Q&A from a Horse Dentist

Q&A FROM A HORSE DENTIST
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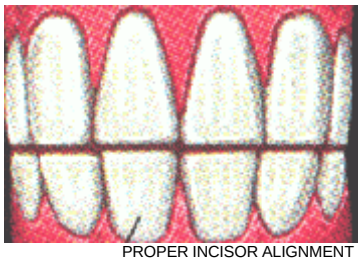
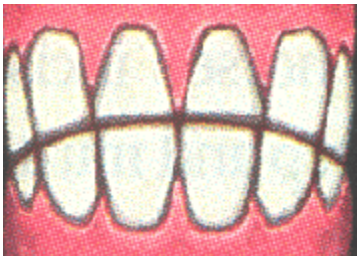
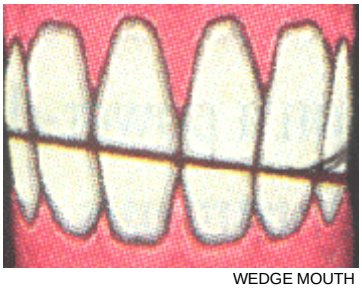

PROPER INCISOR ALIGNMENT



SMILE MOUTH



FROWN MOUTH



WEDGE MOUTH

INCISOR (MISSED)ALIGNMENT

I am often asked why I spend so much time and effort balancing the front teeth when others work solely on the back teeth. I was encouraged to hear Mark Anthony, DVM (Western College of Veterinary Medicine) speak this year on ***the importance of incisor alignment and reduction*** at the Saskatchewan Horse Federation's Annual Meeting. I was further encouraged to hear that beginning July 2007, he would begin to teach a three year Post Graduate Specialty of Veterinary Dentistry. For nine years I have preached the importance of incisor alignment and reduction and to hear someone with 23 years of dentistry experience preach the same sermon was music to my ears.

Technically, due to the manner by which a horse's skeletal structure is designed, a horse must have free anterior/posterior movement of the mandible as well as free lateral excursion in order for him to masticate his food properly and perform without discomfort or pain. (Which means a horse must have free forward and backward movement and side to side movement of the jaw.) Therefore when his teeth prevent free movement of the jaw, health and comfort gradually become noticeable undesirably and preventable issues.

In respects to ride-ability, more specifically, horses have the ability to gape their mouth open when they walk or trot but, by the manner in which a horse is designed, he must close his jaws together when he breaks in to a lope. This behavior is assumed to be part of the flight response. Understanding the oral bio-

mechanics (how a horse's mouth moves) a horse must be able to slide his jaw forward and to the side when he negotiates a turn and must be able to slide his jaw forward when he stops, backs up or is ridden in a frame. If he is unable to move his jaw freely forward and backward, he will compensate with the elevation of his head or the tilt/tip of his nose.

In respects to nutrition a horse must be able to move his jaw freely from side to side in order to grind his food thoroughly enough for his body to get full benefit of his feed. When a horse suffers from a smile/frown/wedge mouth, the jaw slides to the side in an effort to chew, the incisors hold the molars apart and inhibits grinding.

SMILE MOUTH (Ventral Curvature)
FROWN MOUTH (Dorsal Curvature)

What is it:

A ***smile mouth*** is when the outer corner of the lower incisors are longer than the opposing teeth, producing ventral curvature. Smiles are commonly seen in younger horses. Likewise, dorsal curvature is when the outer corner of the upper incisors grow longer in relation to the teeth below developing a ***frown mouth***. Frowns are often seen in older horses, when their incisors begin to expire (upper centrals expire first).

How it forms:

Smiles and frowns generally occur when deciduous caps (baby teeth) are retained on the upper corner incisors, preventing normal growth of the permanent incisors. They can also occur as an associative cause and effect abnormal molar grinding patterns . There are a number of molar misalignments that directly relate and initially cause the development of smile/frown/wedge mouths. Smile mouths may also lead to a steeper incisor table angle.

Problems caused:

Horses suffering from smiles and frowns are forced to pound their food up and down like we do, since they are unable to chew from side-to-side. This up and down chewing domes out the upper molar tables and forces food particles in between and around the molars and soft tissue of the gums. *(Normal side to side chewing* is when the upper and lower incisors are aligned and meet evenly. When properly aligned they grind food across the back teeth in a self cleaning motion.) Eventually bacteria builds up and emits a foul odor (gingivitis). The horse will also become TMJ (temporal mandibular joint) sensitive and have pain caused by the soreness in his jaw muscles due to this un-natural, up and down chewing and irritation of the soft tissue. Health is compromised when the horse is unable to chew his feed properly before swallowing. His performance is also compromised when he is unable to freely move his jaw forward/backward and side-to-side.

How it is fixed:

Incisors are cut to the proper length and angle with a motorized diamond cut off wheel. Molar table angles are restored to their correct angle. To address one or the other and not both, does not fix the problem.

WEDGE OR OFFSET MOUTH (Diagonal Bite)

What is it:

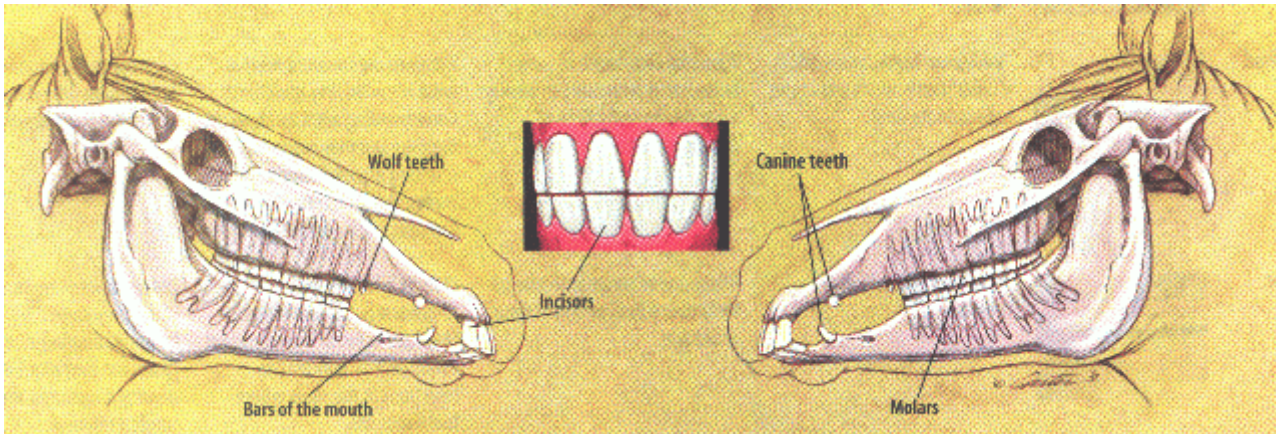
A ***wedge mouth*** is when the upper incisors on one side of the mouth are very long and the lower incisors on the opposing side are very long, causing incisors to meet on a diagonal, rather than on a straight plane.

How it forms:

Wedges may develop over time if your horse has a tendency to chew on one side or in one direction. Wedges may also occur when the molar tables are misaligned or as a result of a missing incisor.

Problems caused:

Inhibits the jaw from grinding bilaterally from side-to-side.



Use this inside look to help you understand your horse's dental structure and how each set of teeth function.

How it is fixed:

Long upper and lower incisors are cut to the proper length and angle with a motorized diamond cut off wheel and molar table angles are restored to their correct level and angle as necessary.

DENTAL FACTS

- Your horse has between 36 and 40 permanent teeth.
- If he's a gelding or stallion, he has 40 permanent teeth, usually your mare has 36.
- His front teeth are called incisors and designed to shear off grass and other forage.
- Your horse has six upper and six lower incisors.
- Just like you, your horse has two sets of teeth throughout his lifetime. His 24 deciduous or "baby teeth" (called caps) and should all be pushed out and replaced by permanent teeth by about 5 years of age.
- His back teeth are called molars and are designed to grind food into a digestible form.
- Your horse has 12 upper and 12 lower permanent molars.
- Your gelding or stallion has two upper and two lower canine teeth, which are also known as "fighting teeth" or tusks, believed to be used to protect the herd. These teeth sit in the gap between his incisors and molars, known as the diastema (bars) of the mouth. In Trossachs, Saskatchewan, Canada, there is a rare genetic line of draft mares that have all four, full size canine teeth. Otherwise, mares rarely have canine teeth.
- Most geldings, stallions and mares, have two small upper wolf teeth, once believed to be remnants of molars that no longer serve a useful function. These small teeth sit just in the front of the molars of the skull. Rarely will wolf teeth be present in the jaw. However, there are reports of equine dentists extracting three wolf teeth in the skull (upper) and two in the jaw (lower).
- A horse's molars continue to erupt from your horse's gums throughout his life. This helps to ensure that he has plenty of grinding ability as he matures. Because your horse uses his molars to grind food and because of this continuous growth, minor misalignments are likely to become more and more pronounced with time. Which is why a properly balanced mouth is so important for maintaining good health and ride-ability throughout a horse's life.
- Your horse's incisors also continue to erupt throughout his life. In a natural grazing environment they will be worn down as they're used to tear grass and other forage. Horses living in the Northern regions generally eat hay at least a few months of every year, therefore a hay fed horse won't wear his incisors, which can result in overgrowth. More specifically, feeding hay, grain or pellets does not abrade the incisors, therefore, when your horse's incisors become too long they'll actually prevent his molars from contacting one another, compromising his ability to chew effectively.
- IMPORTANT NOTE TO REMEMBER: Working only on the back teeth and not the front teeth is just like shoeing the right side of your horse and leaving the left side with bare feet – your horse needs to be in balance, above and below.

Remember, all undesirable actions are compensatory to some point of pain and attributes to a horse's

balance and ability to perform. If you are experiencing undesirable behaviors while riding your horse, have a certified equine dentist take a look, to 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 1-306-747-2724, 1-403-936-5394, 1-208-420-2701 or e-mail mackequine@sasktel.net.