



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Hoof Abscesses Author: Felice Cuomo, DVM, U of M Class of 2012

Abscesses occur when bacteria get trapped inside the hoof. Trauma to the hoof sole from sharp objects such as nails, screws, and glass may carry bacteria and debris into the hoof from the outside environment. A horseshoe nail that is inside the white line (the junction of the hoof wall and sole), may also provide a route for bacteria to enter. Bacteria can also enter the deeper structures of the hoof when the hoof quality is poor and unable to protect the tissues properly. Poor hoof quality may be genetic or environmental. With wet winter and spring weather and in wet dirty stalls, the hoof wall can soften, permitting bacteria to migrate through the gaps in the white line. Very dry conditions, or alternating wet/dry weather, leads to brittle feet that are more likely to develop hoof cracks. Finally, poor hoof care resulting in long flared toes or crushed heels weakens the integrity of the white line and increases the risk of hoof abscesses.

Most often with hoof abscesses, the horse becomes severely lame overnight. The hoof is like a fingernail in that there isn't much room for swelling; when pressure builds up it causes an extreme amount of pain and results in severe lameness. It is not uncommon for the owner to be worried about a fracture due to the degree of pain/lameness.

Owners will likely not find any external wounds or swelling. If a nail or other object is seen in the hoof, resist the temptation to remove it and call your veterinarian immediately. The site and angle the object enters the foot will be important information for a veterinarian. Severe abscesses can lead to swelling and infection that extends up the leg. Owners may notice swelling and inflammation of the pastern (cellulitis), or swollen heel bulbs and coronary band. Often the hoof wall is warmer than usual and the pulses

in the pastern region are more readily felt.

A veterinarian will take a thorough history, and perform a lameness exam to ensure there are no fractures or other injuries. Hoof testers are used pinch parts of the foot, trying to elicit a localizing pain response. Sometimes, a crack or track can be identified after the hoof is cleaned and the old sole is scraped away. If a suspect area is found, a paring knife can be used to encourage the infection to drain. Some horses will need analgesics or local nerve blocks for this procedure. If no draining tract can be found, radiographs may be performed to look for gas (produced by the bacteria) within the hoof, as well as ruling out other potential causes for lameness.

Horses with a mild infection can return to work in less than a week. Deep infections can take several weeks to heal and can lead to laminitis if not well-controlled. Call a veterinarian if:

- The drainage continues after 48 hours or increases after that time
- The horse remains painful or needs analgesics for more than 1-2 days
- The horse loses its appetite
- The horse shifts his weight frequently, rests his good leg or lies down more than usual
- Tissue (proud flesh) grows out of the drainage hole

Next month, we'll continue our discussion on treating hoof abscesses.



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Upcoming Events

Horse Forage Field Day

Tuesday, August 28
6:00 to 8:30 pm
U of M Equine Center
St. Paul, MN

Research updates and how to establish a new pasture, including soil sampling, fertilizing, plant selection and grazing management.
\$15 per person.

To register:

www.regonline.com/2012HorseForage

MN Nutrition Conference - Equine Session

Wednesday, September 19
8:00 am to noon
Owatonna, MN

Program focuses on equine gut health and the role of pre- and probiotics.
\$100 per person.

[Click here to register.](#)

Equine Pasture Management Program

Customized pasture and grazing management plans, including two farm visits.

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Ask the Expert: Treated Wood

By: Chuck Clanton, PhD, University of Minnesota

Q: I want to install wood fence posts around my horse paddock. Would you recommend using treated wood?

A: Wood posts are a common and safe option for horse paddocks. However, wood has natural enemies including insects, mold, fungi, and bacteria. Some species have natural resistances, such as cedars, junipers, locust, and redwood. Treated wood is more expensive than un-treated lumber, however, it will help extend the life of your wood fence, likely more than paying for the additional expenses. Current chemical treatments include copper cremated copper arsenate (CCA), ammonical zinc copper arsenate (ACZA), copper amines (copper azole, CBA-A & CA-B; alkaline copper quat, ACQ-B, ACQ-C, ACQ-D), and copper naphthenate (CU-Nap).

Pressure treated wood should last

30 to 35 years in Minnesota, compared to untreated wood, which generally lasts between 7 and 15 years. In drier climates, some posts can last longer. For example, cedar posts in western South Dakota can last longer than 100 years. In wet soils, filling the bottom 6 to 12 inches of the hole with a builders grade sand will increase the life of the post. Setting posts in concrete is not recommended because of the expensive and difficulty in replacing or moving the post.

Although horses do commonly chew on wood, I am not aware of any health problems (not counting dental issues) related to horses chewing on treated wood. If a horse is known to crib or chew, CU-Nap treated wood is the best option as no known health risk have been determined if ingested (maybe difficult to find). Another option is to

install a single strand of electrified barbless wire, which will help keep the horses from both pushing on the fence and chewing on the wood; further extending the life of the fence and reducing maintenance costs.

CCA and ACZA treated wood has limitations because of arsenic, and has been band in the residential construction market; but still can be purchased in the agricultural sector. If CCA or ACZA is used, recommendations are to not have the CCA treated wood come in direct contact with feed; not used for bunks (support legs are OK), feed storage boxes, etc. The arsenic treated wood is also not recommended for use in playground equipment.

Research Update - Cool-Season Pasture Grasses

Cool-season grasses are the foundation of productive pastures throughout most of the U.S., however, many grasses have not been evaluated under horse grazing in the Midwest U.S. The objective of this study, conducted at the University of Minnesota, was to evaluate forage yield and persistence of cool-season grasses under horse grazing.

Four adult horses grazed tall fescue, meadow fescue, quackgrass, smooth brome grass, meadow brome grass, reed canarygrass, perennial ryegrass, timothy, Kentucky bluegrass, creeping foxtail, and orchardgrass. Horses grazed each month from May to October in 2010 and May to September in 2011.

Orchardgrass, meadow fescue,

Kentucky bluegrass and tall fescue were the most persistent grasses with $\geq 78\%$ ground cover, while timothy, reed canarygrass, smooth brome grass, and creeping foxtail were less persistent, with $\leq 24\%$ ground cover.

Orchardgrass produced the highest yields while creeping foxtail, smooth brome grass, and timothy produced the lowest yield. The majority of yield for most grasses occurred during summer, with summer months contributing 32 to 74% of the total yield.

Kentucky bluegrass, timothy, and meadow fescue were the most preferred grasses with most post-grazing forage removals greater than 60%, while meadow brome grass, creeping foxtail, reed canarygrass,

and orchardgrass were less preferred with most post-grazing forage removals less than 50%.

To maximize forage use, grasses with similar preferences that persist well under horse grazing should be planted in horse pastures. A mixture that results in uniform grazing should maximize forage use and minimize pasture maintenance and associated expenses. To accomplish this, planting mixtures of Kentucky bluegrass, orchardgrass, and tall and meadow fescue in well-grained soils should achieve a balance of forage persistence, horse preference, and maximum yield in Midwest U.S. horse pastures.

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