



Q&A FROM A HORSE DENTIST

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SMILES, FROWNS & WEDGES

QUESTION: I had the opportunity to watch a horse dental clinic last month at my neighbors arena and learned a number of interesting things. One of which was the different shapes of incisors. There were a number of pictures showing examples of smile mouths, wedge mouths and frown mouths. My horse happened to have an aggressive wedge mouth due to a missing tooth, therefore it was easy to understand why it had developed and how it effected my horse. But what is the cause of a frown and smile mouth and how would they effect a horse?

ANSWER: Technically, largely 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 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 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 is designed) 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 head forward when he comes to a stop 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.

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 lift the molars apart and inhibits grinding.

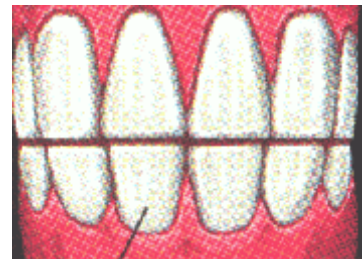
SMILE MOUTH (Ventral Curvature) FROWN MOUTH (Dorsal Curvature)

What is it:

A **smile mouth** is when the outer corner of the lower incisors grow 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.

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



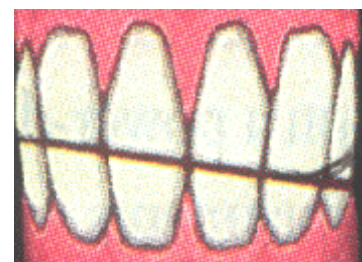
PROPER INCISOR ALIGNMENT



SMILE MOUTH



FROWN MOUTH



WEDGE MOUTH

also occur as an associative cause and effect abnormal molar grinding patterns . There are a number of molar misalignments that directly relate and the initially cause and development of smile/frown/wedge mouths. Frown 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 squarely. When properly aligned they grind food across the teeth in a self cleaning motion.) Eventually bacteria builds up and emits a foul odor. The horse will also become sensitive to 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 from forward and backward and side-to-side.

How it is fixed:

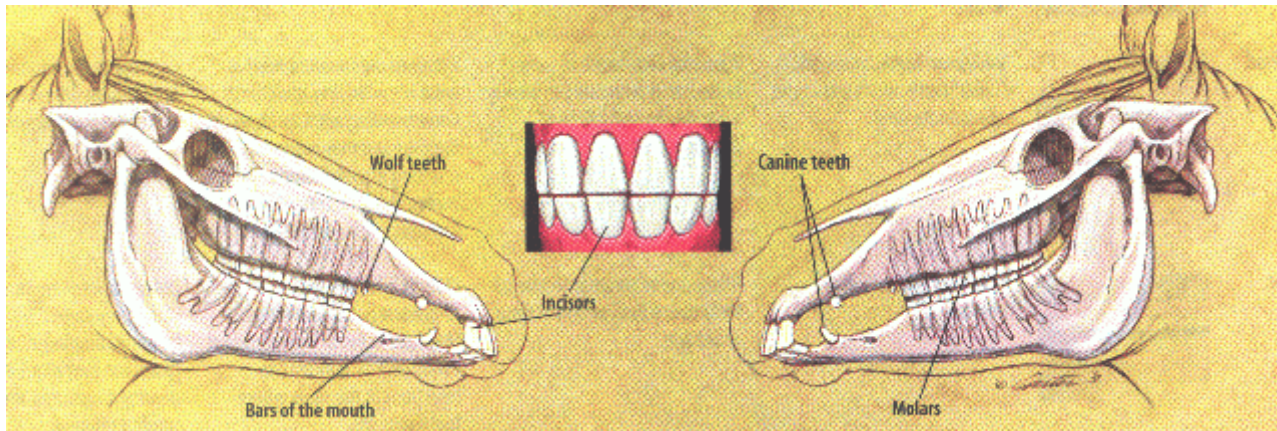
Incisors are cut to the proper length and angle with a motorized diamond cut off wheel and molar table angles are restored to their correct angle.

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:



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

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 moving bilaterally from side-to-side.

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 44 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 by his ancestors for protecting 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 some equine dentists extracting upwards of three wolf teeth in the skull and two in the jaw.
- 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 and 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 use 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 foot bare – your horse needs to be in 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. Portions of Dental Fact have been reprinted with permission of the Academy of Equine Dentistry.