

Shoulder joint

The *shoulder joint, articulatio humeri*, is the most mobile joint in the human body.

Joint type

It is a **free ball-and-socket joint**.

Joint surfaces

Head - caput humeri - larger than the fossa.

Fossa - cavitas glenoidalis scapulae - widened and deepened by **labrum glenoidale**.

Articulating Bushing

The articular capsule begins along the circumference of the fossa and attaches to the scapula at the outer circumference of the *labrum glenoidale*. The attachment site on the humerus is the collum anatomicum, but on the inner side it descends lower, on the collum chirurgicum and folds into the cilia. This relatively loose sleeve allows for **high joint mobility**. On the ventral side, the synovial membrane protrudes from the capsule into the sulcus intertubercularis, thus creating a synovial sheath for the musculus bicipitis brachii.

Joint Reinforcement

The capsule of the shoulder joint is strengthened by the articular ligaments and tendons of the surrounding muscles.

Articular ligaments:

- **ligamentum coracohumerale** - in front;
- **ligamentum glenohumerale** - 3 ligaments located ventrally in the inner wall of the capsule;
- **ligamentum coracoacromiale** - (fornix humeri) - stretched horizontally above the joint.

Tendons of the passing muscles:

- in front - m. subscapularis;
- at the back - m. supraspinatus, m. infraspinatus, m. teres minor.

These four muscles that reinforce the joint capsule are clinically referred to as the **rotator cuffs** muscles. Inside the joint, the beginning of the long head m. biceps brachii runs from the tuberculum supraglenodiale of the scapula to the sulcus intertubercularis.

Bursae synoviales

In places of pressure and friction, between the joint capsule and the muscles, there are **weight pouches, bursae synoviales**: bursa subtendinea musculus subscapularis, bursa subcoracoidea, bursa subdeltoidea, bursa subacromialis and others.

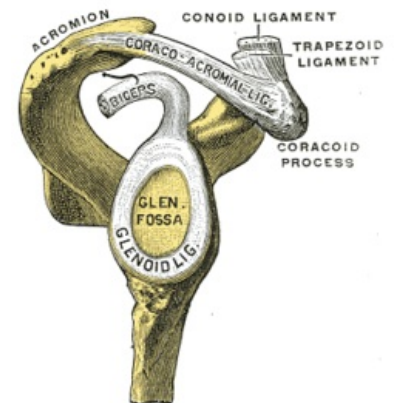
Movements

Articulatio humeri is the most mobile joint in humans and movements are possible in all directions. It is about:

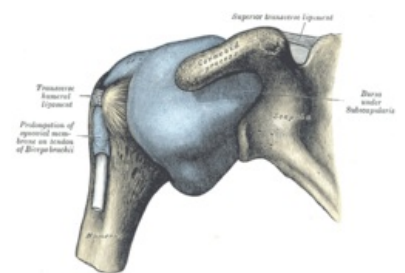
- **ventral flexion** = sag, up to 80°;
- **dorsal flexion** = extension;
- **abduction** = abduction, possibly horizontal (then the humerus hits the coracoacromial ligament);
- **adduction** = shouldering;
- **rotation** = around the longitudinal axis connecting the caput and capitulum humeri, range of about 90°.

The combination of these movements is **circumduction**. The movements of the articulatio humeri are also associated with the movements of the surrounding joints (art. acromioclavicularis, art. sternoclavicularis) and with the movement of the scapula.

Middle position



Fossa glenoidalis dx



Front Articulated Case

The middle position of the shoulder joint is slight **abduction and flexion**.

Vessels and nerves of the shoulder joint

Arteries

They come from the periarterial vascular network into which branches from a. axillaris (a. thoracoacromialis, a. circumflexa scapulae, a. circumflexa humeri posterior and a. circumflexa humeri anterior) enter).

Veins

Veins leave along the supply arteries.

Nerves

They come from n. suprascapularis, from nn. subscapulares and from n. axillaris.

Links

Related Articles

- Joints of upper limb
- Shoulder joint dislocation
- Fractures of the humeral head
- Differential diagnosis of shoulder pain/PGS (VPL)
- Joint

External links

- Articulatio humeri (Czech wikipedia)
- Shoulder (English Wikipedia)

References

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- GRIM, Miloš – DRUGA, Rastislav. *Základy anatomie : Obecná anatomie a pohybový systém*. 1. edition. Galén, 2001. 159 pp. ISBN 80-7262-111-4.