

Anatomy and Physiology II

Review Shoulder Girdle

New Material

Upper Extremities - Bones

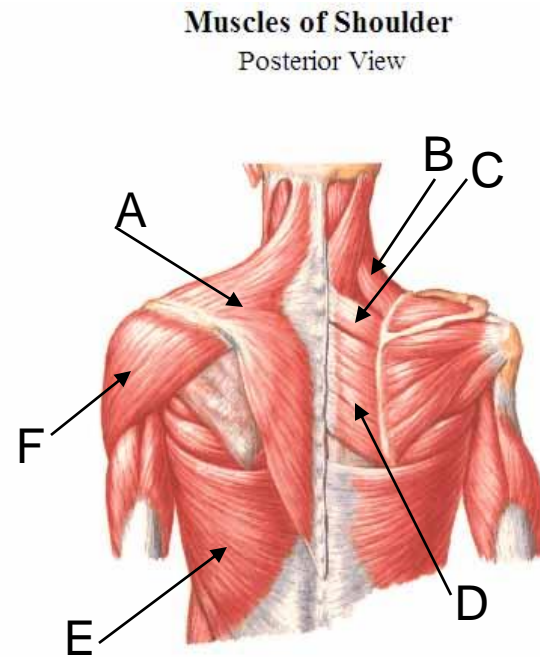
Anatomy and Physiology II

Shoulder Girdle

Review

Questions From Last Lecture

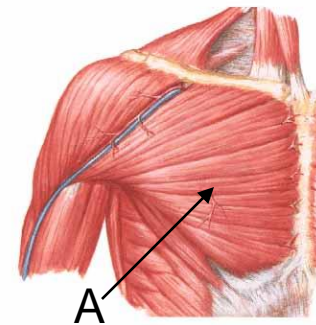
- Can you identify the following muscles?
 - Trapezius
 - A
 - Rhomboid major
 - D
 - Rhomboid minor
 - C
 - Which is more superficial, rhomboids or trapezius?
 - Trapezius
 - Levator scapula
 - B
 - Deltoids
 - F
 - Latissimus dorsi
 - E



Questions From Last Lecture

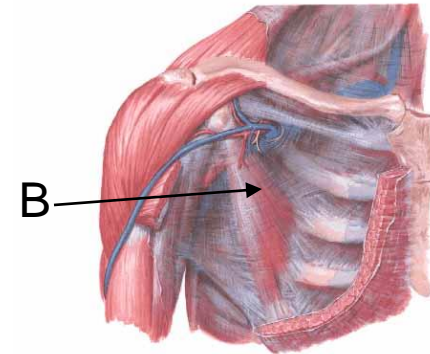
- What structures can you recognize in this image that were in the last?
 - Deltoids and Trapezius
- Can you identify the following muscles?
 - Pectoralis major
 - A
 - Pectoralis minor
 - B
 - Which is the deeper of the two?
 - Pectoralis minor

Muscles of Shoulder
Anterior View




©Hovortis

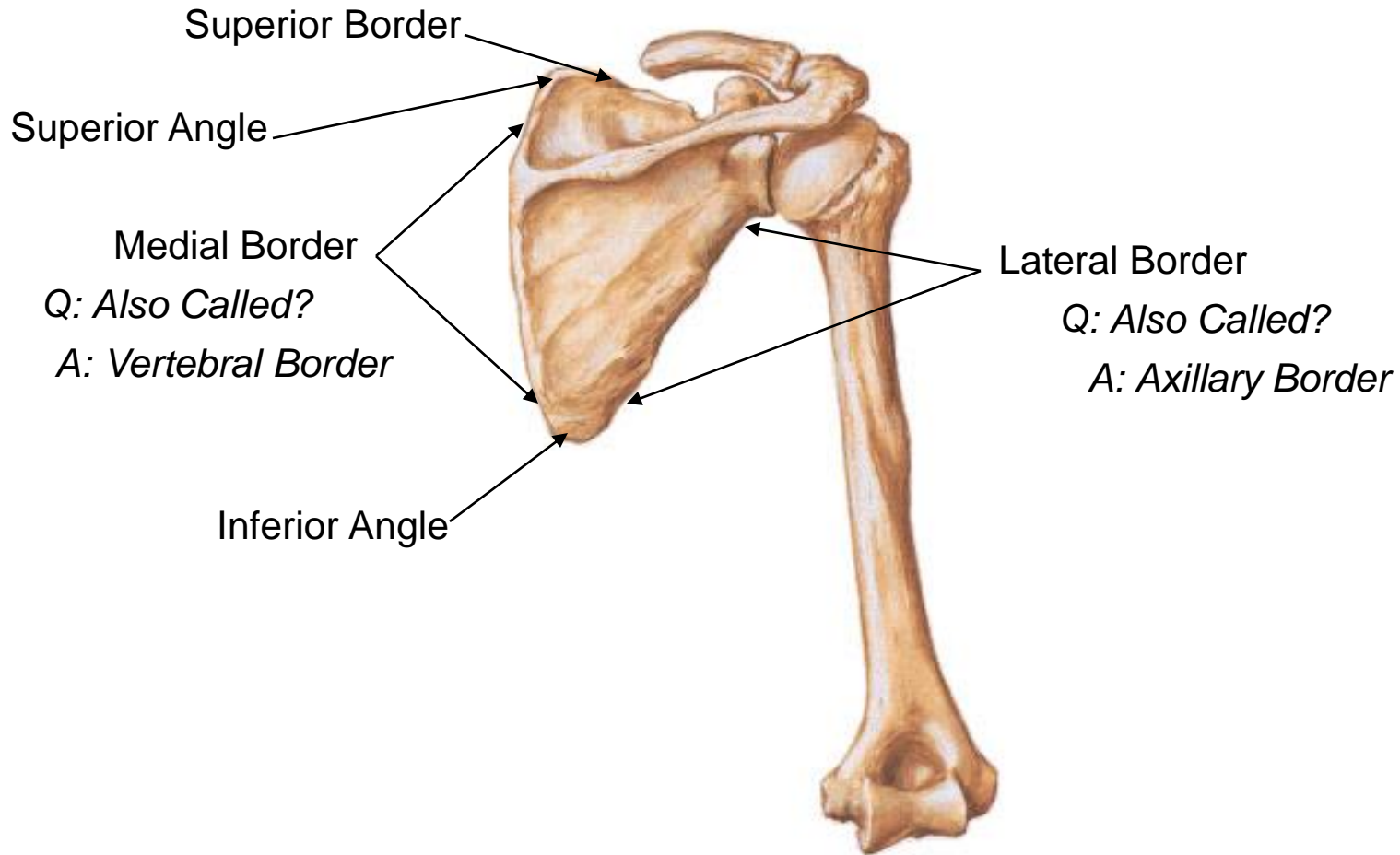
Pectoral, Clavipectoral and Axillary Fasciae
Anterior View




©Hovortis

Humerus and Scapula - Borders

Posterior View



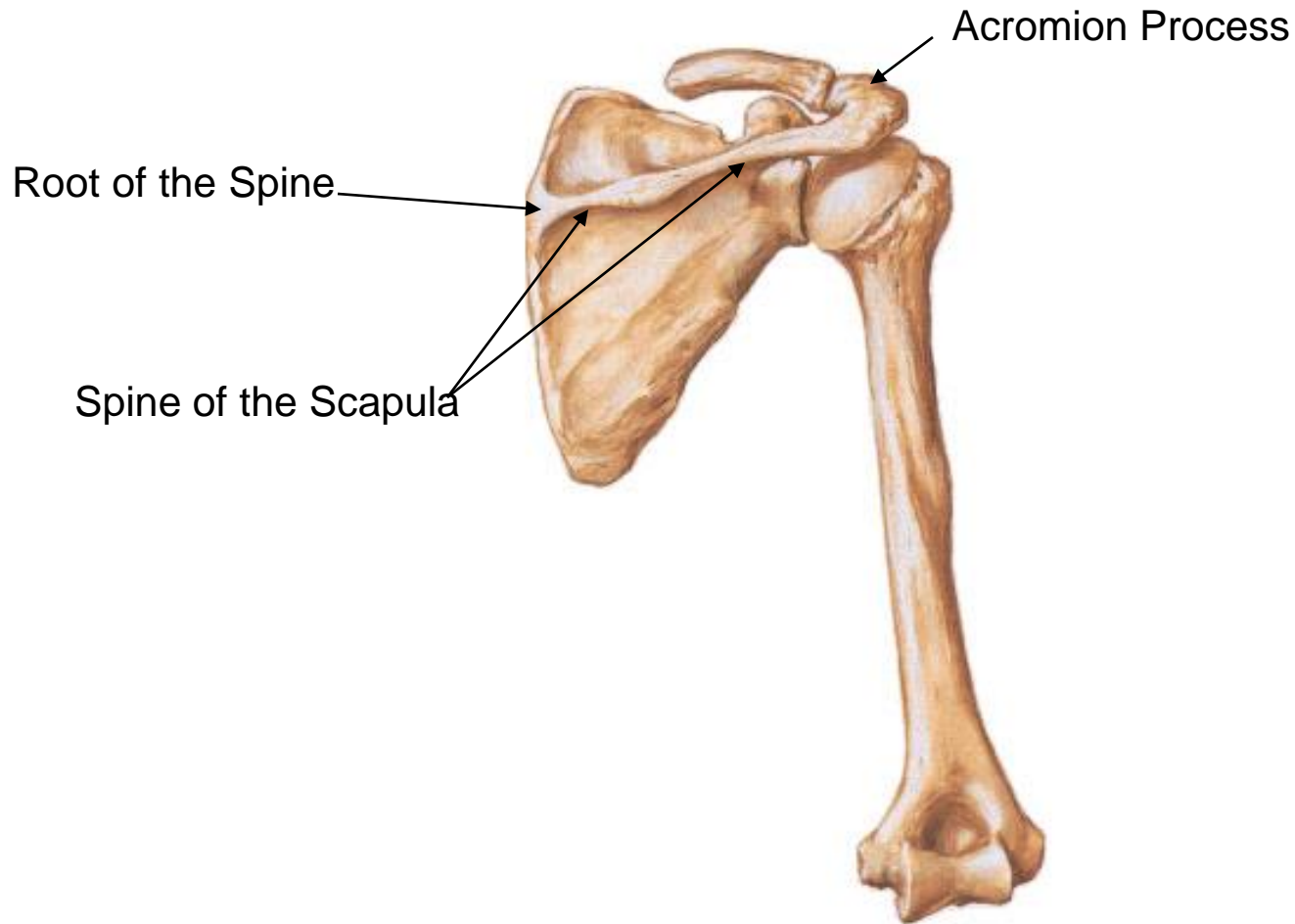
Humerus and Scapula - Borders

Posterior View

- Which two muscles introduced last week had attachments on the medial border of the scapula?
 - Rhomboids
 - Levator scapula
- Rhomboids
 - From what bones and landmarks on the axial skeleton did the rhomboids attach?
 - Spinous processes of the vertebra
 - What are the specific attachments?
 - Spinous processes of C7-T5 *to the* medial border of the scapula from the root of the spine of the scapula to the inferior angle
 - What was its action?
 - Retraction of the scapula (*also elevates and downwardly rotates the scapula*)
- Levator Scapula
 - From what bones and landmarks on the axial skeleton did the levator scapula attach?
 - Transverse processes of the vertebra
 - What are the specific attachments?
 - Transverse processes of C1-C4 *to the* medial border of the scapula from the root of the spine of the scapula to the superior angle
 - What was its action?
 - Elevation of the scapula (*also downwardly rotates the scapula*)



Humerus and Scapula - Processes Posterior View



Humerus and Scapula

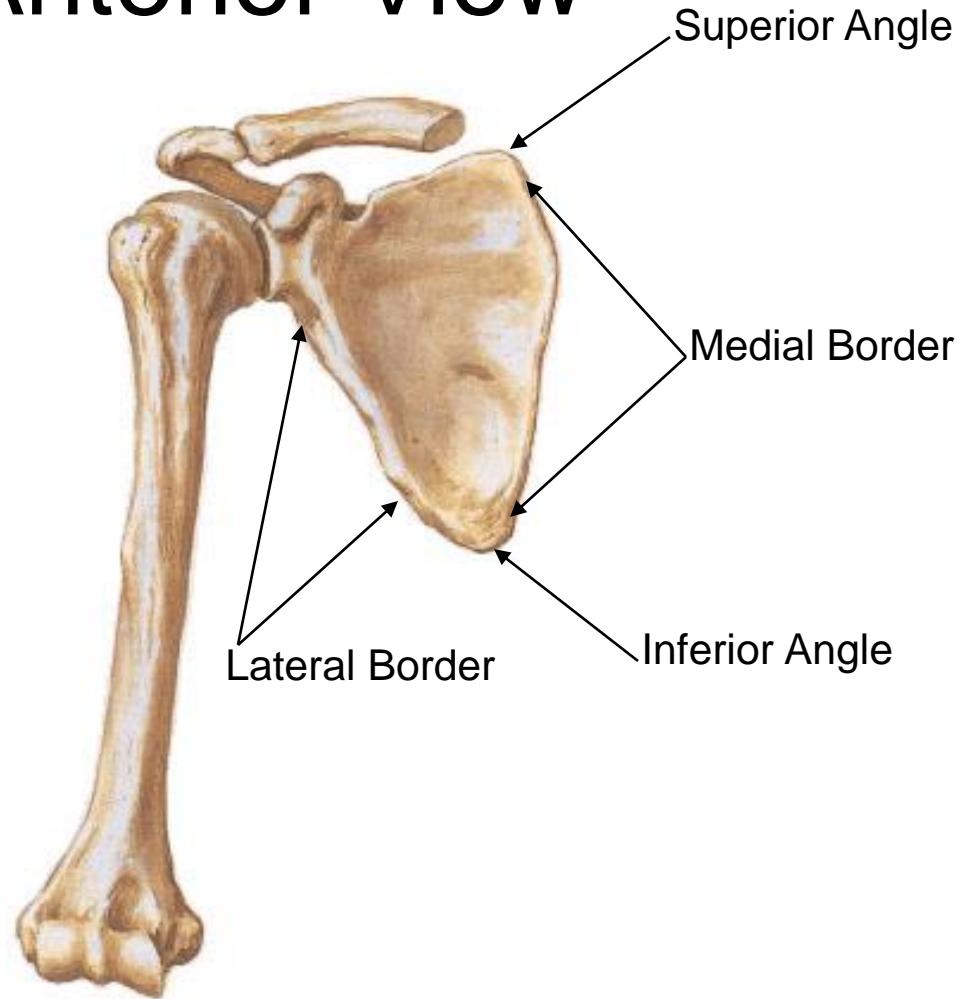
Posterior View

- What muscles introduced had attachments on the acromion and spine of the scapula?
 - Trapezius and Deltoids
- What might be said about the appendicular attachment (insertion) of the trapezius and the proximal attachment (origin) of the deltoids?
 - They are the same
- Trapezius
 - What are its attachments?
 - External occipital protuberance (EOP), medial 1/3rd of the superior nuchal line, nuchal ligament, spinous processes of C7-T12 *to the lateral 1/3rd of the clavicle, acromion process, and spine of the scapula*
 - What are its actions?
- Deltoids
 - What are its attachments?
 - **Lateral 1/3rd of the clavicle, acromion process, and spine of the scapula** *to the* deltoid tuberosity of the humerus
 - What are its actions?

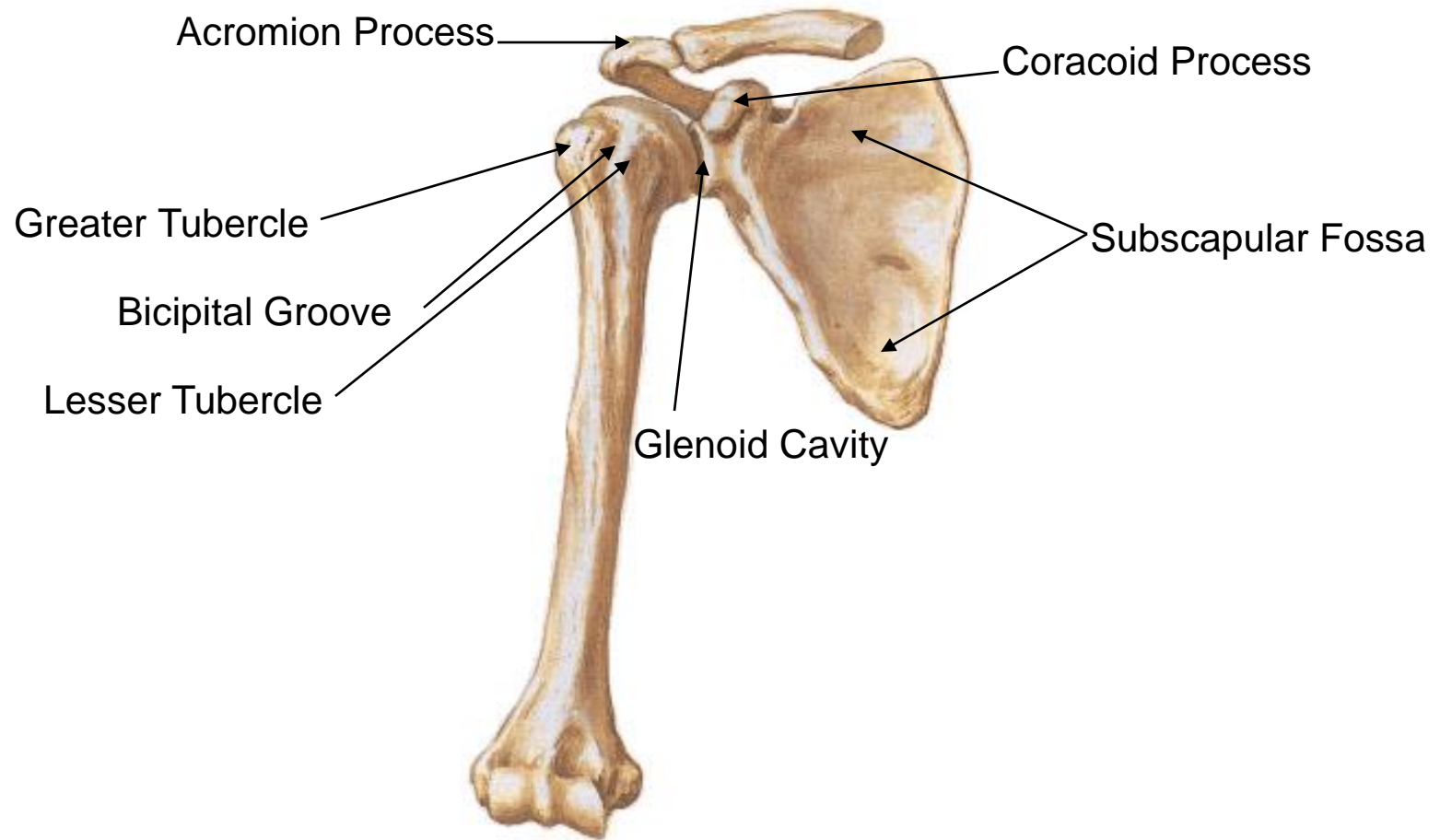


Humerus and Scapula - Borders

Anterior View

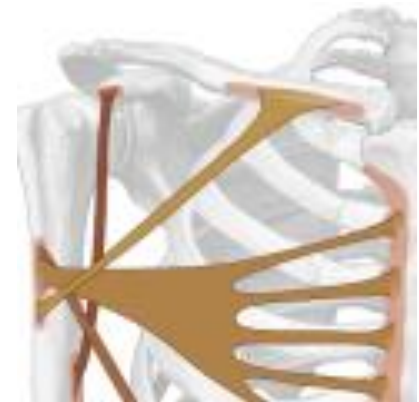


Humerus and Scapula – Processes and Depressions Anterior View



Humerus and Scapula Anterior View

- Pectoralis Major
 - Is it superficial or deep to the pectoralis minor?
 - Superficial
 - What are its attachments?
 - Medial half of the clavicle, sternum, and costal cartilage of the ribs *to the* lateral lip of the bicipital groove of the humerus
 - What are its major actions?
 - Entire muscle: adducts, medially rotates, and horizontally flexes the arm at the shoulder joint; protracts the scapula
 - *Clavicular head: flexes the arm at the shoulder joint*
 - *Sternocostal head: extends the arm at the shoulder joint (from position of flexion), depresses the scapula*



Humerus and Scapula

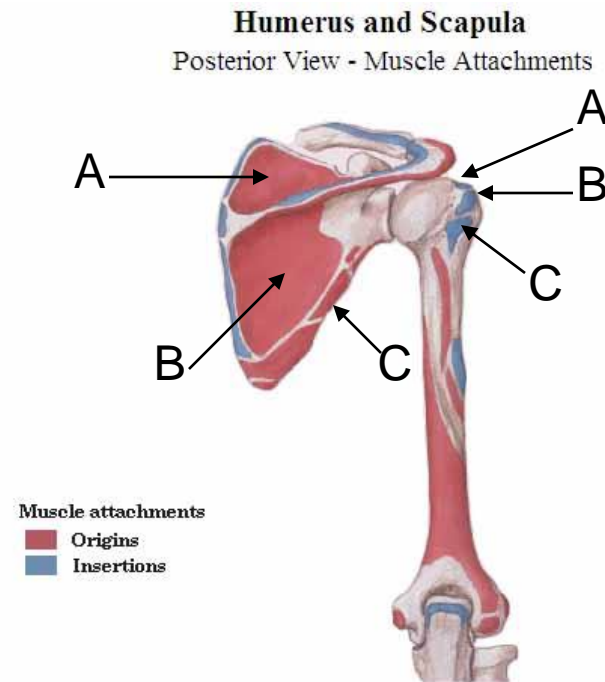
Anterior View

- What muscle introduced attaches to the coracoid process of the scapula?
 - Pectoralis minor
 - Is it deep or superficial to the pectoralis major?
 - Deep
 - What are its attachments?
 - » Ribs 3-5 *to the* coracoid process of the scapula
 - What are its action on the ribs?
 - It elevates ribs 3-5 (and it is often considered an accessory breathing muscle)



Rotator Cuff Muscle Review

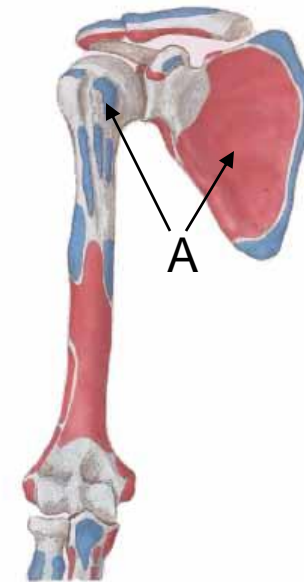
- Rotator Cuff Muscles?
 - What are the four rotator cuff muscles
 - Supraspinatus
 - Infraspinatus
 - Teres Minor
 - Supscapularis
 - Which origin and insertion is indicated by A
 - Supraspinatus
 - What bony landmark does it attach to on the scapula?
 - Supraspinous fossa
 - What is its primary action?
 - Abduction of the shoulder
 - Which by B
 - Infraspinatus
 - What bony landmark does it attach to on the scapula?
 - Infraspinous fossa
 - What is its primary action?
 - Lateral rotation of the shoulder
 - And by C
 - Teres Minor
 - What is its primary action?
 - Lateral Rotation of the shoulder



Rotator Cuff Muscle Review

- Rotator cuff muscles (cont.)
 - What origin and insertion is indicated by A
 - Subscapularis
 - What bony landmark does it attach to on the scapula?
 - Subscapular fossa
 - What is its primary action?
 - Medial rotation of the shoulder

Humerus and Scapula
Anterior View - Muscle Attachments



Muscle attachments
■ Origins
■ Insertions

Rotator Cuff Muscle Review

- Rotator cuff muscles (cont.)
 - Where do supraspinatus, infraspinatus and teres minor attach to?
 - Greater tubercle
 - Where does subscapularis attach to?
 - Lesser tubercle
 - Which two perform lateral rotation at the shoulder?
 - Infraspinatus and teres minor
 - Which does medial rotation?
 - Subscapularis
 - Which does abduction?
 - Supraspinatus

Anatomy and Physiology II

Upper Extremities

Bones

- Humerus
- Ulna
- Radius
- Carpal Bones (wrist)
- Metacarpal Bones (palm)
- Phalanges (fingers – phalanx is singular)

Humerus, Ulna And Radius

- Humerus
 - Many landmarks were introduced last lecture
 - New landmarks
 - Medial and Lateral Epicondyle
 - Medial and Lateral Supracondular ridge
 - Olecranon fossa
 - *Coronoid fossa*
- Ulna
 - Olecranon (elbow)
 - Coronoid process
 - Styloid process
- Radius
 - Head of radius
 - Styloid process

Carpal Bones, Metacarpals, Phalanges

- Carpals
 - 4 Proximal Bones
 - Pisiform, Triquetrum, Lunate, Scaphoid
 - 4 Distal Bones
 - Trapezium, Trapezoid, Capitate, Hamate
- Metacarpals
 - 5 bones
 - Base is expanded proximal end, head is expanded distal end
- Phalanges
 - 14 total (2 for thumb and 3 for other fingers)
 - Base is the expanded proximal end, head is the expanded distal end

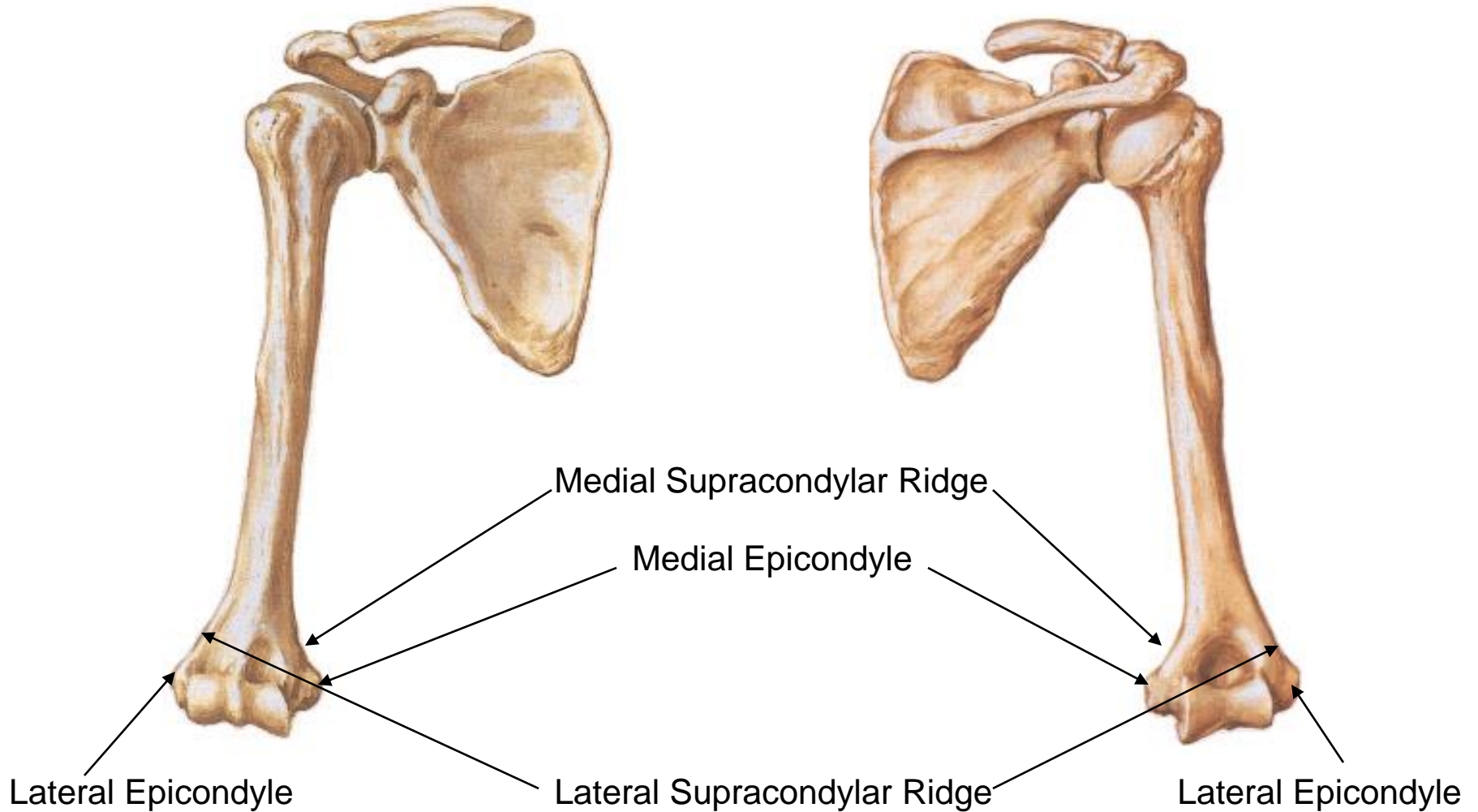
Joints

- Joint discussion between phalanges and metacarpals
 - There are joints between the metacarpals and phalanges and there are interphalangeal joints
 - The joints between the head of the metacarpals and the base of the phalanges is called the Metacarpophalangeal joint
 - Abbreviated as MPJ
 - There are two interphalangeal joints and proximal and a distal – Proximal interphalangeal joint and distal interphalangeal joint
 - Abbreviated PIP and DIP

Muscles

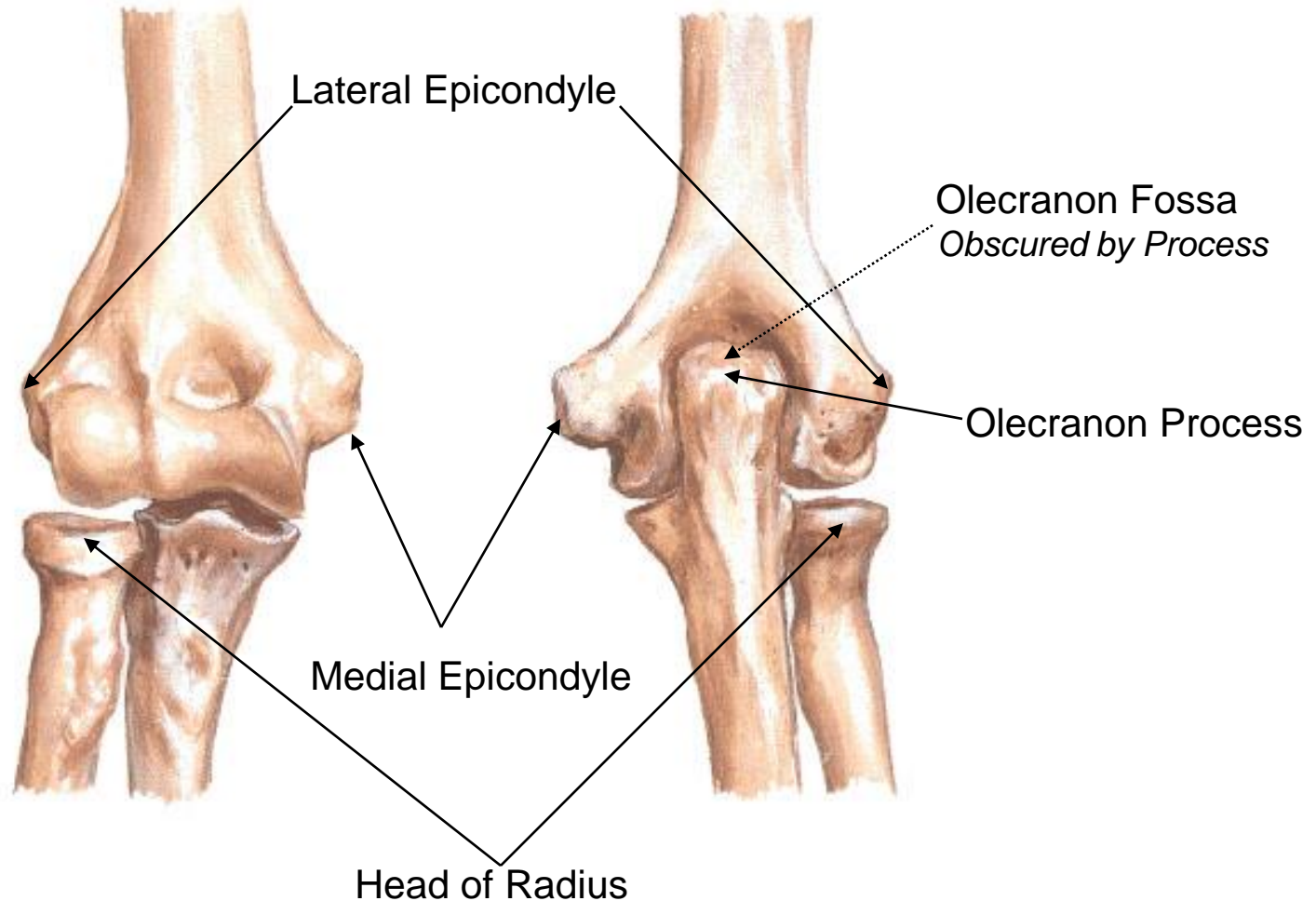
- Muscles that move the forearm and hand
 - Biceps brachii
 - Triceps brachii
 - Bracioradialis, Extensor carpi radialis (longus and brevis), Extensor carpi ulnaris
 - *Pronator teres*, Flexor carpi radialis, Palmaris longus, Flexor carpi ulnaris
- *Muscles that move the hand and fingers*
 - *Anatomic snuffbox*
 - *Abductor pollicis longus, extensor pollicus brevis, extensor pollicus longus*

Scapula and Humerus



Bones of the Elbow in Extension

Anterior and Posterior Views



Bones of the Elbow

90° Flexion



Radius and Ulna

Supination and Pronation

Anterior View



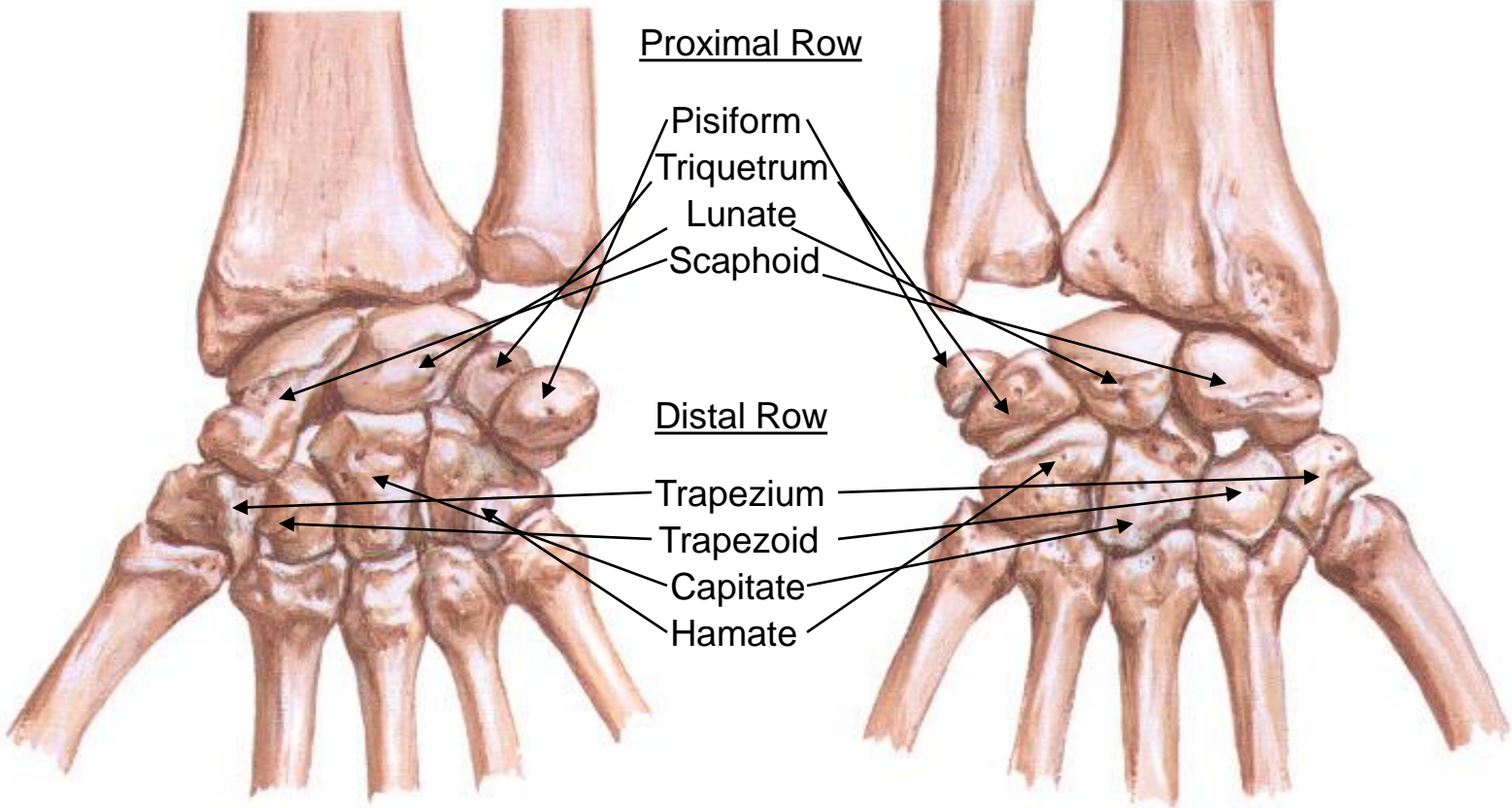
Anterior View



Carpal Bones

Anterior [Palmar] View

Posterior [Dorsal] View



PeTaL STiTCH

Bones of the Wrist and Hand

Anterior [Palmar] View

Posterior [Dorsal] View

