

White Line Disease

The white line describes the region of the hoof wall where the unpigmented layer of the inner hoof wall meets the horn of the sole.

White line disease describes a destructive process in the foot whereby the inner and middle layers of the keratin hoof wall become separated. This may involve smaller or larger areas of the white line. No age, sex or breed of horse are necessarily predisposed and single or multiple feet may be involved. Lameness may or may not be associated with the process.

Cause

No definitive cause has been identified as yet and so research is still ongoing in an attempt to determine the significance of the many factors which are currently proposed to contribute to the development of the condition.

- **Infectious organisms**
Bacteria, fungi or a combination of both are often involved however it is yet to be determined whether they initiate the process or perpetuate the problem via infection once it has been initiated.
- **Poor management/environment**
Very wet, damp conditions are believed to soften the horn. Likewise excessively dry conditions may lead to the development of a brittle hoof wall susceptible to cracks and fissures. Both of these may permit dirt and debris to enter by forming a fissure which can lead to further separation between the layers of the hoof wall.
- **Nutrition**
Low zinc and low copper diets have been implicated in the development of white line disease.
- **Conformation**
Long toes, low heels and club feet are believed to place mechanical stress on the inner hoof wall

leading to separation forces in the area of the white line. It is also believed such forces compromise the blood supply to these layers and thus weaken them, predisposing them to separation.

- **Underlying disease**

Chronic laminitis is typically associated with the loss of integration between the sole/wall junction.

Clinical signs and diagnosis

Diagnosis is often via clinical signs. The white line often displays an abnormally wide, grey, chalky, soft appearance. The foot may feel warm to the touch. The cavity can be explored with a probe to determine its depth. Should the horse be lame it may be necessary to undertake a full lameness examination with nerve blocks and follow up radiographs of the to support diagnosis. Radiographs may also be useful as a monitoring tool to determine the degree of separation within the hoof wall or the presence of any rotation of the pedal bone within the hoof capsule. It is important that WLD is differentiated from laminitis at this stage.

Treatment

Treatment can be difficult and prolonged.

Hoof wall resection is usually the first line of treatment. This will help expose regions of the wall affected by the process and is usually followed by removal (debridement) of all affected areas to prevent further separation and disintegration from occurring.

Therapeutic farriery is probably the essential component of WLD management. This is often

focused around specific techniques to reduce expansion of the hoof wall on weight bearing and altering the breakover to reduce any unnecessary stress imposed on the hoof wall. Synthetic, acrylic hoof products may occasionally be used to stabilize the hoof once all affected hoof wall is removed. Resolution is achieved when the resection has grown out.

Feed supplementation (copper, calcium, zinc, trace elements, methionine, biotin...) should be considered for individuals suffering from WLD and this can be supplied in the form of a good quality hoof supplement. Please ask your vet. This will aid in the formation of new, healthy horn in the future however will have no significant effect on the current WLD problem.

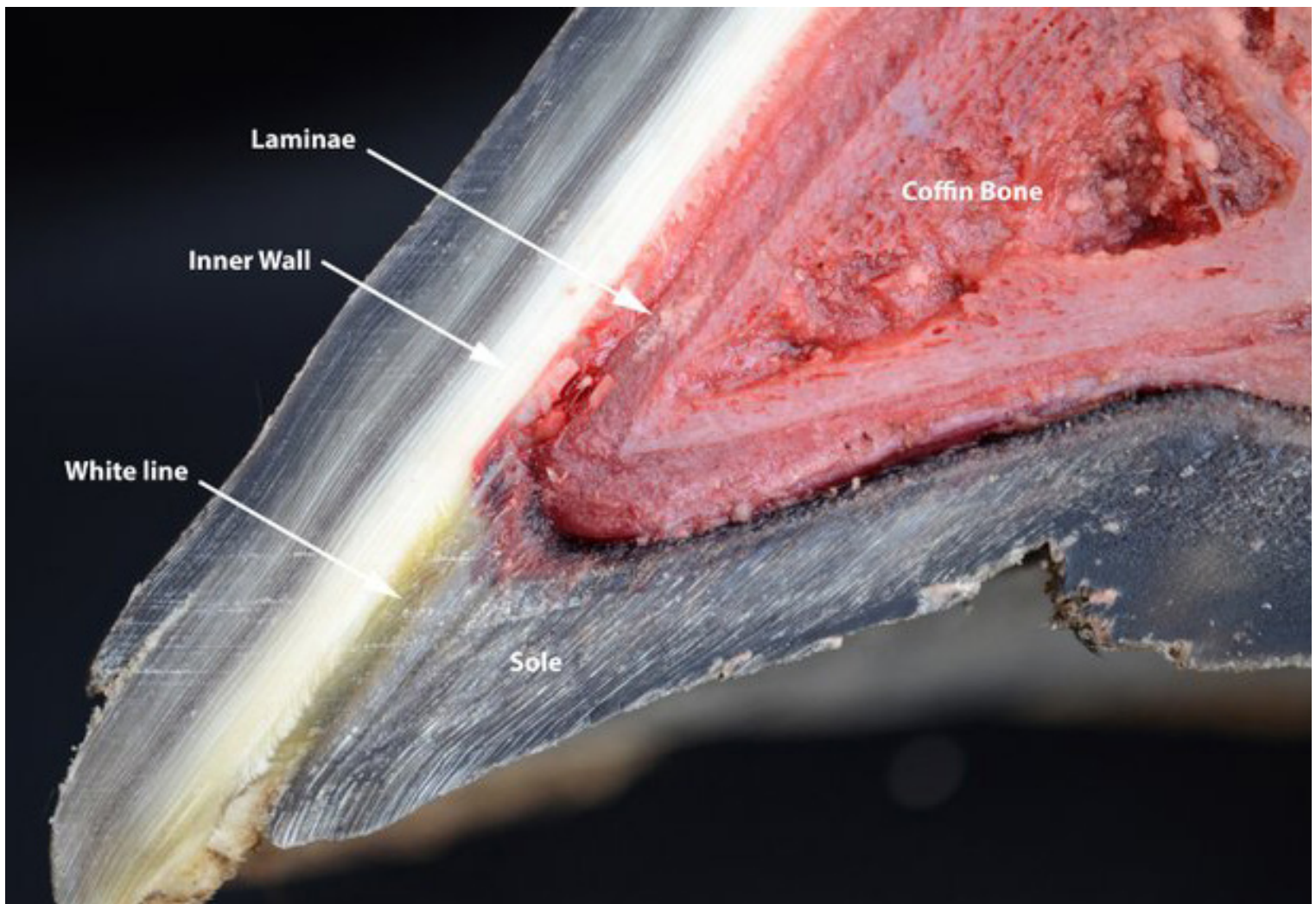
Keeping the feet as clean and dry as possible is the mainstay of environmental management.

Prognosis

Treatment and its duration is entirely dependent on the severity of the process occurring in the hoof, the underlying process which precipitated the development of the process, the individual horse as well as client and farrier cooperation.

The condition is prone to recur and so regular optimal hoof care is strongly advised to prevent any further episodes.

Regular trimming and monitoring by your farrier and/ or your vet is essential. Exploration of abnormal areas and balancing of the feet may protect against the development of white line disease.



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