



## Q&A FROM A HORSE DENTIST

Grant D. MacKinnon C.Eq.D.

Certified graduate of the Academy of Equine Dentistry & proud member of the Association of Equine Dental Equilibration

A standard level of education needed

### **EQUINE DENTISTS ARE MAKING THE CHANGE**

The need for regulation, uniformity, minimum requirement and licensing for equine dentistry is at hand. The horse industry has been aware of the controversy between equine dentists and veterinarians for a some time over the concern of qualifications. However, horse dentists have recently developed their own list of concerns with some performing equine dentistry and having little to no education in the field. There is a need for change and the development of a standard level of education to perform qualified equine dentistry.

For a number of years, equine dentistry worked it's way back into the horse industry changing from what was once known as a "float" to what is now a "complete equilibration" or "three-point-balance". Horse dentistry currently performs at new levels of professionalism and the basic float is considered "old school" and unacceptable by today's performance and pleasure riders.

A "complete equilibration" or "three-point-balance" today is the same as what was known by horse dental specialists in the late 1800's when horses were a vital integrated part of daily life. A "float and balance" was considered the proper way to maintain horse's health and teeth. Unfortunately, the horse was turned out and forgotten when they were replaced by the automobile; oil changes became common place instead of a routine dental check up for the horse. The industrial revolution was on and horse maintenance was no longer a priority.

After a good many years, pleasure riding developed popularity with those of wealth. The normal chewing pattern of a horse created sharp points on the edge of their molars because of the unique shape of their teeth. This became a "point of pain". When a halter or bridle was introduced, inadvertently the cheeks, tongue and pouchy flesh of a horse's mouth were pushed into these sharp points. Horses would indicate pain by tossing their head, pushing away, pulling back, nosing out through the bit or becoming difficult to catch, bridle or halter. Unfortunately, a quick scrub on the sides of the upper "cheek teeth" became what we know today as a "float" and only a partial answer to many of the horse's health and riding problems.

In recent years, the horse industry has boomed and the demand for professionalism and proficiency in the horse dental field has encouraged significant growth of the equine dental trade and shows no sign of turning back. As of this writing there are 5 equine dental schools in the United States and Australia with an average of 65 certified graduates each year. Education of horse owners and their demand for extensive education and experience on behalf of the horse dentist has rekindled this need to expand. Legislation has favored the right to practice and the increasing number of qualified, certified equine dental graduates are all strong indicators that the horse dental industry will continue to grow strong. Therefore it is with this expansion that calls for a need to regulate all of those practicing in the field.

Years ago human dentistry split from medical general practitioners in a similar fashion and developed it's own set of minimum requirements, ethical guidelines and licencing procedures. Horse dentists are currently working together to unify this regulatory process in an effort to provide horse owners piece of mind when they seek out a qualified, certified and soon to be licenced, equine dentist.

## DO HORSE'S TEETH CONTINUE TO GROW?

**Question:** We were discussing horse's teeth at the riding arena I just started attending and someone mentioned their teeth grow the same as their hooves. A horse dentist is scheduled to arrive at the end of the month. Why have I not heard that before? And how is that possible? I have three horses, an 8 year old, a 13 year old and a 21 year old. I've never had a dentist look at their teeth before.

**Answer:** Technically, horses's teeth are approximately four and a half inches long at five years old and erupt out of the alveolar socket throughout his life. Small particles of molars (back tooth) grind away with every bite of food a horse eats, the incisors (front teeth) grind away when they nip grass. Wild horses, having the opportunity to graze every bite of food, generally have well balanced teeth. They are drawn to the type of grass that is high in silica which assist with the grinding away of small particles of incisors. This type of fodder also works it's way under a deciduous tooth (baby tooth) and assists with cap (baby tooth) removal. If a horse's teeth start to cause him trouble in the wild, loss of condition would be the first stage in the cull process. When the teeth expire so does the horse.

Pastures, paddocks and tie stalls prevent free-range grazing, therefore we provide our horses with a large portion of their nutritional requirements. This removes nature's way of maintaining balance during the grinding down of a horse's teeth. The incisors gradually lift the molars apart if they are not manually addressed. The parallel between a horse's hooves and teeth becomes easy to understand when in the wild, free-range roaming horses, gradually grind off their hooves as it does their teeth.

Horse's teeth erupt at approximately 1/8" a year, given all outside circumstances being equal, your 21 year old will have longer incisors than your 13 year old and so on. When a horse's incisors are not manually maintained, the horse must work harder to chew, in order to grind his food. This would be similar to putting a tooth pick between our front teeth and ask us to chew up our food. When a horse is unable to chew up his food he is then unable to get proper use out of it.

The way in which a horse eats is similar to a twin rotor combine. Ideally, he brings the food in, then starts to chew on one side of his mouth; the food grinds along every tooth until it gets to the throat and is swallowed. The next bite of food is brought in to the other side of his mouth, chewing begins and again the muscles move the food along each tooth until it reaches the throat and swallowed and the sagittal crest in the center of the tongue keeps the food divided. If a horse's teeth are properly balanced, the food is ground up into a fine mush and the body can use 100% of the nutritional value. If the teeth are not balanced, there are small particles of unchewed food that a horse's body cannot break down and pass through the body after 24 hours, (too quickly for the gut to extract the nutrients).

The above is the simplified explanation of the eruption of a horse's teeth and how they effects a horse's long term health. It is important to understand that horses are quite resilient and do what ever they can to survive. Over time, a horse can develop behaviors that can be a direct result of teeth problems. I was recently working at a boarding facility when the owner made note of the immediate change in a 20 year old mare now standing quietly eating her hay the morning after I balanced her teeth. He said, "she would aggressively push all other horses away before when she ate". This behavior is common to horses with bad teeth, they generally take longer to chew their food. If they allowed other horses to eat their portion while they were taking time to chew and fear they wouldn't get enough to eat. (Long incisors cause pain in the TMJ, temporal mandibular joint.)

It is also important to note that behavior or riding problems and condition concerns happen gradually when relating them to tooth eruption. Although baby teeth and oral injuries do have an immediate impact on eating and riding behaviors; tooth eruption will not cause problems over night.

My final comment in relation to long incisors is one of *most importance*. A horse's mouth is literally, one giant geometry lesson. Proper angles are imperative.

- 1- the teeth in a horse's skull (upper teeth) are set wider than the teeth in a horse's jaw (lower teeth);
- 2- the back of the molars are set wider than the incisors;
- 3- the curvature of spee (gradual dip from front to back) must be a mirror image, if accentuated prevents forward and backward movement of the jaw;
- 4- the curvature of wilson (outward curve of the upper teeth) must not prevent lateral excursion;
- 5- there is a proportionate balance between the table angles of the molars and incisors; and
- 6- the level and angle of the incisors dictate lateral excursion (side to side movement).

If any one of these angles are improperly changed, a horse may not be able to chew his food. One must be proficient at establishing all six points in order to properly balance a horse's mouth. If the individual working on

your horse does not address or is unable to recognize these six points, they can do as much damage to your horse as they can help.

Floating a horse's teeth flat (like our teeth) is crippling to a horse and a big reason why I continually remind horse owners of the importance of the certification for anyone working on your horse's teeth. A certified dentist is required to have 1200 hours of education minimum, 'in the horses mouth' before he can certify as a horse dentist. It is in these 1200 hours they learn the importance of these angles and how they must work together for proper balance.

Remember, all undesirable actions are compensatory to any point of pain and attributes to a horse's balance. If you are experiencing undesirable behaviors while riding your horse, have a certified equine dentist take a look and get the answer '*straight from your horse's mouth*'.

---

If you have a question about your horse's teeth and how they might relate to his health or performance call 1-306-266-2060, 1-403-936-5394, 1-208-420-2701 or e-mail [mackequine@sasktel.net](mailto:mackequine@sasktel.net).