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Dealing with foot cracks, separations and infections is a medical area of the horse that there potentially needs a strong working relationship with the veterinarian, farrier and owner. Do a thorough visual examination of the foot. Use a small probe to examine the clefts of the frog and any potential fissures for discharge or small foreign body. Do a careful hoof testing of the foot. Some principles to consider when working around a potentially compromised foot are:

- Abnormal foot conformation can lead directly to foot problems
- Don’t take a freshly shod horse’s shoe off unless necessary.
- Use a crease nail puller around a painful foot rather than pull-offs.
- Always consider the sole when the horse has foot pain. Do not invade the sole when diagnosing or treating a compromised foot. Use the wall for pressure reduction or drainage.
- When doing hoof surgery, take very small shavings of horn versus larger sections of horn. Goal is to minimize or eliminate bleeding. Bleeding will increase pain, reduce healing time and increase potential secondary infection. Recheck in two weeks. Preferable do not rely on the owner or trainer.

**NAIL PRESSURE**

When the farrier or veterinarian are called the day after trimming or shoeing of a horse a thorough examination should be done by a veterinarian since maybe the obvious cause as determined by the owner is not foot related? Possibly some coincidental cause is at play that is making the horse move stiffly or lame on one leg. The horse may have been given vaccinations intramuscularly in the neck the same day as it was trimmed or shod and developed neck stiffness in 24 to 48 hours. An older unfit horse may have been worked too hard immediately after it was shod or the arthritis in a joint proximal to the foot may have been aggravated during the shoeing. Rarely but possible the horse could have been brewing a pleuropneumonia occident to trimming or shoeing. Foot related could be that an abscess was just brought closer to the bearing surface and increased its pain. The shoe could be creating sole pressure and grinding away shoe that potentially would be contacting the sole would be a solution. The horse could have been trimmed too closely . If the horse is mildly painful (2/5 or less) then use of normal doses of a NSAID for 3 days would be appropriate with exercise reduction. If a nail is suspected after careful evaluation of each nail with hoof testers then remove the nail. If it has been 3 days or less flush the nail track with disinfectant and wrap foot to keep dirt from entering the opening. Possibly use 3 days of NSAID. If it is greater than 3 days consider removing the nail and possibly opening the wall along the nail track. This might reduce the potential of significant cellulitis or infection. Wrap foot with a drawing agent.
CRACKS AND SEPARATIONS

Cracks can be a direct result of abnormal foot conformation or poor attempts at mechanically helping the abnormal foot conformation. Perimeter shoeing of a foot that wants to flare, dish or grow an elongated toe and minimal heel can lead to cracks and separations. Any mechanical forces that pull the wall away from its normal course can lead to cracks and separations. Toe and wall cracks from flaring and/or dishing can be corrected by eliminating the problem. These cracks and separations usually begin from the bearing surface toward the coronet. Many quarter cracks that begin at the coronet are related to abnormal foot conformation and then compounded by abnormal exercise on difficult surfaces.

TREATMENT

Correct the shoeing or trimming imbalance. Examine and remove any infection by careful horn removal. The horse may need topical treatment if infection present.

Remove pressure at the coronet by shaving back horn about 1 centimeter on either side of the crack just to the sensitive laminae. All cracks undermine palmarly or plantarly. They may need re-examining in 2 weeks to get to the bottom of the crack so no further crack is apparent.

Give the foot as much sole support as possible either by standing the horse barefooted in sand or applying form fitting padding to the foot. Separations can become quite extensive as in the case of White Line Disease. White Line Disease is a hollowing of the wall. A lateral radiograph should be taken to determine the true position of the distal phalanx either whether the bone has been pushed palmarly or plantarly or if laminitis has occurred creating the space in the wall area for inflammation and infection to occur. The sole and hoof support should be determined with the veterinarian and farrier before any extensive wall resecting should be done. Once a support system has been established and applied then the affected hoof wall needs to be removed. Half round nippers work well in removing large portions of the dead hoof wall. As the surgeon approaches the normal hoof wall shaving horn away from any remaining cracks is important. Recheck in 2 weeks to see if any separations are continuing proximally.

CORONET BAND WOUNDS THAT INCLUDE THE HOOF WALL

Trauma to the coronet band can create swelling. Subsequently the horn of the traumatized wall pushes against the inflamed coronet acting like a foreign body making the inflammation of the coronet worse. The horn should be pared away from under the swollen coronet. The wound will then heal rapidly with some topical antibiotic dressing. Occasionally as the horn is pared away the causative foreign body...
of a piece of wood or thorn is found and can be removed. If a laceration is present casting can be helpful to reducing motion of the area to enhance healing.

**FOOT ABSCESES**

With sudden onset of lameness hoof abscess would be the first condition that needs to be ruled out by careful examination and use of hoof testers. There can be cellulitis proximal in the limb but the swelling is always greater in the pastern than further up the leg. Palpating the coronet band is helpful sometimes to locate pain or softening where an abscess might open and drain. When an abscess opens at the coronet it often can be confused for a coronet band injury. Most foot abscesses begin around the sole/wall junction in the quarters and sometimes at the very toe. Drainage from the white line up the wall creates less pain than draining into the sole. When the sole is opened often there is a laminar prolapse that can cause more delay in soundness than the original abscess.

With a true sub solar abscess if large enough consider a hospital plate. This sole protection allows for treatment as well as protecting the sole and saves on a great deal of bandage materials. Modifications of a hospital plate can be fashioned for smaller sole defects.

**FROG INFECTIONS**

The most under diagnosed and most common foot infection in America is thrush – pododermatitis of the sulci of the frog, usually the central sulcus. It is a mixed bacterial infection that undermines the frog and can get quite deep causing lameness or at least discomfort for the horse. Exploration with a probe to evaluate the extent of the infection is helpful. Then remove all the dead frog and open all areas that are covered. Packing the areas with disinfectant on a daily basis can be therapeutic. Recheck in 2 weeks. Determine and council if management is a contributing factor to the cause.

Canker can be a very difficult heel problem for draft type horses. Early diagnosis is critical and then extensive and protracted treatment is necessary. Surgical excision, liquid nitrogen and topical medications have been used with varying success. One report in one horse suggested systemic corticosteroids. Is canker a part of the Chronic Progressive Lymphedema syndrome that has been recently described in draft horses where some horses have a dysfunction of their lymphatic drainage? If so it might explain why some canker cases are refractory to any treatment or reoccur. Also are some of the treatable cankers confused with serious thrush cases?

**STREET NAIL**

The seriousness of the case depends on the position and depth of the foreign body. The deeper the penetration of the foreign body and the more central the location in the foot the more serious the prognosis is for the horse. Imaging techniques can be helpful in determining the extent as well as joint fluid evaluations. Treatment involves debridement and drainage. Systemic and local antibiotics can be helpful. Changing post-operative bandages at least twice daily for one week can be helpful to avoid recontamination of the dressing from the dirt around the foot environment.

**BIBLIOGRAPHY**


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