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Foot Casts for Treating Equine Lower Limb Injuries

It's one thing for a doctor to tell a human patient to rest and keep an injured lower leg immobilized and unloaded. It's a different ballgame, however, when a veterinarian treats a horse with such an injury—horses lack the ability to kick back in a recliner and rest the limb until it heals.

Fortunately, veterinarians have options at their disposal for managing distal (a fancy word for lower) limb injuries in horses. One of those methods is applying a foot cast. At the 2015 American Association of Equine Practitioners' Convention, held Dec. 5-9 in Las Vegas, John Janicek, DVM, MS, Dipl. ACVS, reviewed how to use foot casts in clinical practice. Janicek is an equine practitioner at Brazos Valley Equine Hospital, in Salado, Texas.

He said foot casts can help veterinarians treat a variety of conditions, including heel bulb and pastern lacerations, hoof wall avulsions (where pieces of the hoof wall have been torn away or surgically removed), collateral ligament (which stabilize a variety of joints, including those in the lower limb) injuries, and [coffin bone fractures](#). They incorporate the entire hoof and extend to the upper pastern. He said the advantages they offer include decreasing recovery time, immobilizing the coffin and pastern joints, maintaining the hoof-pastern axis (the alignment of the toe of the hoof wall with the pastern above it; if they are parallel, the hoof has a proper hoof-pastern axis), and reducing the time and cost associated with frequent bandage changes. Further, veterinarians can apply these casts in the standing sedated horse.

Prior to applying a hoof cast, the veterinarian should determine if any synovial structures (i.e. joints, tendon sheaths, navicular bursa) the cast will cover are infected. If so, Janicek said the practitioner should address the infection and refrain from applying the cast until it's completely cleared.

Also before applying the cast, the veterinarian must also prepare the horse's hoof and surrounding structures. This includes removing the horse's shoe (if applicable) and trimming the hoof to prevent pressure points along the outside edge of the cast, said Janicek. If the horse has any lacerations that will be covered with the cast, those should be treated and lightly bandaged, as well.

Janicek gave attendees a step-by-step review on how to apply a hoof cast, along with several general recommendations about casting:

Wear nitrile or Latex gloves when applying the cast to [protect your hands](#) from the casting material:

- Don't open the casting material until you're ready to apply it;

- Submerge the casting material in water (the warmer the water, the faster the curing time) to activate the resin and shake excess water off prior to applying it;

- Avoid wrinkles when applying the casting materials; and

- Be sure you're familiar with how to apply a forelimb casts versus a hind-limb one before you get started—the approach is slightly different.

You can leave a cast in place for two to three weeks, and Janicek said it's rare that a horse needs a second cast after the first is removed; most ailments heal or improve enough to be managed without a cast by that time. He also recommended keeping a casted horse confined to a clean, dry stall to minimize development of [possible complications](#), which can include:

- Cast sores;
- Fluid discharge ("Excessive fluid discharge from the cast may result from wounds that are producing excessive exudate, or it could be from development of a cast sore," Janicek relayed. "It doesn't necessarily mean something terrible is going on, but the veterinarian needs to know.");

- A broken cast;
- Excessive wear around the toe; and

- Lameness.

Janicek said practitioners should modify or remove the cast if any complications arise. However, on its own, a foul odor emanating from the cast isn't necessarily grounds for cast removal. Odors can result from something as simple as sweating, discharge from proud flesh, or bacterial fermentation on the hoof (think thrush) that can be addressed following cast removal.