

# Recognizing And Treating Retracted Soles

Hard-to-spot condition can result in thin soles and pain

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**R**etracted sole refers to a condition that several equine professionals have observed, but that has not yet been defined or described in any equine medical dictionary.<sup>1,2</sup> There are only a few published or electronic references to retracted soles<sup>3,4,5,6</sup> and to my knowledge, my work is the only source for pictures and radiographs.<sup>4,7</sup>

Medically, retraction or retracted is the act of drawing back or a condition of being drawn back.<sup>2</sup> The soles of a horse with retracted soles are drawing back or rather up and away from the ground. The soles appear to be being sucked up into the hoof.

During this process, the soles become overly thin, causing the horse to be very sensitive to the slightest sole pressure. Therefore, a good definition for retracted soles may be soles that are thin and abnormally cupped.

The appearance cannot be mistaken for any other sole issue. Instead of having a nice sole concavity, the sole appears to drop off from the white line (Figures 1 and 2). Retracted soles that go unnoticed by a farrier during trimming can result in over trimming of the

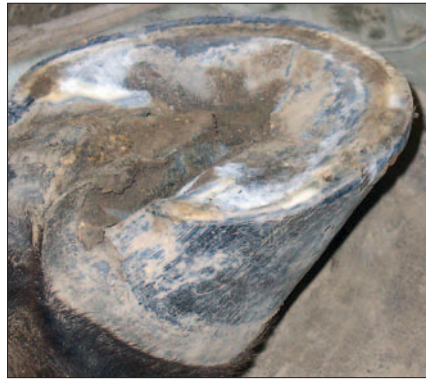


Figure 1. An example of a foot with a retracted sole.

hoof wall, causing the horse extreme pain due to sole pressure.

As you can see from the radiograph in Figure 3, if a farrier trims down too much of the hoof wall at the toe, the horse's already thin sole will be extremely close to the ground. About 15 mm of sole is needed to house the vascular supply under the coffin bone, with 10 mm being the absolute minimum. The horse in the radiograph (Figure 4) has a sole depth of just 6.5 mm.

## Etiology Or Cause

I can find no published research into the etiology or cause of retracted soles. One author suggests retracted soles are



Figure 2. Retracted sole on a canker case.

thin soles that have dried out.<sup>5</sup> Retracted sole appears most prevalent in the spring and fall months, when horses are frequently in muddy paddocks or pastures. Generally, the hooves appear to be normal or slightly soft and the soles appear to be dry. From my own exploratory research into retracted soles, hydrating the entire foot did not resolve the sole issue.<sup>8</sup>

Horses with retracted soles are often diagnosed or treated as being laminitic, as severely sole-sore and/or having abscesses. They are positive to hoof-tester response. In many cases, they are sensitive to the slightest thumb pressure on the soles.

Moving horses from a wet and muddy environment to a clean, dry stall did help resolve the lameness issues. Some soles even returned to normal concavity. But returning the horse to the same wet and muddy environment resulted in the return of the retracted soles in most cases.

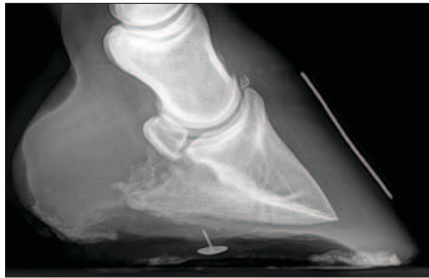
Many were shod with shoes and pads, which seemed to help reduce the lameness, and also helped return a majority of the soles to a more normal concavity.

## Observations And Questions<sup>8</sup>

- Retracted soles are specific. Not all horses in the same environment will

## FARRIER TAKEAWAYS

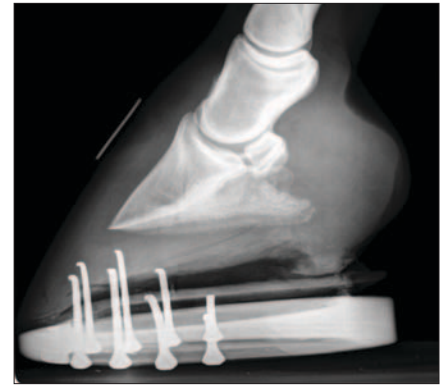
- ▶ Retracted soles appear to me abnormally cupped.
- ▶ Retracted soles become very thin, resulting in less protection for sensitive inner structures and extreme sensitivity to sole pressure.
- ▶ Retracted soles are more common in horses kept in wet and muddy conditions. Removing the horse from such an environment may be enough to allow the condition to self-correct.
- ▶ It appears that retracted soles must regrow, rather than unretract.
- ▶ Proper trimming appears to be an important part of treatment. The sole should be left alone, and just enough hoof wall removed to balance the limb.



**Figure 3. Radiograph of a horse with a retracted sole. About 15 mm of sole is needed to house the vascular supply under the coffin bone, with 10 mm being the absolute minimum. This horse has a sole depth of 6.5 mm.**



**Figure 4. Case study horse radiograph before shoeing.**



**Figure 5. Case study horse radiograph, 6 weeks after shoeing.**

develop them.

- So why is one horse affected and another in the same environment is not?

- Retracted soles have been documented in many breeds, including draft horses, as well as donkeys.

- Moving horses from a wet and muddy environment into a clean and dry stall did help many soles return to a more normal concavity and to resolve any related sole sensitivity lameness issues within 6 to 12 weeks.

- Sole retraction reoccurred when many of the horses were returned to a wet and muddy environment.

- While removing a horse from a muddy environment helped alleviate retracted soles, this was not a practical alternative for many horses.

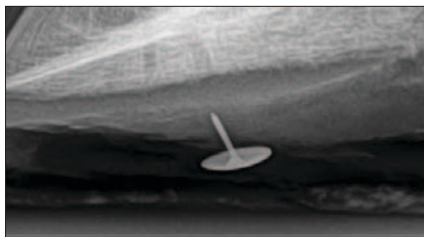
- The feet of horses that had the mud washed off with water before being returned to a barn or stall seemed to return to a normal concavity more quickly than horses whose feet were not washed off.

- Hoof boots don't seem effective for treating retracted soles because they hold water and mud.

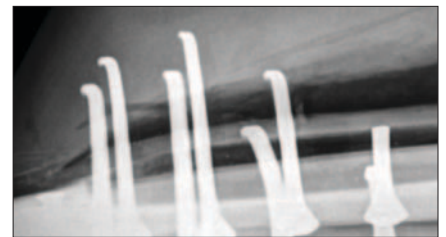
- The soles of most horses shod with shoes and pads or Sole Pack grew out within 6 to 12 weeks, whether washed or not, as well as whether stalled or returned to pasture.

- Most horses left barefoot responded the same as shod horses when stalled, but responded slower or not at all compared to shod horses when returned to the pasture. The soles of barefoot horses that were washed grew out within 8 to 24 weeks.

- The soles of some horses remained contracted, no matter how treated.



**Figure 6. Close-up of sole area at toe from Figure 4.**



**Figure 7. Close-up of sole area at toe from Figure 5.**

- It appears that retracted soles have to grow out. The sole does not appear to “un-retract.”

### Treatment For Retracted Soles

Removing the horse from a muddy environment is effective. But it is often not practical for owners, who have limited pasture space or other options for where they can keep their horses.

Owners who have washed off feet before bringing horses into stalls have had some limited success with returning soles to a normal concavity.

Farrier recognition of retracted soles is critical to limiting over trimming of the hoof wall. The farrier must not trim the sole and should remove only enough hoof wall to balance the limb.<sup>4, 6, 7, 8</sup>

It will appear as if you're leaving more hoof wall than normal, but this is an optical illusion due to the sole being retracted.

Note the case study radiographs of pre-treatment, 6 weeks after application of a bar shoe and pads, and the close-up of the radiographs showing new sole growth (Figures 4 through 7).

Clearly further research is needed as well as identifying the cause and further treatments for this hoof dilemma. ♪

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