

Elbow joint

Template:Infobox - joint

Elbow joint – *articulatio cubiti*.

Type

Compound joint, 3 bones meet in this joint – **humerus, ulna, radius**. thumb|right|Articulatio cubiti zezadu

Contact surfaces

The joints of the individual bones:

- **articulatio humeroulnaris** – a simple hinge-joint
 - head: *trochlea humeri*
 - fossa: *incisura trochlearis ulnae*
- **articulatio humeroradialis** – a ball-and-socket joint
 - head: *capitulum humeri*
 - fossa: *fovea capitis radii*
- **articulatio radioulnaris proximalis** – circular joint
 - head: *circumferentia articularis* a head of the radius
 - fossa: *incisura radialis ulnae*

Joint capsule

Is around all of the three joint connections. It occupies the fossae of the humerus, but leaves the epicondyles free for the beginnings of the forearm muscles. On the ulna, it hugs the edges of the joint surfaces. On the radius, it goes down to the neck as ***recessus sacciformis***.

Ligaments

Ligaments strengthens joint capsule:

- ***ligamentum collaterale radiale*** – external collateral ligament, strengthens the joint capsule
- ***ligamentum collaterale ulnare*** – internal collateral ligament, strengthens the joint capsule
 - this ligament has 3 parts:

1. *ligamentum olecranohumerale* – between the olecranon and the epicondyle
2. *ligamentum humerocoronoideum* – between epicondyle and *processus coronoideus*
3. *ligamentum obliquum* – holds together the ends of both previous ligaments on the ulna

- ***ligamentum anulare radii*** – a ring that undercuts the neck of the radius and is attached to the ulna
- ***ligamentum quadratum*** – distal end of capsule between radius and ulna

Bursae mucosae (synovial bursas)

- ***bursa subcutanea olecrani***
- ***bursa intratendinea olecrani*** – inconstant bursa
- ***bursa subtendinea musculi tricipitis brachii***
- ***bursa bicipitoradialis***
- ***bursa cubitalis interossea*** – inconstant bursa

Movements

The basic position of the joint is **extension**. From the basic position are possible 3 types of movements:

1. **flexion**: range of motion option is 125°–145°
2. **extense**: hyperextension is possible in some women who have a smaller olecranon, meaning that the forearm forms an angle greater than 180° with the arm
3. **rotating radius**: basis of supination and pronation

Musculi articulares

Muscle bundles that extend into the capsule from the adjacent muscles and prevent the capsule from closing.

Vessels and nerves

Arteries

Leads from *rete articulare cubiti*:

- a. collateralis superior et inferior – both from a. brachialis
- a. collateralis media et radialis – both from a. profunda brachii
- a. recurrens radialis – from a. radialis
- a. recurrens ulnaris – from a. ulnaris or a. brachialis
- a. interossea recurrens – from a. interossea posterior

Veins

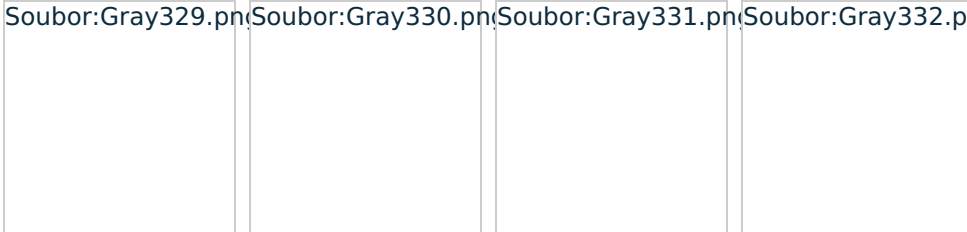
They lead along the supply arteries to the larger veins of the limb.

Nerves

- Nervus musculocutaneus
- Nervus medianus
- Nervus radialis
- Nervus ulnaris

Pictures

Soubor:Gray329.png Soubor:Gray330.png Soubor:Gray331.png Soubor:Gray332.png



Articulatio cubiti
front view

Articulatio cubiti
back view

Joint capsule of the
elbow joint- front
view

Joint capsule of the
elbow joint - back
view

References

Related articles

- Joints of the upper limb
- Bones of the upper limb

Literature

- ČIHÁK, Radomír. *Anatomie 1*. 1. edition. Praha : Grada Publishing, a.s., 2008. pp. 516. ISBN 80-7169-970-5.