

# Colles Fracture

This article has been translated from WikiSkripta; ready for the **editor's review**.

A **Colles fracture** is caused by a fall on a *dorsiflexed and pronated arm*:

- **radius** breaks 2-3 cm proximal to the wrist joint,
- The **distal fragment** is dislocated dorsally and radially.

In half of the cases there is also a fracture of the ulna styloid process. Age-wise, it occurs in two peaks:

- *at a younger age* it is related to increased activity,
- *in old age* it is related to osteoporosis (along with fractures of the neck of the femur and compression fractures of the vertebrae).

## Clinical picture and diagnosis

- typical **bayonet-like position** when viewed from above, **fork-like position** when viewed from the side,
- pain, swelling, disfigurement of the wrist, limited mobility in the wrist,
- on the X-ray, we evaluate the inclination of the articular surface of the radius (30° in the antero-posterior projection, 15° in the lateral view – it decreases in the case of a fracture),
- may be:
  - fracture of the *processus styloideus radii*,
  - rupture of the *ulnar collateral ligament*,
  - dislocation of the *radio-ulnar joint*,
  - a fracture can also be *cominutive (shattering)*.

## Treatment

- **Conservative** (most are treated conservatively)
  - local anesthesia (10 ml of 1% mesocaine to the hematoma site),
  - **reposition** - pull the thumb in the axis of the joint, for the other fingers in the direction of ulnar duction with a flexed elbow for a counter pull (*finger cups* are suitable),
  - attach dorsal **plaster splint** from the elbow to the heads of the metacarpals in slight wrist flexion and ulnar duction,
  - should **follow**:
    - X-ray check,
    - finger blood circulation check,
    - in 2 days check to finish turn of the gypsum (with X-ray),
    - another X-ray check after 1 week and after 3 weeks,
  - **immobilization for 6 weeks** - immobilization in ulnar duction and palmar flexion,
  - **unsuitable position'** after repositioning:
    - shortening of the radius by more than 2 mm,
    - dorsal angulation above 5°,
    - volar angulation above 20°,
    - deficit on the articular surface of the radius above 1 mm.
- **Operational'**:
  - in these cases:
    - *if repositioning fails*,
    - *intra-articular fractures*,
    - *open fractures*,
  - The **options** are:
    - percutaneous fixation with Kirschner wires during closed reduction,
    - external fixation,
    - traction screws with mini incision,
    - open reposition with T-splint,
    - LCP (locking compression plate).
  - After the surgery **stabilization of the joint** with an orthosis, full recovery in **10 weeks**.



In elderly people with osteoporosis, it is sometimes better not to attempt a reposition due to further possible disruption.

## Complications

- shape changes in the wrist during secondary redislocation and permanent difficulties in joint movement, which sometimes need to be solved by osteotomy and shortening of the ulna;
- rupture of the extensor pollicis longus tendon;
- carpal tunnel syndrome.

# Links

## Related Articles

- Forearm Fractures
  - Compound fractures of the radius and ulna
  - Isolated fractures of the radius and ulna
  - Fractures of the proximal ulna
  - Monteggia Fracture
  - Galeazzi Fracture
  - Smith's Fracture
- Radius
- Ulna

## Source

- PASTOR, Jan. *Langenbeck's medical web page* [online]. [cit. 2009]. <<https://langenbeck.webs.com/>>.
- ZEMAN, Miroslav. *Special Surgery*. 2. edition. Prague : Galen, 2006. 575 pp. ISBN 80-7262-260-9.