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What To Feed Senior Horses With Dental and Digestive Dysfunction

Longer lives for our horses come with age-specific health challenges and special dietary needs

In 2022 it's neither unusual to see equine athletes born in the previous millennium still competing at the top level of the sport, nor is it rare for sturdy ponies to share the joy of riding with generations of riders. We can thank unprecedented advances in veterinary care for our domestic equine companions' longer lives. These added years, however, don't come without their challenges.

"Dental disease, first and foremost, is one of the major factors limiting good health and longevity in horses," says Jack Easley, DVM, MS, Dipl. ABVP, AVDC, a veterinarian specializing in dental care at Easley Equine Dentistry, in Shelbyville, Kentucky. With old age also come digestive issues, says Lynn Taylor, PhD, equine nutritional consultant and professor of equine studies at Centenary University, in Hackettstown, New Jersey. Our sources have come together to outline the reasons dental and digestive problems in geriatric horses often go hand in hand.

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Researchers have documented dental anomalies in 100% of study horses over age 30.

The Price of Longevity: Running Out of Teeth

Horses are outliving their teeth for a simple reason: Their dentition is only designed to last about 20 years. Equids are hypsodonts, meaning their teeth erupt and wear down slowly and constantly throughout their lives. "Once horses reach advanced age, their teeth begin to run out," says Easley. "This process leads to rapid changes in the occlusal (chewing) surfaces of the teeth and predisposes them to periodontal disease."

Equally problematic is the fact expired (completely worn down) teeth have lost their grinding and chewing abilities. Due to the nature and life span of equine dentition, it's not surprising that researchers (Ireland et al., 2012) documented dental anomalies in 100% of the horses ≥30 years old they studied. Thus, it's important to take proactive steps to help preserve existing dentition and delay the expiration of teeth. Veterinary dentists generally recommend biannual oral exams for older equids, but your practitioner might prescribe a different schedule tailored to your horse's needs.

"As a horse's teeth reach the end of their useful life, it's important to quickly address any loose or fractured teeth as well as soft tissue damage (such as oral ulcers) to prevent pain," Easley says. "Because in addition to being painful, these conditions can lead to abnormal mastication (chewing) and suboptimal digestion of forage."

Such changes deserve our attention because they trigger a cascade of events that can cause the horse's overall health and condition to decline rapidly.

A Snowball Effect

Inadequate chewing is problematic for several reasons. "Horses digest and utilize their food using primarily bacterial fermentation in the cecum and large colon," Easley explains. "For bacteria to digest cellulose—a main component of

forage—that forage must be broken down and processed into small enough pieces for microscopic organisms inside the gut to consume it. If a horse cannot masticate forage well, he might start quidding (dropping balled-up food) or swallowing poorly masticated feed that then gets stuck in the esophagus, leading to choke."

Even if the bolus of feed makes it past the esophagus, the coast is not yet clear. It can still become trapped in plenty of places as it travels through 100 sinuous feet of intestines. A blockage of this kind could quickly turn to impaction colic.

As insufficiently chewed forage stems pass through the gut, says Easley, water can cling to the particles like it would a sponge, resulting in loose, watery manure. Diarrhea ensues. Further, when mastication hasn't reduced feed to small enough pieces for the gut microorganisms to consume, a horse won't be able to absorb and utilize nutrients. Malabsorption often leads to unthriftiness and chronic weight loss. Taylor and other equine professionals suspect that—aside from dental challenges—older horses might suffer malabsorption because their gut naturally starts losing the ability to absorb protein, fats, and starches properly with age.

EOTRH: An Age-Related Condition

About 2% of older horses develop a dental condition known as equine odontoclastic tooth resorption and hypercementosis (EOTRH). In a 2014 study Lorello et al. discovered the average age of a horse at the time of diagnosis is 24. Another team of researchers (Rehrl et al., 2017) determined some horses are affected as young as 10 years of age.

COURTESY DR. JACK EASLEY

Senior horses with worn-down teeth, such as the expired upper first molar seen here, lose their grinding and chewing abilities.

This progressive, painful, and debilitating condition of the incisors and canines causes the horse's body to break down and resorb his teeth while depositing excessive amounts of cementum (a calcified substance that helps attach the tooth root to the jawbone). Clinical signs can include red or bumpy gums or signs of pain when biting hard treats. More advanced presentations can manifest as severe inflammation (including pus-filled drainage, calculus [tartar], and feed accumulation), loose or missing teeth, and/or gingival hyperplasia (overgrowth) or recession. Lesions formed in the gums from EOTRH can appear quite dramatic and painful.

Currently, the only treatment is extraction of affected teeth. Horses left without incisors generally adapt well to their new bite, especially because they still have their molars to grind food. Depending on the case, the horse might need a diet similar to that of an older horse with worn teeth that offer little chewing surface.

Feeding Toothless Seniors

Horses with many missing or expired teeth can no longer process long-stemmed forage and are limited to foods that gums alone can break down enough for them to swallow. Veterinarians and nutritionists commonly recommend replacing regular hay with processed forage such as pelleted or cubed hay, both of which you'll need to soak before feeding. Different types of hay, including alfalfa, are available in these forms.

Other viable options include chopped hay and soaked sugar beet pulp. Yet another approach to toothless equine nutrition is complete feeds. When fed in sufficient amounts (generally around 1.5% of the horse's body weight daily), these commercial products meet all nutritional requirements for horses unable to consume normal amounts of forage.

Over the years Taylor has devised her own recipe for toothless equine meals. "Feed them a wet mash four to six times daily," she says. "I usually recommend

starting with soaked hay cubes, a scoop of vitamin/mineral mix or ration balancer, and vegetable oil or powdered rice bran."

Oil and rice bran are both good fat sources. Fat contains omega-3 fatty acids important for immune health and weight maintenance, among other functions. "Ground flaxseed—another fat-rich ingredient—can be used in a weekly mash if desired," Taylor adds. She urges owners to watch horses closely to make sure they're eating the food offered. Because some horses become finicky eaters with age, Taylor and other nutritionists recommend also providing fresh pasture access, when available and suitable for a particular horse's health and dietary needs.

Feeding the Underweight Senior

Managing a perpetually underweight senior can be frustrating and challenging. Advanced age often correlates with loss of body condition and muscle mass, especially if the horse is retired and inactive or working too much for his current caloric intake. Elderly horses often drop down the nine-point Henneke body condition scale and assume a ribby appearance.

To counteract weight loss the horse must consume more calories than he expends. But not all calories are created equal—some can even pose health hazards if fed in excess to an older horse. Specifically, moderating the senior horse's nonstructural carbohydrate (NSC—starch and sugar) intake is crucial if his advanced age has contributed to the development of insulin-linked metabolic disorders such as pituitary pars intermedia dysfunction (PPID), insulin dysregulation, and equine metabolic syndrome.

For this reason feed manufacturers have developed dedicated senior feeds, which are designed to provide calories through fat and fiber rather than NSCs. Senior feeds come in a processed form to make digestion easier, allowing horses to extract and utilize nutrients more efficiently. They contain extra fiber to stimulate proper hindgut digestion and fermentation. These formulations are also suitable for horses with dental limitations.

Considering the benefits of senior feeds, Taylor and other nutritionists advise horse owners to think about making the switch if they notice patterns or signs that indicate their horse might need the nutrient profile of a senior feed.

"Those signs include chronic weight loss or loss of body condition that cannot be recovered safely on the current diet over a period of months," Taylor says. Other indications it might be time to switch to senior feed include:

- Recurrent bouts of mild diarrhea.
- More frequent respiratory illness (indicating a reduced immune response).
- Poor skin, hair, or hoof condition.
- Lethargy or behavior changes.

Like any other feed change, make the transition to senior feed slowly and gradually, in consultation with your veterinarian or nutritionist.

Sometimes, simply converting to senior feed isn't enough for your aging horse to pack on sufficient pounds. In difficult cases the first step is making sure the weight loss isn't related to an underlying unmanaged medical issue such as internal parasites or gastric ulcers, Taylor says. "But in most cases, it is simply due to a lack of calories," she says. "We can add extra energy to the diet in different ways; my first recommendation is often to top-dress the feed with oil (vegetable oils or blends work well) or a higher fat feed (anywhere from 4% to 25%). The other option is to offer more forage sources. This can be in the form of pasture grass, high-quality hay (barring major dental problems), soaked beet pulp, or hay cubes to increase the availability of good fibers for energy."

Take-Home Message for Veterinarians

Considering the impact of poor dentition on senior horses' overall health and quality of life, advocating for regular upkeep of the aging equine mouth is essential. Research shows dental anomalies affect all horses in their 30s, a statistic that sheds light on the need to address such issues proactively to mitigate their impact. While EOTRH remains rare, recent data suggesting it can affect horses as young as 10 offer yet another incentive to stress the importance of regular oral care. Equally important is the need to educate clients on the early clinical signs of dental disease, so they can manage it and make necessary diet changes.

Final Thoughts

The privilege of enjoying more years with our horses means additional responsibilities for owners, who must be prepared to address dental and digestive challenges brought on by advanced age. Sticking to a regular dental care schedule, reassessing your feeding program regularly, and adapting it to your horse's changing dentition and digestive abilities can help him thrive in his golden years.