

Knock-on

A **knock-on** (*pseudoarthrosis*) is characterized as a disorder of fracture healing, when bone fragments do not fuse together even in a time **twice** as long as the normal course of healing (until then, we are only talking about "prolonged healing").

The fracture line is filled **with fiber** and surrounded by a fibrous **sheath**, that contains **fluid**.

Classification according to clinical findings

- **weak:** unstable, with great pathological *mobility*, cannot bear loads
- **strong:** without pathological momentum, withstands loads

Classification according to Čech and Weber

1. **Vital** – insufficient stabilization and immobilization of the fracture, **sufficient blood supply** and tendency to healing.
 - *Hypertrophic*;
 - *Normotrophic* – occurs mostly in unstable osteosyntheses;
 - *Oligotrophic* – usually arises from overextended skeletal traction.
2. **Vital** – **insufficient blood supply**, sclerotization or osteoporosis of bone ends.
 - *Dystrophic*;
 - *necrotic*;
 - *defective*;
 - *atrophic*.

The most serious form is **an infected joint** – it occurs in all the above-mentioned forms and can lead to limb amputation. A special example is **the tibial joint in fractures of the lower leg, where** the fibula heals earlier and acts as a spacer (similarly, earlier healing of the ulna acts in fractures of the radius).

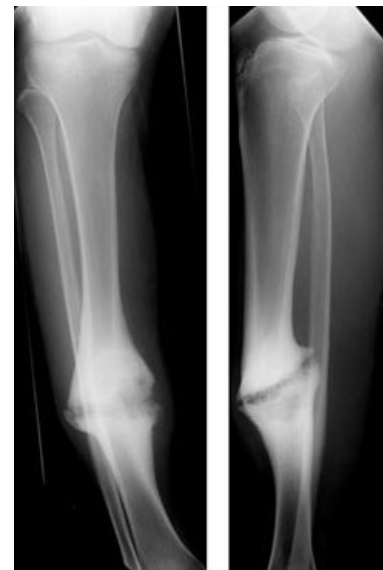
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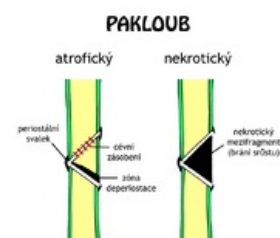
- Fracture of healing disorders
- Malunion
- Prolonged healing

Source

- PASTOR, Jan. *Langenbeck's medical web page* [online]. [cit. 12.4.2010]. <<https://langenbeck.webs.com/>>.



Hypertrophic knock-on of tibia



Atrophic and necrotic joint