

# Caring for the Older Horse:

## COMMON PROBLEMS AND SOLUTIONS

*K. J. Duberstein, Professor, University of Georgia*

*E. L. Johnson, Associate Professor Emeritus, University of Florida*



UNIVERSITY OF GEORGIA  
EXTENSION

Horses have relatively long life spans compared to other livestock and companion animals, 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 allow horses to lead longer and more productive lives. However, as horses age, their needs change and additional care may be required to keep them as healthy as possible.

The older horse can often be cared for and managed well as long as the owner and/or caregiver understands the special needs a horse may have as it ages. It is important to recognize that there is not a predetermined age when an individual horse becomes “old.” Like people, individual horses age at different rates. As caregivers, we can have an effect on some areas of aging, such as dental and hoof care, but little effect or control over others, such as genetics, previous care and previous use.

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 health requirements. Important areas to consider when caring for the older horse are nutrition, lameness, vision, immune response and hormone changes. This publication will address changes in the aging horse’s body that impact its requirements, 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 diet modifications, whereas others will require a special diet to help them maintain good health and body condition. In both situations, the goal is to provide adequate nutrition.

### **Dental Care**

As horses age, it can become harder to meet their nutritional requirements. One reason for this 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, with their lower jaw being narrower than their upper jaw. 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 the inside of the horse’s lower molars. Regularly keeping the horse’s teeth filed down (known as “floating”) one or two times per year will improve his chewing ability and digestion.

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 5 inches in a young horse, and only a small portion is visible above the gum line. Over time, chewing wears away the tooth, which continues to push outwards above the gum to replace the worn part. This cycle continues throughout the horse’s life, but by the time he approaches his 30s, most of the tooth may

be worn down to the roots. This leaves older horses with little ability to chew and digest foods they would ordinarily eat. Changing the type of food the horse eats can easily alleviate this problem. Some feed companies make senior horse feeds, which 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 food's particle size and feeding foods that can be wet down and softened will greatly improve 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 an inability to eat the available food.

### ***Nutrient Absorption***

As they age, some horses may become less able to glean nutrients from what they eat due to reduced 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 kept on a regular parasite control program throughout its life. Lifelong parasite control is critical in maintaining the horse's health and longevity.

### ***Feeding Strategies***

Regardless of the reason, it is important to provide geriatric horses that are having difficulty maintaining their body condition 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. 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 by crimping, cracking, rolling or steam flaking, which breaks the grain's seed coat so that the horse may better digest it. Supplementing fat may also increase the energy content of the diet since fat is a highly digestible energy source. 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 use one of the commercial feeds formulated with added fat, fat can be top-dressed to the horse's grain. Many feed companies market fat supplements 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, make sure that other nutrient requirements are also being met.

A horse fed added fat will need less feed to maintain its condition; therefore, protein, vitamin, and mineral content should also be increased. 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 as to cause toxicities. Fat-soluble vitamins (A, D, E, K) are stored readily in the body and, over time, can lead to toxicities. Excesses in certain minerals can interfere with absorption of other minerals. When adding supplements to the horse's diet, whether it be fat, vitamins or minerals, it is important to be sure that imbalances are not created 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.

Before adding supplemental fats, vitamins or minerals to the horse's diet it is important to do a simple blood analysis to 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.

It is also important 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 easily digestible. 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 having their hay soaked for 15 min prior to feeding to control dust. Feeding hay that was cut at the appropriate time is also important. Hay that is too mature when cut has an increased lignin content, and can become indigestible. This hay often appears to have a very high stem content and should be avoided in older horses that already have decreased forage digestion.

### ***Overweight Horses***

Not all older horses are hard keepers. Some will hold their weight easily and may actually become too heavy since they 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 existing lameness conditions such as arthritis and navicular syndrome. Therefore, it is important to ensure that the horse is meeting all of its nutritional requirements without gaining an excessive amount of weight. Allowing ample turnout time for horses that are not in a routine riding program will provide them with some exercise and allow them to maintain muscle tone and a healthy body condition.

### **Metabolic Disorders**

Some horses may develop metabolic conditions as they age, which can lead to unhealthy obesity. This is commonly caused by imbalances in hormone levels associated with diseases such as Cushing's (pituitary pars intermedia dysfunction or PPID), insulin resistance and metabolic syndrome. These conditions often develop in older horses, with PPID most commonly occurring in horses in their 20s, while equine metabolic syndrome can develop in horses much younger. Equine metabolic syndrome in horses is similar to diabetes mellitus in humans in that horses with EMS are characterized by the development of insulin resistance. Horses with PPID, however, are thought to have an inability to regulate cortisol production. 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 PPID can lead to many problems, including insulin resistance, recurring laminitis, muscle atrophy, weight loss or weight gain, 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. There is an FDA-approved medication for the treatment of PPID. This medication does not cure this disorder but helps in the management of symptoms. A prescription from a licensed veterinarian is required in order to purchase it. Horses with metabolic disorders can be managed with routine hoof care, vaccinations, de-worming and a specialized diet. A routine exercise program may help prevent disease onset or improve the lives of individuals already suffering from metabolic disorders.

A common management practice for horses with insulin resistance caused by either PPID or equine 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, and is strongly correlated to the amount of sugar and starch present in the feed. Feeds that are high in sugar and starch will cause blood glucose levels to rise sharply and quickly, followed by a spike in insulin levels. For horses with insulin resistance, 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 recognize that not every horse with PPID will display insulin resistance, and feeding a lower glycemic diet may not be beneficial for all horses. Horses with PPID that are underweight and not insulin resistant need to be fed a diet with a higher caloric content to increase body weight.

It is important to be sure that the horse's diet meets all of its protein, mineral and vitamin requirements as these nutrients are critical for muscle tone and tissue repair, wound healing, and prevention of infection and illness. Protein, vitamins, and minerals can be provided in the form of a ration balancer (typically around 30% crude protein, often fed at a rate of 0.5-2 lb per day). Ration balancers can be fed in place of other concentrates to overweight horses to

increase their protein, vitamin, and mineral intakes without adding as many calories to the diet. Ration balancers can also be fed to underweight PPID horses as a supplement to their other concentrate sources to increase the nutrient density (protein, vitamins, minerals) of their feed.

## Lameness

One of the most common soundness problems seen in older horses is arthritis, which can begin at any stage of life but often worsens with age. Although it is uncertain whether arthritis can be prevented, 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, 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 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 include polysulfated glycosaminoglycans or sodium hyaluronate (for example, trade names Adequan and Legend). These products vary in their route of administration (e.g., intramuscular, intravenous, or intra-articular injections) and some do have FDA approval and research that supports their effectiveness.

A veterinarian may recommend injecting a particularly bothersome joint with steroids and/or hyaluronic acid for direct and more immediate

relief. These injections may improve joint flexion and reduce pain within days, and benefits may last for months or years before having to be repeated, though potential adverse reactions to joint injections should be discussed prior to having this procedure performed.

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. As horses get ridden or worked less, their hooves often become 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 and lead to soft tissue injuries.

While an older horse may not be working and performing like he once did, routine proper hoof care is still essential to maintain health and soundness. Dietary supplements containing 20–30 mg of biotin have been shown to improve hoof growth rate and tensile strength of the hoof. Zinc and copper, particularly in the chelated form (attached to an organic molecule) have also been shown to benefit hoof growth and strength.

## Summary

The problems and solutions discussed in this publication are meant to serve as guidelines for managing an aging horse. Horses vary greatly from individual to individual, and there are no hard and fast rules for caring for horses, geriatric or otherwise. Understanding the underlying reasons for problems that might arise in aging horses will help both owners and caregivers to make educated management decisions. It is important to recognize that while older horses may not be as productive or 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 lives.

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