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New Jersey Agricultural Experiment Station
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FS759

Fact sheet

Care for the Older Horse: Diet and Health

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When Does an Old Horse Require Special Care?

As with humans, chronological age does not always match the aging process. In studies by the author many horses over age 20 had conditions that required special care; however, many did not. Indeed, these horses often were still valued as riding or performance horses or, in the case of stallions and mares, used for breeding even past the age of thirty. Age alone should not be a criterion for retirement or special management. If the horse is in good body condition, healthy and active even at 20+ years, don't change your routine. However, if an aged horse has some of the problems in Table 1, it may be a candidate for special care. Nutritional recommendations are given in Table 2.

Management of Changes and Problems Associated With Aging in Horses

Arthritis

As with human athletes, years of stress, injuries and general wear and tear can result in painful and crippling arthritic changes in older horses. Arthritis is a combination of inflammation and degeneration of the tissues associated with a joint which make flexion and/or weight bearing painful. Ringbone and spavin are examples of arthritic problems commonly seen in older horses. However, a little stiffness that the aged horse will warm out of fairly quickly when exercised should not be a cause for alarm or retirement.

In advanced age, it is not uncommon for horses to become reluctant to lie down, due to difficulty in getting back up. This is especially true if they are confined to a stall where exercise and space are limited. You can tell if a horse is not lying down by the lack of bedding or stains on its belly, outer thighs, or tail. While no studies have been done to determine how much "down time" a horse needs, most horses will lie down at least once every 2 or 3 days. Horses that do not lie down for prolonged periods of time due to pain or fear will often have stains or abrasions only on the front of their front legs. These are caused when the standing horse starts to fall into deep sleep and collapse, only to wake up and catch itself before going completely down. These horses are at greater risk of being unable to rise if they do go down and should be watched carefully.

If an older horse is down and unable to rise on its own, you may need help in assisting it up. Be very careful to not put yourself or others at risk when assisting a horse that has been down for a long time. If possible roll the horse onto its chest with plenty of room in front of it. When the horse starts to rise, it will extend its front legs and lurch forward as it tries to push up with its hind legs. Provide good traction for the hind feet. Never stand on the side where the feet are visible—the horse often moves its legs forcefully and quickly when attempting to rise and may kick or step on you. For example, if the horse is lying on its left side with its feet extended to the right, you should approach and do all manipulations on the horse's left side. Position someone at the head or shoulder to help steady the horse as it starts to rise, and another person at the back of the rump to help push it forward and up. If the horse has been down for a long time it may be weak and struggle and/or collapse suddenly. Be extremely careful not to be in a position where if the horse starts to go down again, you could be hit by flailing legs or trapped underneath its body. Once up, the horse may stagger. Try to support it without putting yourself at risk if it collapses. Massaging the limbs and muscles to get the circulation going again may help.

To make the arthritic horse more comfortable, consult your farrier and veterinarian regarding the optimal way to trim or shoe the horse. Use anti-inflammatory drugs or other remedies recommended by your veterinarian if the horse is in chronic pain. Don't let the horse become obese, since extra weight will increase the stress on its legs and contribute to other metabolic problems, such as laminitis.

Do not confine the horse to a stall unless absolutely necessary for medical reasons. The more the older horse can move about freely, the less stiff it will be. Ideally, there should be free access to turnout, preferably with another compatible horse or pony for company.

Weight Loss/Poor Condition

The most common causes of weight loss in aged horses are failure to keep up with deworming schedules, debilitating diseases and/or poor dentition. If an older horse is failing to maintain adequate body weight, despite good deworming schedules, normal appetite and adequate rations, its teeth should be checked carefully, using a full mouth speculum. Merely pulling the tongue to one side to look at the back teeth is not a reliable method of detecting dental abnormalities. If the teeth are normal, the horse should be carefully checked for disease by having a veterinarian perform a thorough physical exam, including a blood sample to check for chronic infections and liver or kidney dysfunction.

If no other abnormalities are found, the horse may be suffering malabsorption of its nutrients and/or other alterations in digestion. In such horses, a "senior" type ration may help. Such rations should provide at least 12% protein, with restricted calcium (<1.0%) and slightly increased phosphorus (0.3-0.5%) in the total ration. The calcium/phosphorus ratio, however, should be greater than 1:1. Crude fiber content should be above 7%, preferably above 10%, especially if the feed was designed to be fed without hay. Digestibility of the concentrates should be maximized by processing (extrusion, pelleting or "predigestion"). A typical ration for a 1000 lb horse might consist of free access to top quality hay, preferably a straight grass or grass/alfalfa mix or pasture, plus 2 to 8 lbs of a feed designed for old horses, plus free choice water and salt. Avoid straight alfalfa. Its calcium content is high and may exacerbate failing kidney function. Yeast culture products have been reported to improve digestion of feed in horses and also may be of benefit in the failing, aged horse's rations. Two to 4 ounces of brewers yeast and/or up to 1 cup of vegetable oil per day also may help the old horse to maintain weight and condition. Make all dietary changes slowly, gradually introducing the new feeds or supplements over the course of 4 to 5 days.

Older horses are more sensitive to severe weather, be it heat or cold, and often suffer weight loss when temperature fluctuations are extreme. It is essential that adequate shade is available in summer, and that shelter from wind and precipitation is provided in winter. Three-sided "run-in" sheds are adequate in most cases. Higher energy needs in winter can be met by providing increased feed in a more highly digestible form such as high-fat pelleted or extruded feeds. Insuring free access to clean, fresh, unfrozen water can reduce constipation or impaction problems, which are most common in winter. If the horse does not drink well, feeding water-soaked feeds (1 to 2 gallons of water per feeding) will help increase fluid intake. Addition of 1 to 2 ounces of salt to the feed may also encourage increased water intake but should be done only if the horse has unlimited access to water.

Inadequate Dentition/Tooth Loss

All horses should have regular tooth care. Horses' teeth frequently form sharp points on the outside of the upper molars and inside of the lower molars, especially if fed only dry hay and grains. These points make it painful to chew and cause the horse to dribble feed or partially chewed boluses of hay from its mouth ("quidding"). Tooth loss, especially molars or premolars, also reduces the ability to adequately chew feed. If a molar or premolar tooth is missing, the opposing tooth will grow down into the space (wave mouth), making it difficult to chew. Abnormal dentition predisposes the horse to weight loss and/or "choke" (impaction of inadequately chewed/dry feed in the esophagus).

Older horses, especially those known to have missing molars, should have their teeth checked at least twice a year. If chewing is difficult, "soups" of soaked hay cubes or beet pulp plus pelleted or extruded feeds designed for old horses should be offered. Sufficient water should be added to make a soupy consistency (at least 1 quart of water per pound of feed) to prevent choke. The soaked feeds can easily ferment (summer) or freeze (winter), so should only be offered in amounts that the horse will consume easily in a single meal. This may require that the horse be fed three or more times a day to meet its nutritional needs. Hay can still be fed if choking is not a problem, even if most of it is wasted. Access to good pasture is desirable.

If front teeth (incisors) are missing or badly aligned, do not rely on pasture for nutrition. These horses must be fed complete feeds or loose hay and/or hay cubes since they can not graze effectively. Soaking the feeds is necessary only if they have a tendency to "choke" on their feeds.

Pituitary/Thyroid Dysfunction

In a study of geriatric horses (Ralston et al., 1989), over 70% of the horses over the age of 20 had at least subclinical signs (altered glucose and cortisol metabolism) of pituitary/thyroid dysfunction. See Table 1 for the classic clinical signs. Old mares with pituitary dysfunction, even in the early pre-clinical stages, had lower blood Vitamin C than did unaffected or younger mares. This may explain in part the increased susceptibility to viral infections observed in older horses. Both types of dysfunction cause relative glucose intolerance, in which the horse becomes less sensitive to the action of insulin. After a high sugar or starch meal, blood levels of both glucose and insulin become abnormally high, which contributes to the clinical signs of dysfunction. High fat (>5%) and fiber (>7%) feeds that are pelleted or extruded with limited molasses contents result in more moderate glucose and insulin responses after feeding, and may help control this problem. "Sweet feeds" with high (>3%) molasses should be avoided.

Management of the clinical problems associated with pituitary or thyroid dyfunction is fairly easy. It is essential that all older horses be maintained on regular vaccination and deworming schedules. If chronic infections are present (skin infections, thrush, hoof abcesses), 0.01 gm ascorbic acid (Vitamin C) per pound of body weight added to the feed twice a day may be beneficial, but should only be continued until the infections heal. If water intake and urine output are increased, fresh, clean water should be available free choice. If obesity or chronic founder is a problem, the horse's access to grain should be restricted, if not eliminated, and sudden dietary changes avoided at all costs. Thick hair coats should be clipped in the summer in addition to providing shelter from the sun.

Drug treatments for pituitary and thyroid dysfunction are available. Many are expensive and some are very controversial at this time. Consult your veterinarian or equine medicine specialists at schools of veterinary medicine for the latest information.

Reduced kidney/liver function

Chronic kidney or liver failure is not as common in aged horses as it is in cats and dogs, but still can occur. The degeneration of kidney and/or liver function is usually progressive and irreversible but can be slowed and the clinical signs managed to some degree with diet.

Reduced kidney function results in renal stones (calculi), bladder stones, weight loss, loss of appetite and, potentially, death. Horses are unique in that they primarily excrete excess dietary calcium through their urine instead of their feces as do other animals. As a result, if kidney function is reduced, renal and bladder "stones" of calcium oxalate are more likely to occur as well as an increase (potentially lethal) in blood calcium. Horses with kidney failure should be put on low-calcium diets (<.65% calcium on a dry matter basis). Based on data from other species, protein and phosphorus also should be restricted to 8 to 10% and 0.25%, respectively. Good quality grass hay and corn or a complete pelleted ration for mature (not aged) horses are the feeds of choice. Avoid legumes (alfalfa and clover), wheat bran and beet pulp due to high calcium (legumes, beet pulp) or phosphorus (wheat bran) content.

Liver failure can cause weight loss, lethargy, jaundice (yellow mucous membranes), loss of appetite and intolerance of excess fat and protein in the diet. If severe and acute, the horse may show behavioral changes such as irritability, aimless wandering or circling, or pressing its head against objects. Affected horses require increased sugar sources to maintain their blood glucose levels and are intolerant of high protein or fat in the diet. The diet should emphasize starch intake (grains or concentrates), though fiber sources (hay, beet pulp) are still necessary to avoid gastrointestinal dysfunction. Grass hay, low-protein sweet feeds, and corn are recommended components of the ration. Wheat bran and beet pulp are acceptable supplements in these cases. Since the liver is the site of B-vitamins (especially niacin) and ascorbic acid synthesis in the horse, daily oral supplementation with B-complex vitamins (brewers yeast is a good source) and ascorbic acid (0.01gm/lb body weight) may be beneficial.

Summary

A horse should not be treated differently just because it has reached a certain chronological age. However, if problems related to aging are present, changes in management and medications may be needed to keep the older horse comfortable. Adequate shelter is a must for older horses, especially in the winter. However, confinement of an arthritic old horse to a stall is not doing the animal any favors.

TABLE 1. Conditions requiring special attention in aged horses. See text for more details.

Condition	Clinical Signs	Causes/Management Considerations
Arthritis	Chronic lameness Bone deformity around joints Inflexible joints	Shoeing/trimming Bedding Avoid obesity Anti-inflammatory therapy
Weight Loss	Inability to maintain good body condition despite good teeth, and a ration that is adequate for mature horses.	Teeth Diet* Shelter Deworming Liver or kidney failure Tumors Malabsorption Chronic infections
Inadequate dentition	Sharp points on molars Loss of teeth Inability to chew feed "Quidding"of hay	Regular dental care Diet*
Pituitary/ thyroid dysfunction:	Failure to shed winter coat in the summer Recurrent viral infections Chronic founder (laminitis) Increased water intake and urination Excessive weight loss (pituitary) or gain (thyroid)	Grooming/clipping Diet* Vaccination Water access Drug therapy(?)
Kidney/ liver failure	Weight loss Lethargy Poor appetite Difficult or frequent urination (kidney) Jaundice (liver)	Diet* Supplements*
Grey hair appearing around ears, eyes and forehead	This is not a problem. merely a sign of aging	

*See Diet Recommendations in Table 2.

TABLE 2. Dietary management of conditions associated with aging in horses

Recommended Diet

Condition	Characteristics	Feeds/Supplements
Weight loss not due to liver or kidney failure	12 to 14% protein 7 to 10% fat High digestibility Easily chewed	Grass or grass mix hay Complete pelleted or extruded feeds Good quality pasture ¼ to 1 cup vegetable oil/day Yeast culture products Brewers yeast Beet pulp (soaked) Soybean meal (1/4 to 1/2 lb per day) Avoid poor quality or high fiber hay
Inadequate dentition	Easily chewed	"Soups" of complete pelleted or extruded feeds. Soaked hay cubes or beet pulp Avoid coarse hay and dry pelleted feeds
Pituitary/ thyroid tumors	Reduced starch Highly digestible fiber sources Increased Vitamin C if chronic infections	Low molasses,high fat/fiber feeds Good quality hay or pasture (if not foundered) 0.01gm ascorbic acid/lb body weight twice a day until healed
Kidney failure	Restricted calcium protein phosphorus	Grass hay Corn milo Complete feeds designed for adult, not aged, horses. Avoid legumes,wheat bran, beet pulp
Liver failure	Restricted protein Increased starch Increased B-vitamins Increased Vitamin C	Grass hay, corn, 10% protein sweet feeds Sweet feeds designed for maintenance B-complex supplement 0.01gm ascorbic acid/lb body weight Avoid legumes, high fat rations

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Desktop publishing by Rutgers Cooperative Extension/Resource Center Services

750-1201

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