

Regional anesthesia

Regional anesthesia is commonly performed in lameness investigation to localise the source of pain. Also is used to anesthetized horses undergoing surgery and allows to facilitate surgical procedures with the horse standing. Regional anesthesia can be also used to reduce chronic pain.

Perineural anesthesia is not as precise as intraarticular anesthesia in localizing the site of lameness, because it anesthetizes articular and nonarticular structures.

The three commonly used local anesthetics:

1. *Lidocaini hydrochloride 2 %*

- induces anesthesia more slowly
- provides shorter duration of anesthesia than mepivacaine and bupivacaine does
- provides anesthesia for 30-45 minutes
- can cause irritation of local tissues

2. *Mepivacaine hydrochloride 2 %*

- is used more frequently than lidocaine
- longer lasting and less irritating than lidocaine
- provides regional anesthesia for 90-120 minutes

3. *Bupivacaine hydrochloride 2 %*

- provides longer duration of anesthesia (4-6 hours) than provided by lidocaine or mepivacaine

Pain usually relieved within 5 minutes after administering a local anesthetics in the distal part of the limb (because distally located nerves are smaller and superficially located than proximally located nerves), but when anesthetize the large nerves in the proximal portion of the limb, pain can be relieved after 20 minutes or more.

The volume of local anesthetics used to anesthetize nerves, located in the distal part of the limb is less than volume used in the proximal part of the limb.

The needle has to be inserted without syringe detached because of the likelihood of it being bent or broken.

The needle is inserted over the digital nerve, subcutaneously and directed distally. Proximal direction of the needle could cause proximal diffusion of local anesthetics, which may increase the likelihood of anesthetizing structures not intended to be desensitized.

Skin preparation

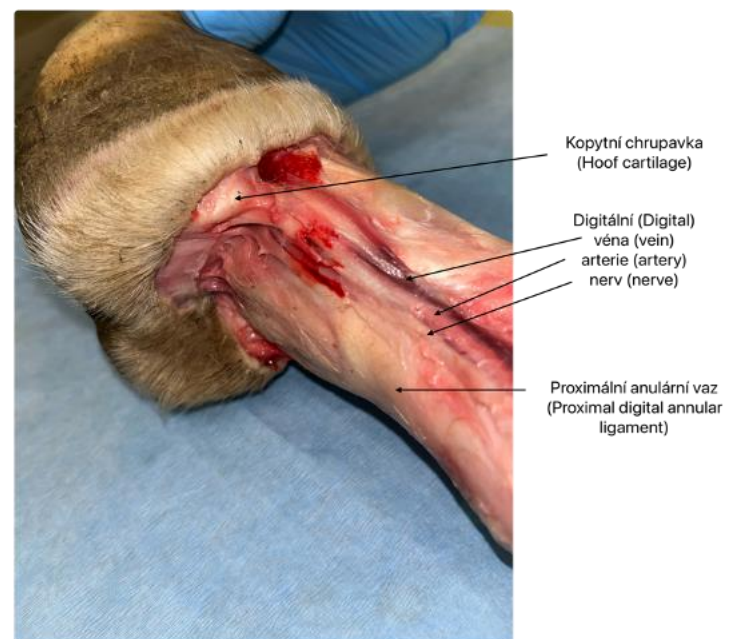
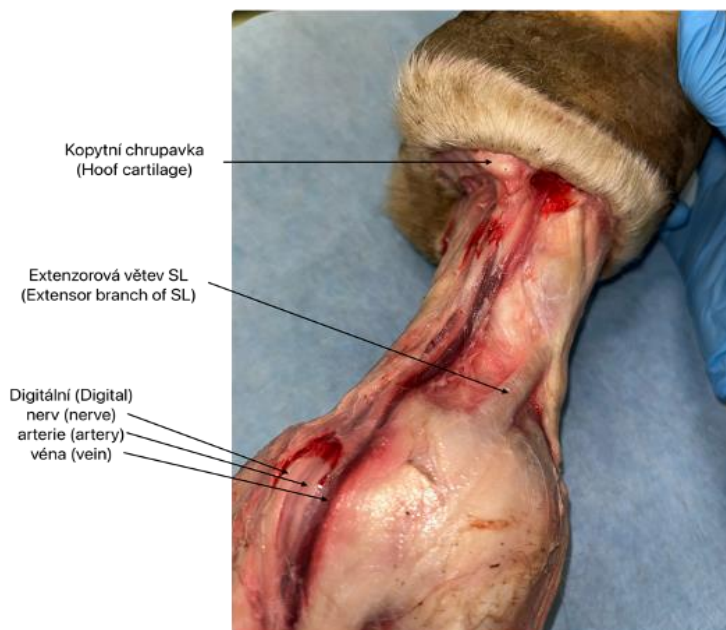
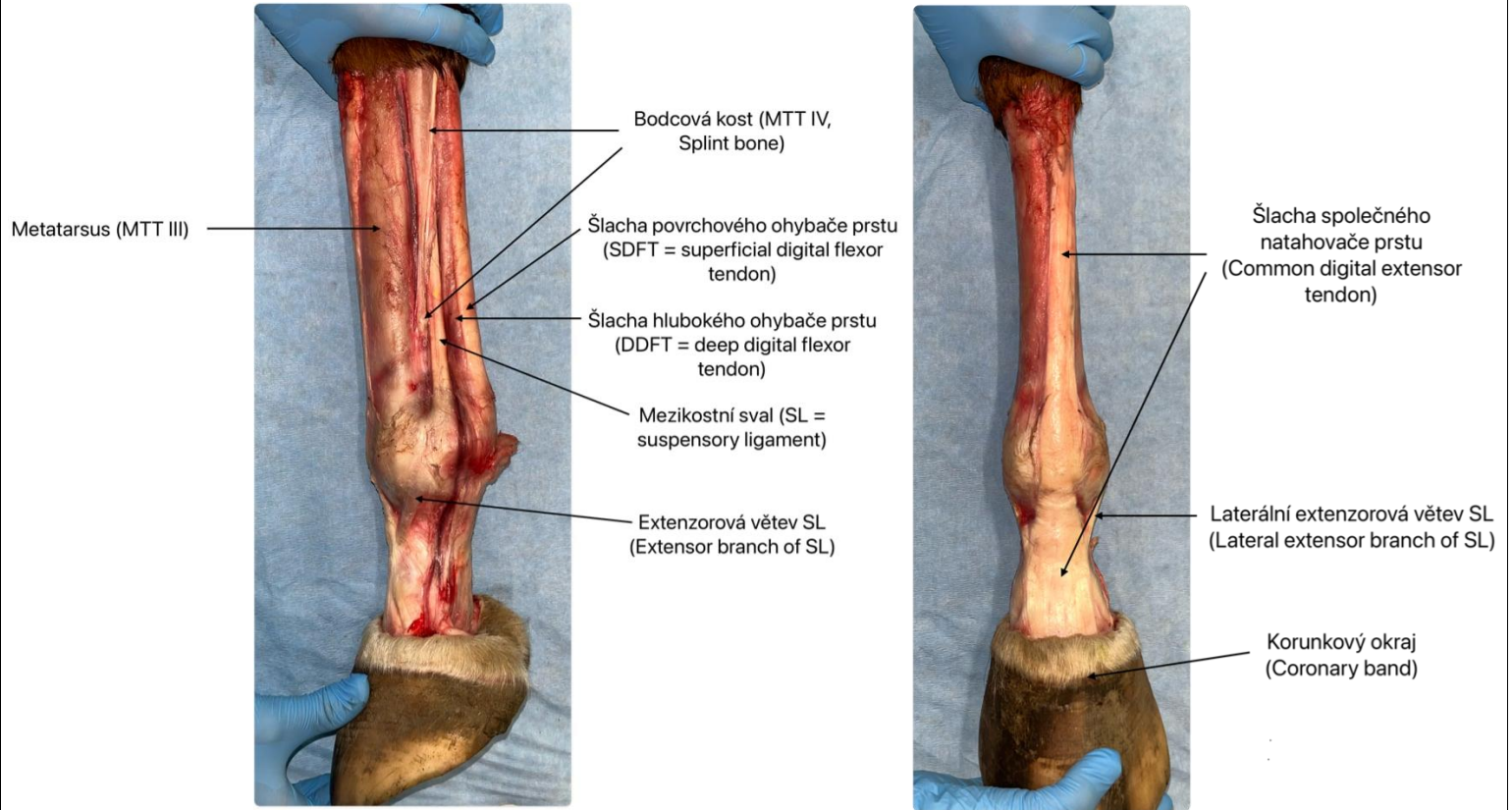
Clipping the site of injection is not necessary unless you need better visualisation of the landmarks.

The skin preparation necessary for regional anesthesia is scrubbing the area with gauzes soaked in 70 % isopropyl alcohol until is clean. But if there is a risk of penetration synovial structures, the site has to be prepared with an antiseptic soap.

Complications

Complications of regional anesthesia are rare, but include broken needle, subcutaneous infection, septic synovitis.

The most important factor for successful placement of a needle is a good knowledge of anatomy.





Šlacha povrchového ohybače prstu
(SDFT = superficial digital flexor
tendon)

Šlacha hlubokého ohybače prstu
(DDFT = deep digital flexor
tendon)

Digitální (Digital)
nerv (nerve)
arterie (artery)
véna (vein)

Mezikostní sval (SL =
suspensory ligament)