

## BRUISED SOLE

The sole is the insensitive protective undersurface of the horse's foot which contains the highly vascular and sensitive tissues connecting the hoof to the pedal (coffin) bone.

### ***What is a bruised sole?***

Bruised soles are one of the most common causes of lameness in both shod and unshod horses. Injury to the sole may cause damage to the sensitive structures underneath and this results in bruising. The result is often damage to the many tiny blood vessels underneath the sole and consequent haemorrhage (bleeding). This may either resolve quickly and cause no further problems or may result in the formation of a hematoma ('blood blister') between the sensitive tissues and the non-expandable sole. The pressure from the hematoma on the sensitive tissues causes pain and lameness. Even if a hematoma does not develop, there may be sufficient damage to the laminae of the sole to result in pain and lameness. The human analogy is a painful bruise or hemorrhage under a finger nail.



### ***What are the most important causes of bruised sole?***

Any accidental injury to the sole of the foot can result in a bruise. Treading on a stone or another hard object is probably the most common. Other causes of sole trauma are poorly fitting shoes and excessive work on hard ground, especially when unshod. In some horses foot trauma is predisposed by thin soles.

### ***How is a bruised sole diagnosed?***

Most commonly, the horse may become suddenly lame or may appear to recover but be lame again the next day. The lameness usually affects one leg only and pain can often be located by your farrier or veterinarian with pressure carefully applied with hoof testers. Once the area of sole pain has been established, sole paring over this area reveals a visible bruise (a reddened area of sole). In some cases, the strength of the pulse in the heel arteries (digital pulse) may be increased, and the foot may appear warm to the touch. If pain is severe and persists, x-ray examination should be made to rule out the possibility of pedal bone fracture.

### ***How is a sole bruise treated?***

The horse's shoes are first removed and then the sole is pared over the bruise to relieve weight-bearing pressure. A poultice and protective bandage is applied to the foot. The bandage is removed after a few days, and the procedure repeated if the horse is still lame. The foot is trimmed and shod when it is no longer painful.

### ***How can sole bruises be prevented?***

All horse's feet should be regularly trimmed and shod by a qualified farrier and should always be picked to remove collected stones and debris and thoroughly cleaned out before exercise. Exercise on uneven and stony ground should be avoided, particularly for thin soled horses.

Protective hoof pads are sometimes used for thin soled horses. These are layers of rubber or leather that are fitted between the foot and the shoe so that the entire sole is covered in an attempt to



Searching a foot for signs of bruising

prevent bruising of the sole. Your farrier can suggest possible solutions. Pads need to be properly applied and often inspected to make sure that they are not making the bruising worse. Stones and other objects may become trapped between them and the sole. Pads prevent the essential daily task of thoroughly inspecting the solar surface of the foot and frog. Despite these problems, pads remain very popular and effective.

### **Cautions**

A foot abscess (infection) can cause a similar type of sudden lameness with focal pain. Solar abscesses also commonly occur in horses and in such cases the abscess must be found, drained and poulticed without delay or serious complications can occur. Occasionally a bruise may become infected and this develops into an abscess. Pedal bone fracture should be ruled out by x-ray examination when pain persists.