

The evolution of the horse

During the evolution the horse has become a big animal that lives in the steppe. Its nutrition therefore has become short hard grass, rich with silicate, which they bit off with their incisors and grinded with their molars. In addition the horses were digging for mineral nutrients with their incisors. By this all teeth were worn off about 2 to 3 mm per year.

Therefore all teeth are fully developed at the age of seven and have a length of approx. 11 cm. Each tooth erupts about 2 to 3 mm per year, the same rate that it should be worn off.

Sharp edges on the buccal side of the maxilla teeth and the lingual side of the mandible teeth were worn off because the horse made an extensive lateral chewing motion with a large amplitude when the mouth was in balance.

Horses with a highly imbalanced mouth died because of starvation.

The domestication brought a significant change to the nutrition our horses have access to. They live in stables and have only soft grasses on the meadows. These can be bit off with the lips instead of the incisors. In addition they get grain and maybe corn which wears the molars abnormally off. The bit of the horse hadn't had the time to adapt to this yet.

Factors that today bring an imbalance in the mouth

So the incisors are not worn off any more, but still erupt. The molars are still worn off normally or sometimes even more. So the too long incisors keep apart the molars. The natural chewing mechanism has to change. The horses apply more and more pressure to get molar contact (some tons per cm²). Instead of a protruding lateral chewing motion they start pounding. That makes the bones of the skull deform. The incisors are pushed forward over the years (which is not normal as told in the aging).

Around the incisors the bone dissolves until pus is coming out. The incisors are worn off crooked due to the changed

chewing mechanism (often looks like a smile or diagonal). But the pressure also

badly damages the temporomandibular joint (TMJ). Since in this region there attach the muscles for the forelegs, hind legs and the back, hardening in the TMJ strongly affects the rideability of the horse. Even the hyoid process is affected, which also is important for riding and balance.



The bones of both jaws deform by this unnaturally applied pressure. The teeth in the alignments stop erupting uniformly and develop waves with high teeth (so called hooks and ramps) at their ends and higher (protuberant) teeth in their middle part. Structures on the surface of the teeth (transverse ridges) are getting more and more pronounced. All these facts prevent the natural forward-backward movement of the mandible, which is needed for the chewing process and is very important for the rideability. Protuberant teeth also can cause teeth fractures.

The reduced lateral amplitude in the chewing process also prevents the horse of grinding off the sharp edges. These can get sharp as knives and injure the tongue and the cheeks.

Since all these problems can be accelerated by problems during the milk teeth shedding (cap shedding), they may be found also in very young horses in a pronounced state.

Dental treatment

Regular and professional inspection and treatment of the teeth is therefore logical and necessary for the well being and the improvement of the rideability of the horse.

A dental treatment therefore must include the **shortening and straightening of the incisors** so that the molars are in 100% occlusion and the **height-reduction of all protuberant teeth**. Also the sharp edges have to be rounded.



Inspection intervals

Normally once a year a dental treatment should be done. Only when there are big abnormalities, a shorter interval is needed.

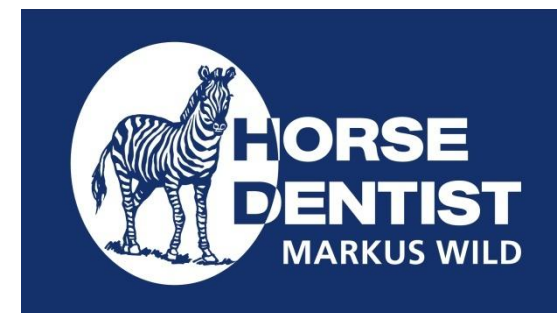
Young horses during cap shedding (from two to five years) should be checked every six month. Dental treatment should be started at the latest at the age of three, but definitely three month before starting to put a bit in or riding the horse. At that time there should be checked for wolf teeth also, which cause big riding problems.

Common tooth problems

Sharp edges
Long / crooked incisors
Hooks / ramps
Waves / steps in the alignment
Missing / supernumerous teeth
Loose / fractured teeth
(milk tooth) splinters
Cap shedding problems
Inflammation of the gingiva / Pus
(Blind = below the gingiva) wolf teeth
Feed impaction between the teeth
Tartar / pus
Over- / Underbite

Observable signs of tooth problems

Riding problems
- Bending
- Head tilting
- Neck problems
- Go behind or against the bit
- Hind- and foreleg problems
Prancing
Rolling hay
Bumps
Colic
Bleeding out of the mouth
Defluxion from the nose
Hanging lower lip



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