Joints of the Upper Limb

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Movements of the pectoral girdle

- Sternoclavicular joint
- Acromioclavicular joint
- Glenohumeral joint
Sternoclavicular joint

(Saddle type synovial joint)

- Sternoclavicular ligament (anterior and posterior)
- Costoclavicular ligament
- Interclavicular ligament
- Articular disc

Clavicle
Subclavius muscle
1st rib
Costal cartilages
2nd rib
Radiate sternocostal ligament
Manubriosternal synchondrosis
Articular cavities of sternoclavicular joint
Costoclavicular ligament
Synchondrosis of 1st rib
Sternocostal (synovial) joint
Manubrium
Motion of clavicle:
A-D = elevation/depression
A-C = protraction/retraction
Acromioclavicular joint

Articular disc

Lesser tubercle

Synovial sheath of biceps brachii

(weak)

(strong)

(plane type synovial joint)
Glenohumeral joint
(ball-and socket type synovial joint)

High mobility:
Large humeral head & shallow glenoid cavity
Loose joint capsule

Glenoid labrum
Glenoid cavity
Coracoacromial arch

- Acromioclavicular ligament
- Acromion
- Fibrous capsule
- Coracoacromial ligament
- Conoid part of coracoclavicular ligament
- Trapezoid part of coracoclavicular ligament
- Coracoid process
- Scapula
- Glenohumeral ligaments
- Humerus
- Transverse humeral ligament
- Tendon of long head of biceps

Anterior view
Rotator cuff and glenohumeral joint

- Tendon of long head of biceps
- Supraspinatus
- Subscapularis
- Infraspinatus
- Teres minor
- Glenoid cavity
- Glenoid labrum
- Infraspinatus
- Teres minor
- Subscapularis

Anterolateral view of glenoid cavity; posteromedial view of humerus

1, 2, and 3 = superior, middle, and inferior glenohumeral ligaments

Deltoid

Subdeltoid bursa

Head of humerus (covered with articular cartilage)
Synovial membrane
(2 extensions)

Subacromial bursa

Synovial sheath of biceps brachii

Subscapular bursa
Elbow joint and proximal radioulnar joint

(hinge type synovial joint) (pivot type synovial joint)

Fibrous layer of joint capsule
Coronoid fossa
Medial epicondyle of humerus
Ulnar collateral ligament
Trochlea
Proximal radioulnar joint

Radial fossa
Capitulum
Radial collateral ligament
Anular ligament of radius
Anterior view
Fat pads
(between synovial membrane and joint capsule)

Annular ligament

Synovial membrane

Sacciform recess of synovial membrane
Humerus
Anular ligament
Force causes radial head to subluxate from anular ligament
Lump caused by displaced head of radius
Muscle pulls radial head superiorly

Subluxation and dislocation

(B) Normal
Subclinical subluxation
Subluxation
Dislocation
Movements of the elbow joint
Carrying angle of elbow joint

10–15°

>15°
Bursae around elbow joint

- Subcutaneous bursa of medial epicondyle
- Subcutaneous bursa of lateral epicondyle
- Bursa of anconeus
- Bursa at origin of extensor carpi radialis brevis
- Subtendinous, intratendinous, subcutaneous bursae
- Olecranon bursae

Anterior: bicipitoradial bursa (biceps bursa)
Distal radioulnar joint
(pivot type synovial joint)
Wrist (radiocarpal) joint

(Condyloid type synovial joint)
Palmar and dorsal radiocarpal ligaments
Movements of the wrist joint

- **Flexion**
- **Adduction**

Images showing various views of the wrist joint, including extension and flexion movements.
Intercarpal joints

(Plane synovial joints)

Articular cavity is independent

Extension & abduction

Carpometacarpal joint of thumb

Midcarpal joint (dotted line)

Metacarpal

Radiocarpal joint

Fibrous capsule
Synovial membrane

Of carpals and carpo-metacarpals

Coronal view

Intercarpal joints

Intersosseus intermetacarpal ligaments

Carpometacarpal joint of 5th digit

Pisotriquetral joint

Ulnar collateral ligament

Articular disc

Ulna

Distal radioulnar joint

Radius

Intermetacarpal joint

Radial collateral ligament

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Carpometacarpal (CMC) and intermetacarpal (IM) joints

Plane type synovial joint, except for the CMC joint of thumb (saddle type)

Thumb opposition

Coronal section: dorsal view

Carpometacarpal joint
Intermetacarpal joints
Metacarpophalangeal and interphalangeal joints

(condyloid type)  (hinge type)

Deep transverse metacarpal ligament

Metacarpophalangeal joints

Flexion-extension
Abduction-adduction
Circumduction

Flexion-extension only

Circumduction