

Equine starvation

Recognition and rehabilitation of the recumbent, malnourished horse

BY E.J. FINOCCHIO, DVM

Most practitioners will eventually treat at least one case of severe equine malnutrition. The purpose of this article is to share some empirical findings and treatments for rehabilitating the down, malnourished horse.

Being closely associated with the SPCA in Rhode Island, I see first hand what some people do to their animals. Most cruel acts are not intentional, but are due to ignorance.

Some people judge the physical condition of their horses by how round they look. A Shetland pony, with a long winter hair coat, looks pretty good from 200 feet away. Others have been told that ponies don't require grain. Others have no conception as to what good hay is.

Most such people are not involved with any pet/live-stock educational groups. Therefore attempts at educating them come only after they have been reported or they themselves call a veterinarian or agent of the SPCA.

Fortunately, most people call us the same day they notice their horse is down. We can help many such horses, if proper conditions exist.

Relevant research lacking

Research provides little information about the chronically starved horse. Most university studies have involved fasting of fat, healthy horses for short periods of time. Circumstances altogether different from the situation of the chronically starved horse.

This article deals with the horse that has been chronically starved to the point it can no longer support its own weight. Most such horses have lost close to 40% of their normal body weight.

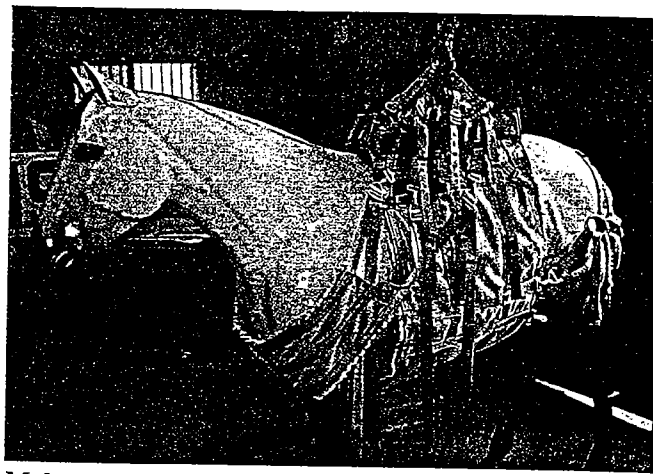
Concentration camp prisoners who lost 50% of their normal body weight were unable to be rehabilitated and died. Whether this applies to the horse I cannot say. However, I have found that chronically starved horses will die

if they've been unable to get up for 72 hours.

Diagnosis

Weight loss is a common sequel to chronic disease in the horse. Some conditions which cause severe weight loss include:

- Parasitism;



Malnourished horses should be supported by a sling. Some slings are very sophisticated, but take time to acquire. If one is not immediately available, any system that supports the horse should be utilized.

- Neoplasia—especially gastrointestinal or pituitary;
- Equine infectious anemia;
- Adrenal insufficiency;
- Dental problems;
- Debilitating injuries—e.g. joint infections; and
- Heart problems.

In the absence of chronic disease, aging and/or severe malnutrition are the primary causes of progressive weight loss. In the Northeast, starvation cases start to appear in the late fall and increase as the weather worsens. Cold temperatures are the most detrimental environmental factor.

A rule of thumb I find helpful is: You should barely be able to feel the ribs of a horse or pony through a thin hair coat; you should not be able to see the ribs. For horses with long winter hair coats, go strictly by feel.

Upon initial examination, these horses are down in lateral or sternal recumbency. Hair coats are often long, dull and unkempt—obscuring the thinness. Most are so underweight that their ribs, dorsal spinous processes and

tuber coxae are easily palpated. Lack of muscle mass is easily observed.

Down less than six hours: These horses are in sternal recumbency, appear alert and are capable of supporting their heads. They make futile attempts at rising and eat voraciously when offered hay or grain. There are no signs of neurological involvement.

Pain is not evident, although most have an anxious facial expression. Elimination of feces and urine is normal, but quantities are reduced. Urine has a darker color indicative of dehydration. Fecal material rarely contains grain particles. Systolic murmurs are often detected, most likely due to anemia. Rectal temperatures range from 96°F to 102°F.

The paraplegic or tetraplegic horse is easily differentiated from the malnourished horse in early stages of recumbency. Paraplegic horses have normal use of their necks. The true paraplegic horse cannot support itself posteriorly even when assisted—unlike the early

stage recumbent, malnourished horse. Paraplegic horses are often in excellent condition; malnourished horses are very thin and in extremely poor condition. Tetraplegic horses are unable to flex their necks laterally and cannot use their thoracic limbs. They may also be in excellent body condition.

The early stage recumbent, malnourished horse can stand if assisted, and once up, can usually support itself for short periods of time. If attempts are made at walking, posterior ataxia is common due to muscular weakness.

Down 12-18 hours: These horses began to lose their ability to attain sternal recumbency on their own. They can raise their heads, but are less alert. They are still very interested in eating and are stimulated by the sound of grain being rattled in a can. Assisting these horses in rising manually is futile. If placed in a supportive sling,

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they will stand for only a few minutes before collapsing in the sling.

Down 36-48 hours: These horses are in lateral recumbency, unaware of their surroundings and unable to raise their heads. They exhibit paddling, tetany and stridor dentium. Still, they make attempts at eating, if grain is placed in their mouths. Neurologically, it is more of a challenge to diagnose horses at this stage. However, after gathering a history and performing an examination, the diagnosis is not challenging.

Down over 48 hours: These horses become totally anorectic. They appear to lose the will to survive and are in a semi-comatose state. Decubitus ulcers are evident over bony protuberances. Death usually occurs between 72-96 hours if untreated.

People skills

Histories from owners of recumbent, malnourished horses have one common denominator. When asked, they can't show you any grain or grain bills. At this point, most owners become defensive (e.g. "You don't think we are starving this horse do you?"). If the veterinarian pursues a course alleging neglect, rapport can suddenly deteriorate.

It is important that the veterinarian remains supportive and sympathetic, despite the possibility of neglect. In most situations, the neglect is not intentional but stems from ignorance, financial problems or delegation of care to very young caretakers without adult supervision. Most owners accept the diagnosis if gently told that it's possible that their horse has not been receiving enough calories and so it has gradually

Rehabilitation

Managing the equine starvation syndrome

The following steps are recommended by Dr. E.J. Finocchio for rehabilitating the recumbent, malnourished horse.

1. Correct dehydration via intravenous solutions and oral solutions administered via nasogastric tube. Treatment with balanced electrolyte fluids with low potassium content is recommended. An amino acid solution should also be used. Dextrose is *not* recommended.

2. Protect from the elements. Barn temperature should be well above 50°F if possible.

3. Supported with a sling for various periods of time (e.g. sling for twelve hours and release for twelve hours). Most horses will dictate and how long they want to stand by how well they tolerate the sling. Bed stall well with straw or shavings.

4. Meet caloric requirements by feeding small quantities of energy-dense grains frequently (e.g. commercially prepared feeds with a high fat content). Five to six feedings of 1-1½ lbs. of grain is well-tolerated by most adult horses. Give 1-2 pints

of corn oil daily (fed or via nasogastric tube). Give excellent quality hay and water free choice. Allow grazing if possible.

5. Give a balanced vitamin supplement for the first 60-90 days. Anabolic steroids can be useful in certain cases.

6. Make as comfortable as possible. Massaging large muscles is helpful. Treat any wounds or pressure lesions with appropriate medication.

7. Forced exercise is not allowed until horse is well on its way.

8. After the horse is stable, worm, float teeth and vaccinate for routine diseases.

Hooved Animal Humane Society

Since 1971, the Hooved Animal Humane Society has rescued over 7,000 horses from gruesome conditions and death. For information about membership and legislative efforts, contact:

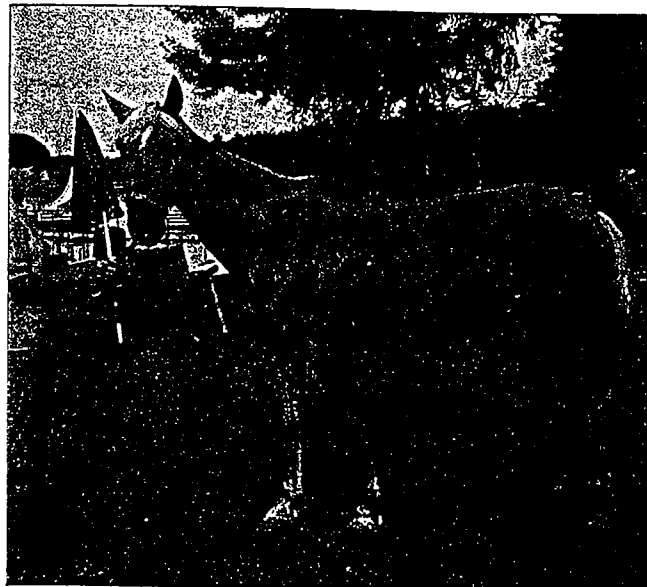
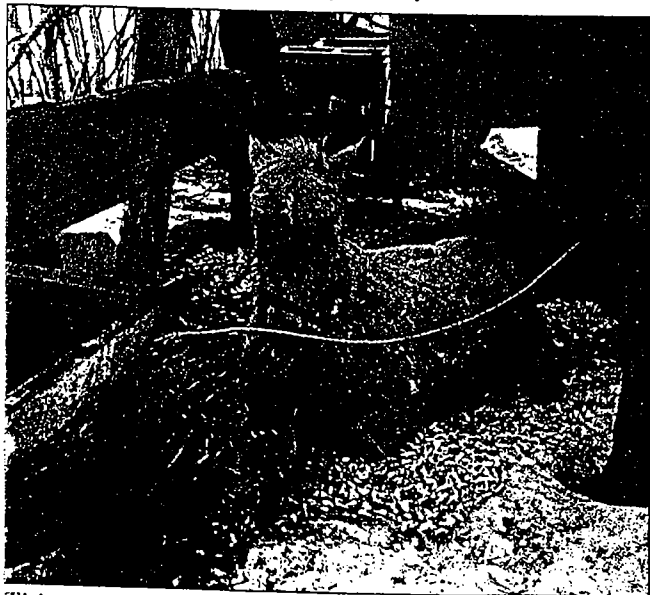
Hooved Animal Humane Society
PO Box 1099
Woodstock, IL 60098-1099
Tel: 815/337-5563

lost weight and is therefore unable to support itself.

It takes a 1,000-lb. horse, in good body condition, without any food, approximately 60-90 days to become recumbent. Horses observed in the field are usually fed poor quality hay and water, thus increasing the time it takes for them to become recumbent. Most

have been receiving seriously inadequate diets for 3-4 months. The condition of the horse prior to being fed a calorie deficient diet is also a determining factor.

Once a horse loses approximately 45-50% of its recommended weight, survival is unlikely, even with heroic attempts.



This palomino mare was down less than one day when treatment began. She made a complete recovery in 90 days.

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Treatment

Dehydration should be corrected via intravenous solutions and oral solutions administered via nasogastric tube. Treatment with balanced electrolyte fluids with low potassium content is recommended, because most malnourished horses have hyperkalemia due to cellular breakdown. An amino acid solution should also be used. Dextrose is *not* recommended because the down, chronically malnourished horse is often hyperglycemic.

Caloric requirements should be met by feeding small quantities of energy-dense grains frequently. Commercially prepared feeds with a high fat content are recommended.

No two horses are alike. Feeding frequencies and amounts depend on the horse in question. Necropsies of starved horses that die reveal stomachs much smaller normal. Five to six feedings of 1-1½ lbs. of grain is well-tolerated by most adult horses. Alterations in quantity and frequency should be made on an individual basis.

The administration of 1-2 pints of corn oil daily is also very beneficial. This can be fed or administered via nasogastric tube. A balanced vitamin supplement is also recommended for the first 60-90 days. Anabolic steroids can be useful in certain cases. Testosterone is very helpful in older geldings suffering from malnutrition. Protection from the elements is also indicated. Barn temperature should be well above 50°F if possible (to conserve energy).

These malnourished horses should be supported by a sling. Some slings are very sophisticated and do a very good job, but take time to acquire. If one is not immediately available, any system that supports the horse should be utilized. Horses should be supported for various periods of time and then allowed to become recumbent if they wish. Most horses will dictate and how long they want to stand by how well they tolerate the sling.

Most will need assistance in standing. This is best accomplished by using six strong people: One at the horse's head, one on the tail and two on each side of the horse. The side

support teams should utilize belly bands, etc., to assist them in lifting the horse. If this method does not work, the use of pulleys or other mechanical means should be tried.

Once up, horses will often need support for a short period of time to gain their balance. They should not be walked. Massaging their large muscles is helpful. Making them as comfortable as possible will improve survival rates. These horses may need assistance in getting up for 2-3 days before they can stand on their own. Once they can stand, they make amazing progress. Under a supervised nutrition program, they usually attain their normal body weight in 60-90 days.

Horses that recover seem to have no ill effects from the ordeal unless they were very young and growing. These young horses, if brought back too rapidly, often develop contracted tendons. It's important to take extra precautions in rehabilitating growing horses.

Educating horse owners about proper nutrition and care is of utmost importance in preventing chronic starvation. □

Starving horses Field feedback

In our January/February issue, we asked readers to share experiences with equine starvation. Here are some of the responses.

Equine starvation certainly exists—due mainly to ignorance of novice horse owners. We encourage neighbors who complain to try to educate (with our help) before turning to authorities. Another problem is over-feeding which can be equally cruel.

*C.G. Dewell, DVM
Carbondale, CO*

Several years back we had a particularly bad case of equine starvation. The owner was taken to court with what we felt was a good case. However, the prosecuting attorney showed up in court completely unprepared and we lost the case. Without interest and cooperation of the legal community, it's difficult to do much about the problem.

*Dan Nielsen, DVM
New Berlin, NY*

Recently, I was the veterinarian in charge of a 20-plus head confiscation by the state livestock board. Our local livestock inspector has the power to confiscate horses on the

spot—the owner is charged for any needed veterinary care. These horses are usually sold at a livestock auction and usually end up as dog food.

*Dr. W.C. Connelly
Kingman, AZ*

Our practice deals with abuse and starvation of horses on a regular basis. This is as much a problem—or more so—in affluent areas. These owners usually take good care of their animals initially. As interest wanes, the horse becomes a victim of gradually increasing neglect. These owners always claim to love their animals. Some have lost touch with reality, some are just ignorant of proper care, many just don't care anymore. All live in a great state of denial. I've heard every excuse in the book.

Animals that are in a life-threatening situation, or in situations with little hope of improvement, are taken into protective custody. In less severe cases, we attempt to educate the owners and rely on local authorities to do follow-up checks. Any animal that fails to improve are removed.

Doing this work is time-consuming and frustrating. It means being

willing to take a stand and to follow through all the way to court. The court may return the animals to their owner even with a guilty verdict. We usually hope that the owners will relinquish ownership of the animals in exchange for no prosecution. These people generally understand their guilt and admit their inability and unwillingness to care for the animals. Rarely do they obtain more horses.

Ironically, this work has put me at odds with other veterinarians. It seems that some practitioners are willing to overlook chronic neglect and are unwilling to confront a client. One veterinarian was willing to swear under oath that an emaciated pony with ski slope feet was receiving proper care. Two months in protective care and the pony proved him wrong!

Despite the frustrations, there are great rewards in seeing these animals slick and sassy. Ultimately, it is the animal's recovery that makes our case. Every case is interesting in its psychological and legal aspects. When we receive a call about one of these cases, we know we're in for an interesting, although perhaps not a profitable day. We do not turn the cases away. We consider this part of our responsibility to the community.

*Marta E. Granstedt, DVM
Simi Valley, CA*