



**THE SHOULDER**

**Movements**

<b>Flexion</b>	Bending the joint which decreases the angle; moving the upper arm upward to the front	<b>Extension</b>	Straightening the joint increasing the angle; moving the upper arm down to the rear
<b>Abduction</b>	Lateral movement away from midline of the body; moving the upper arm up to the side away from the body	<b>Adduction</b>	Medial movement toward midline of body; moving the upper arm down to the side toward the body
<b>External (Lateral) Rotation</b>	Rotary movement around longitudinal axis of the bone away from center of the body; turning the upper arm outward	<b>Internal (Medial) Rotation</b>	Rotary movement around longitudinal axis of the bone toward center of the body; turning the upper arm inward
<b>Elevation</b>	Superior movement of the shoulder girdle; moving the scapula up	<b>Depression</b>	Inferior movement of the shoulder girdle; moving the scapula down
<b>Protraction</b>	extend a part of the body	<b>Retraction</b>	draw a part of itself back into body
<b>Circumduction</b>	The circular movement of a body part, in a ball and socket joint, combining flexion, extension, adduction and abduction		

# Advanced Yoga Training - The Shoulder



www.corawen.com

## Anatomy

<b>Humerus</b> (upper arm)	long bone of arm connecting scapula to ulna	
<b>Scapula</b> (shoulder blade)	Glenoid Fossa - concavity in head of scapula receiving head of humerus to form shoulder joint	Glenoid Labrum - circles shoulder socket (glenoid) to deepen socket. Cartilage creates stability, allowing wide range of movements
	Spine of Scapula	triangular ridge, flattens downward toward vertebral border
3 Borders of Scapula	Superior Border - medial	shortest and thinnest, concave
	Axillary Border - lateral	thickest, inclines obliquely down and back to inferior angle
	Vertebral Border	longest, extends from medial to inferior angle
	Coracoid Process	small hook-like structure comes off scapula, pointing forward
	3 Angles of Scapula	Superior (medial), Inferior and lateral
<b>Sternum</b> (breastbone)	long, flat bone in center of chest (thorax), connecting rib bones to cartilage, forming rib cage and protecting lungs, heart and blood vessels	
<b>Clavicle</b> (collar bone)	curved, short bone connecting arm to trunk, directly above first rib, keeping scapula in position, so arm can hang	

## **The Shoulder**

## Advanced Yoga Training - The Shoulder



www.corawen.com

### Joints

<b>Glenohumeral</b>	GHJ	ball-and-socket joint
<b>Acromioclavicular</b>	ACJ	collarbone to shoulder blade
<b>Sternoclavicular</b>	SCJ	articulation of the collar bone with the breast bone
<b>Scapulothoracic</b>	STJ	where the shoulder blade glides on the chest wall

### Rotator Cuff Muscles

<b>Supraspinatus</b>	abducts the humeral head and acts as a humeral head depressor
<b>Infraspinatus</b>	externally rotates and horizontally extends the humerus
<b>Teres Minor</b>	externally rotates and extends the humerus <i>(Teres Major internally rotates, adduct)</i>
<b>Subscapularis</b>	internally rotates the humerus

### Stabilising Muscles

<b>Trapezius</b>	skull to scapula, diamond shape	depresses shoulders
<b>Rhomboids</b>	in between shoulder blades, connects scapula to vertebrae	pulls shoulders back to spine
<b>Levatos Scapulae</b>	back and side of neck	lifts shoulders up
<b>Serratus Anterior</b>	begins on surface of upper ribs at side of chest, running along entire anterior length of medial border of scapula	pulls scapula down and forward - protracts

**Glenohumeral Rhythm** - humeral movement (at glenohumeral joint)

### **The Shoulder**

**Actions of Shoulder**

- Reaching into back pocket ~ hyperextension, medial rotation
- Reaching for seat belt ~ abduction, lateral rotation
- fastening seat belt ~adduction, medial rotation
- putting object on shelf ~ flexion
- tucking book underarm ~ adduction

**Shoulder Girdle ROM**

The shoulder girdle has the following normal ranges of movement: Elevation, Depression, Adduction and Abduction.



**Shoulder Joint**

The shoulder joint has the following normal ranges of movement: Flexion, Extension, Adduction, Abduction and Medial Rotation.



## **Shoulder Articulation**

### **Flexion**

Bending the joint resulting in a decrease of angle; moving the upper arm upward to the front.

- Deltoid (anterior)
- Deltoid (lateral)
- Pectoralis major (clavicular head)
- Coracobrachialis
- Biceps brachii (short head)

### **Extension**

Straightening the joint resulting in an increase of angle; moving the upper arm down to the rear.

- Latissimus dorsi
- Deltoid (posterior)
- Pectoralis major (sternal head)
- Teres major
- Triceps brachii (long head)

### **Adduction**

Medial movement toward the midline of the body; moving the upper arm down to the side toward the body.

- Latissimus dorsi
- Pectoralis major (sternal head)
- Pectoralis major (clavicular head)
- Teres major
- Coracobrachialis
- Triceps brachii (long head)

### **Abduction**

Lateral movement away from the midline of the body; moving the upper arm up to the side away from the body.

- Deltoid (lateral)
- Deltoid (anterior)
- Supraspinatus
- Pectoralis major (clavicular head)

### **Transverse Adduction**

Medial movement toward the midline of the body in a horizontal plane; moving the upper arm toward and across the chest with the back of the arm facing down.

- Pectoralis major (sternal head)
- Pectoralis major (clavicular head)
- Coracobrachialis

### **Transverse Flexion**

Medial movement toward the midline of the body in a horizontal plane; moving the upper arm toward and across the chest with the elbows facing out to the sides.

- Pectoralis major (sternal head)
- Pectoralis major (clavicular head)
- Deltoid (anterior)
- Coracobrachialis
- Biceps brachii (short head)

### **Transverse Abduction**

Lateral movement away from the midline of the body in a horizontal plane; moving the upper arm away from the chest with the elbows facing down.

- Deltoid (posterior)
- Deltoid (lateral)
- Infraspinatus
- Teres minor

### **Transverse Extension**

Lateral movement away from the midline of the body in a horizontal plane; moving the upper arm away from the chest with the elbows out to the sides.

- Deltoid (posterior)
- Latissimus dorsi
- Infraspinatus
- Teres minor

### **Medial Rotation (Internal Rotation)**

Rotary movement around the longitudinal axis of the bone toward the center of the body; turning the upper arm inward. See shoulder internal rotation inflexibility.

- Pectoralis major (sternal head)
- Pectoralis major (clavicular head)

## **The Shoulder**

## Advanced Yoga Training - The Shoulder



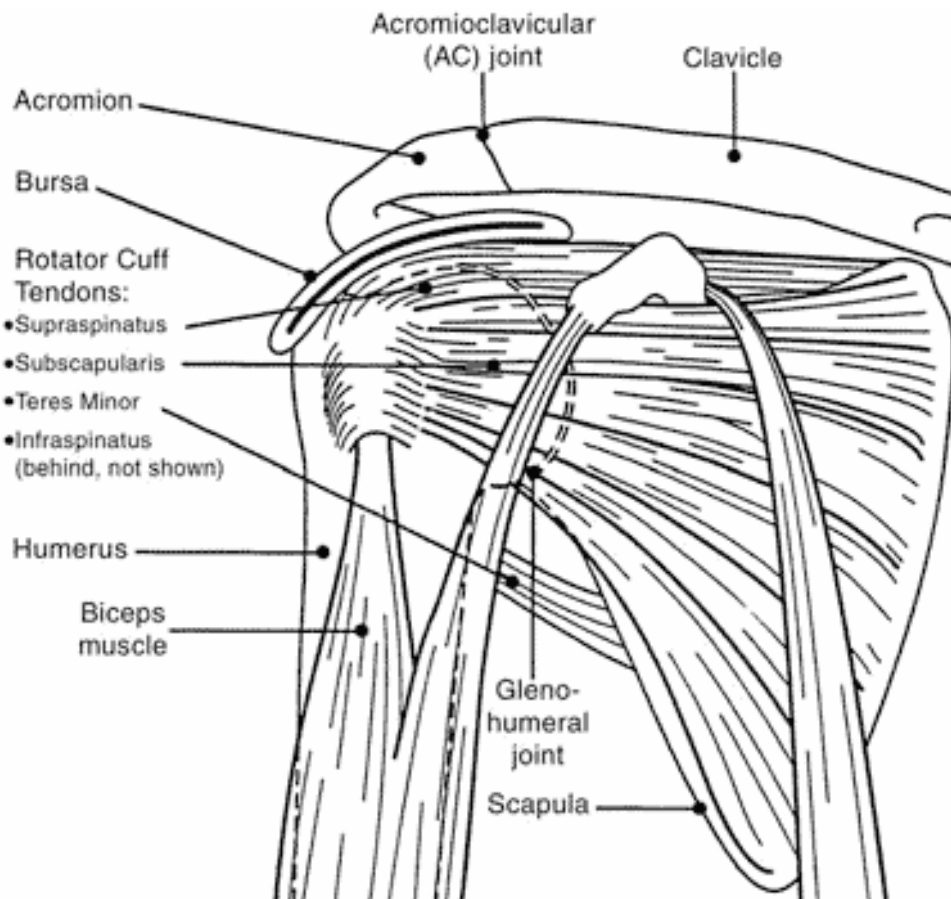
[www.corawen.com](http://www.corawen.com)

- Latissimus dorsi
- Deltoid (anterior)
- Subscapularis
- Teres major

### Lateral Rotation (External Rotation)

Rotary movement around the longitudinal axis of the bone away from the center of the body; turning the upper arm outward. See shoulder external rotation inflexibility.

- Teres minor
- Infraspinatus
- Deltoid (posterior)



### The Shoulder