THE SHOULDERS

BONES

Scapula- superior border, superior angle, spine, medial (or vertebral) border, inferior angle, lateral (or axillary) border, glenoid fossa (or cavity), acromion, coracoid process, anterior surface (subscapular fossa), posterior (or dorsal surface)

Humerus- head, greater tubercle, lesser tubercle, bicipital groove, anatomical neck, deltoid tuberosity, medial and lateral condyles, capitulum, trochlea (additional landmarks not included)

Clavicle- sternal end, acromial end

Shoulder Girdle: clavicle & scapula

JOINTS: **gleno-humeral joint, acromio-clavicular joint, sterno-clavicular**

SHOULDER MUSCLES

Shoulder/Arm/Humerus :

Deltoid, Pectoralis Major, Latissimus Dorsi, Teres Major, Corachobrachialis

Rotator Cuff *Group of 4 muscles whose actions help to secure the humerus in the glenoid cavity. When muscles of rotator cuff are inactive, deltoid ms. can pull humerus up out of the cavity, causing strain on the shoulder ligaments*

Supraspinatus (*Abduction)* **Teres Minor** (*lateral rotation)*
Infraspinatus (*lateral rotation)* **Subscapularis** *(medial rotation)*

Shoulder Arm Movements:

ACTION: ***Flexion:***	***Extension***	***Abduction***	***Adduction***
Anterior Deltoid	Latissimus Dorsi*	Supraspinatus*	Latissimus Dorsi*
Coracobrachialis	Teres Major	Middle Deltoid	Teres Major
Pectoralis Major	Post. Deltoid		Pectoralis Major
(Biceps)	Triceps (long head)		

External/Lateral Rotation	***Internal/Medial Rotation***
Infraspinatus*	Subscapularis
Teres Minor*	Teres Major
Posterior Deltoid	Latissimus Dorsi
	Pectoralis Major
	Anterior Deltoid

Scapula Movements

Movements Muscles Producing Action		
	Elevation *Raising-shrugging shoulders, Protecting the head*	Trapezius (upper part) Levator Scapulae
	Depression *Lowering- straight arms on parallel bars, holding a weight*	Trapezius (lower part) Latissimus Dorsi Gravity
	Retraction/Adduction *moving toward midline 'Military posture';*	Trapezius (middle part) Rhomboids (maj & min)
	Protraction/Abduction- *moving out to sides; pushing forward arms extended*	Serratus anterior Pectoralis minor
	Upward Rotation *Lifting arms, reaching overhead*	Trapezius (upper part) Serratus anterior (lower part)
	Downward Rotation	Levator Scapula Rhomboids Pectoralis minor

Tilting in all 3 dimensions	

MUSCLES -Attachments

Vertebral Spine - Scapula

Ribs- Scapula

Levator scapulae
Trapezius (and to clavicle)
Rhomboid minor
Rhomboid major

Scapula- Humerus
Teres minor*
Teres major
Middle deltoid
Posterior deltoid
Supraspinatus*
Infraspinatus*
Subscapularis*
Coracobrachialis

Serratus anterior
Pectoralis minor

Clavicle to Humerus
Anterior Deltoid
Pectoralis major

Hyoid -Scapula
Omohyoid

Scapula - Forearm
Biceps brachi
Triceps brachi (long head)
Pelvis, Spine, Ribs, Latissimus Dorsi

Nerves*:* Brachial Plexus

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Hands	Shoulder Girdle
Thumb	Scapula: Superior angle Supraspinous fossa & corocoid process
Index finger	Spine of scapula & clavicle
Middle finger	Glenoid cavity
Ring Finger	Axillary border
Heel	Vertebral Border
Palm	Subscapular fossa

Scapula Movements	**Major Muscles Producing Action**
Elevation *Raising-shrugging shoulders,* *Protecting the head*	Trapezius (upper part) Levator Scapulae
epression *Lowering- straight arms on parallel bars, holding a weight*	Trapezius (lower part) Latissimus Dorsi Gravity
Retraction/Adduction *moving toward midline 'Military posture';*	Trapezius (middle part) Rhomboids (maj & min)
Protraction/Abduction- *moving out to sides; pushing forward arms extended*	Serratus anterior Pectoralis minor
Upward Rotation *Lifting arms, reaching overhead*	Trapezius (upper part) Serratus anterior (lower part)

Downward Rotation	Levator Scapula Rhomboids Pectoralis minor
Tilting in all 3 dimensions	