

Basic Guidelines for Operating an
Equine Rescue or Retirement Facility



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OF THE UNITED STATES



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Introduction

There are all types of equine management facilities, from state-of-the-art complexes with individual stalls and caretakers for each horse to more basic operations where horses are pastured year-round with access to simple run-ins for shelter. Depending on the resources available, including acreage, quantity and quality of forage, staff levels, management preferences, numbers of equines, and a variety of other factors (including financial considerations), management practices can vary widely. However, with a sound knowledge of equine management, good planning and some creativity, equines can be kept healthy and happy for a relatively inexpensive cost.

Caring for a horse or other equine (the broader term of equine is used throughout this document) is a significant, time consuming, and long-term commitment not to be entered into lightly. No organization or facility should house more equines than can be managed with available resources, particularly where the health and condition of the equines and sanitation of the facility are concerned. Taking in more animals than can reasonably be cared for endangers the welfare of the animals and their caretakers.

Equine rescue and retirement facilities must have a good working relationship with a local licensed veterinarian and should consult with him or her as needed on various matters, including routine health maintenance, emergency veterinary care, and the evaluation of incoming equines. Facilities also should have a good working relationship with a local farrier. Forging a relationship with local law enforcement, humane organizations and equine rescue facilities is also encouraged.

Telephone numbers for veterinarians, farriers and other professional service providers should be prominently displayed at the facility in case of an emergency. Written documentation on matters such as feeding, schedules and medications should be kept in a central location so that



Many horses will readily come inside for farrier work and other care.

more than one person is aware of and has access to the standard operating procedures. Developing and practicing an emergency preparedness plan, including an evacuation routine for both people and animals, is also highly recommended.

These guidelines, while applicable to general equine management, are designed especially for use by non-profit equine rescue and retirement facilities. While not exhaustive, they offer basic parameters for operating such a facility. In addition, any facility or individual keeping equines must comply with all relevant federal, state and local laws and zoning ordinances.



Enclosures, Shelter and Fencing

Various types of enclosures are available for keeping equines, including stalls, dry lots and pastures. Regardless of what type is employed, unless otherwise directed by a veterinarian, equines shall be provided sufficient opportunity and space to exercise daily and have freedom of movement so as to reduce stress and maintain good physical condition. Space and provisions for exercise shall be appropriate for the age, breed or type, condition and size of the equine.

Provided the health and safety of any equine is not compromised, compatible equines shall be group pastured to allow social interaction. Equines pastured together shall be monitored to ensure that more dominant equines do not prevent others from accessing shelters. If this occurs, the animals shall be separated as necessary to ensure the safety and welfare of each equine.

Equines shall be provided with natural or man-made shelter that provides each equine protection from extreme weather (including, but not limited to, prevailing wind, snow, sleet, rain, sun and temperature extremes). Run-in shelters consisting of a roof and three sides are versatile and inexpensive to construct. In times of inclement weather,

they allow equines shelter from the elements, while sides may be removed as needed in warmer weather, with the remaining structure offering shelter from the sun.

Shelters shall be constructed to provide sufficient space for each equine to turn around, lie down, move his or her head freely, etc. For instance, a stall measuring 10 ½' x 10 ½' is the recommended *minimum* for the average 1,200 lb. horse.

Shelters shall be constructed or modified to allow free air flow to control humidity, avoid temperature extremes, reduce airborne contaminants, and prevent air stagnation. As a general rule, ventilation shall not be sacrificed for warmth.

All enclosures and shelters shall be kept in good repair and free of standing water, accumulated waste, sharp objects and debris.

Fencing shall be of solid construction, without sharp edges, and visible to equines. Electric wire or tape fencing may be used, but shall be visibly marked for horses (via brightly colored hanging streamers or ties) and humans (via signage). Barbed wire and high tensile wire fencing pose serious safety risks and should never be used as fencing for equines. The sharp points and twisted barbed wire can injure a horse even when the fence is well maintained. Both barbed and high tensile wire can cause severe damage to a horse's legs and even cause broken bones if the horse should get caught in downed or sagging sections of fence. All fencing shall be monitored on a regular basis to ensure its safety and effectiveness is maintained.



Feed

Under normal circumstances, equines shall receive at a minimum the equivalent of 1.5 percent to 2 percent of their body weight in high quality forage per day, unless otherwise directed by a veterinarian. If natural forage is insufficient in quality or quantity, quality hay shall supplement

the diet. Nutritious grain may also be used to supplement the diet.

Diet shall be planned with consideration for the age, breed/type, condition, size and activity level of the equine. Pregnant or lactating mares require significantly more feed to meet their nutritional needs, and their diets shall be adjusted accordingly. Starved equines shall receive a starvation refeeding diet, as directed by a veterinarian (see "New Arrivals" on page 6 for further information).

If more than one equine is fed at the same place and time, it shall be the responsibility of the owner, manager or caretaker to ensure that each of the animals receive nutrition in sufficient quantity. If necessary, equines shall be separated during feeding to ensure each has access to adequate nutrition without interference from more dominant individuals.

Equines shall have access to trace mineralized salt formulated for equines. Both block and loose form work well.

All feeding receptacles shall be kept clean and free of contaminants, such as feces, mold, mildew and insects. Grain shall be kept in closable containers to prevent infestation by insects and rodents. Hay shall be kept dry and free of mold and mildew.



Water

Pastured or stalled equines shall have access to clean, potable water at all times.

Equines who are being trained, worked, ridden or transported shall be provided water as often as necessary for their health and comfort. Activity levels and climatic conditions such as relative humidity and air movement must also be considered.

All water receptacles shall be inspected daily, kept clean and free of hazardous contaminants, and be positioned or affixed to minimize spillage.

Where possible, water receptacles shall be placed in shaded areas in warm climates.

Use of defrosters to prevent possible freezing of drinking water in inclement weather is recommended, although wiring should be secured out of any equine's reach. Any ice that forms must be broken and/or removed regularly so as to allow equines constant access to water.



General Equine Health and Veterinary Care

Each equine shall be observed for illness and/or injury at least once every 24 hours, and a veterinary professional shall be contacted if an equine is known or suspected to have experienced injury or illness, or displays abnormal behavior attributable to injury or illness.

All equines shall maintain a body condition of no less than a score 4 on the Henneke Body Condition Scoring System (see Appendix A). Exceptions shall be made for equines having been at the facility for less than six months and showing continued and documented improvements and for equines under the regular care of a veterinarian. Photographic and written records of the animal's condition over time should include body condition, weight fluctuations, feeding program and veterinary care. This documentation is strongly recommended for any equine arriving at the facility in a poor condition or for any equine failing to reach a score 4 on the Henneke Body Condition Scoring System within six months of arrival at the facility.

Quantitative fecal exams shall be performed as recommended by a veterinarian and equines shall be treated for parasites as needed or as otherwise directed by a veterinarian. Control of insects and parasites also can be assisted through manure management. Dry lots, paddocks and relatively small pastures shall be picked of manure on a regular basis, and stalls shall be cleared of manure every 24 hours. Manure shall be disposed of properly and can be spread onto empty pastures during hot, dry weather. Removal of standing water, where applicable, also can assist in controlling insects. Use of fly sprays, masks and

other methods may also be used to control insects, particularly in summer months.

Equines shall receive vaccinations as recommended by a veterinarian, including, but not limited to, Eastern and Western Encephalomyelitis (Sleeping Sickness), West Nile Virus and Tetanus. Other vaccinations to consider in consultation with a veterinarian include, but are not limited to, Rabies, Influenza, Rhino and Strangles.

Requirements for screening for Equine Infectious Anemia (via Coggins Test) vary from state to state, and facilities must comply with all relevant laws. In addition to being required when moving horses across state lines, a Coggins Test is recommended for all new equine arrivals and when equines are being adopted out to new homes or are being taken to shows or other gatherings.

The facility shall maintain and have clearly posted for all staff and volunteers the name and telephone number of a veterinarian able to make emergency calls to the facility. If foster facilities or homes are used to board equines, those caretakers shall have access to veterinarians able to make emergency calls, and the names and telephone numbers of those veterinarians shall be kept on file with the primary rescue or retirement facility.



Dental Care

Equines shall receive regular dental check-ups and treatment as necessary to facilitate proper and adequate food digestion. It is recommended that equines up to 5 years of age and over 15 years of age receive dental check-ups twice annually, while equines 5 to 15 years shall receive dental check-ups once a year. Equines with dental problems shall be examined by a veterinarian and receive treatment as needed.



Hoof Care

Equines shall receive hoof care, maintenance and trimming every six to eight weeks, or as directed by a veterinarian or qualified farrier. Hoof care shall be performed by a qualified farrier or other experienced person knowledgeable in farrier practice. Exceptions may be made when a veterinarian determines that such care would endanger the equine and/or his caretaker(s), i.e., in the case of a newly arrived equine (see "New Arrivals" page 6), or in the case of a wild equine who is pastured in sufficiently rocky or rough terrain so as to be able to virtually self-maintain his or her hooves. Whenever such exceptions are made, regular photographic and written documentation of hoof condition is recommended.



New Arrivals

Unless accompanied by veterinary records, and provided the health and safety of the equine, veterinarian and caretakers is not compromised, it is recommended that all new equines arriving at the facility undergo a physical examination by a veterinarian and be quarantined for at least two weeks. Where a full physical is not possible, a veterinarian shall at least observe and make recommendations on the equine.

If emaciated, the equine shall receive a starvation refeeding diet, along with other necessary veterinary care. One suggested refeeding program was developed by Dr. Carolyn Stull (see Appendix B).

New arrivals who are debilitated, untamed or otherwise difficult to handle need not be vaccinated immediately, nor should they be bathed, groomed or have their hooves trimmed unless they have a medical condition for which these are treatments prescribed by a veterinarian. Such equines are often best cared for through relative isolation, rest and care from one or two people.

Deworming of an equine with unknown deworming history and who is in a debilitated state shall be performed according to the direction of a veterinarian.



Adoptions

It is strongly suggested that all adoptions be accompanied by a legally binding document prohibiting the adopter from selling or placing the equine in question with another owner or facility without first contacting the facility from which the equine was adopted. The original owner may then allow said facility the opportunity to assume possession of the equine.



Breeding

No breeding of equines is permissible. All studs shall be gelded, except when determined by a veterinarian to be medically dangerous for the equine. Studs unable to be gelded shall be kept separate from mares. If

pastured, studs shall be physically separated from pastured mares by a buffer zone or aisle between each pasture wide enough to prevent nose-to-nose contact and/or fighting,

If mares arrive at the facility pregnant, a veterinarian shall provide necessary care. Following birth, it is recommended that mother and foal shall be allowed to stay together for a minimum of four months, unless otherwise directed by a veterinarian. A veterinarian shall be consulted in any event and can offer advice on safe weaning to minimize stress and digestive upset, and sound nutritional advice for pregnant or lactating mares, who require sufficiently more forage than normal.



Humane Euthanasia

Humane euthanasia shall be employed:

- When an equine is not mobile and a veterinarian is of the opinion that mobility will not return;
- When the equine's quality of life is deemed, with veterinary guidance, so poor that euthanasia is the most humane option within the means of the organization;
- When an equine is experiencing continual pain for which there is no medical relief or the relief is not within the financial capability of the facility;
- When an equine is affected by a degenerative medical condition for which there is no cure; or
- When an equine is dangerous to him or herself or other animals or humans.

Euthanasia shall only be administered by a licensed veterinarian, except in emergency circumstances where the equine is injured beyond recovery and is suffering irreversibly. The carcass shall be disposed of in compliance with all relevant laws.

APPENDIX A

Henneke Body Condition Scoring System

Don Henneke, Ph.D., developed the Henneke Body Condition Scoring System during his graduate study at Texas A & M University. It is based on both visual appraisal and palpable fat cover of the six major points of the horse that are most responsive to changes in body fat. The Henneke Chart (see page 10) is a standardized scoring tool, whereas the terms, “skinny,” “thin,” “emaciated” or “fat” are all subjective terms that have different meanings to different people.

The Henneke Scoring System is a scientific method of evaluating a horse’s body condition regardless of breed or type, sex or age. It is widely used by law enforcement agencies as an objective method of scoring a horse’s body condition in horse cruelty cases, and is accepted in a court of law.

Six parts of a horse are checked in this system—the neck, withers (where the neck ends and the back begins), shoulder, ribs, loin, and tailhead. When using the Henneke system, you should always make physical contact with these parts, and the kind of touch you use is important. Simply stroking the animal lightly won’t provide an accurate idea of the horse’s condition; you have to apply pressure to each part in turn. When a horse has a long haircoat it is particularly imperative that you use your hands to feel the horse. The horse’s long haircoat will hide the protrusion of bones in all but the most extreme cases.

The pressure you apply should be much like that of a massage; if you press a horse’s side with your hand, you’ll be able to feel the fat covering his ribs to get an idea of how much fat is present. Likewise, when checking the withers, feel all around the area, as if you were squeezing firm clay. It is possible to be firm and gentle at the same time, and both traits are necessary to properly score a horse.

After pressing each part of the horse with your hands to feel for body fat, you then assign each area of the body the numerical score that corresponds with the horse’s condition. The scores from each area are then totaled and divided by six. The resulting number is the horse’s rating on the Henneke Body Scoring Condition Chart.

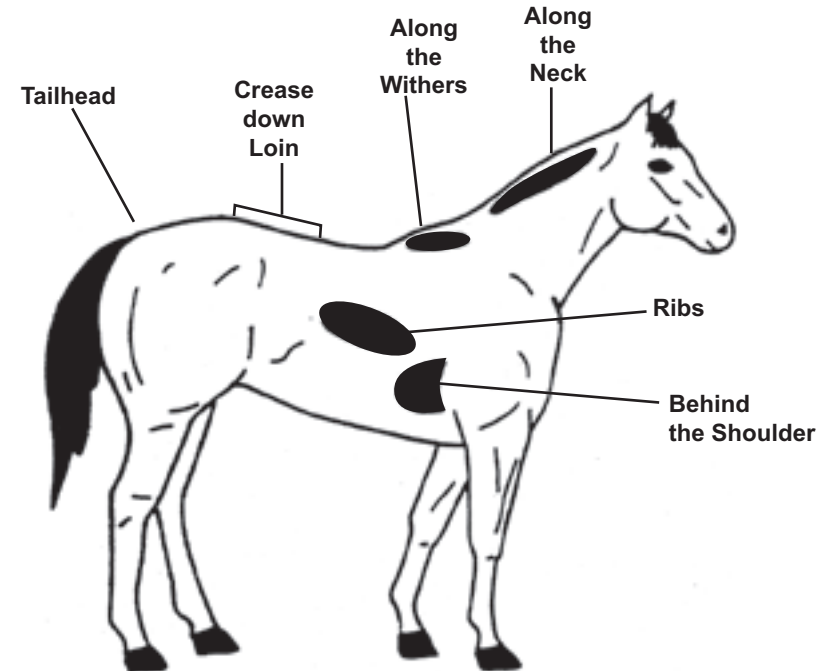
Conformational differences between horses may make certain criteria within each score difficult to apply to every animal. In these instances, those areas influenced by conformation should be discounted, but not ignored, when determining the condition score.

Conformation also changes in pregnant mares as they approach parturition (birth). Since the weight of the foal tends to pull the skin and musculature tighter over the back and ribs, emphasis is placed upon fat deposition behind the shoulder, around the tailhead and along the neck and withers in these cases.

The chart rates the horses on a scale of 1 to 9. A score of 1 is considered poor or emaciated with no body fat, and a score of 9 is considered extremely fat or obese. Equine veterinarians consider a body score of between 4 and 7 acceptable. A 5 is considered ideal.

(Source: Habitat for Horses, 2004)

Six Body Points to Check



The Henneke Body Condition Scoring Chart

CONDITION	NECK	WITHERS	SHOULDER	RIBS	LOIN	TAILHEAD
1 POOR	Bone structure easily noticeable	Bone structure easily noticeable	Bone structure easily noticeable	Ribs projecting prominently	Sinous processes projecting prominently	Tailhead, pinbones and hook bones projecting prominently
2 VERY THIN	Bone structure faintly discernible	Bone structure faintly discernible	Bone structure faintly discernible	Ribs prominent	Slight fat covering over base of spinous processes. Transverse processes of lumbar vertebrae feel rounded. Spinous processes are prominent.	Tailhead prominent
3 THIN	Neck accentuated	Withers accentuated	Shoulder accentuated	Slight fat cover over ribs. Ribs easily discernible	Fat buildup halfway on spinous processes but easily discernible. Transverse processes cannot be felt.	Tailhead prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded, but are still easily discernible. Pin bones not distinguishable.
4 MODERATELY THIN	Neck not obviously thin	Withers not obviously thin	Shoulder not obviously thin	Faint outline of ribs discernible	Negative crease (peaked appearance) along back	Prominence depends on conformation. Fat can be felt. Hook bones not discernible.
5 MODERATE	Neck blends smoothly into body	Withers rounded over spinous processes	Shoulder blends smoothly into body	Ribs cannot be visually distinguished, but can be easily felt	Back is level	Fat around tailhead beginning to feel soft
6 MODERATELY FLESHY	Fat beginning to be deposited	Fat beginning to be deposited	Fat beginning to be deposited	Fat over ribs feels spongy	May have slight positive crease (a groove)	Fat around tailhead feels soft
7 FLESHY	Fat deposited along neck	Fat deposited along withers	Fat deposited behind shoulder	Individual ribs can be felt with pressure, but noticeable fat filling between ribs	May have a positive crease down the back	Fat around tailhead is soft
8 FAT	Noticeable thickening of neck	Area along withers filled with fat	Area behind shoulder filled in flush with body	Difficult to feel ribs	Positive crease down back	Tailhead fat very soft
9 EXTREMELY FAT	Bulging fat	Bulging fat	Bulging fat	Patchy fat appearing over ribs	Obvious crease down back	Building fat around tailhead



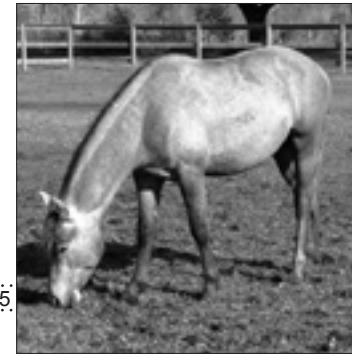
Body score 1 (poor)

Habitat for Horses



Body score 2 (very thin)

Habitat for Horses



Body score 5 (moderate, ideal)

Habitat for Horses



Body score 6 (moderately fleshy)

Habitat for Horses



The Horse Report

Body score 9 (extremely fat)

(Source: Habitat for Horses, 2004)

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The **HORSE**REPORT

Nutrition for Rehabilitating the Starved Horse

Dr. Carolyn Stull and her team of equine welfare experts provide new guidelines for refeeding starved horses

It is difficult to comprehend the long-term neglect and surrounding situations that produce such a devastated, depressed creature as a starved horse. The bones are so prominent that the skeleton appears to belong to a larger horse, the head is disproportionately large compared with the body, and the tail is always low and motionless. But the low hanging head tells it all. The ears barely move to any sounds in the environment, no extra energy is spent interacting with herd mates. The eyes are dull, without expression, without expectations.

Researchers from the UC Davis Center for Equine Health conducted a survey to assess the prevalence of starved horses in California and found the results quite disturbing.

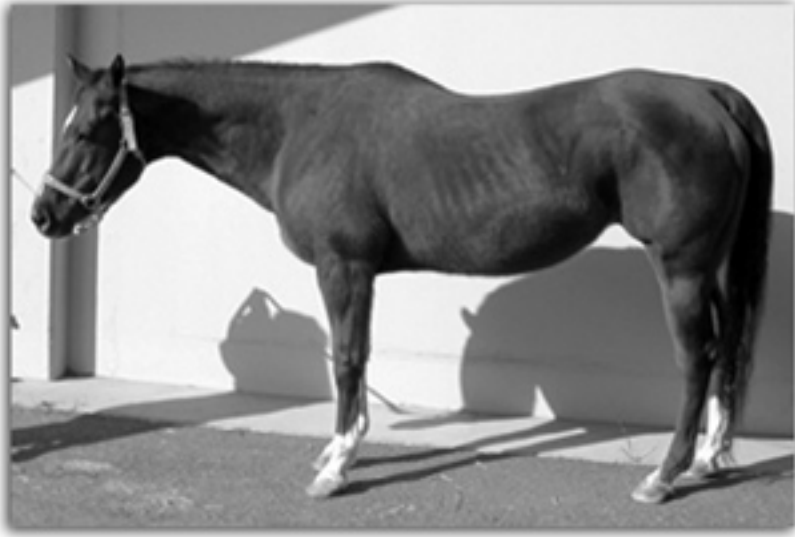
Among the responders to the survey were animal control and humane society organizations in 36 counties, with an estimated



"Kung K'ai" (Emaciated Horse), by Yuan Dyn



When first rescued, Southern Gentleman was seriously emaciated. He made a remarkable recovery after just six weeks of refeeding and proper care.



Above and below: This horse has a body condition score of 3. The ribs can be observed easily, even with the horse's winter coat, the tail head is prominent and can be felt easily, and the hip bones are rounded and protruding. Note the dip in the withers in front toward the neck and behind toward the back, exhibiting little or no fat deposits around this area.



Left: The hip shows an inverted "V" shape, with the spine at the apex, representing a lack of fat deposition.



equine population of 1,041,560. Of this number, 2,177 horses were found to be severely malnourished. The most common reason for these cases was owner ignorance, followed by economic hardship.

A research team comprised of Dr. Carolyn Stull (UC Davis Veterinary Medicine Extension), Dr. Anne Rodiek (California State University, Fresno), Dr. Christine Witham (private clinician), Dr. Pamela Hullinger (California Department of Food and Agriculture), and Kelly Weaver (UC Davis Veterinary Medicine Extension) has been studying the problem. Funded in part by Purina Mills, Inc., the study provides a standard body condition scoring system to assess the weight status of a horse and compares different diets for refeeding the malnourished horse. In both humans and horses, abrupt refeeding can cause dysfunction of the body's metabolic systems, which can lead to failure of the heart and lungs and ultimately to death. The goal of this research is to provide new information and guidelines for recognizing and treating malnourished horses.

WHAT HAPPENS DURING STARVATION

During the starvation process, the horse initially uses any fat and carbohydrate stores in his body to supply energy for metabolism. This is the normal process for any healthy horse: fat and carbohydrates are used for energy, exercise, brain function, circulation, etc., and are then replaced with nutrients from food. The cycle is constant and never-ending, even during sleep. In a starved animal, once this source of fat and carbohydrate is gone, energy is derived from the breakdown of protein. While protein is a component of every tissue, there are no inert stores of it in the body such as there are for fat and carbohydrates. Consequently, the starved body uses protein not only from muscles, but also from vital tissues such as the heart and even gastrointestinal tissues-tissue that is necessary for life. The starved body cannot select which tissue protein will be metabolized for energy. As time goes by, the horse's survival is in a precarious situation. When a horse loses more than 50 percent of its body weight, the prognosis for survival is extremely poor.

THE REFEEDING PROBLEM

Refeeding starved animals, including humans, is not an easy process. In humans suffering from starvation caused by illnesses such as

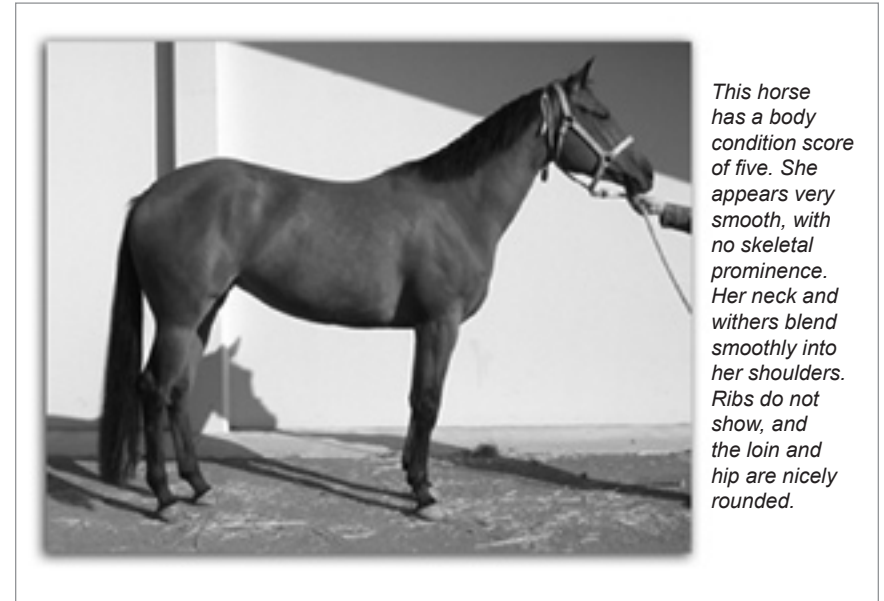
anorexia, cancer, or gastrointestinal obstruction, patients can develop “refeeding” syndrome when they are given concentrated calories, and this in turn can lead to heart, respiratory, and kidney failure usually three to five days after the initial meal. This same syndrome has been reported in the literature for horses. Thus, our research team wanted to develop a refeeding program for horses that would minimize these effects and enable the horse to return back to normal body weight. Our goals were to test feeds that were commonly available and used in horse rations, so the refeeding program could be implemented easily in any area of the country.

EXPERIMENTAL DIETS FOR REFEEDING

We selected three types of feed that were very different in nutrient composition: alfalfa hay, oat hay, and a commercially available complete feed consisting of grain, molasses, fat, and alfalfa. Alfalfa is known to be high in protein (20%) but low in carbohydrate starch (3 percent). Oat hay is high in fiber but low in protein (7 percent). The complete feed represented a feed high in carbohydrate concentration, with 19 percent starch. The three types of feed were given to 22 starved horses that were brought to the UC Davis research site as representative of horses rescued by equine organizations. Horses were fed one of the three diets over a 10-day rehabilitation period. The researchers focused on this time period as critical to successfully transitioning the gut from a starved state to a fed state. Even though the diets were different in composition, they were fed in amounts that were equivalent on a caloric basis, so that horses assigned the oat hay diet, for example, received the largest volume of feed, while the horses on the complete feed received the smallest amount, but the same number of calories at each meal.

WHICH DIET WORKED BEST?

Our results with the complete feed were very consistent with human studies conducted 20 years earlier using concentrated calories. As the horse ate the high-carbohydrate diet, insulin was released in response to the high level of starch. The job of the hormone insulin is to store the carbohydrate in cells for future energy use, but it also simultaneously draws the electrolytes phosphorous and magnesium from circulation into the cell. Since the starved horse has no stores of electrolytes, this depletion may lead to kidney, heart, and respiratory



failure. These effects do not occur with the initial meal, but usually several days to a week later, due to the repetition of insulin release following a high-carbohydrate meal and the cumulative depletion of electrolytes. The oat hay diet was very bulky and caused diarrhea in several horses. Several essential nutrients such as phosphorous and magnesium were low in the oat hay compared with the other diets; thus, this diet did not support a successful rehabilitation. The alfalfa had the best results due to its high composition of quality protein, but also the major electrolytes, phosphorus and magnesium. Since alfalfa hay is very low in carbohydrate content, there were minimal effects due to insulin response.

In a subsequent feeding study, we compared an alfalfa hay diet to a diet of combination alfalfa hay and corn oil. Equine diets usually do not contain much fat, but in recent years the use of corn oil to increase the energy density of a meal has been widely used in nutrition programs for older horses and in horses undergoing intensive training programs. The two diets were fed again on an equal-calorie basis. Although the corn oil had no harmful effects, substituting calories from corn oil for alfalfa decreased the total nutrient content of phosphorous and magnesium in the diet. Thus, the response to the diet combining corn oil and alfalfa showed a decreasing blood phosphorous level over the 10-day period,

which was not advantageous to the rehabilitation. Again, the alfalfa diet was the most effective at delivering the necessary nutrients in the correct amounts to the starved horse.

Our research showed that starved horses had very different responses to several diets. We found that the best approach for initial refeeding of the starved horse consists of frequent small amounts of high-quality alfalfa. This amount should be increased slowly at each meal and the number of feedings decreased gradually over 10 days. After 10 days to two weeks, horses can be fed as much as they will eat. The horse will show signs of increased energy after about two weeks. Ears, eyes and head movement will be the first noticeable movements. Some weight gain can be achieved in one month, but three to five months usually are needed to rehabilitate back to a normal body weight. Veterinary care and nutritional advice should be sought, as complications can arise.



This horse has a score of 9. Note the obvious crease from his spine sunk between fat deposits on either side.

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