



Information Leaflet No. 7

EFFECTS OF SHOETING

Traditionally it has been argued that shoes are a 'necessary evil' in that the damage they cause is offset by the harm they prevent, i.e. excessive wear of the hoof wall and bruising of the sole.

The Strasser Approach

It has always been known that metal shoes damage horses' feet. It is not a matter of *if*, it is a matter of *when* and *how much*. The hoof has five basic functions: mechanical protection and temperature regulation; traction and surefootedness; shock absorption; circulatory pump and protein excretion. Shoes impair all these functions.

The 'protection' given by the shoe prevents natural wear allowing the wall to grow longer than it should. The unnatural stresses on the horn and corium, which are caused, are increased the longer the time between shoeing. The situation is worsened if the trim and/or shoeing is incorrect.

The bars of the foot, which should not weight-bear except under very high impact, also grow too long and can be contacted by the shoe and/or levered up into the foot by overly long heels, resulting in pain in the navicular region. (*See leaflet 4*)

Fixation of the hoof in its narrowest (non-weightbearing) shape by nailing on an inflexible shoe leaves the corium in a state of constant pressure, which results in poor quality and quantity of horn. This weakened, slower growing horn is less able to withstand both concussive and abrasive forces.

The fixation of the wall and sole also impairs hoof mechanism and reduces shock absorption by 60 – 80%. A shod horse walking on pavement receives three times the concussive impact of an unshod horse trotting on the same surface.

The shoe prevents the sole from flattening away from the descending pedal bone causing the solar corium to be pinched with every step.

The efficiency of the circulatory pumping action of the feet is reduced which places additional stresses on the horse's relatively small heart (half that of a cat's comparatively). In addition this reduction in circulation causes decreased tissue/blood temperatures and cell nutrition, oxygen deficiency and oedema. This in turn causes a drop in cell metabolism and/or cell death and the resultant decrease in horn production leads to protein overload in the body and eventually to kidney, liver and skins problems. (*See leaflet 6*)

The impairment of circulation affects nerve function - which is why the shod horse is often able to walk across sharp stones but is tender when deshod. The loss of sensation reduces the horse's ability to sense the ground, for example, a shod horse often will not shift its weight when standing on a sharp object because it cannot feel the damage being caused – the origin of 'stone bruises'. A shod horse is more likely to strike itself and to misjudge a play or warning kick because of the added weight. The damage that is caused to itself and to others is far greater when it has metal on its feet.

The unnatural weight of the shoe produces centrifugal effects, which place unnatural strains on the joints and ligaments of the limbs.

As a prey animal, the horse's psychological well-being is dependent on its surefootedness on all terrain. Shoes sometimes give too much traction and dig in when the hoof wouldn't, for example on reflexive turns and pivoting, which stresses the joints. Sometimes they give too little traction e.g. on ice or smooth surfaces, leaving the horse at risk of slipping or falling.

Horseshoes vibrate at 800hz which causes structural changes in the laminar corium leading to poor suspension of the pedal bone and ossifications. Nails physically damage the hoof wall, vibrate with the shoe and conduct heat out of the laminar corium. They also bruise the corium which, on weight-bearing, is trapped between the pedal bone and the fixated hoof wall. Old nail holes cause the laminar horn to dry out and allow entry of pathogens into the white line.

Shoes alter natural movement and break-over resulting in deformation and ossification of the lateral cartilage and their ligaments (sidebone).

Shoeing deforms the hoof by causing it to contract in various ways. As the pedal bone is not fully formed until the age of 5 years, shoeing prior to that prevents the bone from developing normally.

Shoeing of horses is a technology, which, in essence, is unchanged since it was first developed in medieval Europe. It is a product of tradition and convenience. Any apparent benefits from it are purely for the human side of the partnership. The argument that horses cannot stay sound without shoes, simply does not hold up to scientific scrutiny. Most horses with healthy feet and a healthy lifestyle are capable of doing most of the things we humans are likely to ask of them. If they are not able to meet our demands without having metal nailed to their feet, perhaps we need to consider whether those demands are necessary, reasonable and/or humane.

Further Information:

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