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Common Hoof Problems

By Dr John Kohnke BVSc RDA

Hoof Abscesses

A hoof abscess can develop following the entry of micro-organisms into the internal hoof structures under the sole or heels, a stone bruise to the sole, cracks in the sole or lower edge of the hoof wall after a dry period. The most common underlying cause is penetration of the sole by a sharp object. Bacteria in the soil or stable bedding can gain entry via hairline cracks in the sole or around the frog, most commonly after rain and wet conditions following a dry period.

Typical signs include reluctance to bear weight on the hoof, standing on the toe of the hoof, swelling and 'heat' around the pastern and fetlock, or up the limb in severe cases, and 'warmth' in the infected hoof when held up and cupped in the hand as compared to the adjacent hoof.

Handy Hint

Locating the Abscess

If the horse is lame and the hoof is warm to touch, and the horse exhibits pain when pressed over the area with hoof testers, careful scraping and cleaning of the sole with a hoof knife may reveal the discoloration of a stone bruise under the sole, or a 'weeping' infected crack in the sole or around the frog.

Handy Hint

'Simple Hoof Poultice'

If the infection is located and the 'pressure' is released, a simple bran and Epsom salt poultice, or a warm, wet Animalintex Poultice, can be applied to drain out the 'pus' and infection.

'Simple Bran Poultice' - Two tablespoonsful of Epsom salts and 1/3 cup of wheat bran. Combine & dampen in a cup. Microwave for 60 seconds on high (this will help to sterilise the poultice). Set aside and allow poultice to cool. Clean the sole with soapy water and paint with 10% Betadine Iodine solution to prevent any additional infection. Apply the cooled poultice evenly in a 1cm thick layer to the sole, then wrap hoof with Kitchen film, this will hold it in place for 12 hours. This simple poultice will help draw out the infection. Once the abscess has been drained, the hole can be plugged with cotton wool soaked in 10% Betadine Iodine solution, and the horse confined on dry bedding for a couple of days. Consult your vet for advice.

Handy Hint

Keep the Bedding Dry

Because thrush is a fungal microbe, the moist, anaerobic (low oxygen) conditions of wet or highly contaminated bedding and outside yards, will help perpetuate the infection. Regularly "muck out" the stable and replace bedding with dry bedding. Wood shavings and saw dust have lower fungal counts than straw or rice hulls used for bedding. Keep saw dust bedding slightly damp to minimise dust and clean out the impacted bedding from the sole and around the frog each day. In outside yards, improve drainage and if necessary, replace heavily contaminated sand or soil with new, clean sand to help keep the surface drier and cleaner.

Occasionally, the infection of the abscess will build up internal pressure within the hoof and burst through the bulbs of the heels, or around the coronary band.

NOTE: If the abscess is related to a penetrating object, such as a nail or recent shoeing with a "deep" nail, a vaccination or antitoxin needle for tetanus must be given. Consult your vet of advice.

NOTE: It is unwise to give antibiotics to treat a hoof abscess unless under veterinary supervision, because the antibiotics may kill some of the bacteria to leave a 'cold' abscess, which may erupt a few days later. It is best to have a farrier or your vet locate the sore area with hoof testers and open the abscess to drain the 'pus' and infection, then treat with antibiotics if necessary.

If the abscess is extensive and takes more than 12 hours to drain and for the inflammation to subside, seek advice from your vet about irrigating the cavity under the sole with an antibiotic preparation. Repeat the antibiotic infusion daily, wrapping the hoof in a waterproof (eg an elastic rubberised bandage) for 2-3 days until the drainage clears and the hole seals over. Consult your vet for advice.

'Thrush'

Thrush is caused by an invasion of the sole, frog and bulbs of the heels by a soil or bedding borne fungal microbe, especially under wet, anaerobic conditions. The 'damp', low oxygen conditions around the frog favour fungal growth, which can lead to 'heat' and lameness caused by frog and heel infection. Often the horse is lame and a black, smelly discharge weeps from around the frog.

Thrush can be avoided by daily picking out of the grooves (sulci) of the frog and painting with 10% of Betadine Iodine solution as necessary, and applying a twice weekly film of **Kohnke's Own Hoof-Seal** to maintain optimum moisture content in the frog environment. Consult your vet if the condition persists or recurs.

Handy Hint

Cleaning the Hoof

After removing surface contamination by lightly scrubbing the frog and heels with 10% Betadine Iodine solution and Sunlight soap (no detergent), soak a cotton wool pad with a solution of 50:50 water and 3% Hydrogen Peroxide solution to help 'oxygenate' the area - apply for 20-30 minutes, wrapping the hoof in kitchen film to keep it in place. Remove the pad and then apply a pad soaked in 10% Betadine for 12 hours, secured in place with kitchen wrap or a bandage. Repeat the above process over a 2-3 day period. Consult your vet for advice if the condition does not improve or the horse remains lame.

Handy Hint

Reducing Frog Impaction

After cleaning the sole and frog each day, apply a coating of Hoof-Seal once the thrush infection is under control. Within 5-7 days, the Hoof-Seal applications can be extended to 1-2 times per week. The film of Hoof-Seal will help minimise the collection and compaction of organic, contaminated bedding and soil on the sole and frog. Under wet conditions, daily applications are recommended to maintain a water repellent film.

Common Hoof Problems

'Seedy Toe'

The condition referred to as 'seedy toe' is most commonly a result of hoof wall and sole separation following laminitis, especially when the pedal bone rotates downwards in the hoof as occurs in founder. The area of the white line at the hoof wall - sole junction becomes wider and white crumbly hoof horn begins to fill the space. This material is colonised by bacterial and fungal growth from the soil which decays the hoof protein to form a soft 'seedy' consistency and progressively invades deep into the separated laminae in the toe region. Wet conditions facilitate the growth of the micro-organisms and eventually the front area of the toe develops a cavity filled with decayed laminae horn. If the horse is lame as a result of severe 'seedy toe' or laminitis, seek advice from a vet or specialist farrier.

Handy Hint

Maintaining Internal Hoof Moisture

Apply a twice weekly coating of **Kohnke's Own Hoof-Seal®** to help avoid moisture variations within the sole and moisture uptake from contaminated soil into the sole, especially under wet conditions. Ensure that the horse is provided with a source of good quality protein in its diet, such as 200g of full fat soyabean meal, or 300g of canola meal, per 200kg body weight each day to contribute protein for hoof regeneration. A supplement containing organic zinc, calcium and Vitamin A, such as **Kohnke's Own Cell-Provide**, is also recommended to make up dietary shortfalls.

'Sand Cracks'

Hoof wall splits and quarter cracks can be difficult to manage in a horse during the competitive season. Often, continued build-up of soil and sand within the crack wedges it open as the hoof quarters expand at each footfall, even in horses with barefoot trimming.

Where a 'sand' crack opens up from the grounded edge of the hoof wall, often trimming the hoof and even applying a shoe, also to the adjacent hoof front or back hoof may help to stabilise the crack. To prevent sand compacting into the cracks, I have had great success by filling the cracks with silastic window/bathroom sealant. Simply brush out the sand and carefully pick it out from the depths of the crack with a hoof nail. Then apply 10% Betadine iodine solution and allow it to soak for 5 minutes to reduce bacterial contamination before applying the silastic sealant. Swab the crack and the surrounding hoof wall area with methylated spirits to remove moisture and fat residues. Apply a small amount of dishwashing liquid to the tip of your index finger, or apply latex or thin vinyl gloves, to prevent the sealant sticking to your skin.

Handy Hint

'Sealing the Clinches'

Often shoes will loosen and be 'cast' more easily during wet weather if the wall around the clinches softens and allows them to indent into the hoof wall. Using the technique as described for sand cracks, simply dab a small amount of silastic sealant over each clinch to seal out water and moisture. This will help to prevent moisture gaining entry and softening the hoof wall, which will help keep the clinches tight and less likely to pull down into the hoof wall.

Managing 'Seedy Toe'

- Step 1** Thoroughly clean the sole and white line area by scraping with a hoof knife to remove surface contamination. If the area is caked in mud, scrub the sole and white line area with a brush and 10% Betadine iodine solution or wash, to clean it as much as possible, then pat dry with a towel.
- Step 2** Using the sharp edge of the hoof knife, carefully dig out the decayed white line to form a trough as deep as the 'seedy' area penetrates into the white line area. In severe cases, your farrier or vet may cut away the front of the hoof to remove the dead laminar tissue and encourage the regrowth of good quality hoof over a 2-3 month period.
- Step 3** Irrigate the cleaned white line and cavity with 10% Betadine iodine solution, or an equivalent iodine based solution, and allow it to soak into the underlying seedy tissue. Repeat the iodine flood into the trough around the white line area to ensure that it penetrates to the full depth of the separated area.
- Step 4** Pat dry with toweling. Then carefully wipe the area with a tissue soaked in methylated ('metho') spirits to remove any iodine residue and dry the moisture from the cavity, as well as clean away oils and other contamination. Allow the alcohol to evaporate before proceeding with step 5.
- Step 5** Apply a bead of clear (translucent) silastic window/bathroom sealant to fill the cavity. Smooth it off with a match or flat knife, adding another bead as necessary to finish it level with the wall and sole junction around the toe area. The silastic sealant will prevent moisture entering the 'seedy' area and protect it against continued microbial contamination. If the front of the hoof wall is cut away to remove dead tissue, the silastic can be used to fill in the gap. Stand the horse on a dry hard area, such as a concrete wash bay or stable aisle for 30 mins while the silastic cures. Alternatively, wrap the hoof in a couple of layers of kitchen film during the time the silastic takes to cure. The kitchen film will wear away or fall off in a couple of hours once the horse is turned out into a yard or small paddock.
- Step 6** If the hoof wall is broken away or the white line area is weak, a shoe may need to be applied to stabilise the hoof wall and sole to prevent further separation and break away. The silastic can be removed at weekly intervals, the cavity cleaned and soaked with iodine solution and the silastic replaced as described in Steps 4-5 until the hoof-sole white line area repairs.

Handy Hint

Reducing Moisture and Contamination

The management of 'seedy toe' involves the removal of the decayed horn material from the cavity and control of the microbial infection and sealing the surface. This prevents moisture and continued microbial contamination during the 3-4 week period while the laminae regenerate and re-attach to form a healthy white

Handy Hint

Risk of Repeated Seedy Toe

In an aged horse, or a horse being fed a diet high in grain in training or a horse with Equine Metabolic Syndrome (EMS) or Cushing's Disease, low grade laminitis can develop from time to time. This can result in partial separation of the 'white' line in the toe region, with increased risk of recurring 'seedy toe'.

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