



Detriments of Shoeing

Gradual deformation of hoof capsule

The shoe is nailed on when hoof is lifted off the ground; therefore it is fixed in its most narrow contracted state. As the hoof grows longer between shoeing this can cause the following conditions:

Contraction

Pain

Changes in movement

Tripping

Muscle problems

Joint ossification

Arthritis

Damage to corium

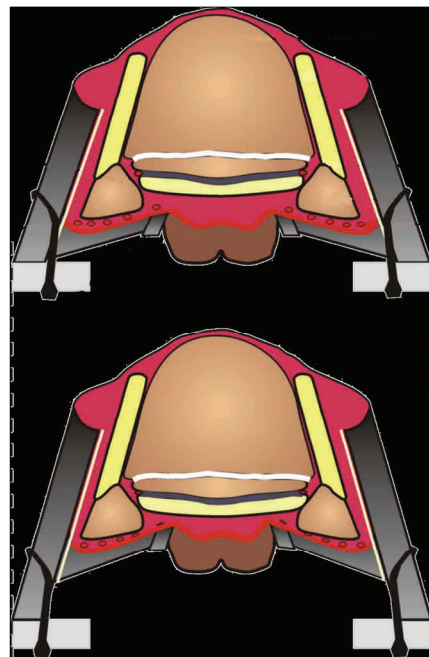
Predisposition for coffin bone rotation

Laminitis

Thrush

Navicular syndrome

White line disease



Weakened and/or damaged walls

Nails perforating the hoof wall cause the following structural damage:

Desiccation and loss of elasticity

Insulation of horn capsule is breached

Reduction in metabolism when nails conduct cold into the hoof wall, which in turn causes decrease in production of laminar horn resulting in poor coffin bone suspension

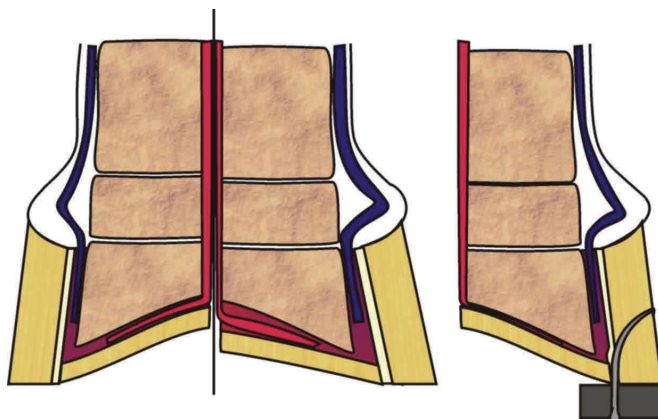


Reduced Circulation

The hoof cannot flex; therefore the reversible deformation of the hoof capsule is impaired

Circulatory problems

Metabolic problems





Metabolic disruptions

Hoof mechanism (hoof flexion) can not function (see previous page), causing protein imbalance in the system
Skin, kidney, liver problems
Colic



Vibration

Note: Vibrations are known to be damaging to live tissues
Metal vibrates when struck by something hard (800Hz)
Degeneration of capillaries
Tissue necrosis
Pathological alterations of corium tissue
Chronic numbness
Coldness (Raynaud's Syndrome)
Micro fractures
Ossifications
Tendon problems etc.



Changes in weight bearing, breakover and limb movement

The weight, shape and properties of shoes cause muscle and tendon problems
Sidebone
Ringbone
Over-reaching
Self injury



Impaired shock absorption

The jarring of the horse's unshod leg cantering on pavement is less than the jarring of a shod horse walking on pavement.
Hoof mechanism can not function (60-80% of shock absorption is lost) causing:
Ossification
Joint damage
Arthritis





Unphysiological stresses on hoof capsule

Tension through fixation and/or pressure causing
Horn cracks
White line separation
Bruising
Keratoma



Reduced nerve function (reduced circulation)

Shoes greatly reduce sensation of the ground causing
Danger of mis-stepping
Bruising (as stones can be higher than the rim of the shoe)



Additional weight on the limb

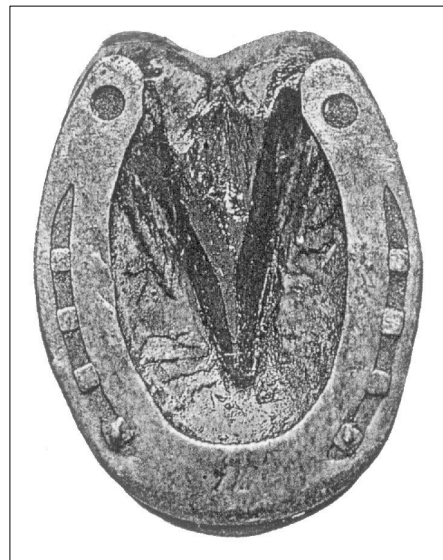
The additional weight of the shoe* causes:
Increased centrifugal effect (altered gait)
Ligament sprains increased impact force and consequent damage (to horses and human toes)

* The hoof capsule weighs about 800 grams, a steel shoe weighs about the same



Changed traction

A metal surface either detracts from or increases traction, causing
No suction effect on smooth/slippy/wet surface
Unhealthy resistance when turning
Joint, ligament, tendon damage,
Ossifications





Conformation changes

Pain or trimming errors cause the horse to seek more comfortable positions which could result in joint adaptation, such as

Crooked hooves

Coon foot

"Offset" knees

Hunter's bump

Stances like:

out behind,
base narrow
cow hocked
sickle hocked
bucked knees
toed in/out etc.



Prevents development of healthy coffin bone in young horses

Horses shod before they are mature (most TBs) have not yet fully developed their palmar processes, resulting in a narrow coffin bone + contraction



Damage to trails, roads, pasture

Iron shoes "plough" ground, destroy pasture and trails.

Damaged flora

Increased restrictions to riders as horses get "banned" from great riding country

Difficulty to maintain good pasture



Shoeing also disables the early detection of any damage done when the rider/owner is exceeding the horse's biological limitations without being aware of it.

The horse does not show immediate symptoms until damage is advanced far enough to cause problems.