

## Navicular Is Dreaded Lameness In Performance Horses

A non-reversible, but usually treatable lameness called navicular is a dreaded problem in performance horses.

Not technically a disease nor a syndrome, both of which it is sometimes referred to as, navicular is the simplified definition typically used to describe lameness from navicular bone problems in a horse's feet.

"Navicular is a degeneration of the navicular bone, which lies at the back of the horse's foot, in the heel area. It is almost always bilateral in the forelimbs, meaning that it affects both front legs, rather than appearing in only one," described Dr. Kevin Keegan, University of Missouri veterinarian.

The problem often begins with inflammation of the bursa between the navicular bone and the tendon of the deep digital flexor, as indicated in the University of Missouri Figure 1, accompanying this story.

While the joint surface may not be affected, the tendon adjacent to the bursa may be progressively destroyed with eventual rupture. This tendon is important because it flexes the joint of the foot.

Heavily used performance horses, especially those worked on hard ground, are the most likely victims. "Quarter Horses, Thoroughbreds and horses of that type are more prone to navicular than other

breeds," Keegan explained. "It is more common in middle-aged horses from the age five up to about 15."

There are various opinions on the cause of navicular. "Some horses have problems and others don't, but it seems to be correlated with large body size and small feet," Keegan stated. Draft horses have lots of body weight and large feet, and they seldom have problems with navicular. It is also quite uncommon in mules.

"Poor conformation and improper shoeing can also be causes of navicular," Keegan added.

Early diagnosis is difficult. "The problem will

often progress to a chronic stage before it is caught," Keegan emphasized.

Navicular may be so mild in the beginning that there is no apparent lameness, but there could be decreased ability or a bad attitude. "There will be a gradual increase in lameness over time," Keegan related. "Horses with navicular will often stand with one or both feet forward from neutral to relieve pressure."

Inactivity will have a tendency to make navicular apparent. "Horses with a regularly active career often will not show the problems they do have," Keegan pointed out.

Radiographs can be

used in diagnosis. "However, they will often give a false negative or false positive and must be used along with results from other tests," Keegan said.

"A horse with navicular will be sensitive to a hoof-tester pressure over the central third of the frog of the foot," stated Dr. Martha Allen, University of Illinois veterinarian.

Moving horses will help in diagnosis. "When circled, a horse will be more lame on the right foot, and when moved right, and more lame on the left, when circled left," Allen commented.

Nerve blocks are also used in some situations. "We block the nerves on the more painful leg to eliminate the lameness on that side. Without that pain, horses with bilateral navicular will then appear lame on the less painful side," Allen continued.

A bone scan is the most definitive method of diagnosis. This can be performed at most universities and by some veterinar-

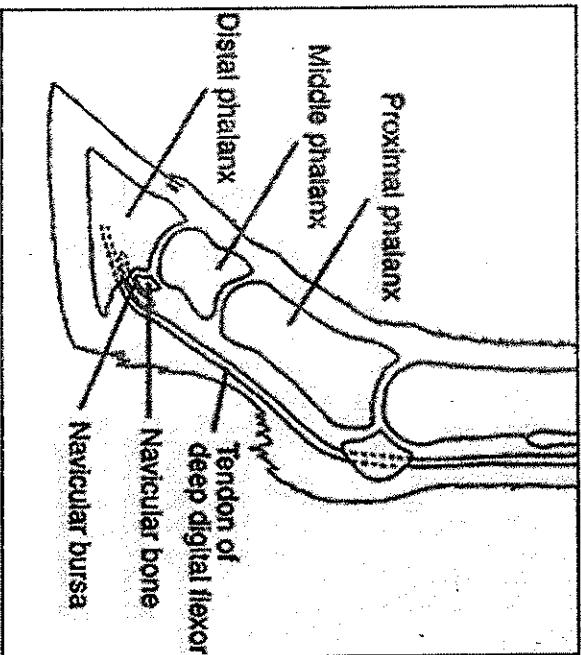


Figure 1 - Navicular problems, which begin with inflammation of the bursa between the navicular bone and the tendon of the deep digital flexor, are a common cause of lameness in horses.

ians specializing in equine treatment.

"You can not cure or reverse navicular, but you can usually manage it," Allen remarked.

"Most of the treatment is to slow the progression,

pliability, up blood supply and align the hoof-pastern axis to improve the gait of the horse," Allen detailed.

"Balancing the foot is the objective of the corrective trimming and shoeing to decrease strain on the tendon," Keegan commented. Typically, toes need to be shorter, and heels should be higher.

"We generally choose egg bar shoes to achieve good heel support," Allen related. "We also square or roll toes to ease break-over in strike. To promote heel expansion and relieve pressure on the navicular area during weight bearing, we choose not to place any nails past the widest part of the foot."

Medications such as phenylbutazone are often used for horses with navicular before they are to perform, like athletes use aspirin, Keegan advised. However, some competitions do not allow use of such medications.

Injections into the foot can be effective navicular treatment in some situations, while shock wave therapy has also shown some success. A new intravenous treatment is also being used in some countries, but it has not been licensed in the United States, according to Keegan.

"It is important to use all medications judiciously, because they can bring about other complications," Keegan stressed.

If therapy does not help, a neurectomy or cutting the nerves to the navicular area can be performed as a last resort. "This is usually not a permanent cure, and most horses will again become lame," Keegan clarified.

"There can also be other short and long term complications from a neurectomy such as undetected foot abscesses or nail punctures, painful nodules on the cut nerve and even tendon rupture," Allen elaborated.

Despite the problems with navicular, most horses can be treated to live more comfortably and return to a certain level of function.

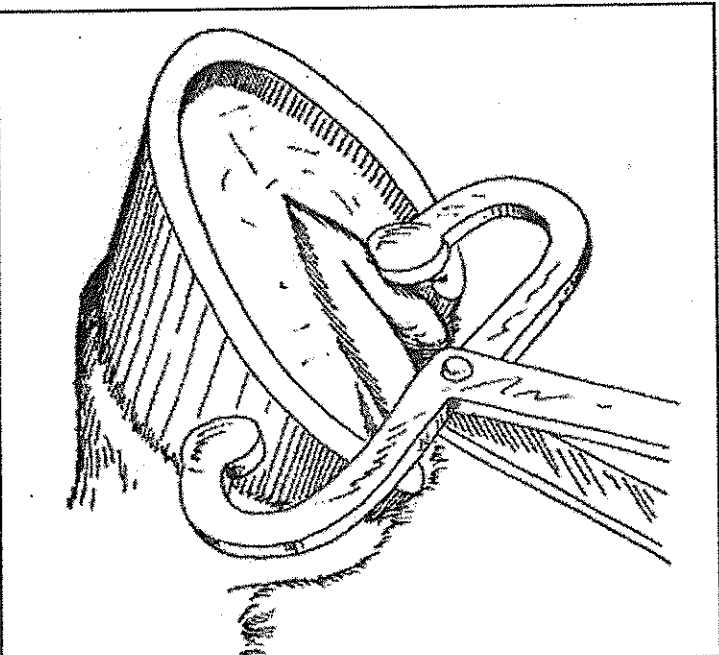


Figure 2 - Pressure applied to the frog area by a hoof tester will cause the horse to flinch if navicular is present.

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"Most of the treatment is to slow the progression, and you can often eventually stop the deterioration," Keegan indicated.

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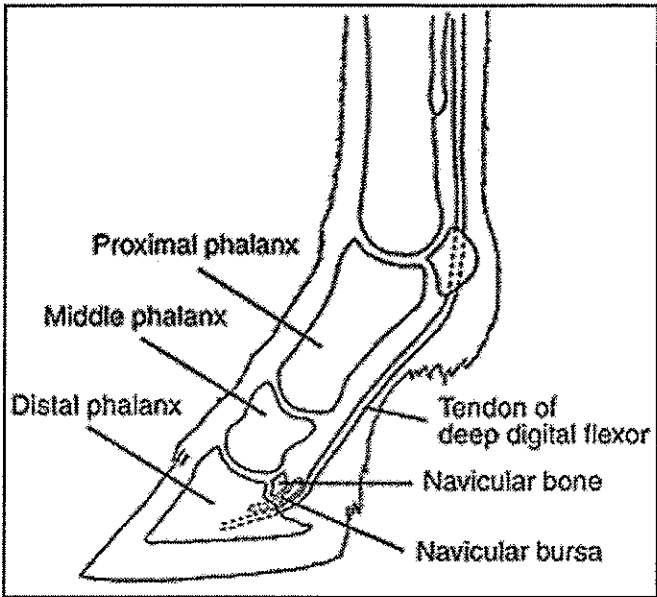
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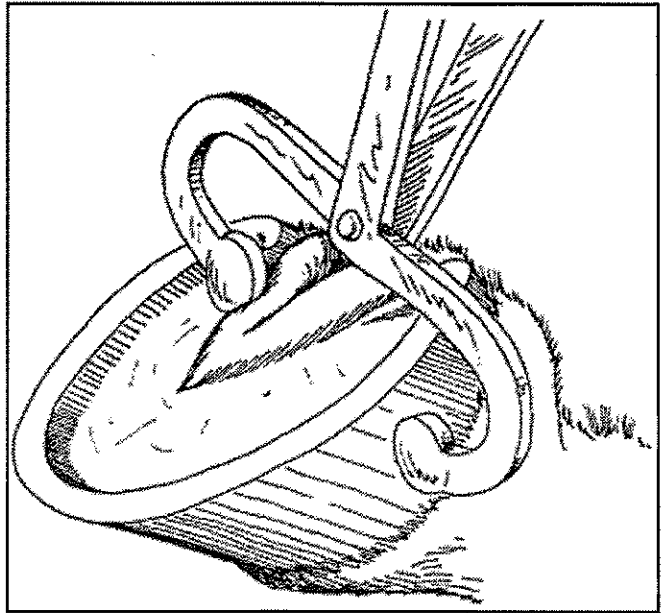
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**Figure 1** – Navicular problems, which begin with inflammation of the bursa between the navicular bone and the tendon of the deep digital flexor, are a common cause of lameness in horses.



**Figure 2** – Pressure applied to the frog area by a hoof tester will cause the horse to flinch if navicular is present.