

Napa Valley Horsemen's Association
1200 Foster Rd, Napa, CA

Animal Rescue Guidelines

Housing Evacuated and Rescued Animals



N.V.H.A. Evacuation Planning

Three separate functions:

- 1) Evacuation Point
- 2) Animal Transportation Team
- 3) Emergency Response / Rescue Team

Evacuation Point:

Provide a location for medium to large animals to be housed during an emergency evacuation.

- 1) Evaluate number and types of animals that can be safely housed on the property in it's current configuration.
- 2) Assess types of emergency's we may be called to assist with.
- 3) Make recommendations to the general membership for changes / upgrades to the facility that would allow for maximum housing.
- 4) Make an agreement with Ag4Youth for use of their pens when available.
- 5) Make contact with Napa County O.E.S. and Animal control to establish ourselves as a community resource.
- 6) Establish relationships with local feed stores (Wilson's in Napa and Brocco's in Sonoma)
- 7) Make a list of jobs & duty's that would need to be performed both at intake and ongoing during the evacuation.
- 8) Set up a procedure for animal intake (paper forms and computer database / photos)
- 9) Establish a call list of volunteer's including what duty's they are capable of.
- 10) Establish a procedure for activating the evacuation point.
- 11) Logistics of a large number of people trying to drop off animals (dry erase board signs?)

Animal Transportation Team

Provide transportation from a forward evacuation point or “safe” location to N.V.H.A.

- 1) Establish minimum requirements for truck, trailer and driver.
- 2) Put together a call list of qualified volunteer’s
- 3) Set up a communications plan
- 4) Set up a training program
 - a) List of recommended equipment / supplies
 - b) Chain of command

Emergency Response / Rescue Team



Job Assignments Barn and Pastures

- **Entry Gate:** 1 person that will be at gate to let trailers in and direct to parking area. Take name of Driver and direct them to park and before unloading head to check in station.
- **Runner:** 1 person who is a good go-between for the gate person and the check in station.
- **Parking/Unloading:** 1-2 people to help people park and be on hand to help unload should they need.
- **Check in Station:** 3-4 people to collect as much information about the horses (see also #8), the owners, and the drivers before going with driver to trailer. Take photo of horse showing the check in number.
- **Check in Supervisor:** Assigned duties to volunteers that are helping check in trailers and unloading. Maintains database and files for all animals that are unloaded.
- **Paddock set up:** 2-3 people to space out hay throughout paddocks, fill up and space out water tubs and buckets. Double check all gates have means to secure gate. Responsible for hanging signs notating what sex or breed goes in that paddock. Have access to hot wire and set up should we feel we need more divided paddocks. Those people, once set up can also transfer to the check in station or parking if we needed more help. They can also go back and replenish hay and water as needed and check on animals.
- **Designated Team Leader** – Coordinates assignments, making sure all jobs have enough personnel and volunteers are getting enough breaks from their assignment. Makes final decisions if needed.

8) Set up a procedure for animal intake

1- At Gate: Direct vehicles to unloading area. Driver must check in before unloading animals.

2- Check in Station: Direct the driver to designated parking area and have them sign in with check in station before unloading

Have driver/owner fill out Registration Form and sign. Assign animal number and have runners attach number to animal. Send runners with driver to help unload animals. Take photo of animal showing registration number

3- Parking Attendant directs to best unloading spot. Sends driver and/or owners to check in station before unloading.

After all info collected and photo taken, send animal to designated pen for their sex or breed.

* Some suggestion have been to have a vet or vet tech available on site should we need to administer sedation. We would have the medical consent signed, but perhaps that needs to be more specific about sedative administration, if necessary (ie. who, how, etc.) Most sedatives not done in vein (like a pill or in the muscle) will take 20 min to come into affect. Ideally, if we had a vet tech volunteer that would be the ideal.

Logistics of a large number of people trying to drop off animals

-Wipe off boards to label parking, gelding/stallion paddock, mare paddock, mini paddock, other live stock. One master board located at check in station

-Check in station needs: table, chairs, pens, all forms and waivers, file box, computer (if possible for data base transfer), lights (flash lights to hand out if needed at night), water, carrots or apples (if horses might be nervous getting off an need help), extra halters and leads (in

case lost in transport, etc.), tags or markers for assigning horses, clip boards, contact number list, etc.

*One side note is to decide now is what the plan for horses, donkeys, goats, etc that board at NVHA is. For example, what horses/animals get along and can get put in one smaller paddock together. I think we would want to make sure the boarders horse don't get shuffled in with new horses (for safety and also disease prevention). Those horses and paddocks should be assigned now and the set up people would be in charge of putting them in the appropriate paddock before any new horses come in. I'd imagine we need to let all boarders know of this plan so no confusion takes place during evacuations.

Job Assignments Evacuation/Rescue Teams

- **Designated Team Leader** - This person should have direct contact with the requesting agency, the victims if possible and map skills
- **Scout Vehicle** - A non trailer towing vehicle to go ahead of the convoy to make sure there are safe places for the rigs to load and turn around
- **Designated Safety Officer** - A person other then the team leader whose only duty is to watch for unsafe situations
- **Designated Training Officer** - At the very least everyone that is going out needs to have a firm grasp on their position in the team
- **Logistics Officer** Responsible for procuring animal feed needed equipment and supplies
- **Support Officer** – Responsible for taking care of the volunteers needs, from food and drinks to blankets and pillows , flashlights batteries etc.
- A strong stomach - There is a good chance that you may see things that you would rather not see
- Communications suitable for the area (at least walkie-talkies)
- A set procedure for activating a call out - Currently a call from the Sheriffs office but what about someone that wants to evacuate early as a precaution - well ahead of a fire or flood

EVACUATION CHECK LIST

Tow Vehicle

- Fuel Tank Level
- Tires Properly Inflated
- Correct Hitch
- Brakes in good condition

Trailer

- Tires Properly Inflated
- Lights, Turn Signals and Brakes in Working Order
- Spare Tire, Jack, Tire Iron
- Floors are Safe

Horses

- Halter and Lead Marked with Phone Number
- Fly Spray
- Medications and Instructions
- Feed Buckets Water

Self

- Told _____ where you were taking the horses.
- Spoke with, emailed or left message?

- Left notice(s) for fire fighters/ law enforcement that animals are evacuated.
- Location(s) of Notice(s) _____
- Marker pen 3X5 cards & duct tape
- Cell Phone Charged
- Phone Numbers and Addresses
- Water
- Flashlight
- Gloves
- Mask or Bandana
- Toilet Paper
- First Aid Kit
- Food / snacks
- Medicines (blood pressure etc)

Check List Evacuating Others' Horses

Tow Vehicle

- Fuel Tank Level
- Tires Properly Inflated
- Correct Hitch
- Brakes in good condition

Trailer

- Tires Properly Inflated
- Lights, Turn Signals and Brakes in Working Order
- Spare Tire, Jack, Tire Iron
- Floors are Safe

Horses (For Each Horse)

- Location Taken From

- How Many _____
- Numb
- Horses _____
- Halter and Lead Marked with Phone Number
- Fly Spray Medications and Instructions
- Feed
- Buckets
- Water
- Take Digital Photo
- Horses That May Be Locked In Bolt Cutters
Wire Cutters
- Hammer



**NAPA VALLEY HORSEMEN'S ASSOCIATION
EQUINE REGISTRY EVACUATION & RELEASE FORM**

Owner's Name: _____ Phone: _____ Log # _____

Physical Address: _____

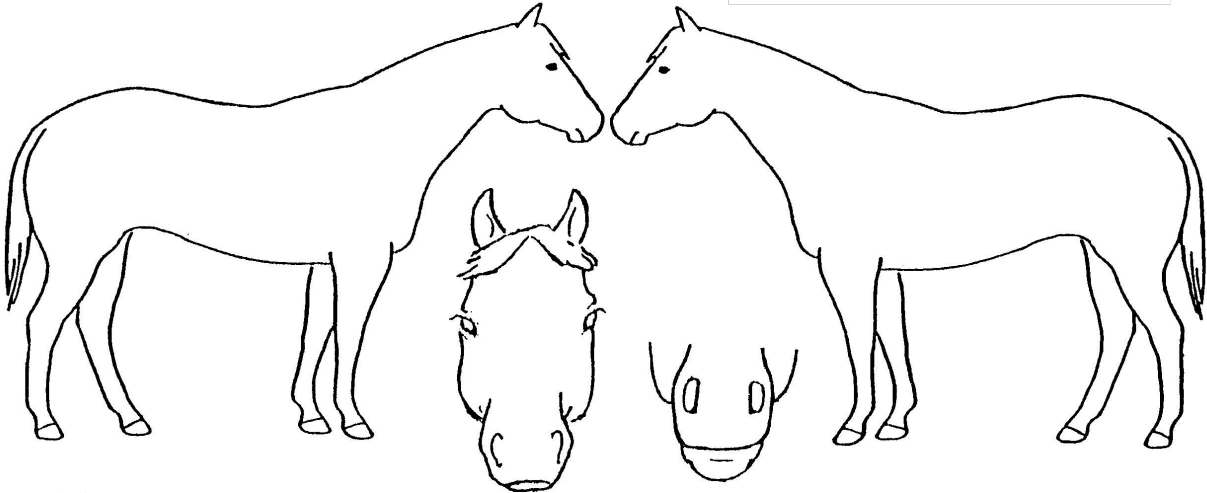
Mailing (if different): _____

APN (if known) _____ Cellular () _____ Fax () _____

Individual Equine Identification

Identification (Brand / tattoo)	Description Name and or Number	Registration	Age	Sex	Breed

Outline with dark lines the white markings of the horse being registered. Include Scars & brands.



RELEASE

- The undersigned owner(s) (agent) of the horse(s) described above hereby request the emergency quartering of these horses being evacuated because of a pending or occurring disaster.
- The horse owners (agents) hereby release the receiving property owners and any caregivers from any and all liability regarding the care and quartering of these horses during and following this emergency.
- The horse owners (agents) acknowledge that if emergency conditions pose a threat to the safety of these horses, additional relocation may be necessary and that this release is intended to extend to such relocation.
- The horse owners (agents) acknowledge that the risk of injury or death to these horses during an emergency cannot be eliminated and agree to be responsible for any veterinary expenses which may be incurred in the treatment of their horses. It is also requested that the horse owners (agents) contribute to the feeding and daily care of their horses, if possible.
- The cost (if any) of returning these horses after the emergency will be at the owner's (agent's) expense.
- If any horse is not claimed within thirty (30) days, unless prior arrangements have been made, the horse owner will be notified of possible adoption or relocation.

Printed name of Horse Owner (Agent): _____

Signature of Horse Owner (Agent): _____ Date _____

Place of Employment: _____

Address to which Owner (Agent) _____

Phone: _____ Work Phone: _____

Qualifications to be on NVHA Rescue Team (2 people teams)

Horse Trailer

1. Be able to load someone else's horse into your trailer. 2 people
2. Be able to back trailer in a straight line 50'
3. Be able to back trailer straight line the have trailer turn right 90°
4. Be able to drive up an incline from a standing start
5. Be able to back downhill
6. Be able to safely unload horse into a pen

Equipment for all horse trailers

- Helmet
- Leads, Halters
- 100' nylon woven rope
- Leather gloves
- Nitrile gloves
- Buckets for Feed/Water
- Emergency Contact List/ ID Photos
- Flashlights
- Head lamp w/extra batteries
- Cell Phone with Charger
- First Aid Kit
- Leg Wraps
- Blanket or Sheet
- Tarps
- Sharp Knife
- Shovel
- 5 – 10 gallons water
- Duct Tape
- Wire Cutters
- Walki-Talki
- Evac Registry forms/clipboard/waterproof pen
- Cattle markers

What barn might need for mass evacuation

- Additional water troughs and hoses
- Electrolytes
- Additional halters and lead ropes marked NVHA
- Portable construction lights - *Rental*
- Quarantine corral for injured horse 16' X 12' w/ 12' gate
- Extra muck buckets for feed
- Extra wheel barrows
- Extra manure forks
- Cattle markers
- Extra pipe panels for loading and unloading horses from trailers
- Additional manure box - call Napa Recycle as needed
- Generators – *Rental*
- Additional hay
- Plastic tarps
- Traffic cones
- Portable electric fencing Solar / battery

Evacuation Trailers

- Flashlights
- Halters horse, colt, draft
- Lead ropes 14'
- Lunge line or butt rope
- Flagged whips
- Cattle markers
- Bucket and water
- First aid kit for horses
- Leather gloves
- Evacuation forms to register horses - clipboard and pens



**Animal Welfare
Institute**

www.awionline.org

Animal Welfare Institute
900 Pennsylvania Avenue, SE
Washington, DC 20003
(202) 337-2332
www.awionline.org



**THE HUMANE SOCIETY
OF THE UNITED STATES**

The Humane Society of the United States
2100 L Street, NW
Washington, DC 20037
(202) 452-1100
www.humanesociety.org

Basic Guidelines for Operating an
Equine Rescue or Retirement Facility

Copyright © 2011
ISBN 0-938414-95-X
LCCN 2008922970



BASIC GUIDELINES FOR OPERATING AN EQUINE RESCUE OR RETIREMENT FACILITY

Introduction	1
Enclosures, Shelter and Fencing	3
Feed	5
Water	6
General Equine Health and Veterinary Care	7
Dental Care	9
Hoof Care	9
New Arrivals	10
Adoptions	11
Breeding	11
Humane Euthanasia	12
APPENDIX A— Henneke Body Condition Scoring System	13
APPENDIX B— Nutrition for Rehabilitating the Starved Horse	17



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 without spending too much money.

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 good working relationships with local licensed veterinarians and should consult with them as needed on various matters, including routine health maintenance, emergency veterinary care, and the evaluation of incoming equines. Facilities also should have good working relationships with local farriers. Forging a relationship with local law enforcement, humane organizations, and other equine rescue and retirement 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 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 for equines include stalls, dry lots and pastures. Regardless of what type is employed, unless otherwise directed by a veterinarian, equines must have sufficient opportunity and space to exercise daily and freedom of movement so as to reduce stress and maintain good physical condition. Space and provisions for exercise should 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 should be pastured together to allow social interaction. Equines must be monitored to ensure that more dominant equines do not prevent others from accessing shelters. If this occurs, the animals must be separated as necessary to ensure the safety and welfare of each equine.

Equines must be provided with natural or man-made shelters that provide 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 protection from the elements, and in the summer, ample shade and relief from flies.

Shelters must 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 10½' x 10½' is the recommended minimum for the average 1,200 lb. horse.

Shelters must 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 should not be sacrificed for warmth.

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

Fencing must be of solid construction, without sharp edges, and visible to equines. Electric wire or tape fencing may be used, but must be visibly marked for equines (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 an equine even when the fence is well maintained. Both barbed and high tensile wire can cause severe damage to an equine's legs and even cause broken bones if the equine should get caught in downed or sagging sections of fence. All fencing must be monitored on a regular basis to maintain safety and effectiveness.



FEED

Under normal circumstances, equines must receive at minimum the equivalent of 1.5 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, high-quality hay should supplement the diet. Nutritious grain may also be used to supplement the diet.

Diet should be planned with consideration for the age, breed or 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 must be adjusted accordingly. Starved equines must receive a starvation refeeding diet, as directed by a veterinarian (see “New Arrivals” on page 10 for further information).

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



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

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

WATER

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

Equines who are being trained, worked, ridden or transported must 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 must be inspected daily, kept clean and free of hazardous contaminants, and be positioned or affixed to minimize spillage.

In warm climates, water receptacles should be placed in available shaded areas.

Use of defrosters to prevent freezing of drinking water in inclement weather is recommended, although wiring must be secured out of equines' 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 must be observed for illness and/or injury at least once every 24 hours, and a veterinary professional must 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 must maintain a body condition score of 4 or above using the Henneke Body Condition Scoring System (see Appendix A on page 13). Exceptions can 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 particularly important for any



equine arriving at the facility in a poor condition or for any equine failing to reach a score of 4 on the Henneke scale within six months of arrival at the facility.

Quantitative fecal exams must be performed as recommended by a veterinarian and equines must be treated for parasites as needed or as otherwise directed by a veterinarian. Proper manure management will also help control insects and parasites. Manure must be removed from dry lots, paddocks and relatively small pastures on a regular basis, and stalls must be cleared of manure every 24 hours. Manure must be

disposed of properly and can be spread onto empty pastures during hot, dry weather. Where feasible, remove standing water. Use of fly sprays, masks and other methods may also be used to control insects, particularly in summer months.

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

DENTAL CARE

Equines must receive regular dental check-ups and treatment as necessary to facilitate proper and adequate food digestion. It is

recommended that equines under 5 years of age and over 15 years of age receive dental check-ups twice annually, while equines between 5 and 15 years of age should receive dental check-ups once a year. Equines with dental problems must be examined by a veterinarian and receive treatment as needed.

HOOF CARE

Equines must receive hoof care, maintenance and trimming every six to eight weeks, or as directed by a veterinarian or qualified farrier. Hoof care must 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" below), or in the case of a wild equine who is pastured in sufficiently rocky or rough terrain so as to be able to self-maintain his or her hooves. Whenever such exceptions are made, regular photographic and written documentation of hoof condition is recommended.

NEW ARRIVALS

Unless doing so would compromise the health and safety of the equine, veterinarian and/or caretakers, it is recommended that all new equines arriving at the facility without veterinary records undergo a physical examination by a veterinarian and be quarantined for at least two weeks. Where a full physical examination is not possible, a veterinarian must at least observe and make recommendations on the equine.

If emaciated, the equine must receive a starvation refeeding diet, along with other necessary veterinary care. (See Appendix B on page 17 for one suggested refeeding program.)

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 a veterinarian prescribes these treatments for a medical condition. Such equines are often best cared for through relative isolation, rest and handling by just one or two people.



Parasite control of an equine with unknown deworming history and who is in a debilitated state must be performed under 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 prior written approval of the sale or transfer from the facility from which the equine was adopted.

BREEDING

Equines in rescue or retirement facilities must not be bred. All studs should be gelded, except when determined by a veterinarian to be medically dangerous for the equine. Studs who cannot be gelded must be kept separate from mares. If pastured, studs must be physically separated from pastured mares with a buffer zone or aisle between each pasture, wide enough to prevent nose-to-nose contact and/or fighting.

If pregnant mares arrive at the facility, a veterinarian must provide necessary care. Following birth, mother and foal must be allowed to stay together for a minimum of four months, unless otherwise directed by a veterinarian. A veterinarian should advise on safe weaning techniques to minimize stress and digestive upset of the foals, and proper nutrition to meet the additional needs of pregnant or lactating mares.

HUMANE EUTHANASIA

Humane euthanasia should be employed when an equine:

- Is not mobile and a veterinarian is of the opinion that mobility will not return;
- Has a prospective quality of life that—with veterinary guidance—is deemed so poor that euthanasia is the most humane option within the means of the organization;
- Is experiencing chronic pain for which there is no medical relief

or the relief is not within the financial capacity of the facility;

- Is affected by a degenerative medical condition for which there is no cure; or

- Poses a serious threat to other animals or humans.

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



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 15) 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 provides an objective means to evaluate a horse’s body condition regardless of breed or type, gender, or age. It is widely used by law enforcement agencies in horse cruelty cases, and is accepted as a scientific method of evaluating equine body condition in courts of law.

Six parts of a horse are evaluated—the neck, withers (where the neck ends and the back begins), shoulder, ribs, loin, and tailhead. When using the Henneke System, the person conducting the evaluation should always make physical contact with these parts, and the kind of

touch used is important. Simply stroking the animal lightly won’t provide an accurate idea of the horse’s condition; the examiner must apply pressure to each part in turn. When a horse has a long haircoat it is particularly imperative that the horse be examined carefully by hand. Otherwise, in all but the most extreme cases, the horse’s long haircoat will hide protrusions of bone.

The pressure applied should be similar to that of a massage; pressing a horse’s side with one’s hand and feeling the flesh covering the ribs will indicate how much fat is present. When checking the withers, the examiner should feel all around the area as if squeezing firm clay. Be both firm and gentle—both traits are necessary to properly score a horse.

After pressing each part of the horse with the hands to feel for body fat, the examiner assigns each area of the body the numerical score corresponding to 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 such instances, areas influenced by conformation should be taken into account when interpreting the final score.

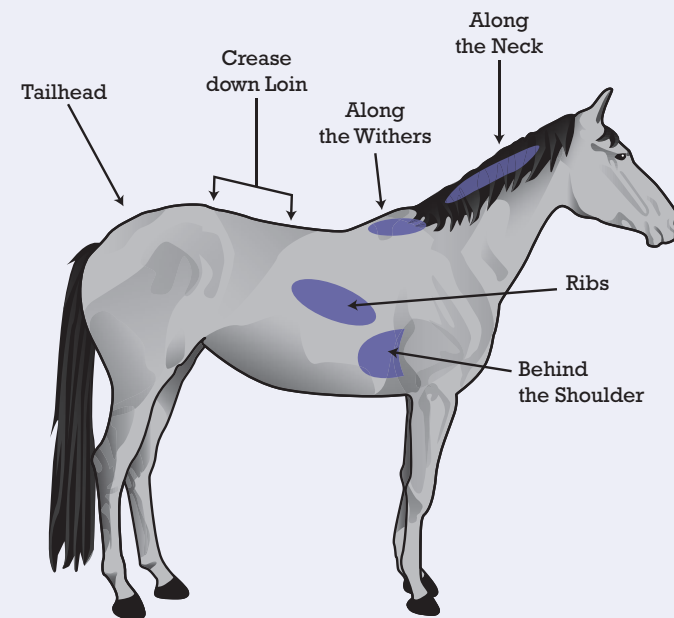
Conformation also changes in pregnant mares as they approach parturition (birth). Since the weight of the foal tends to pull the skin and musculature tighter over the back

and ribs, greater emphasis is placed upon fat deposition behind the shoulder, around the tailhead and along the neck and withers.

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, with 5 considered ideal.

(Source: Habitat for Horses)

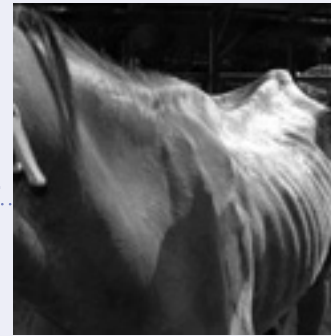
SIX BODY POINTS TO CHECK



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	Spinous 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

(Source: Habitat for Horses)



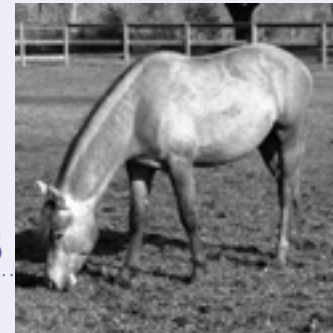
1

Body score 1 (poor)



2

Body score 2 (very thin)



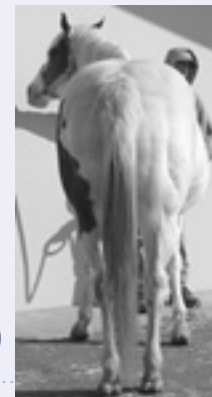
5

Body score 5 (moderate, ideal)



6

Body score 6 (moderately fleshy)



9

Body score 9 (extremely fat)



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

APPENDIX B

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 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



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



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.

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 percent) 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.



This horse has a body condition score of five. She appears very smooth, with no skeletal prominence. Her neck and withers blend smoothly into her shoulders. Ribs do not show, and the loin and hip are nicely rounded.

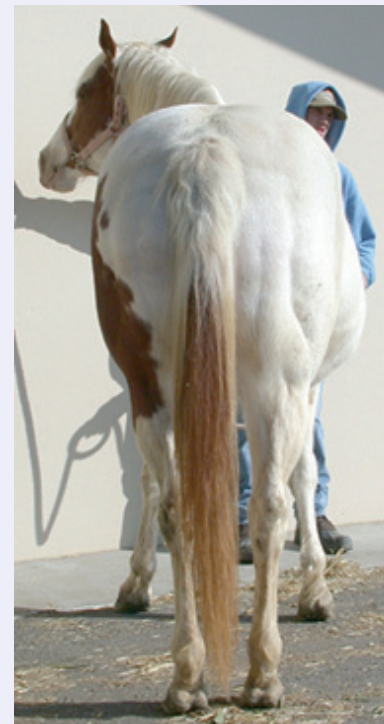
WHICH DIET WORKED BEST?

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



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

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.

Appendix B is reprinted from *The Horse Report*, Volume 21, Number 3, July 2003. *The Horse Report* is copyrighted © 2001-2003 by the Regents of the University of California. Use of this material for re-publication is allowed only by permission of the Center for Equine Health. Contact CEH (cehwebmaster@ucdavis.edu) for availability of printed materials.