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Equine Dentistry: Straight from the Horse's Mouth

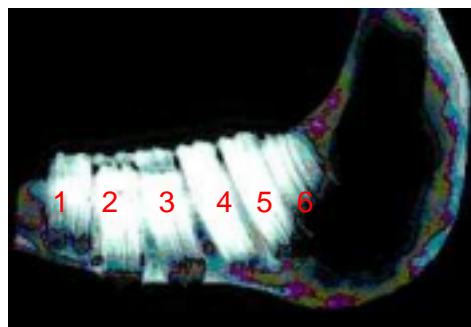
Horses' teeth are quite different to those of humans. They continue to erupt slowly throughout the horse's life, and eventually wear out at approximately 30-40 years of age. This continual eruption is balanced by the continual grinding of the dental surfaces on feed matter, and this fine balance (plus its propensity for error leading to painful conditions) is the reason regular dental health checks by a professional are recommended.

There are several factors which predispose horses' teeth to uneven wear. These include:

- Anatomical arrangement of teeth within jaws
- Difference of diet in domesticated horses compared to their wild counterparts
- Duration of time spent chewing

Anatomy

Horses have very long reserve crowns under the gum, which erupt at a rate of 2-3mm a year.

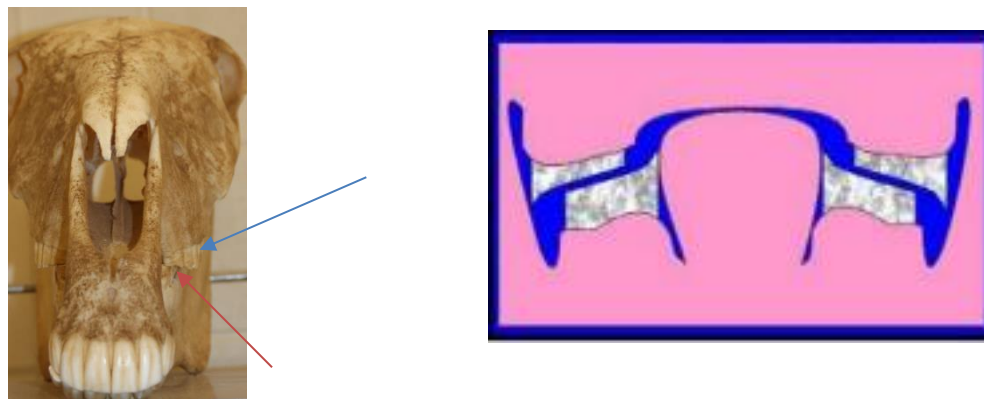


X-ray of the lower jaw of a 3½ year old horse showing the very long reserve crowns of its adult cheek teeth (numbered 1-6). Baby teeth are still present on top of cheek teeth 2 and 3 – these will soon be shed. Cheek tooth 6 is just erupting.

In an ideal scenario the chewing surface (occlusal surface) is worn away at the same rate by grinding on abrasive plant materials and silicates in their diet. If dental wear and eruption rates are unequal, teeth will develop irregular surfaces. These irregular surfaces can cause painful ulcers in the horse's mouth and can contribute to development of other dental conditions.

Equine *maxillary* (upper) cheek teeth are set wider than the *mandibular* (lower) cheek teeth, such that their occlusal surfaces meet at a 10-15° angle. The horse has a one-sided circular

motion when chewing food so that the food is ground as the mandibular cheek teeth move inwards over the surface of the opposing maxillary cheek teeth. Because of this arrangement wear is reduced at the far edges of the teeth, allowing overgrowths (*enamel points*) to develop on the outer aspect of the upper cheek teeth and the inner edge of the lower cheek teeth. These can cause ulceration of the cheeks and tongue respectively.



The maxillary cheek teeth are set wider than their mandibular counterparts. Development of overgrowths (enamel points) occurs on the outer edge of the upper cheek teeth and inner edge of lower cheek teeth.

Diet

In the wild, horses would normally graze for 16-18 hours a day on fibrous forage. Domesticated horses are often fed concentrates in place of some of this forage, which requires far less chewing, and spend longer periods of time stabled with little or no chewing at all. These factors vastly decrease the amount of wear to the horse's teeth and can predispose to overgrowths forming.

Once overgrowths have developed the normal motion of the jaw can be impeded, which leads to a vicious cycle of further problems developing.

Dental conditions

Common dental problems are sharp enamel overgrowths, displaced teeth, steps, hooks (overgrowths on the first upper cheek teeth and last lower cheek teeth), gaps between teeth (*diastema*), periodontal disease, caries and fractured teeth.



Sharp enamel points on the inner edge of the lower cheek teeth (black arrows) and the same horse following rasping of the teeth.

Signs you may notice if your horse has a dental problem are:

- dropping partially chewed food (*quidding*)
- weight loss
- hamster-like food pouching in the cheeks
- nasal discharge (which may or may not smell)
- facial swelling
- smell coming from mouth
- long (more than 2mm) faecal fibre length
- biting problems
- head shaking
- hanging to one side when ridden

However, many horses have sharp enamel overgrowths and oral ulceration without showing any obvious signs of pain and so, even if your horse has none of the above signs, dental abnormalities may still be present.



Tongue ulceration due to sharp edge of tooth

The dental examination

The dental examination should always be performed using a full mouth speculum (gag). It is impossible to examine or feel the back of the horse's mouth safely without one of these gags and so it is an absolute prerequisite for a thorough dental examination. Often horses are sedated as it allows a much more thorough examination, especially of the back of the mouth or any painful areas, but this is not always necessary.



Sedated horse wearing gag, allowing for thorough examination of the mouth

Many different kinds of motorised and manual rasps are available, and your vet or EDT (equine dental technician) will bring a selection of different sizes and angles. Motorised equipment is useful for removing large overgrowths and is usually tolerated well by the horse.

It is recommended that horses have their teeth routinely examined once a year. If abnormalities are found such as caries, diastemata, displaced or fractured teeth, it may be advisable that more frequent examinations are performed for monitoring purposes.