

Navicular Disease/Navicular Syndrome

"Navicular disease and Navicular syndrome" are the terms used to define a number of different conditions that give rise to a chronic forelimb lameness characterized by heel pain and associated with the navicular bone and surrounding structures. Many theories have been proposed for the cause of this disease/syndrome. Currently the most accepted theory involves both biomechanical forces and conformation. During weight bearing, the bottom half of the navicular bone is subjected to large compressive forces. In horses with poor conformation, these forces can be supraphysiological. The typical conformation of a horse with navicular syndrome is small feet, upright pastern, broken hoof-pastern axis and/or a long toe/low heel. Horses affected with navicular syndrome are an average age of 9 years and the most common breeds affected are Quarter Horses, Thoroughbreds and Standardbreds. Common presenting complaints from the horse owners are a short stride, stumbling and toes wearing off easily (landing on toes).

A diagnosis of navicular syndrome can be established following a thorough lameness evaluation from your veterinarian. Some of the diagnostic tests that may be performed during the exam are flexion tests, hoof testers, nerve blocks, radiographs, ultrasound, nuclear scintigraphy, and MRI. A reliable diagnostic test is the palmar digital nerve block. Blocking (injecting a local anesthetic) the palmar digital nerves desensitizes the heel area of the foot; therefore, if there is heel pain (which is the case with navicular syndrome) this block partially or totally eliminates the lameness. It is important to consider that heel pain is not always caused by navicular syndrome, there are other structures in the heel that can be causing the lameness. If your horse does go sound following the palmar digital nerve block, your veterinarian will utilize further diagnostics to determine if the cause of pain is truly from navicular syndrome or if there are other problems going on in the heel region of the foot.

Radiographs can support the diagnosis of navicular syndrome. If no changes are seen in radiographs, navicular syndrome should not be ruled out since some lame horses show no radiographic findings while others showing radiographic changes have no pain. Lesions commonly seen on radiographs consistent with navicular syndrome include changes in the navicular bone such as a loss of the distinction between the junction of the cortex (outer) and medullary (inside) cavity of the bone, cyst formation, fractures, and thinning and roughening of the flexor cortex. MRI and CT scans are other diagnostic modalities that can be more sensitive than radiographs. Nuclear scintigraphy ("bone scan") is also a valuable diagnostic tool especially when the radiographic findings are minimal and do not support the clinical findings.

As is the case with many degenerative conditions, there is no cure for navicular syndrome, but it can be managed. Treatments are instituted to decrease trauma to the bone and the navicular bursa, to improve navicular bone circulation, and to arrest the degenerative process. The first line of treatment usually involves corrective shoeing, pain management using NSAIDS such as phenylbutazone, and rest or modified exercise. Corrective shoeing is a very important aspect of the treatment. The goal of corrective shoeing should be to restore and maintain foot balance to correct any hoof conformation abnormalities, to decrease biomechanical forces on the navicular bone, and to protect the injured region. The type of shoes usually varies between horses; it should be tailored to the particular horse and determined by your veterinarian and farrier. More aggressive medical treatment include, but are not limited to, joint injections, navicular bursa injections, Isoxsuprine and Tildren. Your veterinarian will decide which medical treatment is most appropriate for your horse.

If no improvement is seen after prolonged medical therapy, a palmar digital neurectomy (cutting and removing a portion of the nerve) can be considered.

Neurectomy is usually performed as a salvage procedure when all else fails. The surgery will alleviate pain and restore function but the disease will still be present and progressive. It is important to consider the possible complications from this surgery which include incomplete desensitization of the heel, failure to feel a penetrating wound to the heel region, decreased vascular supply, deep digital flexor tendon rupture, and regeneration of the nerve. Due to the loss of sensation that will result from this surgery it is important to check the horse's feet daily for any penetrating injury. It is important to discuss all possible complications with your veterinarian prior to choosing this option.

Prognosis for navicular syndrome is guarded in the majority of the cases because of its degeneration and chronicity. Treatment will prolong the athletic use of the horse, but the time greatly varies between horses. Each case is different and each horse responds to treatment differently. Your veterinarian and farrier will work closely together to determine which shoeing regime and treatment protocol will most benefit your horse. It is also important to remember that no one protocol works on all horses and often times the protocol will change or be updated as the condition progresses.

Contact Brandon Equine Medical Center at 813-643-7177 or email info@brandonequine.com with any questions regarding this topic.