

# 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* :

- the radius breaks 2–3 cm proximal to the carpal joint ,
- **the distal fragment** dislocates 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* is related to increased activity,
- *in old age*, it is related to osteoporosis (along with femoral neck fractures and vertebral compression fractures).

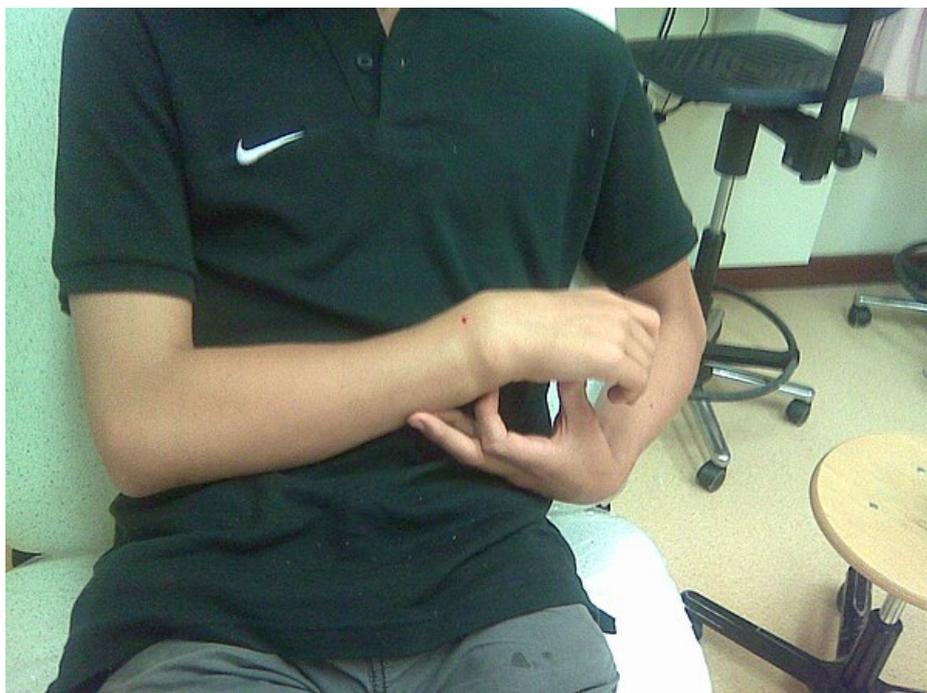
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## Clinical picture and diagnosis

Colles fracture.

- 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 assess 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* ,
  - luxation of *the radio-ulnar joint* ,
  - the fracture can also be *comminuted (shattering)* .



Position of the wrist joint.

## Therapy

- **Conservative** (most are treated conservatively)
  - local anesthesia (10 ml of 1% mesocaine to the hematoma site),
  - **reposition - pull for 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)
  - apply a dorsal plaster cast from the elbow to the heads of the metacarpals in slight wrist flexion and ulnar duction,
  - should **follow** :
    - x-ray check,
    - finger blood flow control,
    - in 2 days check to finish the cast (with X-ray),
    - another X-ray check after 1 week and after 3 weeks,
  - **immobilization 6 weeks** – immobilization in ulnar duction and palmar flexion,
  - **inadequate position** after reduction:
    - 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.
- Operating :
  - in these **cases** :
    - *if repositioning fails* ,
    - *intra-articular fractures* ,
    - *open fractures*,
  - **options** are:
    - percutaneous fixation with Kirschner wires during closed reduction,
    - external fixation,
    - mini-incision tension screws,
    - open reposition with a T-plate,
    - LCP (locking compression plate).
  - After surgery **to stabilize the joint** with an orthosis, full recovery in **10 weeks** .

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

## Complication

- shape changes in the wrist due to 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

- Fractures of the forearm
  - 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]. [feeling. 2009]. < <https://langenbeck.webs.com/> >.
- ZEMAN, Miroslav, et al. *Special surgery*. 2nd edition. Prague: Galén, 2006. 575 pp. ISBN 80-7262-260-9 ([http s://www-wikiskripta-eu.translate.google.w/Speci%C3%A1ln%C3%AD:Zdroje\\_knih/80-7262-260-9?\\_x\\_tr\\_sl=auto&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=en](http://www-wikiskripta-eu.translate.google.w/Speci%C3%A1ln%C3%AD:Zdroje_knih/80-7262-260-9?_x_tr_sl=auto&_x_tr_tl=en&_x_tr_hl=en)).