

### Metacarpal/Metatarsophalangeal (MCP/MTP; Fetlock) Joint

**Quantity of Local Anesthetic:** 8 to 12 mL

**Needle Size:** 1 to 1-1/2 inches, 20 or 22 gauge

**Injection Techniques:**

- Proximal palmar/plantar approach (Figure 3.79): The boundaries of the palmar/plantar pouches of the fetlock joint are the apical border of the proximal sesamoid bones distally, the distal ends of the splint bones proximally, the third metacarpal/metatarsal bone dorsally, and the branch of the suspensory ligament palmar/plantarly. When performing this approach in the standing patient, a 1- to 1-1/2-inch, 20-gauge needle is inserted from lateral to medial and directed distally at a 45°

angle to the long axis of the limb. The disadvantages of this approach are the possibility of contaminating the synovial fluid sample with blood because of the highly vascular synovial membrane and the inability to aspirate synovial fluid because the synovial villi plug the needle.

Performing the palmar/plantar approach with the fetlock flexed can potentially minimize these complications. With the fetlock flexed there is a very palpable depression at the very distal aspect of the pouch just above the branch of the suspensory ligament. A 1- to 1-1/2-inch, 20-gauge needle is inserted at this location and directed distally at a 45° angle. The more distal location in the palmar/plantar pouch reduces the risk of iatrogenic hemorrhage.

- Collateral sesamoidean approach (Figure 3.80): Arthrocentesis of the fetlock through the lateral collateral sesamoidean ligament is probably the best approach to obtain a hemorrhage-free synovial fluid sample. The fetlock is flexed to increase the space between the articular surfaces of the proximal sesamoid bones and the back of the metacarpus/

metatarsus. The depression between the bones is palpated and a 1-inch, 20-gauge needle inserted through the collateral sesamoidean ligament perpendicular to the limb. If the needle fails to advance, it is most likely contacting bone and will need to be redirected to enter the joint space.

- Distal palmar/plantar approach (Figure 3.81): The distal palmar/plantar approach is performed in the palpable depression formed by the distal aspect of the proximal sesamoid bone and the proximopalmar/plantar eminence of P1. The landmarks are the distal aspect of the proximal sesamoid bone and collateral sesamoidean ligament proximally; the proximal palmar/plantar eminence of P1 distally; and the digital vein, artery, and nerve palmar/plantarly. A 1-1/2-inch, 20-gauge needle is inserted in the depression and directed slightly dorsally (10° to 20°) and proximally (10°) until the joint is entered. To avoid penetration of the digital sheath it is important that the needle be inserted dorsal to the palmar digital artery, vein, and nerve. The advantages to this approach are that the landmarks are easily palpable, synovial fluid is often obtained, it can be performed in the standing horse.
- Dorsal approach (Figure 3.82): The dorsal approach usually is performed with the limb bearing weight. The needle is inserted proximal to the proximodorsal limits of P1 in the palpable joint space in a slightly oblique manner, either lateral or medial to the extensor tendon. The fetlock joint capsule is thicker in this location than in the palmar/plantar pouch and appears to cause greater discomfort to the horse than the other techniques.

#### Pitfalls:

1. Blood contamination and inability to aspirate synovial fluid with the proximal palmar/plantar approach
2. Contacting bone when using the collateral sesamoidean approach
3. Incorrect needle angle when using the distal palmar/plantar approach
4. Damaging the articular surfaces with the dorsal approach

