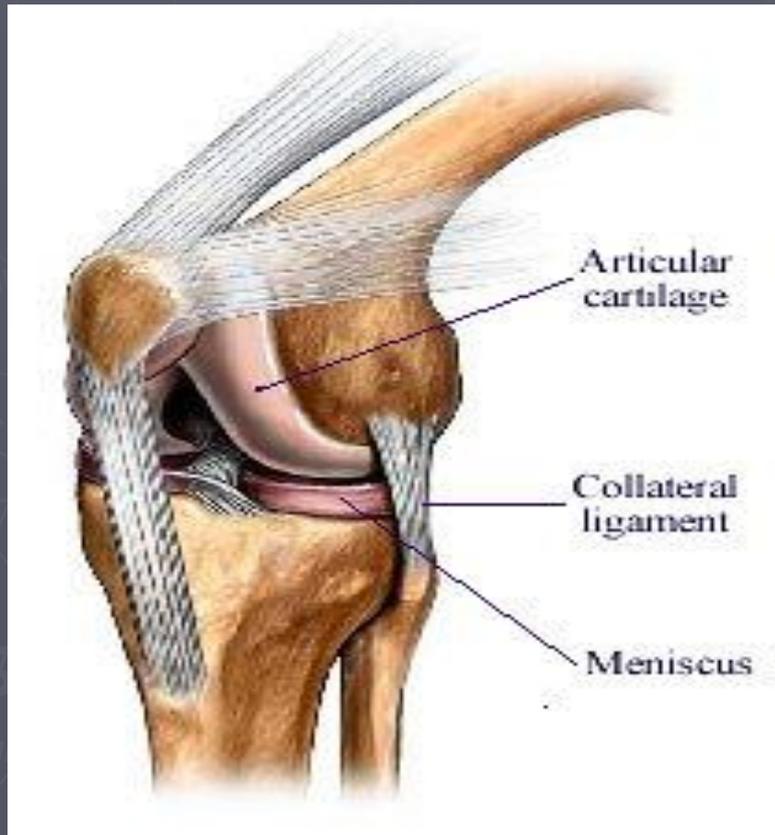
- ▶ **Fixed Immovable:** Joint does not move
 - Ex. Skull

- ▶ **Gliding Joint:** Bones slipping over other bones with a free flowing movement.
 - Ex. Knuckles



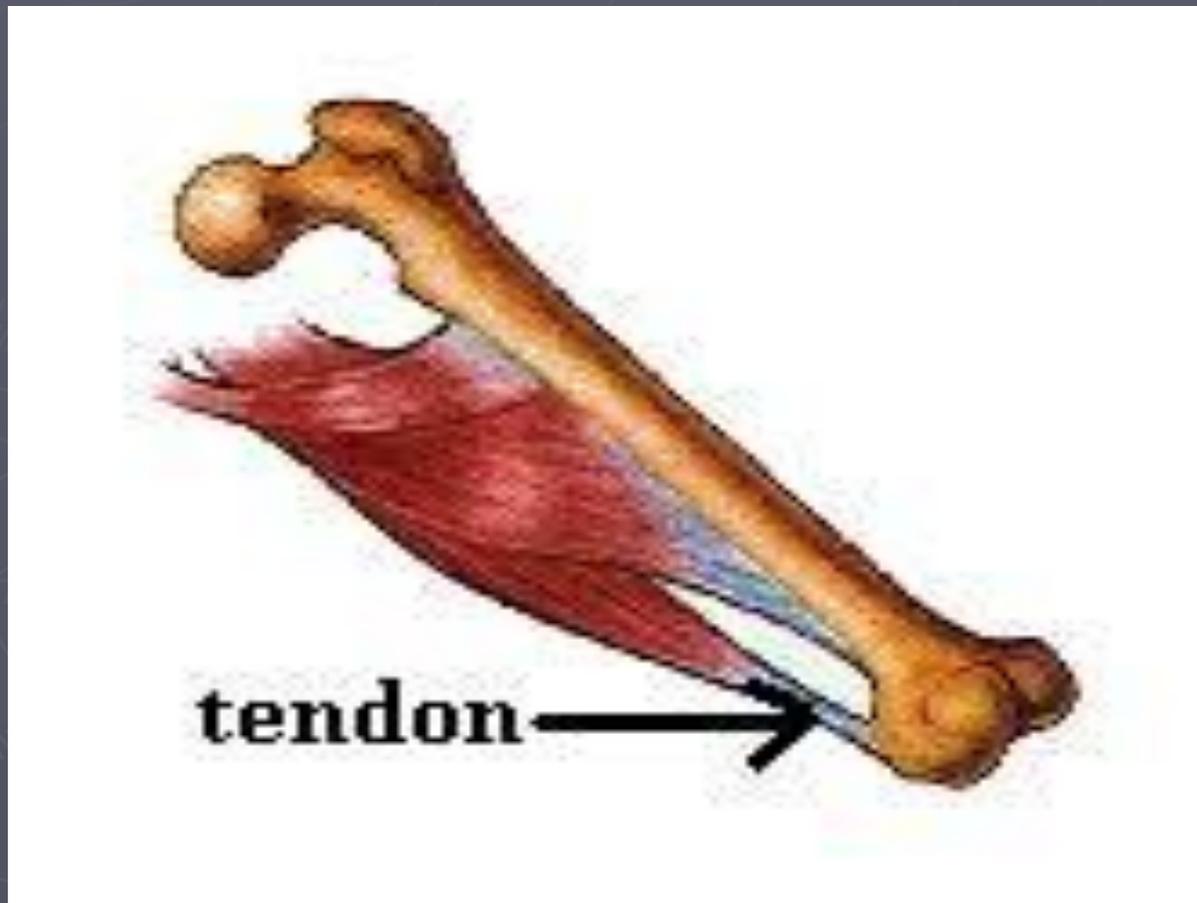
The Connectors of the Body

- ▶ **Ligaments:** Connect bone to bone



The Connectors of the Body!!

- ▶ **Tendon:** *Attaches muscles to bones*



The Connectors of the Body

- ▶ Cartilage: It acts as a **cushion between bones at a joint** and protects the bones.



Problems of the Skeletal System

- Fracture: **Break**



- Dislocation: **Out of joint**



Problems of the Skeletal System

- ▶ Sprain: Swelling in the joint

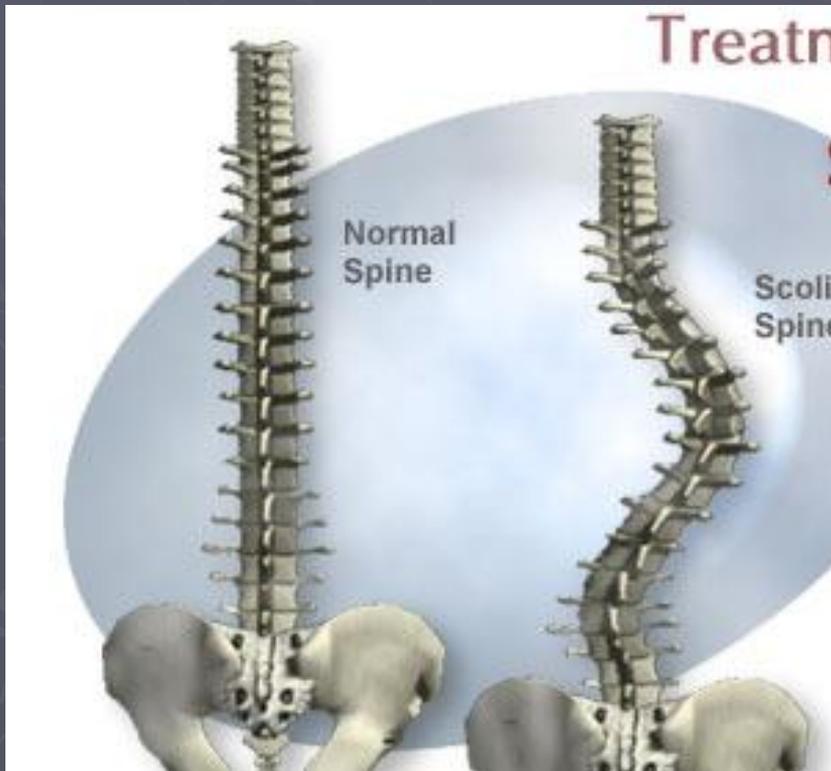


- ▶ Arthritis: Inflamed and stiff joints



Problems of the Skeletal System!!

- Scoliosis: **Curvature of the spine**



- Osteoporosis: **Brittle bones**

