Have you ever wondered where the expression “don’t look a gift horse in the mouth” came from? Well, if you know a little about horses you probably know the answer. If you don’t: it’s because a horses’ teeth show the horse’s age. Thus, out of politeness, if you are going to look the horse in the mouth, you should wait until the one who gave you the horse is not around.

During an October 2010 visit to the World Equestrian Games (WEG) in Lexington, Ky., to watch the jumping event, I realized that although I rode horses competitively in my childhood for eight years and am now back in the saddle fairly regularly riding a friend’s horse, I still know very little about the growth and care of equine teeth.

As a result, I visited the Rood & Riddle Equine Hospital booth, a sponsor of the WEG, and asked if one of their veterinarians was available for an interview. A few days later, I was treated to a tour of the hospital and was able to meet with Richard B. Tanner, DVM, to get the full story on equine dentistry.

Dr. Tanner, how long have you been a veterinarian?
I graduated and began an internship with Rood and Riddle Equine Hospital in 2005. I have remained with the hospital since graduating and have made equine dentistry a focus area of my practice.

What are the basics in terms of horses’ teeth?
Horses’ teeth are constantly erupting, which of course is very different than you or I. By the time we’re 18 or 20 years of age, all of our teeth have erupted as far as they are going to, and vertical crowns are as exposed as they’re ever going to be. However, this is not the case with horses. Their teeth continue to erupt up until their 20s. As they get older, the teeth wear out, but they’re constantly erupting.

If you took a radiograph of a young horse, you’d see that the tooth roots are extremely long. As they erupt, the teeth get longer and longer, and the upper arcades grind against the lower arcades. The premolars and molars are the ones we watch very closely, and the reason for this concern is that in a horse’s head, the maxilla is quite a bit wider than the mandible.

If you look at the skull we have here on the table, you’ll see very clearly that the maxillary teeth do not come into perfect contact with the mandibular teeth.

A horse’s normal chewing motion is side to side and slightly forward. If you’ll note on this horse skull, you can see all the sharp points on the buccal sides of his teeth. These points are of course enamel, but it’s also cementum, a bonelike compound. If the horse doesn’t have a constant grind and good occlusal surface contact with the mandibular arcade, the buccal side of the tooth continues to erupt. Indeed, the entire tooth is erupting, you just don’t see it because they wear part of it away with normal chewing.

As a result, an adult horse needs an annual visit from the vet to grind that buccal surface down to get rid of the sharp points, which is called “floating teeth.” Younger horses will need two visits per year though.

What will happen if you don’t do this are ulcerations along the
cheeks, and they’ll be so sore the horse won’t want to eat. Or, when you put a bit in the horse’s mouth and ask him to carry his head differently, he’ll start acting up and someone may want to discipline him, but it’s really because there is more pressure being put on his teeth and it’s hurting him.

The converse is true of the mandibular arcade. Because it’s more narrow, the lingual aspect of the teeth do not have good contact, so there is nothing to grind them down. Thus, we need to grind down the lingual aspect of the mandibular arcade’s pre-molars and molars. That’s where the power tools come in handy because we are going through enamel and cementum. In years past, we didn’t have power tools, we were using hand tools, and as we would manually grind the horse would get upset with what we were doing. You have about a 15- to 20-minute window to work before the horse would get tired of this and you’d have to stop. Of course, we would tranquilize him to calm him a bit, but he can feel what’s going on in his mouth.

A horse’s head is full of huge sinus cavities, and as you grind, the sound is echoing through those sinuses, getting louder and louder as you’re working. So because this can sometimes really freak the horse out, having a horse under a bit of sedation makes all the difference in the world.

And, of course, horses don’t just open wide like a human patient would. We use an item called a mouth speculum. Using a very bright LED light source we’re able to take a good look around. We use dental mirrors and dental picks to evaluate the occlusal surface, the mandibular and maxillary pre-molars and molars, and then we look for diastemas, fractures, chipped teeth and cavities, which are not in abundance.

It’s really about balancing the mouth, and this is of particular importance for performance horses, who must be pain-free. Some of the horses at this [WEG] competition have a bit in their mouth, there is someone sitting on their back who is asking them to carry their head in an unnatural position, and then maybe jump five and a half feet in the air, then land and let’s go do it again real quick.

Their head carriage already puts more pressure on their TMJ, so if one tooth is sticking up further, it will put more pressure on the tooth above or below it. When that happens, it is exponentially more painful as they flex their head.
What about the incisors? They are also constantly erupting, and they will start off almost vertical to one another. If you look in the mouth of a young horse, the teeth will be nice and vertical, but as they age, they grow out, which is part of normal aging. Typically, if we see problems with the incisors, it’s the result of something back in the molars and premolars. It could be that the horse is chewing on one side of the mouth more than other. Thus, when you look at the incisors on the side that the horse is not chewing on, you’ll notice that he’s not wearing a particular incisor as much as the others. In a case such as this, we actually cut off the end of that incisor. Incisors can become damaged and fractured from chewing on fence or stalls, which is a common vice of stabled horses, and is called cribbing.

I’ve heard that horses have what are called “wolf teeth.” Can you tell me about these? The wolf teeth on a horse are actually the first premolars, which unlike the other premolars have a single tooth root. Wolf teeth are commonly removed before the horse starts being trained at around the age of 1 or 2 years.

Do you see many instances where a tooth problem has caused a sinus cavity problem? Yes, it’s actually very common. We’ll find an apical tooth root abscess, say on the fourth cheek tooth for example, and a lot of times you’ll be able to discern a foul order coming from the horse’s nose, and a nasal discharge as a result of the sinus infection.

People still debate it, but the common belief in the United States is that it interferes with the bit and could be a source of pain and discomfort in the future. In other countries, such as Great Britain, they typically leave the wolf teeth alone. It’s a simple procedure where we sedate and elevate around that tooth, right through the periodontal ligament. Often, if a horse is 2 years old and the wolf teeth are already present, and there is no inflammation, we may not need the anesthetic because the horse doesn’t react at all to what I’m doing in his mouth. Surprising, right?
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not see external swelling because a horse has a hard facial crest. Rather, the horse will go off his feed or he’ll become a very slow eater. However, on the mandibular teeth you will see swelling. It’s common in young horses where you’ll see these little eruption bumps from the new tooth coming in. Mandibular teeth have very long roots and one has to be very careful during extraction because you can fracture the mandible in a diseased bone situation.

What are the basics a horse owner needs to be aware of in terms of taking care of the animal’s teeth? All young horses, that is, those 5 years of age and younger, should have their teeth examined twice a year. Up until 1 year of age, you’re just evaluating the occlusion of the arcades. If they have an overbite or underbite, you would address that. Typically you wouldn’t start balancing a horse’s mouth, which is called “floating teeth” in layman’s terms, without the horse being at least a year old. Once they are that age, it’s best to do an examination twice a year.

At 5 years of age, all the teeth have erupted. At that point, the teeth are worn down a little more naturally and you can drop down to once a year evaluations. Some horses will have abnormalities that, if addressed early, those situations never become problems. Equine dentistry is an area where an ounce of prevention is better than a pound of cure.

Some horses do fine and don’t have their teeth floated for many years, but those are the minority. Thus, most horses need to be evaluated and have their teeth floated regularly. A horse with bad teeth can lose weight and get colicky, which is our term for abdominal pain. A horse’s intestinal track is very long and nothing is spot-welded down, so if it becomes filled with gas and it floats up and rotates, this can be fatal for the horse.

Is there a semester or a few weeks on equine dentistry during veterinary school? Can people actually specialize in equine dentistry?

Although there is a board certification process for veterinary dental medicine, there currently is no specific “equine only” tract for this specialty. Should a veterinarian wish to become board certified in dentistry, he or she would be required to learn and study all species, including equine, as they pertain to dentistry. This field is increasing in popularity as there is growing interest from owners and trainers to have quality dental procedures performed in a safe and painless manner. There are very few equine dental residency programs available in this country. There are several schools that will educate a layman or a veterinarian and provide a certificate in equine dentistry, and this is with or without a medical license. Of course, this is not the same as being a board-certified dentist.

In veterinary school, all first year students take anatomy and learn the dentition of many animal species — dog, cat, horse, etc. So it’s taught, and as you go through your fourth year of veterinary school, which is a clinical year, you have opportunities to work on horses to get firsthand experience. Yet, today there is no such thing as an equine dentistry residency to get additional training. There are some very capable practitioners who are available, who do wet labs and continuing education in order to teach other, younger veterinarians things they have learned through the years. There are also a couple of journals that publish dental articles.

The American Veterinary Medical Association is one such journal. Another is the Journal of Equine Dentistry, which has an editorial board, and both veterinarians and certified equine dentists submit cases. Equine dentistry is indeed a growing field. For years it was just float teeth, meaning the goal was to get rid of the sharp points. Yet, we’ve learned and evolved and now we’re starting to find things like open pulp chambers, and the area of restorative dentistry is becoming less of a black hole.

There are some people using perio units where they are using high-speed drills and subsequently filling cavities and using impression materials. So, it’s evolving, just not at a fast pace. We’re getting there, but we’re very far behind our dentist counterparts who work on humans. There are some veterinarians who have dedicated their lives to equine dentistry, and those folks are extremely knowledgeable.

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Abstract