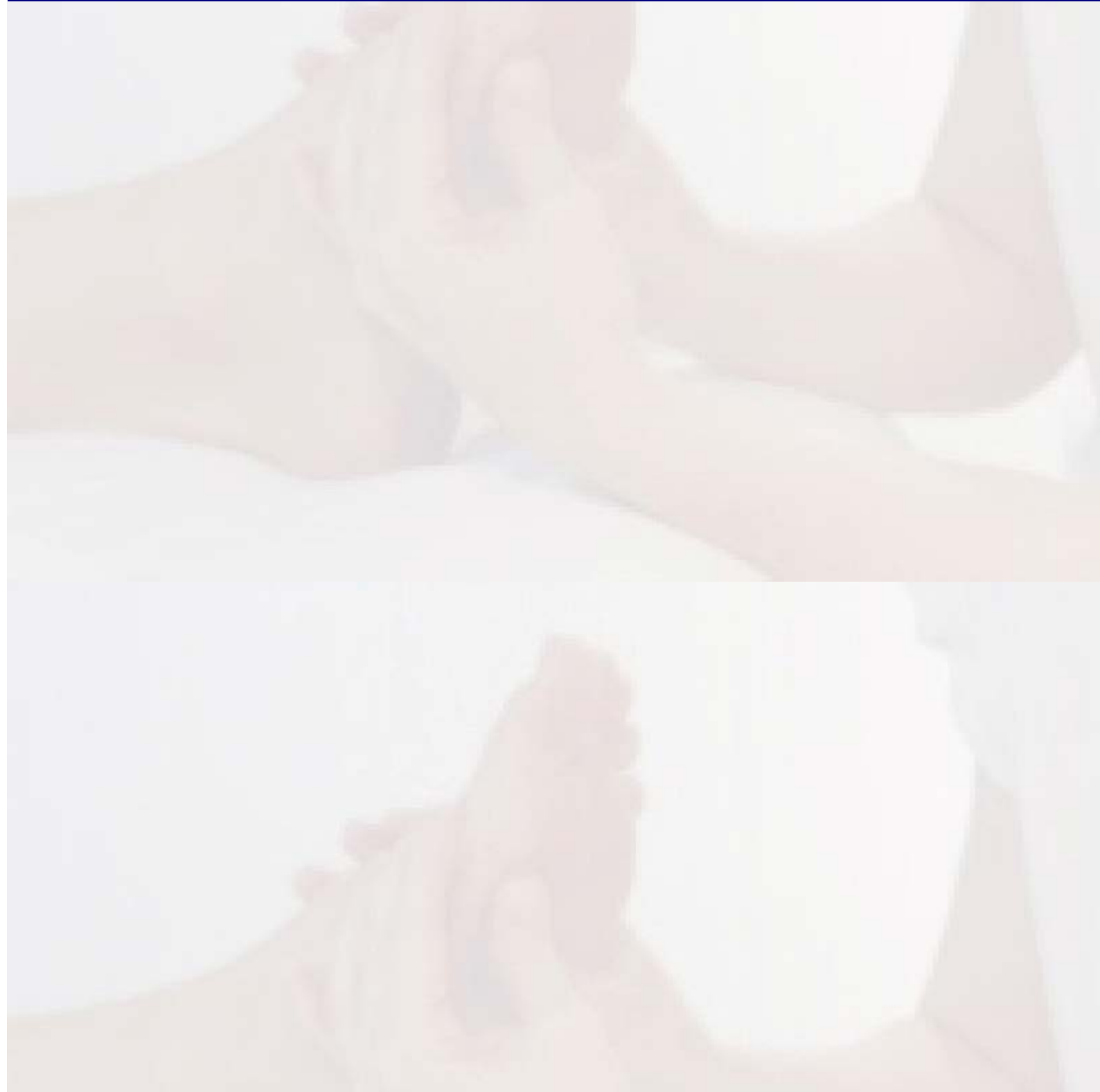


Main Menu

1

The Shoulder Joint

[click here](#)





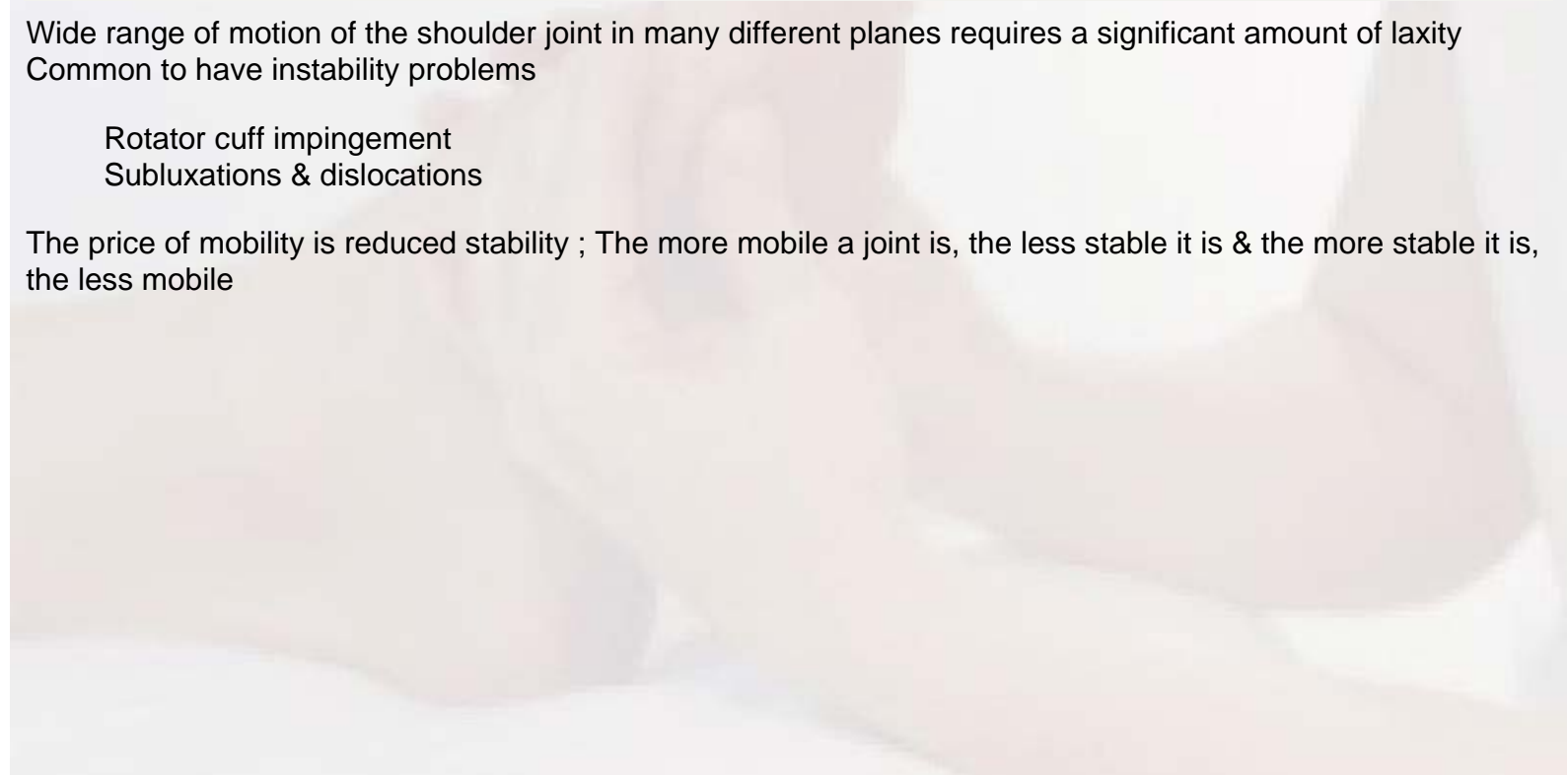
The Shoulder Joint

Shoulder joint is attached to axial skeleton via the clavicle at SC joint ; Scapula movement usually occurs with movement of humerus

Wide range of motion of the shoulder joint in many different planes requires a significant amount of laxity
Common to have instability problems

- Rotator cuff impingement
- Subluxations & dislocations

The price of mobility is reduced stability ; The more mobile a joint is, the less stable it is & the more stable it is, the less mobile



Bones

Scapula, clavicle and humerus serve as attachments for shoulder joint muscles

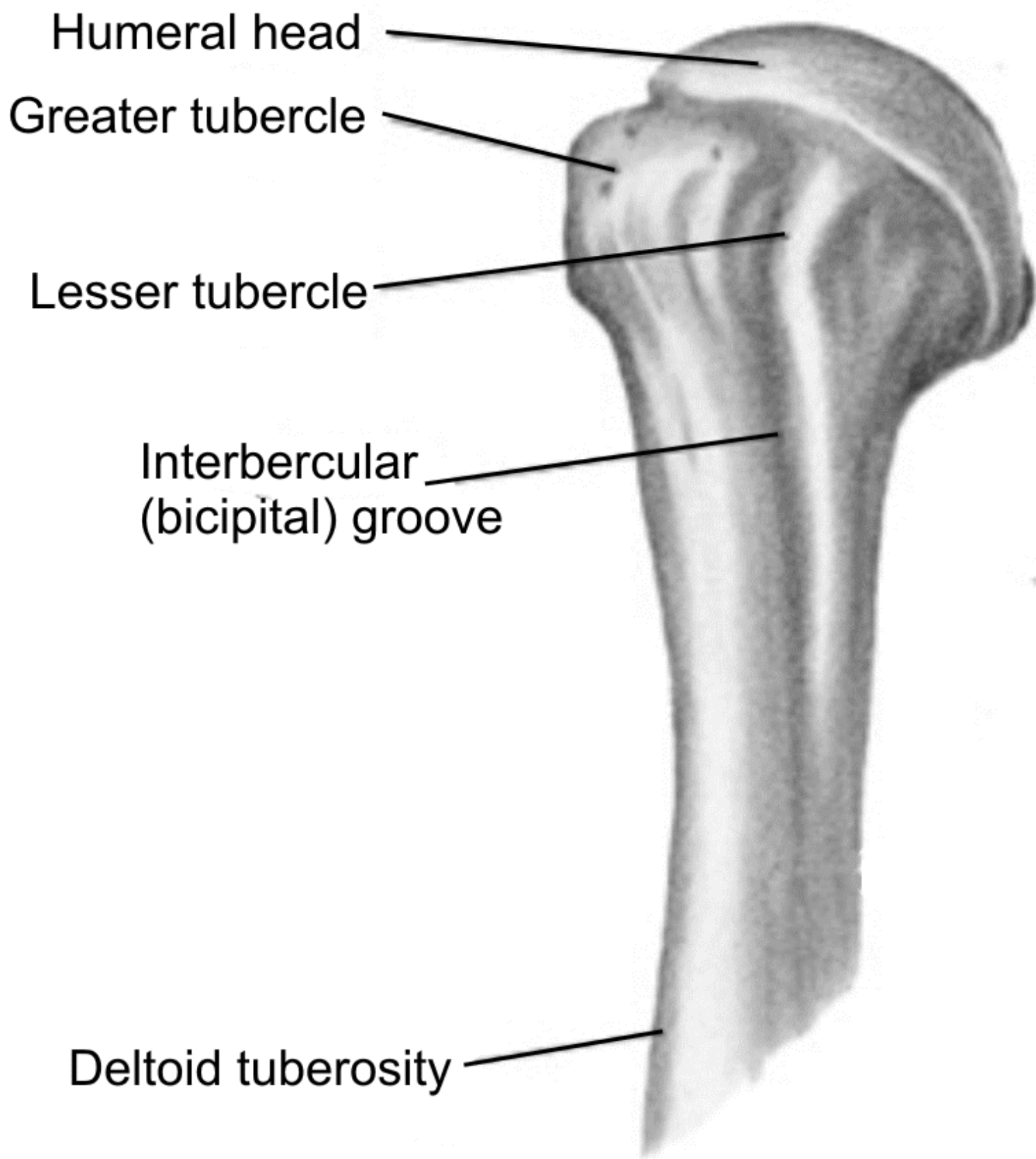
Humeral landmarks

- Head
- Greater tubercle
- Lesser tubercle
- Intertubercular groove
- Deltoid tuberosity

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Glenohumeral Joint

multiaxial ball-&-socket ; enarthrodial

Ligaments are quite lax until extreme ranges of motion reached due to wide range of motion involved ; Stability is sacrificed to gain mobility

Glenoid labrum slightly enhances stability

Glenohumeral ligaments provide stability

Frequently injured due to anatomical design

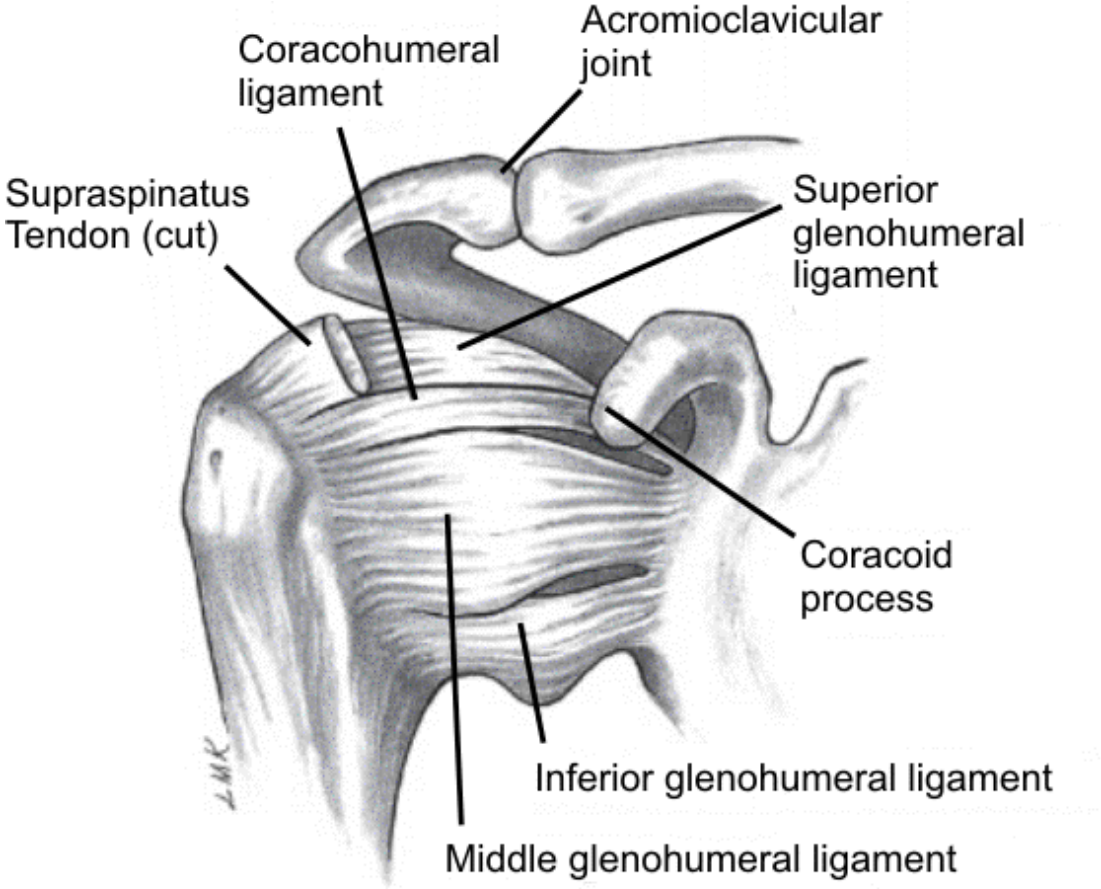
- shallowness of glenoid fossa
- laxity of ligamentous structures
- lack of strength & endurance in muscles
- anterior or anteroinferior glenohumeral subluxations & dislocations – common
- posterior dislocations – rare
- posterior instability problems somewhat common

Rotator cuff is frequently injured

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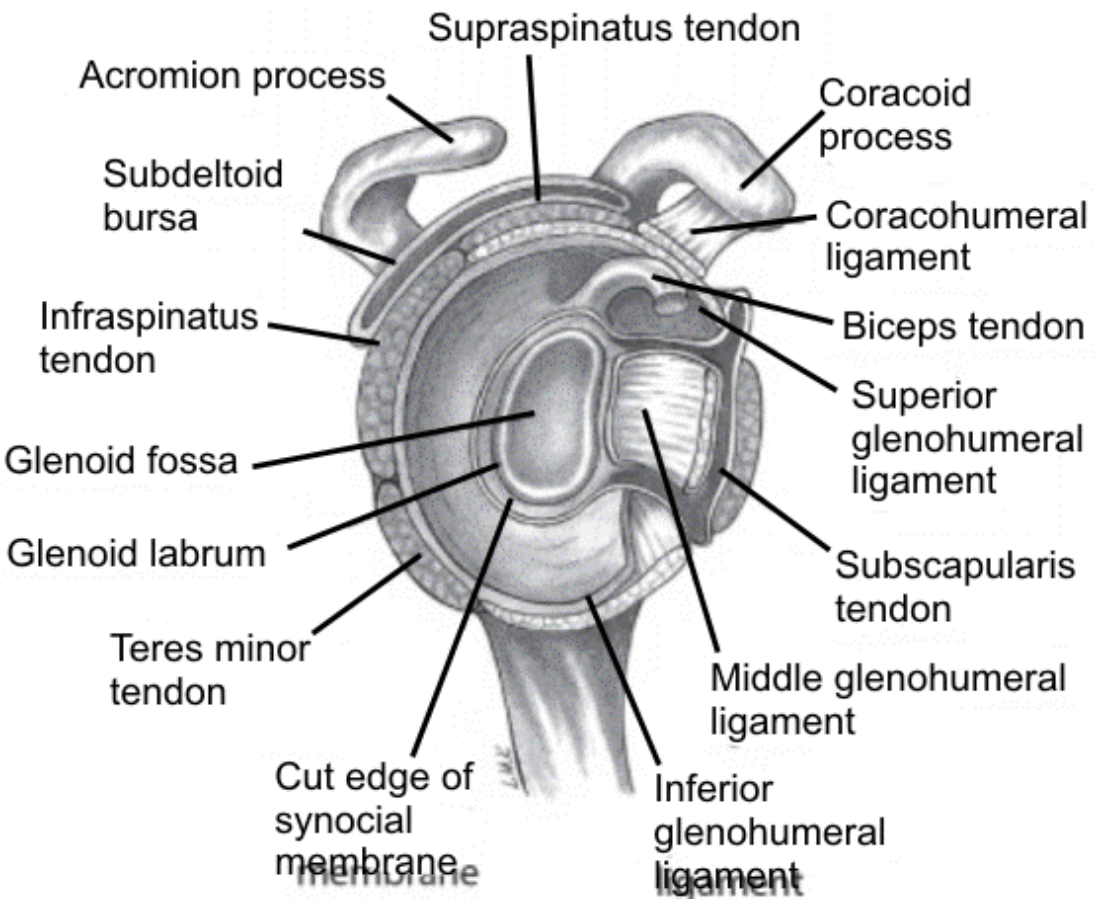




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Pairing of shoulder girdle and shoulder joint movements

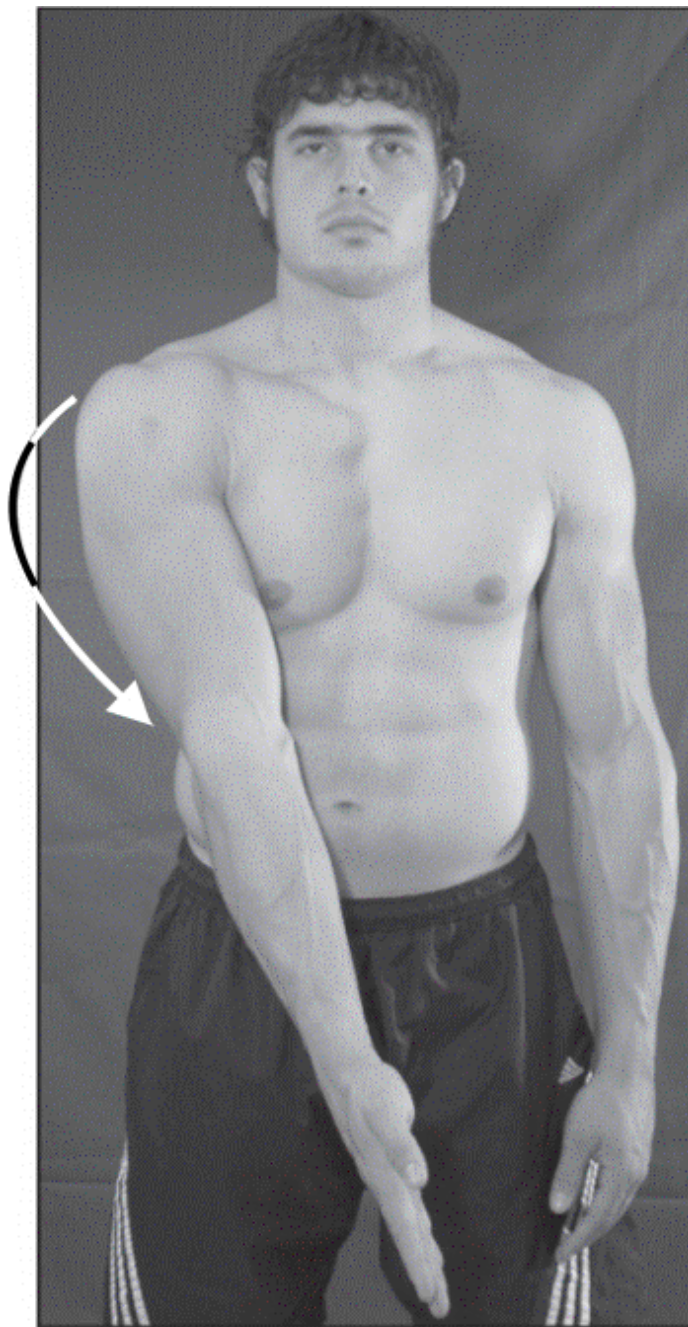
Shoulder joint	Shoulder girdle
Abduction	Upward rotation
Adduction	Downward rotation
Flexion	Elevation/upward rotation
Extension	Depression/downward rotation
Internal rotation	Abduction (protraction)
External rotation	Adduction (retraction)
Horizontal abduction	Adduction (retraction)
Horizontal adduction	Abduction (protraction)

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Movements



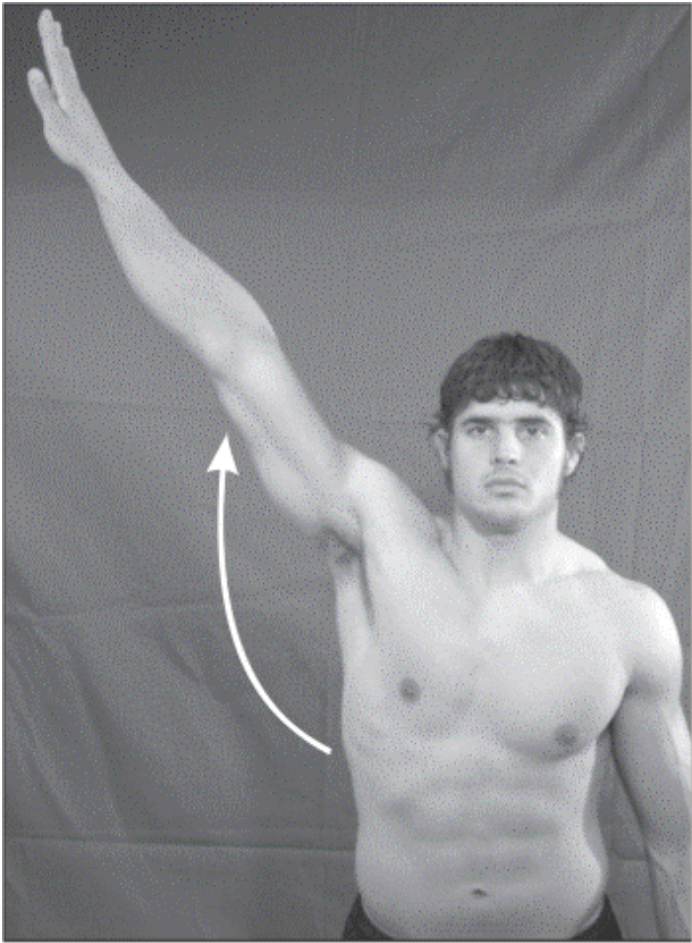
Adduction

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Movements



Abduction

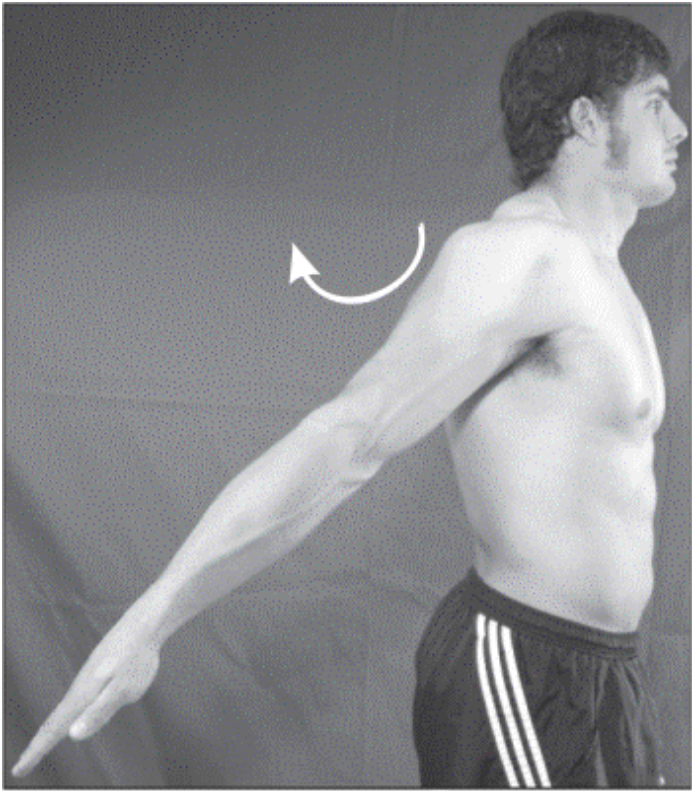
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Movements



Extension.

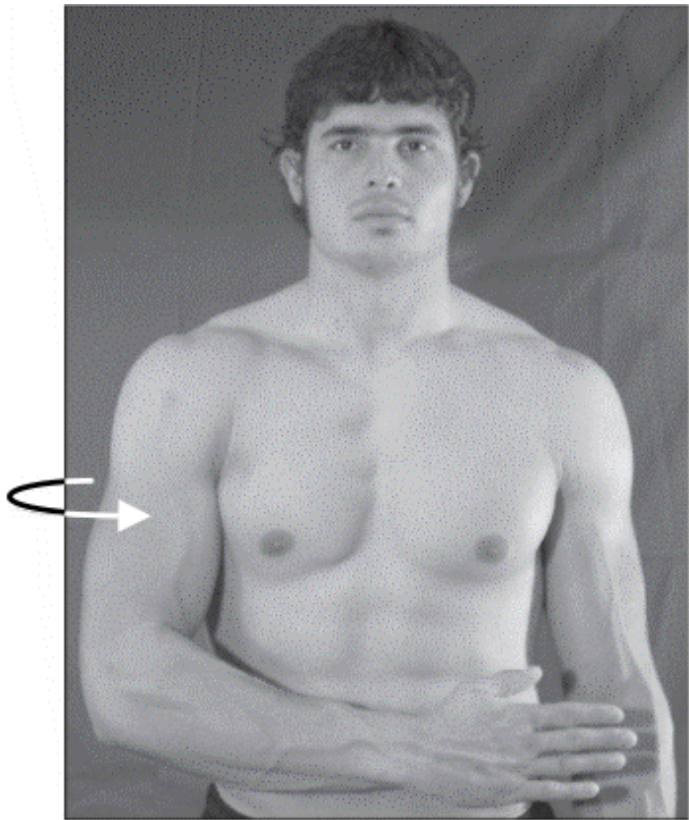
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Movements



Internal rotation

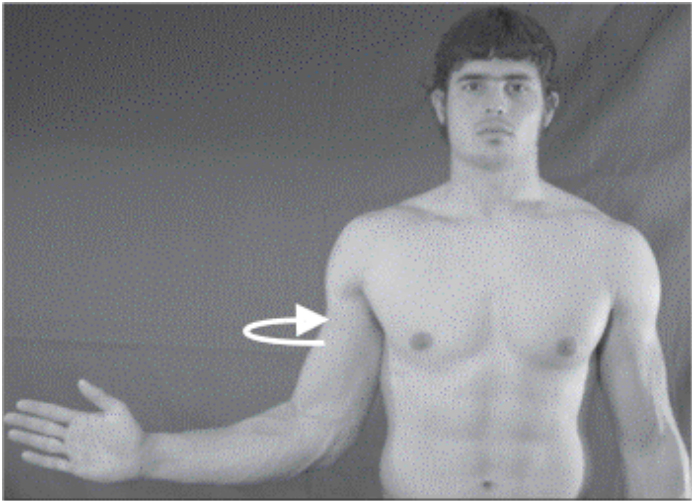
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Movements



External rotation

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Glenohumeral Muscles

Intrinsic glenohumeral muscles

Originate on scapula and clavicle

Deltoid, Coracobrachialis, Teres major

Rotator cuff group : subscapularis, supraspinatus, infraspinatus, & teres minor

Extrinsic glenohumeral muscles

Latissimus dorsi and pectoralis major

Anterior

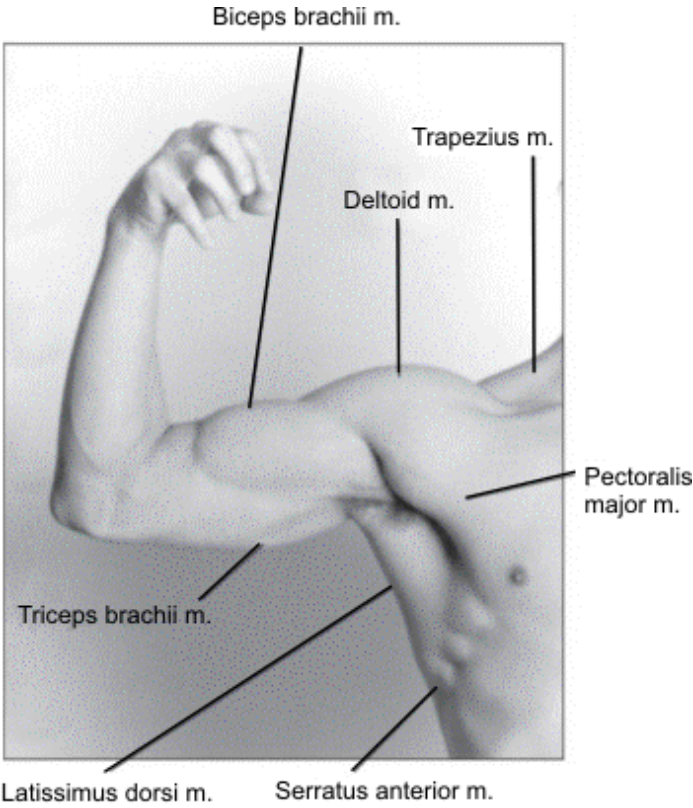
Pectoralis major
Coracobrachialis
Subscapularis
Superior
Deltoid
Supraspinatus

Superior

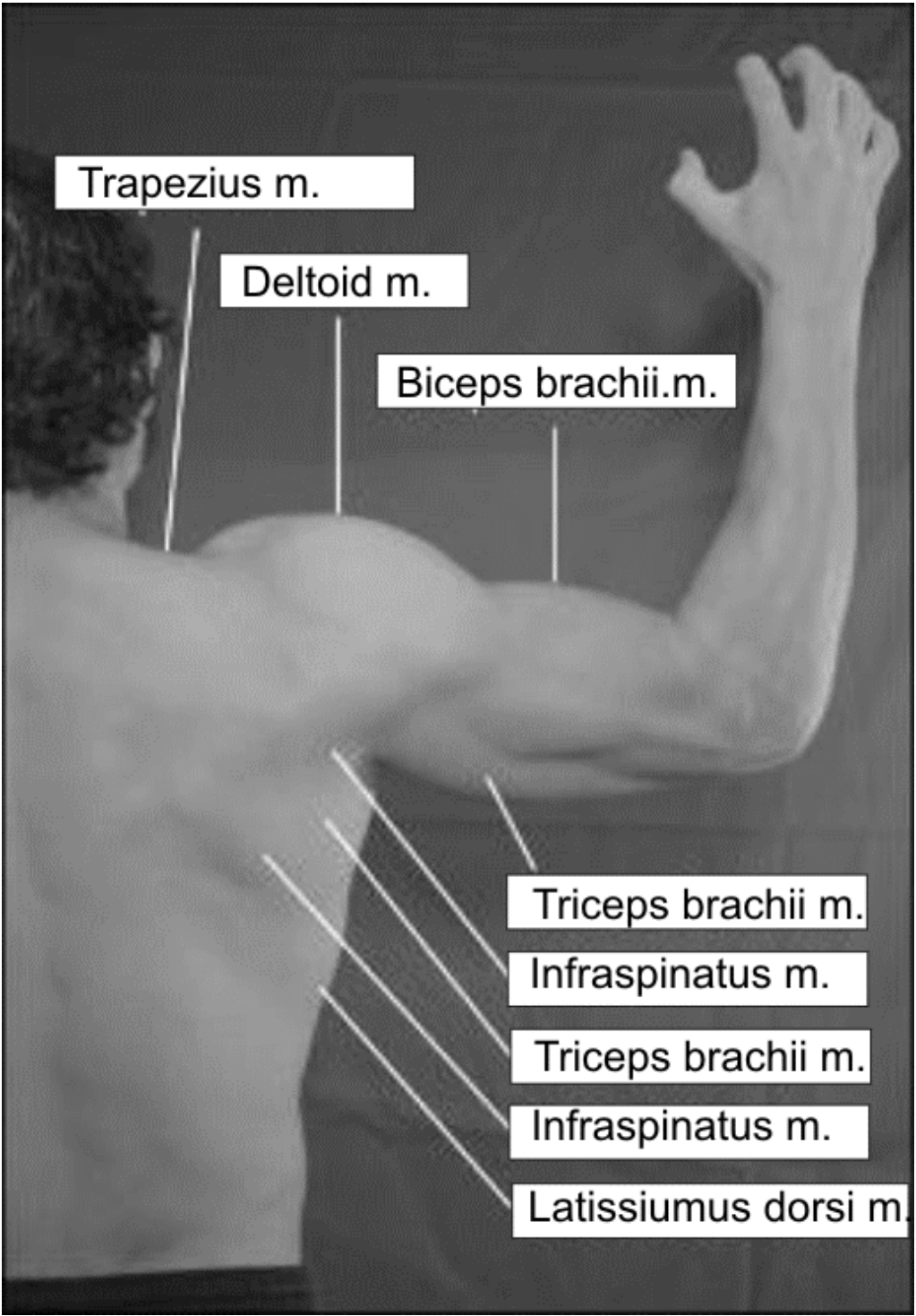
Deltoid
Supraspinatus
Posterior
Latissimus dorsi
Teres major
Infraspinatus
Teres minor

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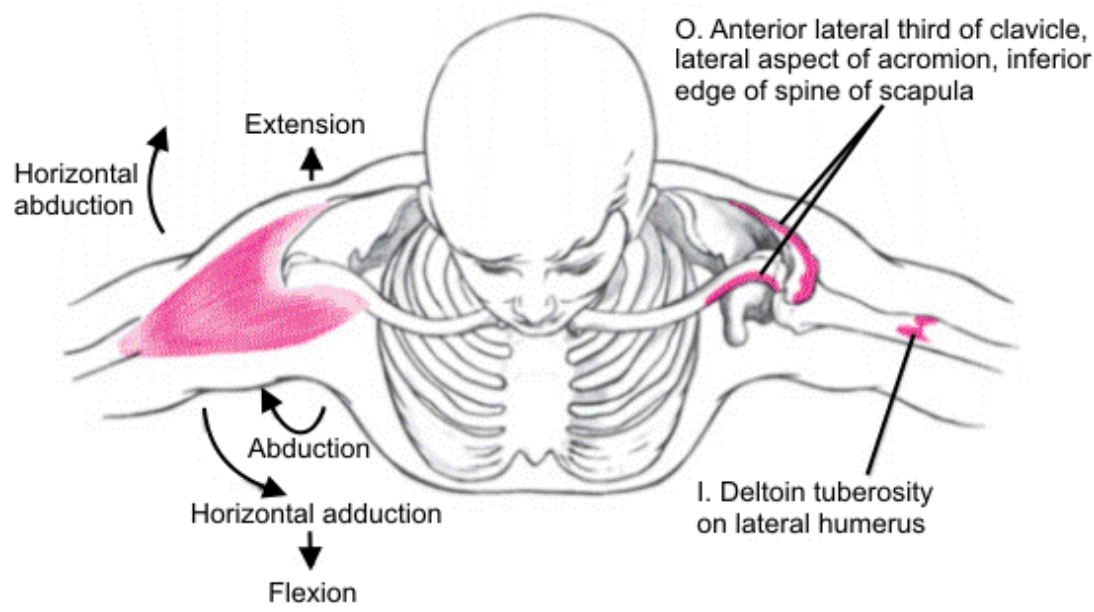


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Deltoid Muscle



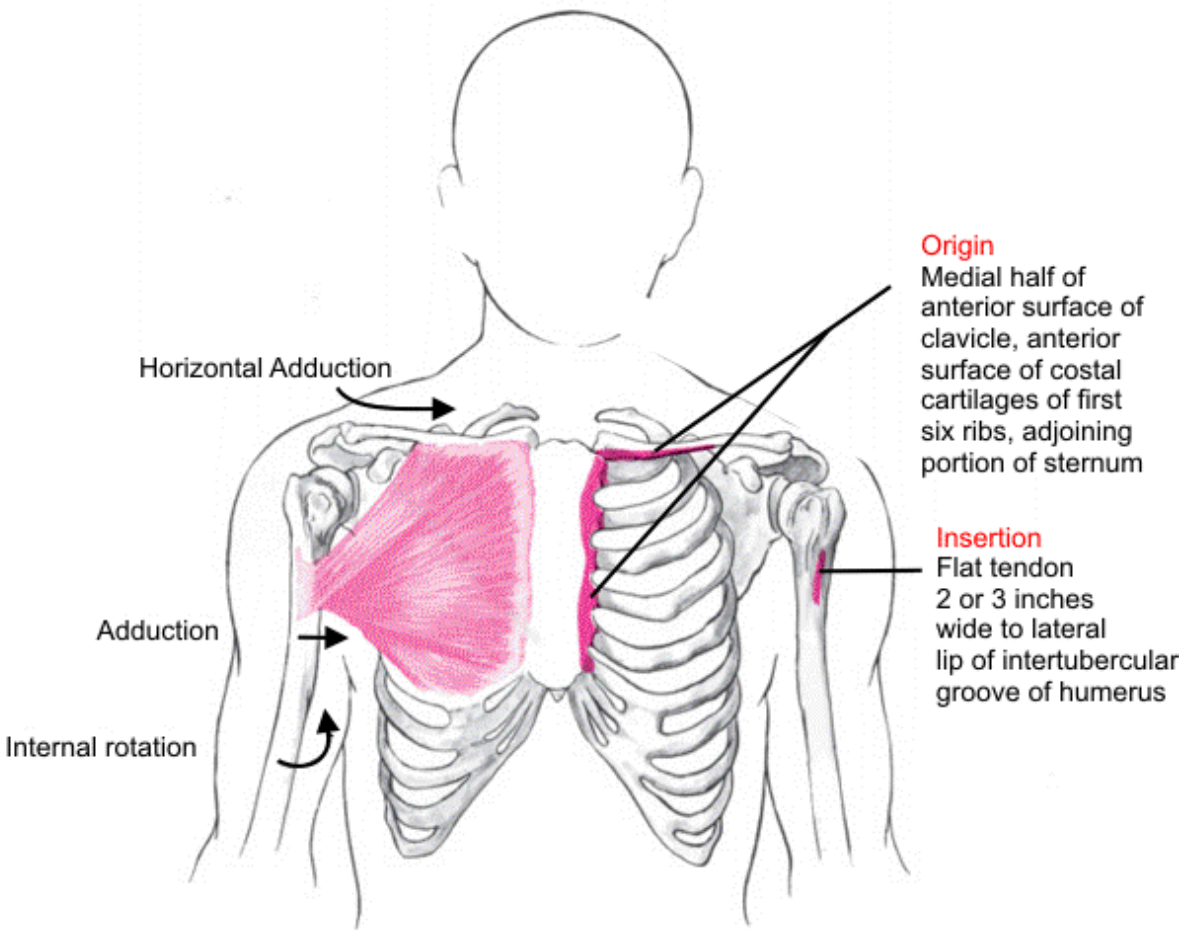
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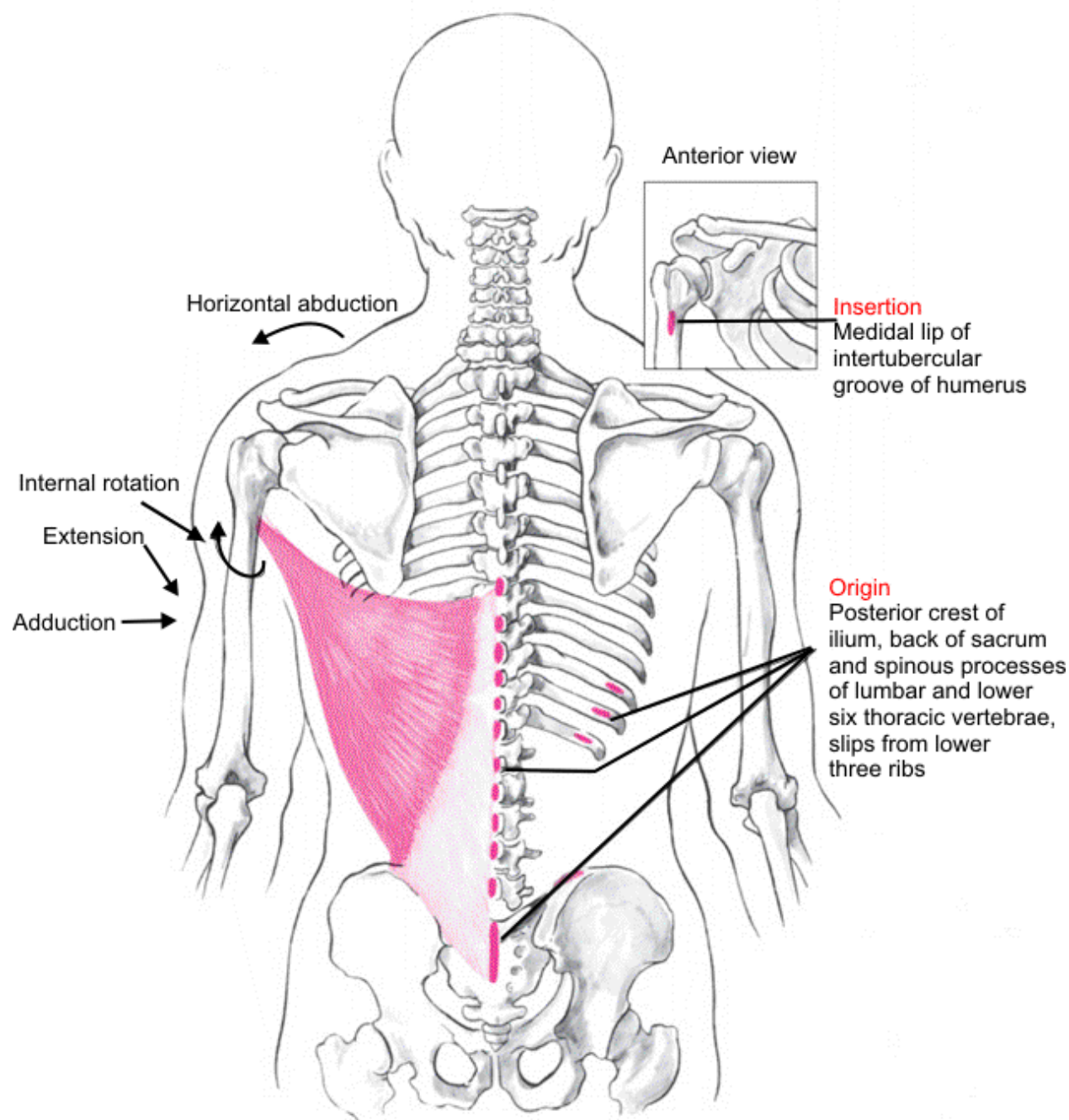


Petoralis Major



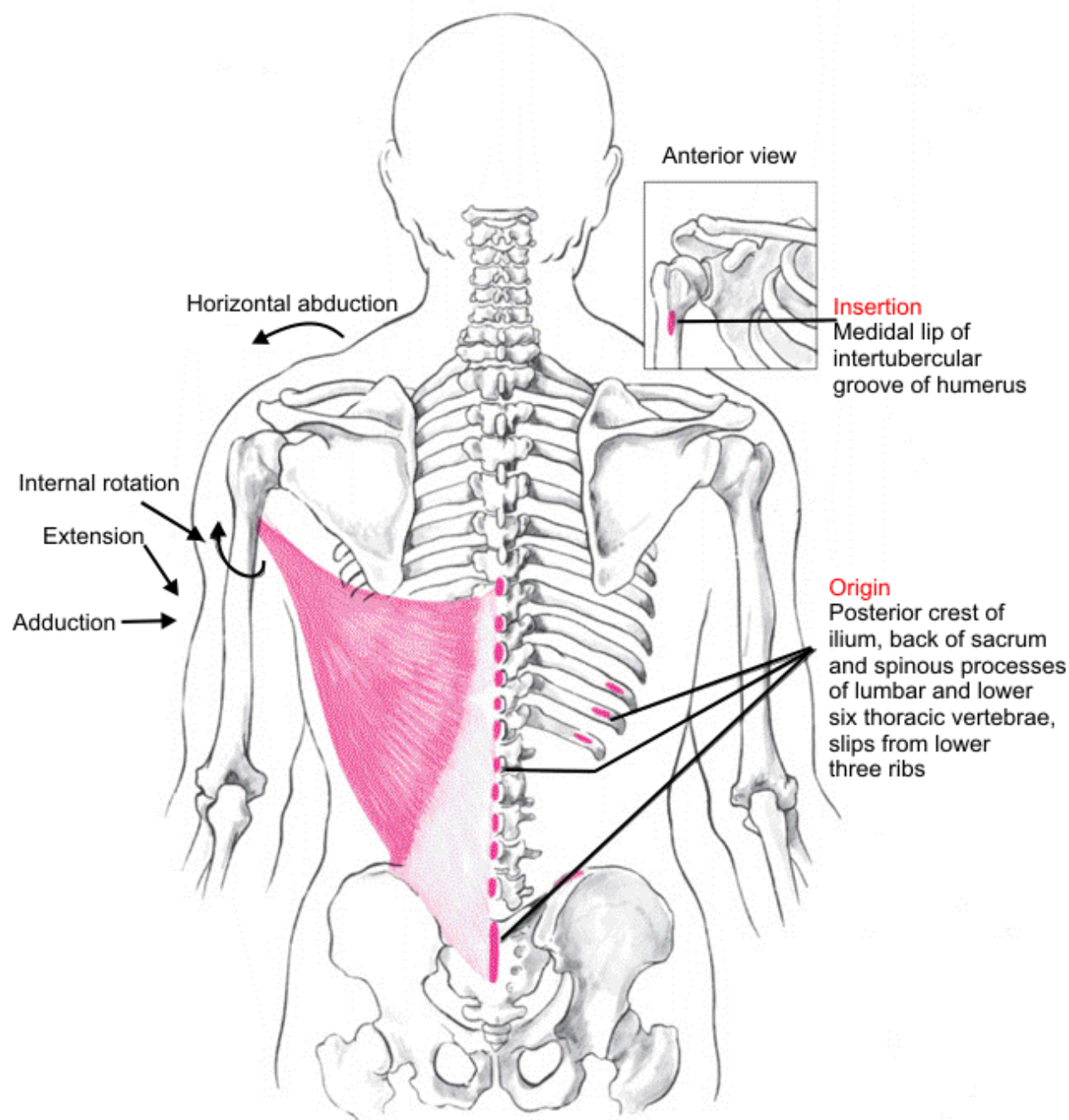
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Latissimus Dorsi



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Corachobrachialus



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Rotator Cuff Muscles

Not very large

Must possess strength and muscular endurance

Conducting repetitious overhead activities (throwing, swimming, and pitching) with poor technique, muscle fatigue, or inadequate warm-up & conditioning leads to failure of rotator cuff muscle group in dynamically stabilizing humeral head in glenoid cavity

Leads to further rotator cuff problems such as tendonitis and rotator cuff impingement within subacromial space

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Subscapularis Muscle

- Internal Rotation
- Adduction
- Extension
- Stabilization of humeral head in glenoid fossa

Supraspinatus Muscle

- Abduction
- Stabilization of humeral head in glenoid fossa

Infraspinatus Muscle

- External Rotation
- Horizontal Abduction
- Extension
- Stabilization of humeral head in glenoid fossa

Terres Minor Muscle

- External Rotation
- Horizontal Abduction
- Extension
- Stabilization of humeral head in glenoid fossa

Terres Major Muscle

- Extension, particularly from the flexed position to the posteriorly extended position
- Internal Rotation
- Adduction, particularly from the abducted position down to the side & toward midline of body

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Glenohumeral Movements

Flexion

Agonists

- Anterior Deltoid
- Upper Pectoralis Major

Extension

Agonists

- Teres Major
- Latissimus Dorsi
- Lower Pectoralis Major

Abduction

Agonists

- Deltoid
- Supraspinatus
- Upper Pectoralis Major

Adduction

Agonists

- Latissimus Dorsi
- Teres Major
- Lower Pectoralis Major

Internal Rotation

Agonists

- Latissimus Dorsi
 - Teres Major
 - Subscapularis
 - Pectoralis Major
- All attach anteromedially on humerus

External Rotation

Agonists

Infraspinatus

Teres Minor

Both attach posteriorly on greater tubercle

Horizontal Abduction

Agonists

Posterior Deltoid

Middle Deltoid

Infraspinatus

Teres Minor

Horizontal Adduction

Agonists

Anterior Deltoid

Pectoralis Major

Coracobrachialis

Diagonal Abduction

Agonists

Posterior Deltoid

Infraspinatus

Teres Minor

Triceps Brachii (Long Head)

Diagonal Adduction

Agonists (both high and low)

Anterior Deltoid

Coracobrachialis

Biceps Brachii (short head)

Pectoralis Major - Upper & Lower

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