

## *Is Your Horse Afraid To Smile*

If you're taking time to read this article, chances are you want what is the very best for your horse. Today, a horse can be our friend, our hobby, and in some cases, our livelihood. It is in our best interest, and our horses, to provide the very best health care possible so they may live longer and happier lives. Special attention is given to make certain our horses are wormed every two months, kept current on all the necessary vaccinations, obtain the highest quality hay and grain, have proper fitting saddles and tack, provide frequent sessions of massage therapy, acupuncture, chiropractic, and shoeing.

### *Did you know?*

Many of us overlook another very important aspect of general health maintenance for our horses, that is, care for their **Teeth**. Some horses will not display symptoms of dental problems, but all horses develop sharp pain-inflicting points among other irregularities of their teeth. We are all concerned with our horse's comfort. In some cases, whole mouth dentistry, properly done, can alleviate and often eradicate certain cases of colic, eliminate mild lameness, clear runny eyes, lessen and even cure cribbing. Dentistry also promotes softer collection and flexion, re-muscle an atrophic top-line, and lessen the severity of spooking and head shyness. There are many other obvious issues related to dentistry, such as correcting head tossing, lessening the amount of grain lost while eating, drooling, change a bad or undesirable attitude, loss of weight and fighting or fidgeting with the bit.

### *Biomechanics*

This all happens with equilibrating the whole mouth through dentistry, which is best explained as equaling crown heightening of teeth, not just rasping the sharp points! For instance ... a male horse can have up to 44 teeth and a mare up to 38 teeth. These teeth will continue to erupt though out the horses' life, from alveolar socket in the mandible and maxilla. Horses in the wild will eat coarse grasses and graze up to 18 hours a day. The silica or abrasives in the grasses will naturally keep the teeth worn down to the proper angle and height. Most domesticated horses are kept in stalls or small pastures, fed processed feed, or graze limited amounts of time on fine grass. As a result, they do not receive the benefit of the abrasives necessary to keep the teeth evenly worn. Incisors will not wear at the same rate as the molars. As when this process occurs, the horse adjusts its natural chewing motion from a side-to-side motion, to one of an up-and-down motion. This accentuates the unevenness of the molar table due to the fact that the lower molar table is narrower than the upper molar table. This causes the upper molar table to become cupped from the lower molar table pounding into it, accentuating the points of the upper molar table.

Having only the best intentions, horse owners and trainers have these points "floated" or grinded down. Floating, however, is just the beginning of whole mouth dentistry and equilibration. Floating represents only 10% of the total work required to properly equilibrate the mouth, especially for the performance horse.

The molars have a surface or table which the horse uses to grind its food when the upper and lower molar tables meet properly. Horses have a chewing motion starting with the mandible going down to one side, out, up and in, then down to the other side, out, up and in again. Molars can very often erupt at different rates and as a result the molars develop malocclusions and individual horses can change their chewing patterns. This can be the result of a wide range of issues.

Here are just a few of them:

- 1 Short Skulls-specific breeds such as Quarter Horses, Arabians, Morgan's and Miniatures
- 2 Injuries
- 3 Missing teeth and teeth erupting in an outwardly, crooked pattern instead of the normal vertical angle
- 4 Unevenness of the molar tables

With regard to molar tables, a wave effect can be created with commonly occurring hooks and ramps. These occur at the end of the molar table. A ramp can be at the front or back of the bottom molar table. A hook is usually found at the front of the top molar table. These hooks and ramps can even protrude in the opposing gum line.

The rostral hooks can limit the caudal and rostral movement of the mandible causing poor performance in the area of rounding up. It causes hollowing out or fighting the bit and can cause poor axial flow of the food bolus and make eating a chore for the horse. If a horse develops rostral hooks, more than likely they have caudal ramps.

The caudal ramp is formed in the same way a rostral hook is, in that when the horse eats with its head up the horse does not wear the front of the upper first premolar and the lower back molar. If the ramp is never burred down, it can keep erupting up and into the upper gum line, hitting on an acupuncture point (bladder meridian) that has been found to cause lameness in the rear hocks. It is difficult for a dentist using floats to successfully grind down the caudal ramps and they are easily overlooked.

The washboard effect occurs in almost all horses with lack or limited caudal/rostral movement. This is called accentuated transverse ridging. All cases in which unevenness of the molar table is described, it will limit a horse's caudal/rostral movement of the mandible. Anything that restricts the caudal/rostral movement of the mandible is believed to be detrimental to downward transitions and collection.

In addition, restriction of movement of the mandible laterally can correspond to the poor left to right flexion in the direction of the restriction. Young horses have a natural table angle of 10-15 degrees, not flat, which most floaters will tend to create. Any deviation of this natural mandible movement or angle of the molar tables or incisors will throw the horse off physically as they age. One of the major goals of whole mouth dentistry and is to create a three point balance or S.O (Simultaneous Occlusion) with equilibration of the incisors, molars, and TMJ (Temporal Mandibular Joint) all having equal pressure.

### ***Older Horses***

Older horses are usually over 15 years in age. As they get older, their teeth start to expire and can start to loosen. It is good to have them checked yearly and kept maintained. Early detection of periodontal disease can be reversed and loose teeth can be ground down out of occlusion so the integrity of the arcade can be kept. As the horse gets older it is important to have as many viable teeth in occlusion as possible in order to keep up the quality of life for that individual horse. When the horse is not able to grind his food properly and whole pieces of food are being swallowed, and it can contribute to improper digestion,

sometimes colic. Pieces of food also can be trapped in the epiglottis flap in the throat allowing hay dust into the lungs; hence the symptoms of heaves, coughing and wheezing, may become apparent.

Horses in the wild graze up to 18 hours a day and when grazing and nipping grasses they keep their incisors from becoming excessive in length. Stabled horses, fed processed feeds and pre-cut hay, are not able to wear their incisors properly. Older horses will not be able to grind their food as well do to the interference of their long incisors and will turn to an up and down, sort of a "chop chop," chewing motion. This in itself is a problem from a performance standpoint, the gap in the molar table causes pain in the TMJ and may cause the horse to throw and pop its head when asked to collect or round up.

Wedge or slanted incisors will cause a horse to chew only on one side of their mouth. This will cause excessive wear to the side being used and accentuated uneven height of the clinical crown of the molar arcades. Here again, the whole mouth must be re-angled with the use of power instruments. Floaters often will not be the special dremel instruments that must be used to align the incisors properly.

### *Younger Horses*

Younger horses between the ages of 2 ½ through 4 ½ shed 24 teeth and should be checked every six months to ensure proper occlusion and eruption of the permanent teeth. In many cases, these shedding baby teeth or deciduous caps do not come off at the appropriate time or in the appropriate manner. They are called retained caps and cause dental cysts offering all kinds of problems. If the caps on the molars do not shed off to allow the permanent tooth to erupt, the permanent tooth will erupt in an opposing direction, consequently through the mandible or into the nasal cavity of the maxilla.

Normal dental cysts occur three to six months prior to the shedding of the baby or deciduous tooth and disappear three to six months after the baby has been shed. Retained dental cysts or lumps on the mandible, lasting longer than the above-mentioned time, should be a red flag to the horse owner that the young horse needs dental attention.

If the incisors develop retained caps, mature teeth coming in will grow in crooked, behind, or in front of the deciduous caps. This produces a great deal of pain in young horses resulting in head tossing, excessive tongue movement in and out of the mouth, etc. In many cases, I believe that retained caps are the initial reason that a horse will start to crib. The young horse attempts to rid itself of caps by any means possible. I believe cribbing also occurs in older horses that are attempting to wear down incisors that are excessive in length.

Horses have been known to eat rocks, sticks, and even metal to wear down their own teeth or rid themselves of caps. This method, however, is seldom successful. Once again, young horses should be checked every six months and older horses, once been equilibrated, should be checked every nine to twelve months.

### *Other Occurrences in the Mouth*

Wolf teeth have been found in young and older horses. Did you know that horses could have up to as many as 10 wolf teeth? They can have up to 3 on each side of the upper arcade and 2 on each side of the lower arcade. They date back to the first horse, Eohippus, when horses had seven molars in each arcade. The wolf tooth is actually a remnant of the roots of a premolar, or the seventh molar. As a premolar, it has the capabilities of having a baby or deciduous tooth. Wolf teeth are loose rooted and set in front of the first premolar where the bit is placed, and for this reason they should be extracted prior to being ridden.

## ***Bit Seats***

There are nerves running along the bars of the horse's mouth. If a bit constantly bangs on them, these nerves can be damaged causing general aggravation. To solve this problem, bit seats are installed for the comfort of the horse and are suggested for any horse that is being ridden. By rounding the front of the first premolar (top and bottom to the gum line) we provide a place for the pouchy flesh and cheek to escape the bit. Bit seat can also be helpful in aiding with axial flow of the food.

## ***Why use Sedation?***

All the work I do require sedation. The horses, especially first time clients, are in need of advance precision angle work that requires the horse to be still. This is especially true when power instruments are used. The horse will respond with excessive moving about and head tossing. When the horse has been properly sedated, they will be standing and still be awake, and they are much quieter. Another important reason for having horse sedated, especially when removing of wolf teeth, is that there a palatine artery running along the top of the mouth. If the horse should fidget and toss his head, there is a chance of puncturing this artery with an instrument while working.

## ***How to Choose a Qualified Equine Dentist***

- 1 They should use a full mouth speculum (a device used to hold the mouth open using crescent-shaped bite plates for the incisors to rest on that ratchets). Thorough examination by sight and palpitation of the oral cavity. VS, a spool type speculum that is like a large fishhook with a handle on one side and a cylinder on the other side for the molars to sit on, will often fracture molars and does not allow a thorough examination of the mouth. This results in incomplete dental care along with more complicated problems.
- 2 They should allow the client to feel the problems in the horse's mouth and the difference after the procedure is complete. This educates the horse owner or trainer and gives them more confidence that the practitioner is helping the horse and not creating new problems for the horse.
- 3 They should give a brief explanation on the basic mechanics of how horses masticate their food when in proper balance.
- 4 They should not pull out the tongue with force. This is due to the fact that the tongue is connected to a group of thin bones called hyoid apparatus, which are connected to the petrosal bones of the inner ear. If the petrosal bones are damaged; it could result in balance problems, or tilting of the head. If the hyoid apparatus is damaged, the horse's tongue will usually hang out of its mouth.
- 5 Your dentist should not be abusive to the horse. It is not their place to discipline your horse. It is your responsibility for your horse to have good manners before the practitioner works on it. The same applies to your farrier, vet, and chiropractor.
- 6 They should not sedate without the owner's consent. It is in best interest of the non-veterinarian practitioner to have the owner provide the sedation, or have a licensed administrator available.
- 7 It should take approximately 30 to 45 minutes for the first visit, and 30 minutes for regular maintenance thereafter. The cost will vary from dentist to dentist, due to skill level and knowledge.

- 8 They should fill out an evaluation chart that shows exactly what was found in the horse's mouth, and how it was taken care of.
- 9 They should provide performance dentistry. This is when the first pre-molars are rounded to the gum line (commonly known as a bit seat). A bit seat prevents the cheeks and pouchy flesh on the lower bars from being forced into the boat-shaped points of the first pre-molars by the bit. This will eliminate vices such as head throwing, hollowing out, chomping, and/or grabbing of the bit.

I hope you have enjoyed this article and found it informative. If you have any questions or need a practitioner, please contact me. Please help get the message out and forward this on to a friend. I thank you for taking the time to read my article.

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Born with the love of horses from day one, I wanted to make a difference and help the horse. I decided to go to school to be an Equine Dentist after watching a friend of mine performing dentistry on horses. I got to witness how much improvement came after he finished the dentistry, and I was amazed by the difference. The owner thought he had performed a miracle and was so happy they told everyone they knew. I thought what a rewarding career, to be able to make both horses and people happy. Therefore I attended the **Academy of Equine Dentistry** in Glens Ferry, Idaho, under the guidance of an amazing man, Dale Jeffrey M/EqDT, who has shared his knowledge with people all around the world. He teaches patience, compassion, and consistency.

I believe that proper Whole Mouth Equine Dental Equilibration, as oppose to "floating," is not only necessary for the proper mastication as it relates to general health, but more importantly, for the total well being of the horse relative to performance and ultimately attitude!