WHITE LINE DISEASE

WHAT IS IT
White Line Disease encompasses a range of lesions that typically occur in the abaxial white line region towards the heel on outside claw of rear foot. On most farms it is one of the 3 most common causes of lesions and lameness in dairy cattle.

HOW TO RECOGNIZE IT
White line lesions can range from hemorrhages to separations and abscesses. Lame cows typically present with areas of white line separation that are painful when tested with hoof testers or areas of more extensive hoof wall separation that can extend up to the coronary band. The presence of an abscess is variable as the pressure it creates can either have drained prior to inspection or be discovered when following a painful separation. Typical location of white line lesions are in abaxial white line of the heel area of outside claws in rear feet but similar type lesions can be found at different white line regions of the claw and should be treated similarly.

PATHOGENESIS
The exact nature of the cause of white line lesions is unclear. What is known is that the white line is a made up 3 different types of horn and this horn is weaker compared to the wall or sole horn. Current thinking on the pathogenesis involve similar theories as described for sole ulcer pathogenesis where P3’s suspensory mechanisms is compromised and this results in damage to the keratinocytes that grow white line horn. The presence of both shearing forces and weaker horn at the white line allows the formation of fissures. These fissures can allow the entry of bacteria and foreign bodies resulting in damage to the corium and inflammatory changes to P3.

HOW TO PREVENT IT
Prevention of white line lesions starts with avoiding excessive trauma to white line region by ensuring both cow walking surfaces and cattle handling allows the cow to walk at their own pace and not slip. An additional prevention strategy is to incorporate the use of supplemental minerals (Cu/Zn) and biotin to increase horn strength. Finally, the strategic use of an appropriately timed and correctly performed hoof trimming should be a key component of a prevention program.

HOW TO TREAT IT
White line disease can appear as an acute and painful condition, however, there are gradients of white line lesions and appropriate early treatment is critical to a successful resolution. The treatment of painful white line lesions involves the removal of all loose horn around the lesion including the wall. This removal should occur delicately with great care taken to minimize further damage to the corium. Once loose horn has been removed around the lesion, pressure on the lesion should be reduced by thinning the lesion margins and lowering the heel to maximize the speed of horn growth. Additional reduction of pressure on the lesion is achieved by the application of a properly sized hoof block to transfer weight to the sound claw. Cows with white line lesions should be rechecked in 3-6 weeks to assess healing and to either remove or reposition the block if necessary. Although currently not available in the US the use of an NSAID in early white line cases should be considered to counteract the inflammatory changes.