



Problems with Incorrect Hoof Form

Any deviation from the normal, harmonic alignment of the bones in the equine limb does not only impact the health of the hoof, but the health of the limb and the entire organism as well.

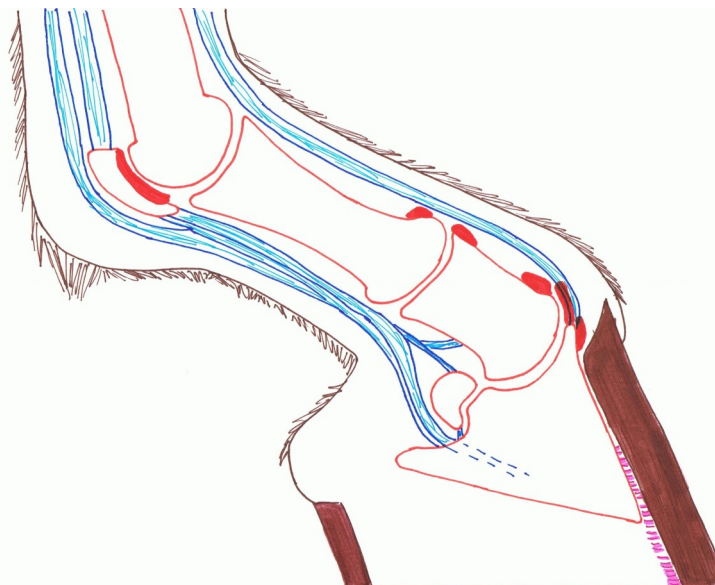
A reduction in shock absorption leads to stress in joints as well as in all the areas where ligaments attach to bone. If this situation persists, inflammation will lead eventually to ossifications in these areas.

Since the entire equine organism functions as a large safety net for all "smaller" problems, these unphysiological changes often only become really apparent after months, sometimes years.

Joint cartilage is also under pressure from reduced shock absorption and often chips in the joints are the results.

In the picture on the right you can see where unphysiological pressure on the joints, joint capsules and bone appear.

Fractures of the sesamoid bones and inflammation of the fetlock joint are also a result of this.



One of the problems that becomes right away

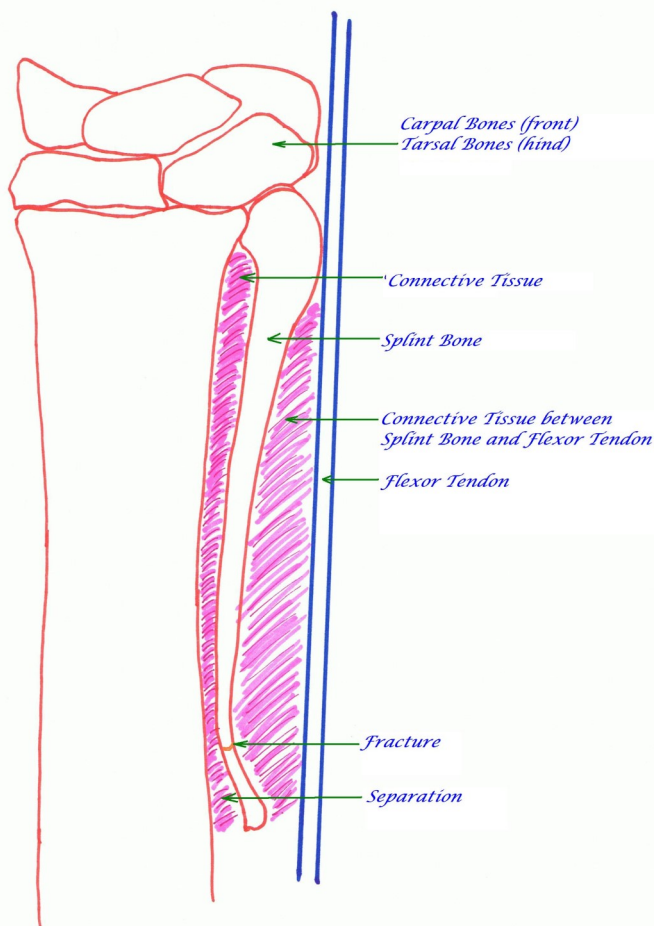
apparent is the imbalance between extensor and flexor tendons. As the one or the other gets out of balance, the musculature has to adapt to the new situation in order to keep the tension on the tendon. Joints and ligaments have to adapt as well. "X" is the amount the flexor tendon has to be pulled up when the heel becomes higher

When high heels force the musculature to pull the tendon tight and therefore upwards, all the ligaments and fibrous connections in the leg are pulled up as well. When this situation is further stressed through a sudden impact (jump),



fractures of the splint bones are often the result. Either the connection between splint bone and cannon bone is severed, or the lower part of the splint bone fractures.

High heels lead to heel pain. The frontal area of the hoof receives more pressure. As a result the toe grows slower and the heel grows even faster, furthering the imbalance in the hoof. This becomes very apparent when you watch the growth rings around the hoof capsule



In hooves with high heels the unphysiological placement of the coffin bone pushes the lateral cartilage up.

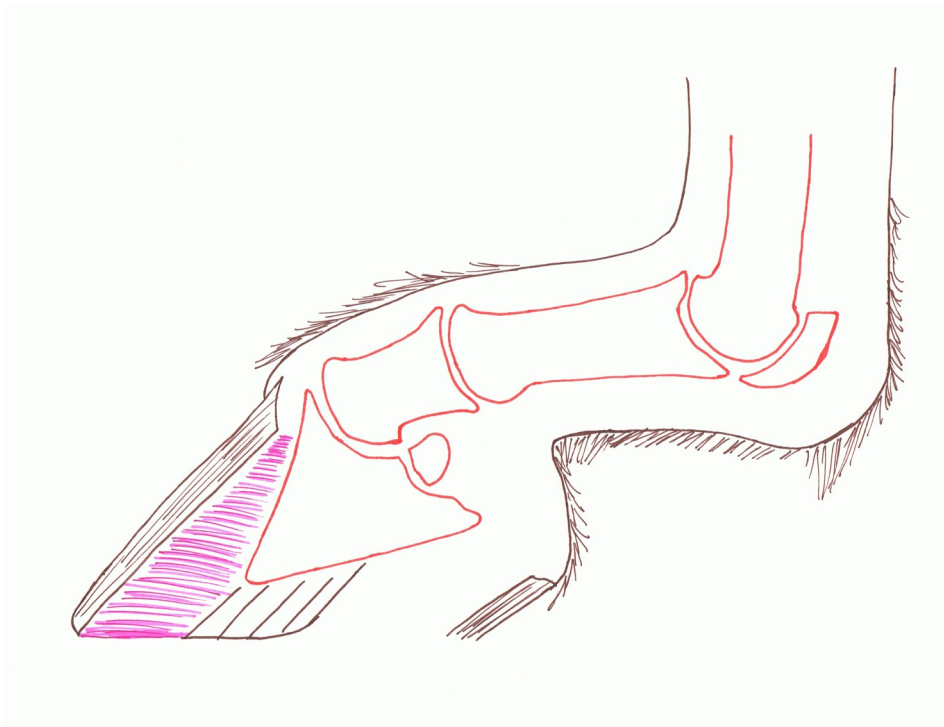
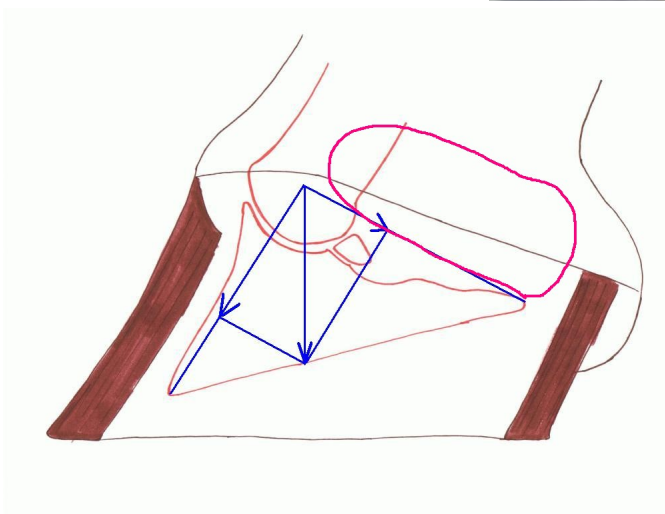
Here is the above situation in a schematic drawing. The palmar process pushes the lateral cartilage out of the hoof capsule.

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High heels and unphysiological coffin bone placement will eventually lead to the rotation of the coffin bone away from the hoof wall - founder. More about that in the chapter founder.





Recognizing bone alignment problems even without a radiograph

Hoof has high heels

* When does a hoof have high heels? Any time the heel is higher than 3.5 cm measured from the edge of the lateral cartilage vertically to the ground.



Hoof does not have a 30° hairline



Hoof has a too steep toe (steeper than 45° in front or 55° in the back)* pictured here is a front hoof



Hoof has a definite bulge in the frontal area above the coronet band

