



"Not Quite Sound"a lame excuse?

by Carola Adolf, Master Hoof Care Provider

Discussions about hoofcare can often lead to "debates" over certain terminology: The words "Soundness" and "Lameness" are two of these confusing terms.

We often call a horse "sound" when he is not showing any signs of lameness.

Let's use this example, as it is very common: We have all heard this: "My horse has been shod all his life and he is sound as a bell...."

Question: Would the same horse still be as "sound" when his shoes come off?

Most likely not - for a number of reasons (which we will talk about in a different article).

So why could we think the same horse is sound with shoes attached, when he may not be able to walk on his own feet after the shoes have come off?

Is soundness really just the absence of lameness? Or is there more to it?

What would you call a horse with a slight irregularity in his stride?

"Unsound", "not quite sound" or "lame" ...or all of the above?

Is it possible that a horse with unhealthy, deformed hooves can be "sound", nonetheless?

(Answer: No – but he may be free of lameness)

Or: Can a horse be unsound when he has healthy hooves?

(Answer: Yes, if for example the soundness problem is not located in the hoof, but elsewhere in the movement apparatus)

Well, this article is to help us understand the difference between a "sound" horse and one that is not showing any signs of lameness".

So let's define "soundness" first:

According to common understanding, and if particularly applied in regard to movement, "soundness" is a term that describes...

the normal state of mental and physical wellbeing and function
and

a state or condition free from disease, damage or decay





A fundamental question is: Is a shod horse a sound horse?

Considering the above definitions? NO, NEVER.

Why is a shod horse not sound? Because (according to the definition of "soundness", the normal physical state and function (circulation, shock absorption etc.) of the hoof is altered when a shoe is applied. So is the movement (normal limb cycle) itself, because a flat surface (the shoe) is now in articulation with the ground instead of the hoof capsule with its natural curves, flexibility and functions. It is the "nature of the beast", so to speak. Does this mean the horse must be lame? No.

He is just not sound.

With shoes attached, the hoof can not function normally and therefore the horse also moves in an abnormal physical state. His hooves walk on level planes of steel with every step. Neither the ground conditions in general nor any damage within the foot can be accurately detected by the nervous system. The sensory ability which gives the horse accurate information about the ground conditions is disabled by the presence of a physical barrier (the shoe) - which also obstructs the natural biomechanical processes of the hoof. Therefore the shoe is impairing circulation, biofeedback and cell metabolism. Not only is the sound physical state altered, but also the mental state on a conscious and/or unconscious level. A shod horse is an unsound horse that may or may not be lame. His ability to feel pain may well be compromised due to impaired circulation.

Now then, how can a horse with healthy bare hooves be unsound?

Because movement is created through and by an endless chain of anatomical and physiological events - only one component in this system of mechanics and functions needs to be compromised, and the horse will become unsound, displaying - or not displaying symptoms of lameness....

Unlike lameness, soundness (or UN- soundness) cannot be measured or assessed in various degrees:

A horse is either sound or he is not.

There are no shades of grey.

It's either black or white. Just like one can't be a little bit pregnant. The horse is either sound or he is unsound. Fullstop.

Now we can talk about "lameness"!

A horse can display various degrees of lameness, which I will briefly explain in a moment.

Let's define "lameness" first:

LAMENESS is a symptom of unsoundness which manifests in a modification of the natural gait in order to compensate for discomfort, pain, imbalance or disability associated with locomotion.

Since pain can be a common cause for lameness, we have various ways to determine if a horse experiences pain. The signs of pain or discomfort may be important to remember especially when there is no obvious "head bobbing lameness".

Horses may have pain or discomfort in two or even all four legs):

The obvious signs of pain:

Gait changes (stepping short, irregular strides, stumbling, shuffling, paddling, dragging, toe- first landing, stumbling)



Compensatory Posture (resting in relief position, constantly changing weight from one leg to the other)

The not so obvious signs of pain:

Change in Activities (less movement, resting more than usual, laying down, not laying down, "laziness")

Facial expressions (raised/wrinkled nostrils, ears back, glazed over, dopey)

Changed mental state (depressed or irritable, restless or too quiet, withdrawn)

The signs of pain that are easily *misinterpreted*:

Changed behaviour patterns - evoked as well as natural (shies a lot, does not want to go forward, refuses to jump, can't bend well, takes wrong canter lead, change in character in general - either too flighty or too docile, becoming difficult, "naughty", misbehaves under saddle)

Other signs of pain:

Physical signs (Raised heart rate and breathing Sweating)

The scientific way to confirm the presence of pain is to temporarily take it away (vet required!):

Diagnostic anaesthesia or nerve blocks.



The degree of lameness can be "measured" by means of various scales and tests.

Note: The horse is one of the few creatures on this earth that cannot vocally express pain!

Next is one of the more commonly used Lameness Grading Systems, developed to make communication between, owners, trainers and professional equine healthcare providers easier:



DEGREES OF LAMENESS:

GRADE	SIGNS
Grade 1	Subtle lameness; may be inconsistent. Not apparent at walk, and may not even be consistently
Grade 2	Consistent, mild lameness at the trot
Grade 3	Consistent, moderate lameness at the trot, with an obvious head-nod (foreleg lameness) or hip-hike
Grade 4	Obvious lameness at the walk and trot, with a shortened stride and a pronounced head-nod or
Grade 5	Severe lameness, extremely reluctant or unable to bear weight on the affected leg during motion and

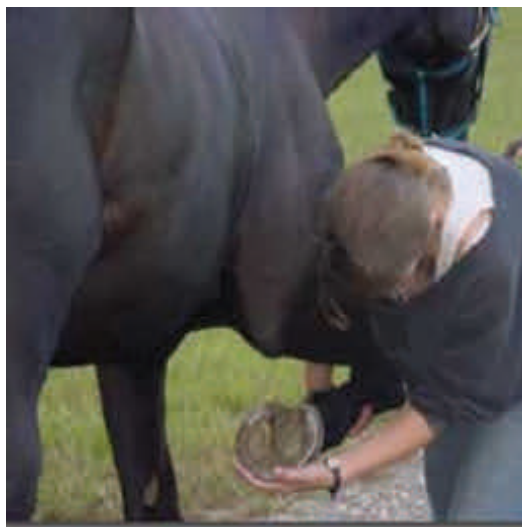
Some professionals distinguish four further sub-grades within these grades, with 1 as the mildest and 4 as the most severe – e.g. "1 out of 3".

What's a "Flexion test" ?

Flexion tests are commonly used to determine if there is a "soundness problem" as part of pre purchase examinations.

The examiner flexes the lower limb joints with some force for a period of 30 seconds to up to 3 minutes, which obstructs the normal blood flow to the joint or hoof, serving as "tourniquet". (S)he then releases the limb and lets the horse trot off immediately.

Depending how quickly the horse recovers from the sudden "congestion wave", a knowledgeable practitioner can determine if the recovery period (number of steps and severity of lameness) is an indication of problems that warrant further investigation.



The lower leg flexions would be the

- carpal flexion
- hock flexion
- fetlock flexion

some also do a coffin joint extension test.

There are mixed opinions on the validity of the flexion test, as anybody would limp off after parts of the leg have been deprived of circulation!



Conclusion:

As you can see, it is relatively easy to determine if or not a horse is lame, but it is not so easy to recognize if a horse is actually sound, in the true sense of the meaning: True soundness requires the horse to be in a state of mental and physical wellbeing and function... it is far more than the mere absence of lameness!

According to a often quoted article in "The *American Farriers Journal*" (Nov. 2002, v.26 #6, p.5.)

"Of the 122 million equines found around the world, no more than 10 percent are clinically sound. Some ten percent (12.2 million) are clinically, completely and unusably lame.

The remaining 80 percent (97.6 million) are some what lame...and could not pass a soundness evaluation test."

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