

PHYE 281 - Applied Kinesiology

Lecture 4

The Shoulder Girdle

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Objectives

Identify the bones of the shoulder girdle

Identify specific anatomic landmarks on these bones

List the movements of the shoulder girdle

Identify the muscles of shoulder girdle movement

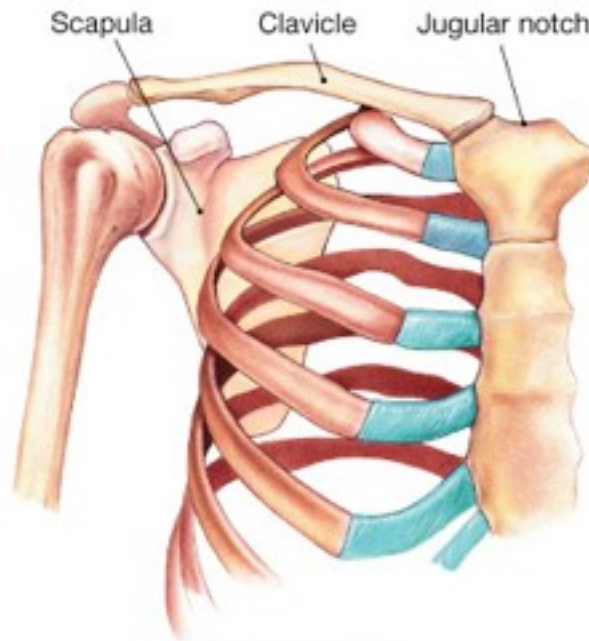
Know the origin, insertion and action for each of the shoulder girdle muscles

Master detailed kinesiological analysis of the shoulder girdle

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Bones of the Shoulder Girdle

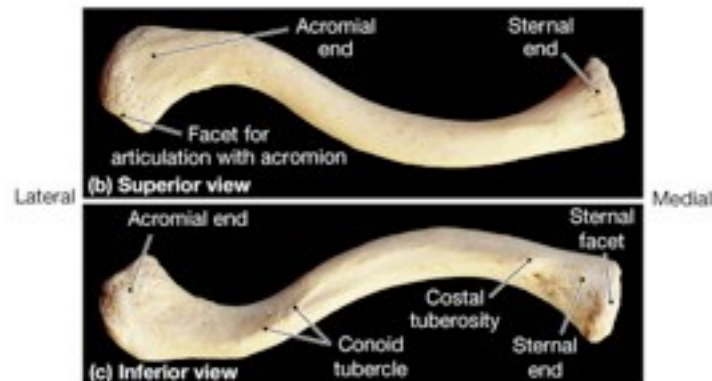
Clavicle
Scapula



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Clavicular Landmarks

Acromial end
Flattened
Sternal end
Bulbous



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Scapular Landmarks

Spine

Acromion process

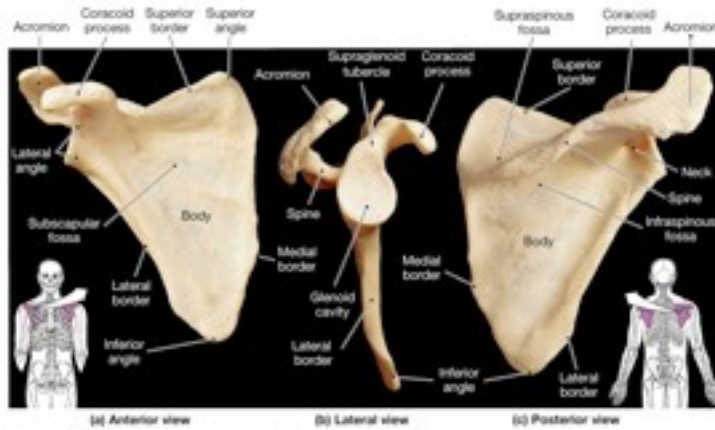
Supraspinous process

Infraspinous process

Subscapular process

Lateral Border

Medial border



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Scapular Landmarks

Superior border

Superior angle

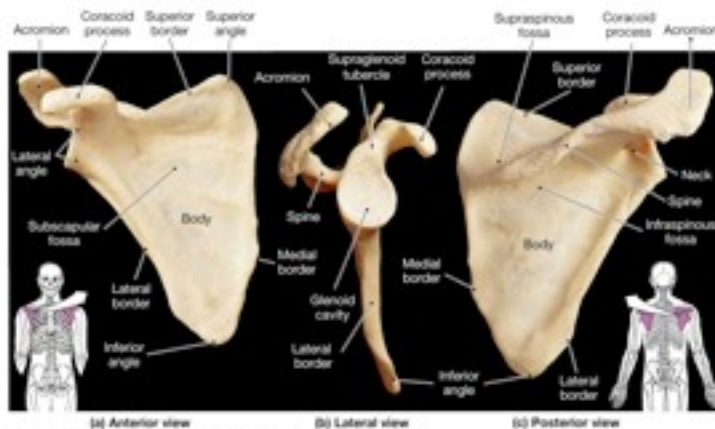
Inferior angle

Glenoid fossa

Supraglenoid tubercle

Infraglenoid tubercle

Coracoid process



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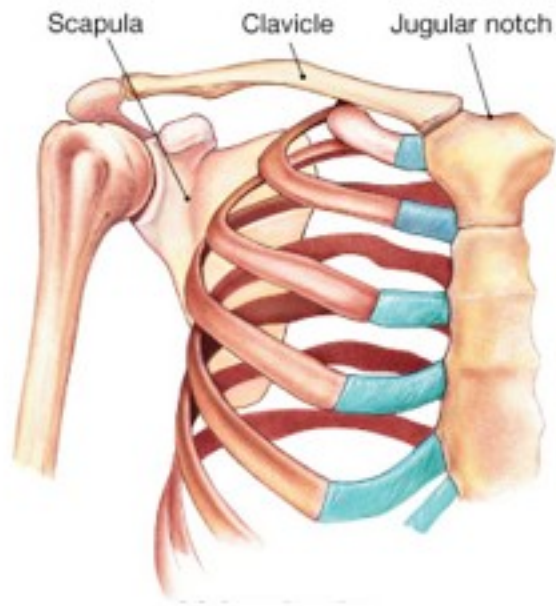
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Shoulder Girdle Joints

Sternoclavicular

Acromioclavicular

Functionally, shoulder girdle movements are scapular movements



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Shoulder Girdle Movements

Abduction

Scapula away from spinal column

Adduction

Scapula towards spinal column



Abduction (protraction)



Adduction (retraction)

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Shoulder Girdle Movements

Elevation

Scapula moves upward

Depression

Scapula moves downward



Elevation



Depression

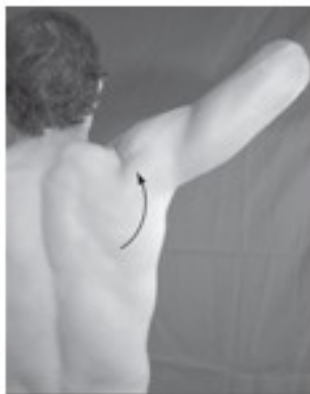
Shoulder Girdle Movements

Upward rotation

Glenoid fossa moves upward

Downward rotation

Glenoid fossa moves downward



Upward rotation



Downward rotation

Shoulder Girdle Muscles

5 primary muscles

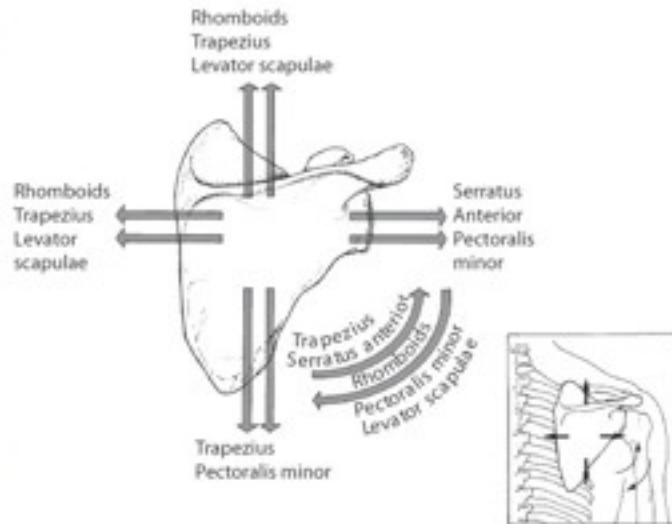
Trapezius

Rhomboids

Levator scapulae

Serratus anterior

Pectoralis minor



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Trapezius - Attachments

Origin

Occipital protuberance

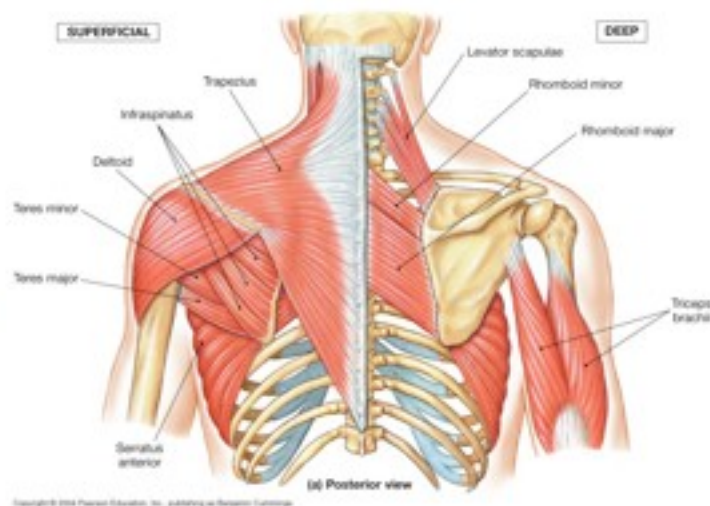
Ligament of the neck

Spinous processes C7-T12

Insertion

Lateral clavicle

Spine and acromion of scapula



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Trapezius - Actions

Upper fibers

Elevation

Middle fibers

Elevation

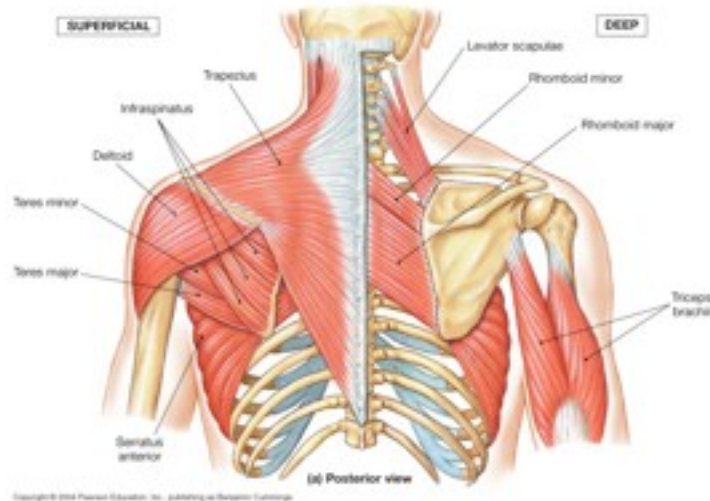
Upward rotation

Adduction

Lower fibers

Depression

Adduction



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Levator scapulae

Origin

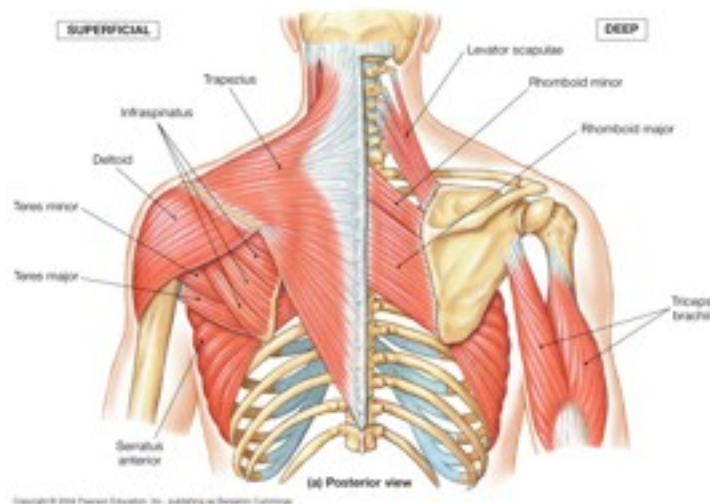
Transverse processes C1-C4

Insertion

Upper medial border of scapula

Action

Elevation



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Rhomboid major and minor

Origin

C7-T5 Spinous processes

Insertion

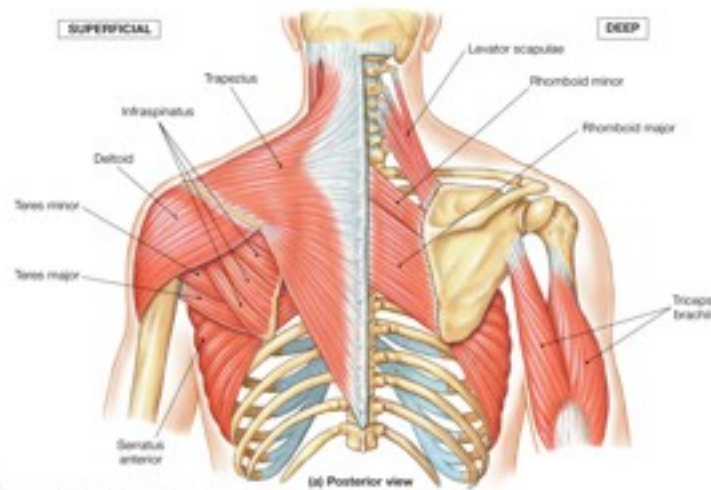
Medial border scapula

Action

Adduction

Downward rotation

Elevation



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Serratus anterior

Origin

Anterior aspect of medial border of scapula

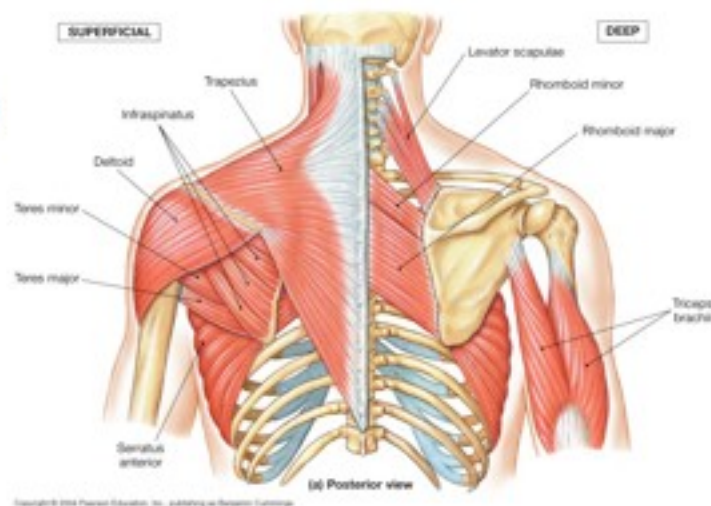
Insertion

Lateral ribs 1-9

Action

Abduction

Upward rotation



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Pectoralis minor

Origin

Anterior ribs 3-5

Insertion

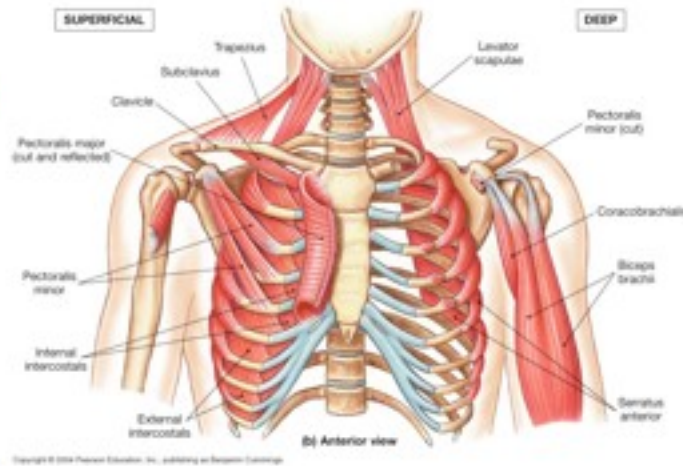
Coracoid process of scapula

Action

Abduction

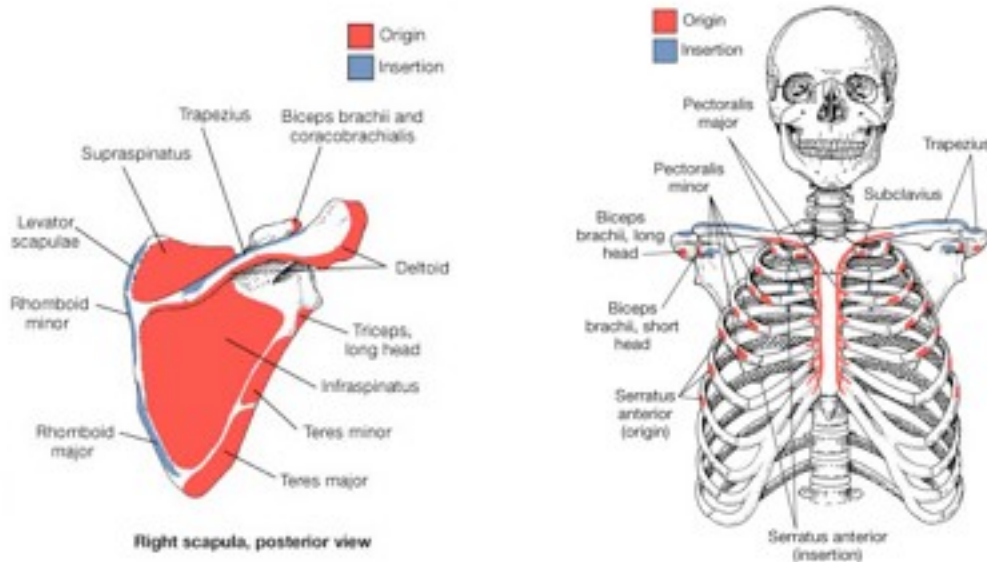
Downward rotation

Depression



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Skeletal Attachments



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Shoulder Girdle Kinesiological Analysis

Identify three different exercises that involve shoulder girdle movements

Identify the specific shoulder girdle actions for each phase (up/down) of the exercise

Identify the muscles involved

Identify the type of muscle contractions (concentric vs. eccentric) for each phase

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