

# NAVICULAR DISEASE

## General Information

Navicular disease, also called navicular syndrome or podotrochleosis, describes a number of problems affecting the distal sesamoid or navicular bone in the foot. Navicular disease is a complex of problems. Some of these problems are completely reversible, some can be improved with appropriate long-term management, and some are irreversible.

Conditions related to navicular disease include coffin joint arthritis, deep flexor bursitis and/ or tendonitis, inflammation of the ligaments of the navicular bone, and problems related to the navicular bone itself (bone spurs, fractures, cysts), its blood supply, and hoof changes.

The boat-shaped (“navy”) navicular bone is located behind the juncture of the pastern bone and the coffin bone, at about the level of the coronet; it is thus part of the coffin joint. The navicular bone acts as a fulcrum over which the deep flexor tendon moves. The bone is embedded in and surrounded by ligaments, and is almost impossible to expose during surgery. It is difficult to place a needle into the coffin joint, and it is difficult to obtain high-quality radiographs (x-rays) of the area.

## Factors Affecting Development of Navicular Disease

Numerous factors affect the health of the navicular bone and related coffin joint:

- *Abnormal conformation:* A small foot attached to and upright pastern; a long-toed, low-heeled foot; mismatched feet that become more of a problem as the horse ages.
- *Foot carriage:* The way the foot lands puts unequal pressure on the navicular area; loading one side of the foot more than the other; landing more toward the toe or heel.
- *Shoeing:* This may cause more weight to be carried on one leg than the other; shoe size, type and position and the shoeing schedule influence navicular bone health; a shoe must be large enough to provide adequate support, especially in the heel area; irregular shoeing

creates different foot angles to which the coffin joint must adjust with exercise. This stresses the joint.

- *Hoof wall quality, compliance and conformation:* A hoof wall that is too hard, too soft, too thin, crumbly or cracked.
- *Exercise:* Lack of daily regular exercise; irregular exercise; work beyond the horse's state of conditioning; exercise on hard, unforgiving surfaces; speed at which the horse travels; weight of the rider