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## Navicular Disease Q&A

Navicular disease. Two words horse owners really do not want to hear from their veterinarians. This chronic degenerative condition is one of the most common causes of forelimb lameness in horses. What are the facts about this disease? Dr. Barbara Page has answered some common questions about this syndrome below.

Q: What exactly is navicular disease?

A: This disease is an inflammatory condition involving all or some of the following anatomical parts of the foot: the navicular bone, the navicular ligaments, the navicular bursa, and the vascular system of the navicular bone. This disease is often more accurately termed caudal heel pain.

Q: Could you describe these structures?

A: The navicular bone, also called the distal sesamoid bone, is a boat-shaped bone that is located behind the coffin bone. Navicular ligaments, fibrous connective tissue, serve to keep the navicular bone in alignment with other structures of the foot and help the joints within the foot move properly. The navicular bursa is the fluid filled sac that helps to protect the fragile structures within the foot from friction. Without this, severe bursa pain would result. When discussing the vascular system of the navicular bone we are simply referring to the blood supply in this area.

Q: What actually causes a horse to develop navicular disease?

A: The exact cause is unknown, however, conformation, geographical location, age, heredity and use all may play a part. Misalignment of the coffin

bone and the short and long pastern bones, referred to as low hoof-pastern axis, is a common pathologic condition in the foot and a known contributor to navicular disease. Horses with small feet also seem to be more apt to develop the disease. This is probably due to insufficient support for the mass of the horse. As for geographical location, the disease is more commonly seen in horses located in dry, harder ground regions. Navicular disease is definitely more prevalent in older horses, although radiographic changes have been seen in horses as young as three years.

Q: What are some of the classical signs first seen in a horse with early navicular disease?

A: Lameness in one or both front limbs will be noticed first. The lameness will usually subside with rest, but will recur after the horse returns to work. An affected horse will land on its toe rather than heel to compensate for the pain, which may cause it to stumble frequently. When your veterinarian examines the horse, he or she will use hoof testers to check for heel pain. Presence of heel pain will make the veterinarian suspicious of navicular disease (especially when the previous listed signs of lameness are present).

Q: How would a veterinarian approach diagnosing navicular disease?

A: Along with the clinical signs mentioned above, radiographs taken with radio-opaque markers on the hoof capsule will signal the definitive diagnosis for navicular disease. This will allow the veterinarian to better visualize the angle of the bones within the feet. Changes in the shape, quality and position of the coffin bone and navicular bone will help the veterinarian with diagnosis and prognosis of this disease.

Q: Once a definitive diagnosis is made what types of treatment options are available?

A: In the early stages of the disease proper shoeing technique is the best form of treatment. It is extremely important to use a farrier that specializes in corrective shoeing. Your veterinarian should consult with the farrier by sharing radiographs and the information gathered from these pictures in order to develop the best shoeing strategy for your horse. The goal is to align the bones of the feet to encourage proper support and a heel first landing. The movement of blood through the foot is the best shock absorber. A heel first landing will improve the absorption of the concussion the horse

experiences with each step. An improvement here will increase blood flow from the front to the back of the foot, hence providing better shock absorption. A heel first landing is achieved by positioning the shoe under the bony column thereby supporting the weight of the horse directly under the bony column, through the frog. In early stages of the disease, your veterinarian may also prescribe medication to aid in pain relief and blood flow within the feet.

In more advanced stages of navicular disease your veterinarian may recommend palmer digital neurectomy, also referred to as “nerving”. This surgical procedure should only be considered after corrective shoeing attempts have failed or are no longer helping the horse. It is important to keep in mind that corrective shoeing will aid in healing, slow the progression of the disease, and return the foot (and horse) to function for a longer period of time than the results from a neurectomy.

Q: Is there hope in navicular disease?

A: Yes. New research using the wild horse foot is teaching veterinarians and farriers more about the principles of health for the equine foot. The goal of this research is to apply the principles learned from the healthy wild horse foot to the domestic equine foot, thereby improving the function and longevity of the foot, and ultimately, the entire horse.