



SHOULDER JOINT (GLENOHUMERAL JOINT)

◆ Type & Articulation

- Type: Synovial ball-and-socket joint
 - Articulating surfaces:
 - Head of humerus
 - Glenoid cavity of scapula
 - Glenoid labrum:
 - Fibrocartilaginous rim covering glenoid margin
 - Deepens the cavity to enhance stability
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◆ Factors Providing Strength & Stability

Factor	Role
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Coracoacromial arch	Prevents superior displacement of humerus
Rotator cuff muscles (SITS)	Stabilizes humeral head in glenoid
Glenoid labrum	Deepens glenoid cavity
Muscles attaching humerus to pectoral girdle	Dynamic stabilization
Long head of biceps brachii	Prevents superior displacement
Long head of triceps brachii	Posterior support

◆ Ligaments of Shoulder Joint

Ligament	Attachments	Notes
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Capsular ligament	Medial: scapula beyond supraglenoid tubercle Lateral: anatomical neck of humerus	Inferiorly extends to surgical neck; superiorly deficient for long head of biceps; reinforced by glenohumeral ligaments
Coracohumeral ligament	Root of coracoid → neck of humerus opposite greater tubercle	Strengthens superior capsule
Transverse humeral ligament	Bridges upper part of bicipital groove	Holds tendon of long head of biceps in place
Glenoid labrum	Fibrocartilage rim	Deepens glenoid fossa

◆ Bursa Associated with Shoulder Joint

- Definition: Small fluid-filled sacs reducing friction
- Bursae around shoulder:

Bursa	Location / Relation
Subacromial / Subdeltoid	Between supraspinatus & deltoid / acromion
Subscapularis	Anterior scapula & tendon
Infraspinatus	Posterior scapula
Other	Related to coracobrachialis, teres major, long head of triceps, latissimus dorsi

◆ Blood Supply

Vessel	Region Supplied
Anterior circumflex humeral	Anterior joint capsule

Posterior circumflex humeral	Posterior capsule & deltoid region
Suprascapular artery	Superior & posterior joint regions
Subscapular artery	Inferior & posterior joint regions

◆ Nerve Supply

Nerve	Contribution
Axillary nerve	Deltoid & teres minor, joint capsule sensation
Musculocutaneous nerve	Biceps brachii tendon & anterior capsule
Suprascapular nerve	Supraspinatus & infraspinatus tendons

◆ Movements of Shoulder Joint

Movement	Muscles Involved	Notes
Flexion	Anterior deltoid, pectoralis major	Forward movement
Extension	Posterior deltoid, latissimus dorsi, teres major	Backward movement
Abduction	Middle deltoid, supraspinatus	15°-40° active abduction
Adduction	Pectoralis major, latissimus dorsi	Returning to midline
Medial rotation	Subscapularis, teres major, pectoralis major	Rotation toward midline
Lateral rotation	Infraspinatus, teres minor, posterior deltoid	Rotation away from midline

Circumduction	Combination of above	Circular movement
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◆ Rotator Cuff Muscles (SITS) 💪

Muscle	Origin	Insertion	Action	Nerve
Supraspinatus	Supraspinous fossa	Greater tubercle (anterior)	Initiates abduction (first 15°)	Suprascapular nerve (C5,6)
Infraspinatus	Infraspinous fossa	Greater tubercle (posterior)	Lateral rotation & slight adduction	Suprascapular nerve (C5,6)
Teres minor	Lateral border (inferior 2/3)	Greater tubercle (inferior aspect)	Lateral rotation, extension, adduction	Axillary nerve (C5,6)

Subscapularis	Subscapular fossa	Lesser tubercle	Medial rotation & stabilization	Upper & lower subscapular nerves (C5-7)
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✓ Mnemonic: SITS = Supraspinatus, Infraspinatus, Teres minor, Subscapularis

◆ Applied Anatomy

Condition	Cause	Clinical Feature
Shoulder dislocation	Excessive extension & lateral rotation	Most commonly anterior, axillary nerve injury → hollow shoulder contour
Posterior dislocation	Electric shock / seizure	Flattened anterior shoulder

Frozen shoulder (Adhesive capsulitis)	Thickened joint capsule	Stiffness, pain, limited movement
Rotator cuff tear	Trauma / degenerative	Weak abduction & lateral rotation, night pain



Key Relations in Shoulder Joint

- Superiorly: Supraspinatus m., subacromial bursa, acromion, coracoacromial ligament
- Inferiorly: Long head of triceps brachii, axillary nerve, posterior circumflex humeral vessels
- Anteriorly: Subscapularis, coracobrachialis, short head of biceps, glenoid labrum
- Posteriorly: Teres major, infraspinatus, teres minor, axillary nerve

-> The End <-