



Teeth talk

By Lynne Gunville

The following Q & A is based on a public presentation by Dr. Michelle Husulak, a clinical associate in equine field service at the WCVM Veterinary Medical Centre. Husulak has a special interest in equine dentistry and teaches senior veterinary students in a new clinical rotation focusing on horses' dental health.

Q. Why are teeth so important to the horse?

The saying “No teeth; no horse” really sums it up. The teeth are essential for chewing — the first stage in a horse’s digestive process. Since horses eat coarse feed, proper chewing is crucial for the feed to move efficiently through the digestive system. A horse’s teeth are also used for social behaviour such as grooming and fighting.

Q. What are some of the signs that indicate dental problems in the horse?

Often the first sign of oral or dental problems is altered behaviour. Owners may notice their horse head shaking, fighting on the bit or not collecting and performing as usual. Other signs include difficulty eating or refusing to eat. The horse may also drop feed or “quid” — it chews on its feed for a while but eventually gives up and drops it on the ground.

Drooling and bad breath from the mouth or nose are common signs. You might also find whole grain in the manure or you might notice your horse chewing on one side only.

Facial swellings and nasal discharge can also indicate oral or dental problems. Although it’s not uncommon for young horses to develop masses under the jaw as their teeth are erupting, swellings can also signal tumours, infections or traumatic injuries. More serious complications of dental disease include weight loss, colic and equine choke (esophageal food blockage).

Q. How many teeth does a horse have?

An adult horse can have up to 44 teeth, but the numbers differ because not all horses have canine teeth or vestigial (unnecessary) wolf teeth. The wolf teeth are often removed because they are sometimes thought to interfere with the bit and may cause discomfort.

Most horses have six upper and lower incisors, along with three premolars and three molars on the upper (maxillary) and lower (mandibular) arcades on each side. The incisors at the front of the mouth are used for cutting food, while the molars and premolars (also known as cheek teeth) are used for chewing and grinding the food before swallowing.

Q. How do the teeth work together during the chewing cycle?

In addition to the upper jaw (maxilla) being wider than the bottom jaw (mandible), the surfaces of the horse’s top teeth are sloped downward toward the cheek side while the bottom teeth are sloped upward toward the tongue side. During the chewing cycle, the lower jaw moves down and across to the side and then shears over, thus creating a slicing action. Ridges on the occlusal or chewing surfaces of the teeth are then important for grinding the coarse forage.

Q. What takes place during a routine dental exam?

It’s important to have a licensed, knowledgeable veterinarian examine your horse’s teeth, ideally once a year. The visit typically involves a physical examination of the horse followed by an oral examination. Sedation is administered and a full-mouth speculum can be inserted to allow a clear view of the horse’s entire mouth.

During the physical exam, I typically listen to the heart and lungs, measure body temperature and visually check for any swelling or masses on the head. I also palpate the jaw joint to check its mobility and look for any signs of pain.

During the oral exam, the incisor teeth are checked to ensure they are aligned properly. Some of the other problems I look for include:

- overgrowths of the teeth
- fractures
- signs of cribbing, a stereotypic behaviour that results in extra wear of the top incisors
- other diseases such as equine odontoclastic tooth resorption and hypercementosis

The cheek teeth (the premolars and molars) are more difficult to assess. A complete exam can be performed with a full-mouth speculum and a dental mirror. It's important to both visually inspect and palpate (feel by hand) the entire oral cavity. Some common problems include:

- overgrowths — sharp edges known as cingulae, enamel points, hooks, and ramps that can cause cheek and tongue sores and chewing problems
- step mouth — a missing tooth results in the excessive growth of the corresponding tooth
- wave mouth — multiple cheek teeth that are at different levels
- dental fractures — cracks or breaks that can result in tooth infections or abscesses
- diastemas — abnormal spaces between the cheek teeth where food can get packed causing tooth root infections or abscesses
- dental caries or cavities
- loose teeth

I also examine the soft tissues, checking for inflammation, ulcerations or tumours. While ulcerations can indicate a systemic illness, a weed called foxtail, which may be found in horses' hay, is a common culprit.

Q. What is a tooth float and why does it need to be performed?

A dental float is a procedure performed by a veterinarian to grind down sharp overgrowths on the teeth. This can be performed with a specialized power tool with an attached motorized grinding wheel or with a hand-held file.

This is a procedure for the "modern horse." Horses evolved on great plains with poor forage quality, grazing up to 23 hours per day. Sharp teeth were needed to chew coarse feed, which in turn would increase the wear of the teeth. Today's horses are fed good quality, easily-digestible feed in meals. Eating alone is no longer enough to wear down the sharp points in the mouth. We also put a bit in the horse's mouth and ask it to respond to gentle pressure. This can be a painful experience for the horse with sharp overgrowths.

Q. What's involved with floating the teeth?

Because my first concern is safety for the horse and the people involved, I ensure that the horse is sedated and physically restrained before I begin. The sedation used is enough to cause the horse to drop its head, feel sleepy, and become less aware of its surroundings. The sedated horse's head becomes very heavy and can be supported by a hanging halter looped on an over-head beam, or by a portable head stand that rests under the chin. The mouth is rinsed with water, the speculum is applied, and a small light is used to illuminate the mouth during the oral exam and dental float.

Many veterinarians now use a Power Float (a rotary dental instrument), which allows for better treatment, takes less time and is less traumatic for the horse than the hand float.

Q. When do you extract teeth?

Baby teeth, known as caps, may occasionally break and cause discomfort, necessitating their removal. Wolf teeth are commonly extracted in young horses prior to the start of training as they are traditionally thought to interfere with the bit. Removing permanent (adult) teeth is usually very difficult and requires a specialist. We typically try to leave teeth in place unless there's an infection or abscess at the base.

Q. What happens to horses' teeth as they age?

Horses have hypsodont teeth — that means they're constantly erupting. The teeth of a young horse are very long within the maxillary and mandibular bones. Chewing wears the teeth down, so they continually erupt to allow a consistent crown size within the mouth. As a horse ages, the un-erupted tooth within the bone become increasingly shorter until the tooth eventually falls out. Because today's horses have such good care, they frequently outlive their teeth. Horses with smooth mouths require special care and very soft or mashed feed.

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