

Caring for the Older Horse: Common Problems and Solutions¹

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Horses, compared to other livestock and companion animals, have relatively long life spans, often living into their late 20s and early 30s. Many horses have productive careers into their 20s. In fact, in many disciplines, horses do not peak until their teenage years. Good nutrition, maintenance, and veterinary care have allowed horses to lead longer and more productive lives. However, as the horse ages, its needs change, and additional care may be required to keep the horse as healthy as possible.

The older horse can often be cared for and managed well as long as the owner and/or caregivers understand the special needs a horse may have as it ages. It is important to recognize there is not a predetermined age when an individual horse becomes "old." Like people, horses age at different rates. Some areas of aging we can have an effect on as caregivers, and some we have little effect on or control over. Genetics and previous care, or lack of, as well as previous use, are areas that we as horse owners cannot do much about.

The key to caring for an older horse is to understand how the horse's body changes as it ages and how these changes impact the horse's requirements. Important areas that must be considered when caring for the older horse are nutrition, lameness, vision, immune response, and hormone changes. In this article, we will address changes in the aging horse's body that impact its requirements, along with possible ways to meet these requirements and solutions to problems that may occur. It is important to recognize that not all older horses have problems; some are maintained easily without much change in routine. However, some horses begin to have problems as they age and are referred to as geriatric. These horses may require special attention and a change in management.

Nutrition

Nutritional needs of aging horses will vary greatly between individuals. Some older horses may never need drastic modifications to their diet, whereas other senior horses will require a special diet to help them maintain good health and body condition. In

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both situations, the goal is to provide adequate nutrition.

Dentition

For some horses, it becomes harder for them to meet their nutritional requirements as they age for a multitude of reasons. One of these reasons is poor dentition. Proper and routine care of the horse's mouth by a qualified equine dentist will help the horse maximize nutrients from the food he is eating. Horses chew in a circular motion from one side of their mouth to the other. This motion naturally wears away the horse's teeth. Over time, this chewing motion will lead to sharp points developing on the outside of the horse's upper molars and on the inside of the horse's lower molars. These sharp points must be filed down by floating the horse's teeth regularly (one to two times per year). Floating, or keeping the horse's teeth filed down, will improve the horse's chewing ability and allow him to better digest foods that he is eating.

Some older horses may not even have teeth. When a young horse first develops molars, they are very long and folded into the dental socket in the jaw. The length of the entire tooth is around five inches in a young horse with only a small portion being visible above the gum line. As chewing wears away the tooth over time, it continues to push upwards above the gum to replace that which has been worn. This continues throughout the life of the horse, but by the time the horse approaches his 30s, most of the tooth may be worn down to the roots. This leaves the older horse with little ability to chew and digest foods he would ordinarily eat. This problem can be alleviated relatively easily by changing the type of food the older horse might eat. Some feed companies make senior horse feeds that tend to be softer in texture than ordinary horse feeds. Concentrates fed in the form of pelleted feed can be wet down and softened to make a gruel that is easy for the horse to chew. Forage can be provided in the form of hay cubes or pellets (made of either alfalfa or alfalfa/grass mix), which can also be wet down and softened for the horse to chew easily. In general, reducing the particle size of the food and feeding foods that can be wet down and softened will greatly ameliorate any nutritional problem the horse may have due to chewing difficulties. While dentition problems are usually relatively easy to manage, if the

horse is not cared for properly (e.g., turned out to pasture with no additional care), it may quickly become emaciated due to inability to eat the available food.

Nutrient Absorption

Dentition is not the only nutritional challenge that must be overcome when caring for the geriatric horse. As horses age, some may become less able to glean nutrients from what they eat due to reduction in nutrient absorption, lowered ability to digest fiber, and reduced gastrointestinal motility. Some of these problems may be due to intestinal damage from parasites if the horse was not on a regular parasite control program throughout its life. Routine deworming is critical in maintaining the horse's health and longevity.

Feeding Strategies for Thrifty Horses

Regardless of the reason, when feeding geriatric horses that are having difficulty holding their body condition, it is very important to provide them with highly digestible, high-energy feeds. One commonly used practice is to feed older horses beet pulp in some form. Beet pulp is a highly digestible fiber source for horses. It is sometimes incorporated into commercial feed or can be bought separately to be wet down and fed in addition to grain. Another way to improve digestibility is to select commercial feeds containing grains that have been processed (crimping, cracking, rolling, or steam flaking). This will break the seed coat of the grain so that the horse may better digest it. Also, energy content of the diet may be increased by supplementing fat to the diet. Fat is a highly digestible energy source and will help to meet the energy needs of the horse. Commercial feeds are often formulated to contain added fat. Grain mixes without added fat typically contain approximately 3% fat. Many feed companies now market grain mixes with fat contents as high as 14%. If the horse owner does not wish to change their feed to one of the commercial feeds formulated with added fat, fat can be top-dressed to the horse's grain. Many feed companies market a fat supplement such as stabilized rice bran or extruded pellets with added vegetable oils. Some horse owners also choose to add fat to the horse's diet by pouring some type of vegetable oil over the horse's grain. However, it is critical to not

increase the energy content of the diet without also ensuring that other nutrient needs are met. When feeding a commercially formulated feed, this is not typically a problem. However, when top-dressing the horse's grain with a fat supplement, one should check to ensure that other nutrient requirements are also being met. When feeding added fat in the diet, the horse will need less feed to maintain its condition. Therefore protein content should also be increased, along with vitamin and mineral content. Additionally, rice bran supplements that do not have added calcium can cause calcium:phosphorus imbalances in horses on grass forage. Care should also be taken to not feed vitamins and minerals in such excess to cause toxicities. Fat soluble vitamins (A, D, E, K) are stored readily in the body, which, over time, can lead to toxicities. Excesses of certain minerals can interfere with absorption of other minerals. It is important when adding supplements to the horse's diet—whether it be fat, vitamins, or minerals—to be sure that one is not creating imbalances in other nutrients. The simplest way to do this is to feed concentrates that have been commercially formulated or to feed supplements that have been commercially formulated to match a particular feed.

Another important consideration prior to adding supplemental fats, vitamins, or minerals to the horse's diet is to first ensure that the horse has proper kidney and liver function. Horses with liver dysfunction will not tolerate added fat in the diet. Providing feeds with high protein and/or calcium (e.g., alfalfa, beet pulp) can aggravate the kidneys in horses with kidney disease. Prior to supplementing the horse's diet with additional protein, fat, vitamins, or minerals, it is recommended that the owner do a simple blood analysis to determine liver and kidney functions.

It is important to be sure to feed good quality grain and forage that is free of mold and dust. Moldy, dusty feeds can cause gastrointestinal tract problems, such as colic, and are generally not as digestible to the horse as compared to better quality feeds. Older horses often are more susceptible to respiratory irritation, and feeding dusty feeds will only aggravate these conditions. Horses that suffer from persistent respiratory problems may benefit from soaking their hay for 15 minutes prior to feeding to control dust. It

is important, if feeding hay, to feed good quality hay that was cut at the appropriate time. Hay that is too mature when cut is generally not very digestible for the horse since it has an increase in lignin content, and lignin is completely indigestible by the horse. This hay often appears to have a very high stem content and should be avoided in older horses that already have decreased forage digestion.

Horses That Are Too Fat

Not all older horses are hard keepers. Instead of becoming too skinny, some will hold their weight easily and may become too heavy. Often times, older horses are not exercised as often or as intensely as their younger counterparts. These horses may begin to accumulate fat at a rate that may be detrimental to their health. Horses that become too heavy may stress their bones and joints and may aggravate any lameness conditions such as arthritis and navicular syndrome. It is important to ensure that the horse is meeting all of its nutritional requirements without gaining an excessive amount of weight. For horses that are not in a routine riding program, allowing ample turnout time will provide the horse with some exercise and allow it to maintain muscle tone and a healthy body condition. Not overfeeding horses that are easy keepers will also help to alleviate stress on bones and joints.

Metabolic Disorders

Some horses may develop metabolic conditions as they age that lead to unhealthy obesity. This is commonly caused by imbalances in levels of hormones (such as insulin), which cause diseases such as Cushing's disease, insulin resistance, and metabolic syndrome. These conditions often develop in older horses (average age is 20 years). Insulin resistance and metabolic syndrome in horses are similar to the condition diabetes mellitus in humans. Horses with Cushing's produce excessive amounts of cortisol from their adrenal glands. Cortisol has many functions in the body including maintaining blood pressure, modifying the body's inflammatory immune response, regulating the function of nervous tissue, regulating muscle tone and connective tissue repair, and regulating the breakdown of carbohydrates, proteins, and fats by controlling

insulin levels in the body. The excessive amount of cortisol produced in horses with Cushing's disease leads to many problems including recurring laminitis, muscle atrophy, susceptibility to disease, slow wound healing, excessive hair growth along with failure to shed, and lethargy. If any of the above symptoms, including excessive obesity, are noted, a veterinarian should be contacted as soon as possible. This disease can be controlled with medication if caught early enough. Horses with metabolic disorders can be managed with routine, quality hoof care, vaccinations, deworming, and a specialized diet. A routine exercise program may help to prevent the onset of metabolic disorders or to improve the outcome of individuals already suffering from these metabolic disorders.

A commonly used management practice for horses with Cushing's disease, insulin resistance, and/or metabolic syndrome is to feed them a diet with a low glycemic response. The glycemic response of feeds is a representative number to convey how much of a glucose and insulin spike a particular feed elicits in the blood. It is strongly correlated to the amount of sugar and starch present in the feeds that the horse is eating. Feeds that are high in sugar and starch will cause blood glucose levels to rise sharply and quickly. This is followed by a spike in insulin levels in the blood. For horses with metabolic conditions such as Cushing's, this spike in insulin is particularly undesirable. Feeding a diet with a lower starch content (i.e., feeding more highly digestible fiber and fat) will keep insulin levels in the bloodstream stabilized. Additionally, hay can be soaked in water for several hours and the water drained off to further remove sugars from the horse's diet. It is important to be sure that the horse's diet is meeting all of its protein, mineral, and vitamin requirements as these nutrients are critical for muscle tone and tissue repair, as well as wound healing and prevention of infection and illness. Horses with Cushing's, insulin resistance, and metabolic syndrome can be managed by feeding them a diet which meets their requirements but has little starch and sugar. Examples of feeds that may be used are good quality forage, highly digestible fiber sources (e.g., unmolassed sugar beet pulp, soy hulls), fat supplementation if needed to maintain weight, and protein, vitamins, and minerals in the form of a ration balancer.

Lameness in Older Horses

One of the most common soundness problems seen in older horses is arthritis. Arthritis can begin at any stage of the horse's life but often worsens as the horse ages. It is questionable whether arthritis can be prevented to any extent, but it can often be managed with considerable success.

There are numerous feed supplements marketed for use in improving joint function. These supplements may contain chondroitin sulfate, glucosamines, hyaluronic acid, methylsulfonylmethane (msm), yucca, or a combination of these ingredients. Use of joint supplements may have beneficial effects on some horses that already have arthritis and other forms of joint disease. However, very little scientific research has been done in vivo to test these products. Equine joint supplements are not FDA approved and, therefore, are not regulated. Because of this, there is often considerable variability in these products. Some horses do appear to respond favorably to supplementation while others do not respond at all. For horses that do not improve with the use of joint supplements, another option is the use of injectable joint products that typically contain substances thought to replace joint fluid or improve cartilage regeneration. Examples of products that may be found in injectable form are polysulfated glycosaminoglycans or sodium hyaluronate (trade names Adequan and Legend). For those horses that still are not significantly improved with the use of injectable products, a veterinarian may recommend injecting a particularly bothersome joint with steroids and/or hyaluronic acid for direct and more immediate relief. These may improve joint flexion and reduce pain within days, and benefits may last for months to years before having to be repeated.

Other potential lameness-causing conditions for older horses are problems related directly to the feet, often caused by lack of proper care or lack of adequate hoof horn growth. Proper and adequate hoof care is necessary to keep older horses sound. As the horse gets ridden or worked less, their hooves often get neglected. Many older horses don't grow high quality horn because of lack of use and a decline in their ability to extract key nutrients from feeds. Poor

hoof quality and imbalanced hooves can exacerbate arthritic conditions as well as lead to soft tissue injuries. So while an older horse may not be working and performing like they once were, routine, proper hoof care is still essential to maintain health and soundness.

Summary

The problems and solutions discussed in this article are meant to serve as guidelines for management of the aging horse. Horses vary greatly from individual to individual, and there are no hard and fast rules for caring for horses, geriatric or otherwise. Comprehending the underlying reasons for difficulties that might arise in aging horses will help owners and caregivers to make educated management decisions in older horse care. It is important to recognize that while older horses may not be as productive and useful as they might have been in their youth, routine veterinary, dental, and hoof care—along with proper nutrition and parasite control—are critical to keep these horses healthy for the remainder of their life span.