

HORSE AROUND

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FREE

Optimal Health for the Senior Horse

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Many of us have been fortunate enough to have a horse that lives well past their prime.

This “old friend” is a special individual. How, then, do we ensure that they live the best quality of life? And how do we help appropriately extend the quantity of life? There are several goals of this article: 1) To describe “geriatric” and how it relates to our equine friends 2) To describe several common diseases of geriatric horses and 3) To offer suggestions for management of the geriatric horse to optimize their life quality and lifespan.

What is Geriatric? While there is no black-and-white set age that defines geriatric, many veterinarians consider fifteen years old as a benchmark to begin evaluating a horse’s increased needs due to age. Another, less well-defined observation is that a horse is geriatric when he or she begins to “show their age”. This may depend on the breed and the horse’s previous usage. The life span of ponies tends to be longer than horses; a horse’s average life span is 25 years, while that of ponies is 30 years. In a recent retrospective study of geriatric horses presented to a referral hospital, it was noted that pony breeds and Arabians were overrepresented,¹ suggesting that these horses have a longer life span than other breeds. Many horses are still performing well into their twenties.

Horses of today do have a longer average life span than those of the past. This is because of at least two factors. First, improvements in the

knowledge of what geriatric horses need, as well as improvements in diagnostic and medical care allow us to medically extend the life of the horse. The other factor in this modern extended life span is that more and more owners are committed to caring for the older horse. Because of the human-animal bond, and the contemporary difference in usage of horses compared to past times, horses are now viewed more as companion animals than as livestock or working animals as they once were. According to the USDA-APHIS 2007 survey, 8% of horses are over 20 years old.² One veterinary teaching hospital has seen a change in their patient population from 2% of horses over 15 years old in the mid-1970s to 12% of the horses being over 15 years old in 2000.

Common DISEASES and PROBLEMS of the Geriatric Horse Several studies have evaluated medical problems of older horses. Diseases and problems that geriatric horses are more prone to include weight

loss; dental disease or abnormalities; equine Cushing’s disease (also known as pituitary pars intermedia dysfunction, or PPID); degenerative joint disease (arthritis); colic; organ failure such as heart disease, kidney dysfunction, and liver disease; and cancer or tumors. As you can see from this list, many of these problems are interrelated. For example, Cushing’s disease, dental health, and kidney or liver disease can all negatively affect a horse’s weight.

WEIGHT LOSS Weight loss is one of the most common problems encountered in older horses, especially in the winter. This is not a unique problem to New Mexico, either; it is one that occurs in all areas of the United States. As alluded to in the previous paragraph, weight loss has many potential causes including inadequate or improper nutrition, dental disease, equine Cushing’s disease, parasitism, kidney or liver disease, and intestinal disease or dysfunction. Older horses may simply not digest their food as efficiently as they once did.

It is important to gauge a horse’s condition based on the body condition score (BCS) and with a weight tape. The BCS is used to evaluate the amount of fat on a horse’s body using a numerical scale. It is helpful to weight-tape a horse once weekly to document and track how their weight is trending. This way, early weight loss will be noted before the problem is dire. Addressing the problem sooner rather than later is critical.

In the winter, geriatric horses struggle to maintain their weight because nutritional demands are high and it



A well-maintained 27-year-old mare

takes many calories to keep thin horses warm during cold weather. Weight gain takes months to accomplish and must be started in the summer in order to have good condition for the winter. Thin, geriatric horses should always have access to housing or shelter, and blanketing should be considered during winter months.

Assessment of a weight-loss case begins with a full physical examination on the horse, including a dental examination, and a dental float to address any abnormalities.

A fecal examination to identify the types and quantity of intestinal parasites is necessary. Universal, rotational deworming is no longer recommended. Instead, a fecal eggs per gram (EPG) count should be performed, and deworming is based on the results. Horses should only be dewormed if they have more than 200 EPG. Management to limit exposure to intestinal parasites is critical. Because the function of a horse's immune system is important to keep the parasite burden minimized, a geriatric horse with a dysfunctional immune system may have an increased parasite burden relative to other horses on the same farm.

Weight loss evaluation includes taking the time at a farm to see what exactly a horse is being fed, including the type, volume, and frequency of meals, as well as what the herd management situation is. Sometimes a geriatric horse will be eating slower and to maintain his weight he will need to have more time alone to finish his food before his herdmates run him off!

Appropriate nutrition is very important for geriatric horses, and for those that are thin, this begins with adequate calories. All equine diets should be based on high quality roughage. If the dentition is inadequate, soaked hay cubes, pellets, or a complete feed may be the nutritional base for the geriatric horse. Since the geriatric horse is typically thin and requires more calories, a concentrated feed will likely be necessary as well. Limiting the sugar and starch intake can be important, so a fat supplement such as corn oil, vegetable oil,

rice bran, or commercial formulation can be very helpful. Remember that any diet modification should be done gradually over the course of 1-2 weeks.

Dental Changes in the Older Horse

Horses have hypsodont dentition, meaning that the teeth continually erupt throughout life. The cheek teeth (including premolars and molars) function as a unit to grind tough, fibrous grass and grains. As a horse ages, the teeth migrate and form gaps. These gaps may trap feed material and lead to infection, as well as impair the ability to grasp and grind food.



Routine dental care is critical for horses' long-term well-being.

Signs that dental function of a horse is diminished include quidding (dropping "quids", or small bunches of partially-chewed food), weight loss, and choke (esophageal obstruction). The horse may also be susceptible to gingivitis, abscessed teeth, and sinusitis. The lifespan of horses is closely tied to the lifespan of their teeth.

Prevention of these problems include annual (minimal) or semi-annual (recommended) sedated dental examination. The molars in the back of the horse's mouth cannot be properly assessed without sedation, so problems in this area of the mouth will not be noted on a cursory, unsedated examination.

Many dental abnormalities can be prevented with maintenance dentistry, especially if it's started early in life. As previously discussed, diet modification

may be necessary due to age-related dental abnormalities.

Pituitary Pars Intermedia Dysfunction (PPID)

Pituitary pars intermedia dysfunction is also known as PPID or equine Cushing's disease. It is an age-related degeneration of neurons supplying hormones (specifically dopamine) to the pituitary gland. The lack of dopamine causes a long, shaggy hair coat (hirsutism) and/or delayed shedding. Horses also have an increase in adrenocorticotrophic hormone (ACTH).

In addition to the shaggy hair coat, other clinical signs include muscle wasting, which is most notable over the horse's topline, and a potbelly appearance. The abnormal fat deposition may or may not be associated with a thin body condition. Horses with Cushing's disease will have increased water intake and urine output, but this is frequently overlooked in group situations. These horses also will have a dysfunctional immune system, which will lead to chronic infections, non-healing wounds, and possibly increased parasitism. Because of the decreased capacity of the immune system, regular immunization is very important. As Cushing's disease progresses, dull behavior or changes in mentation may be noted. Laminitis may occur due to the hormonal and metabolic changes in the horse.

Equine Cushing's disease is extremely common, with over 70% of geriatric horses showing clinical signs of the problem. Testing the blood for elevated levels of ACTH is the most common and straightforward test. Testing may reveal abnormalities before clinical signs are apparent. It is recommended that all horses over the age of 20 be tested annually.

Treatment with pergolide has been the standard for years, and now the FDA-approved Prascend is available. The beginning dose is one tablet (one milligram) per day. Treatment with the correct dosage improves all clinical signs

and decreases chances of developing laminitis. Annual testing ensures dosing accuracy and control of the disease. Many horses with Cushing's disease are significantly more comfortable after body clipping or trace-clipping to remove their extra heavy hair coat.

Degenerative Joint Disease

Almost every horse has some degree of arthritis (also known as degenerative joint disease) from previous work or normal "wear and tear" during the life of the joints. Hock and pastern arthritis are extremely common, although in older horses nearly all joints may become affected. Once a joint becomes arthritic, it will never return to normal. Maintenance of any residual function is critical.

Clinical signs of arthritis include chronic lameness, a stiff gait, bony enlargements around joints, and excessive amounts of time lying down OR never lying down. Horses may also have trouble rising after lying down. Again, as these geriatric problems are intertwined, the horse may also have difficulty rising because of muscle wasting or weakness seen with Cushing's disease or weight loss for other reasons.

There is no specific treatment for generalized arthritis pain, and management can be very difficult! Maintaining consistent movement keeps joints lubricated and improves muscle tone. Large, flat paddocks with shelter



A sarcoid skin tumor in a 33 year old mare with Equine Cushing's Disease.

are ideal. It is important to consider feed and water sources and make sure they are easily accessible. Hoof care in older horses is extremely important, as the foot is their foundation.

Medical treatment includes systemic anti-inflammatories (such as phenylbutazone [bute], flunixin meglumine [Banamine], and firocoxib [Equioxx]). Joint injections with corticosteroids and hyaluronic acid can be helpful, but only for very specific joints. Systemic injectable medication such as Adequan and Legend may be more helpful for a geriatric horse that has many joints with arthritis. Many older horses are on feed additives or supplements to maintain function – there are LOTS to choose from, with variable results.

Colic

Colic is a general term that is defined as abdominal pain. Colic has many causes. It may be relatively mild, such as gas, or a mild impaction. These mild colics are somewhat preventable in geriatric horses by minimizing dietary changes, maintaining dental health, and ensuring that the parasite control program (including fecal examination) is appropriate. It is also important to provide warm water during times of cold weather.

Unfortunately, older horses are also prone to a severe, life-threatening colic that is only correctable with surgery. This type of colic is due to a benign, fatty tumor (called a lipoma, see photo) which grows on a stalk in the abdomen of the horse. These tumors can literally tie a knot around the intestines, causing this very severe colic. There is no prevention.



A non-healing wound in a horse with equine Cushing's disease. Although this wound had been treated for 8 months without healing, it healed within 6 weeks of pergolide administration for treatment of Cushing's Disease.

Organ Failure Organ failure can happen in geriatric individuals of any species. Kidney and liver failure are the most common organs to fail. Clinical signs can be non-specific and include weight loss, lack of appetite, and a poor body condition. It also may be noted that the horse has increased water intake and urination. Liver disease may progress and the horse may show neurologic signs due to the buildup of toxic metabolites.

Heart disease can occur in horses, although it is considered relatively rare when compared to the frequency it is seen in other species. Heart murmurs associated with aging changes of the heart are relatively common. A patient with heart disease will have exercise intolerance, and may have a cough due to fluid buildup in the lungs. Eventually, they will have circulatory failure and the abdomen will also fill with excessive fluid (ascites).

Annual examination of your geriatric horse is important. Laboratory screening can identify vital organ dysfunction prior to clinical signs. These should be performed annually in geriatric patients.

Cancer Cancer, or tumors, may be benign (a local growth that does not spread) or malignant (spreading to multiple areas of the body).

In horses, skin tumors are the most common. The three most common skin



A lipoma, which was removed from its stalk intra-operatively to correct colic in a 25 year old gelding. The stalk had wound and knotted its way around the small colon of the horse.

Geriatric Horse Well-Care Checklist

tumor types are sarcoids, melanomas, and squamous cell carcinomas. Sarcoids occur in horses that are fairly young (5-8 years old) as well as older horses. They may appear unchanged for years, but may suddenly begin to grow in an older horse when their immune system fails due to equine Cushing's disease. The specific cause of sarcoids is unknown but they are linked to Bovine Papilloma Virus and genetics.

Melanomas have a definite genetic link, and more than 80% of gray horses past the age of 15 years have melanomas. Common locations include sheath, vulva, anus, under the tail, and the face. These are considered benign, although they are locally aggressive and can spread systemically. Although it is unusual, non-gray horses can also develop melanoma. In non-gray horses, the melanoma is more likely to be malignant. There is a vaccine available that shrinks the size of the tumors, and can make some disappear entirely. It is an initial series of three vaccines, and an annual booster is required. The cost of each vaccine dose is about \$500.

Squamous cell carcinoma occurs in horses with light colors, such as Paints or pintos, Appaloosas, and palominos or other dilute colors. These are found commonly on the eyes, eyelids or surrounding tissue especially in horses with white skin. They may also be located on the lips, the sheath, or beneath the tail. This is considered a malignant tumor, and may spread to internal organs if untreated. Minimizing white area exposure to sun helps prevent occurrence.

Treatment of any tumor is recommended as soon as possible. A positive outcome for the horse is much more likely when the tumor removed is the size of a grape, rather than that of a grapefruit. Treatment consists of surgical excision with additional chemotherapy or cryotherapy.

- Annual examination
- Annual blood work, including testing for Equine Cushing's Disease, and annual Coggins Test for Equine Infectious Anemia
- Annual sedated oral examination, and routine dental float every year (minimum) or every 6 months (if needed)
- Close monitoring and record keeping of weight
- Annual vaccinations
- Fecal evaluation for parasitism, and targeted deworming as needed
- Pain management and arthritis maintenance and prevention

Systemic cancer is relatively rare in horses, but lymphosarcoma is the most common. This cancer is far more common in mules and donkeys than in horses. It can affect internal organs, such as the gastrointestinal tract, or the skin. Lymph nodes may be enlarged, and this is usually recognized between the jaws under the mandible most easily (the submandibular lymph nodes). Early recognition is important if treatment is pursued. Unfortunately, this systemic cancer is malignant and carries a very poor prognosis.

As discussed in the section on colic, lipomas are a benign tumor that develops from abdominal fat. These are only a problem when they interfere with gut function and cause colic.

The Final Days

The final decision of euthanasia and saying goodbye to an old friend is extremely difficult. Some geriatric horses can be maintained for years, but the expense of special feeds and annual diagnostics can be cost-prohibitive. One study found that the leading cause of death of geriatric horses was old age followed by colic and injury or trauma. (4) Some geriatric horses will have an "event" such as a terrible colic, or a choke episode, that triggers the decision for euthanasia. Of

those horses that die due to old age, 64% are euthanized, and the most common reasons are weight loss and inability to ambulate. (4)

After-care of the horse's body is a challenge since they are so large. Burial is an option, but is prohibited in some jurisdictions. A full-body cremation service with transportation is available from Albuquerque Pet Memorial Service. Finally, many county landfills will have a body disposal area.

Take Home Message

Annual veterinary checkups, dental care, and laboratory tests are critical for proper maintenance of the geriatric horse. Monitor the horse's body condition closely and intervene sooner rather than later. Maintaining an appropriate nutritional plane is vital, and may take more effort than when the horse was younger. Maintain proper, regular hoof care. Many problems are manageable for a very long time, but be prepared to make the "difficult decision" when the time comes.

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