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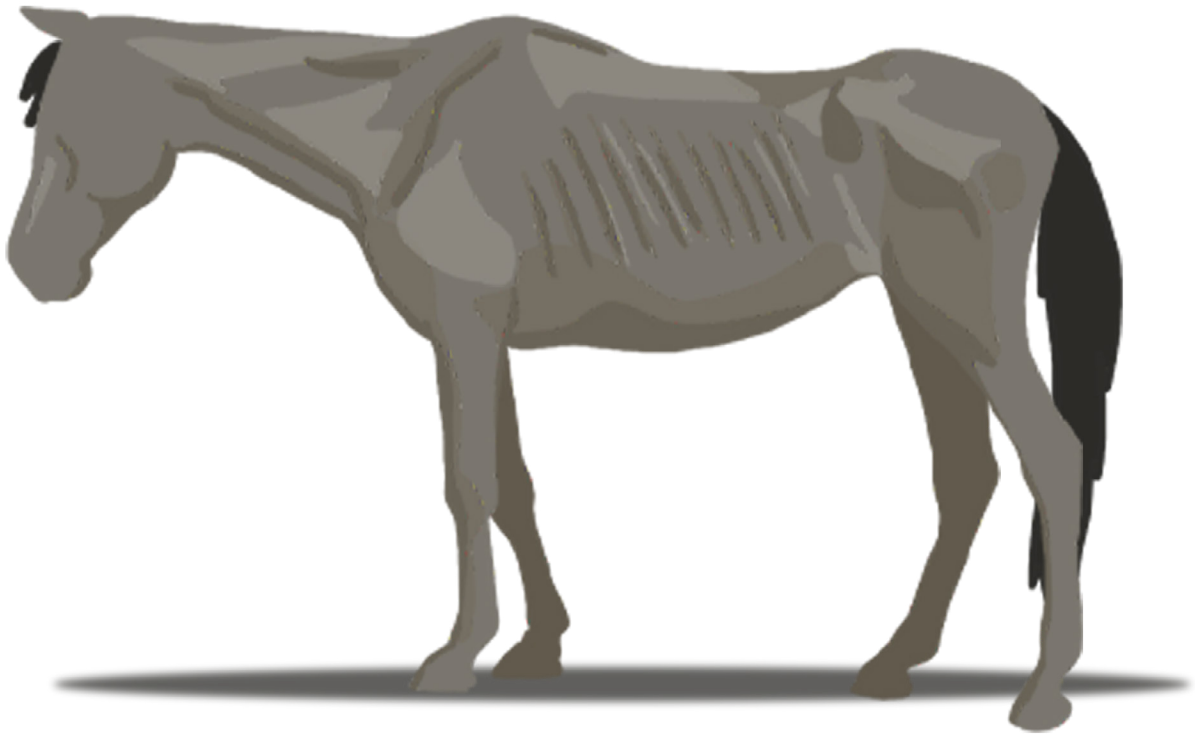

REFEEDING PROTOCOL

FOR THE STARVING HORSE

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A FEW NOTES

- **Document the horse's weight** with a weight tape and photos weekly. If possible, the horse should be reassessed by a veterinarian every 4 to 6 weeks.
- Ongoing **veterinary involvement in refeeding horses is often key** to a positive outcome.
- Diarrhea and colitis are serious and can compromise the chance for successful rehabilitation. **Slow and steady refeeding is key.**
- Horses should begin to show **increased energy levels after about 14 days of refeeding**. This is often seen in eye, ear and head movements.

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The Kentucky Horse Council is a nonprofit organization dedicated, through education and leadership, to the protection and development of the Kentucky equine community.

Photos provided by Sarah Coleman and Jennifer Roytz

How to Properly Refeed a Starving Horse

With quality veterinary care and a proper nutrition plan, many malnourished horses can return to good health. It's important to note that depending on the individual horse, it may take three to 10 months — or more — for the horse to return to a healthy weight.

A slow-and-steady approach, detailed in this document, **is imperative** and will reduce the likelihood of potential complications.

There are two tools of the trade that are essential to refeeding success: a **weight tape** and a **food scale**.

DON'T KILL THE HORSE WITH KINDNESS

Though it can be tempting to throw loads of grain (and mashes and hay!) at a horse who is undernourished, it's imperative that you **don't offer an endless supply of food**. A horse that is malnourished needs a controlled, systematic refeeding regimen to get back to health. This means offering small meals multiple times, increasing quantity as he gains weight and health.

Starved horses can safely gain 0.5 to 1 pound of body weight per day – though this amount can seem miniscule for an animal that might top out at over 1,000 pounds!

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Proper Steps to Care for a Malnourished Horse

STEP 1:
HAVE THE HORSE EVALUATED BY A VETERINARIAN

It's critical that the caretaker of a malnourished horse work closely with an equine veterinarian, especially if this is their first foray into refeeding a neglected horse. The vet will perform a physical exam to determine if the horse is facing any other health challenges besides being malnourished.

Once overall health information has been gathered, the vet will devise a refeeding plan, often in conjunction with an equine nutritionist. This plan will facilitate weight gain while avoiding complications. **Starved horses are at risk of "refeeding syndrome," which occurs when their digestive and metabolic systems are overwhelmed by the reintroduction of nutrients**. A malnourished horse that is given too many nutrients too rapidly can experience heart, kidney and respiratory system failure, and death.

Refeeding syndrome is more likely to occur in horses with a body condition score (BCS) of less than 3 (see Appendix to learn more about body condition scores). If it will occur, refeeding syndrome usually happens within the first 10 days of the horse being offered additional hay and feed. Horses suffering from refeeding syndrome may be irritable and aggressive; they may also get weaker instead of stronger and they might develop neurologic issues. If any of these signs are seen, contact your veterinarian immediately.

STEP 2:
HELP WITH HYDRATION

The first thing that should be addressed with a malnourished horse is rehydration – even before adding hay or grain.

If the horse is severely dehydrated, but willing to drink from a bucket, offer ½- to 1 gallon of water (with a bit of table salt added) every 30 minutes until the horse is no longer thirsty. Once the horse has satisfied its thirst, it is safe to offer free-choice water.

If the horse cannot or will not drink from a bucket, use a 60-cc syringe to draw the water out of the bucket and place it in the horse's mouth. Repeat until the bucket is empty on the same schedule as mentioned above. A vet may need to administer intravenous fluids if the syringe technique is too difficult or if you can't get the horse to drink.

> ***Water is the most essential nutrient for the horse.***

Refeeding: How To

THE FIRST 10 DAYS

The first 10 days of refeeding are the most important in rehabilitating a severely starved horse. All feed and hay given to a malnourished horse should be weighed before being offered.

Small, frequent meals should be fed round-the-clock (if possible) for the first 2 to 4 weeks of refeeding. Probiotics or ulcer treatments may be helpful, but must be used under veterinary guidance. The suggested feeding schedule (see table on right) is based on what should be a 1,000-pound horse.

ADDING CONCENTRATES

After 21 days with no complications, the horse can be fed 4 ounces of grain twice a day. Commercial feeds that are high in fat and fiber are preferred; most of these types of feeds are pelleted. Many of those made for senior horses are a great choice as they are often easy to chew, high in fiber and highly digestible.

Senior and complete feeds tend to be lower in calories than horse feeds designed for horses in other life stages and workloads, so they must be fed in higher quantities to meet daily nutrient needs. This 4-ounce amount should be increased slowly, a few ounces at a time, until the recommended feeding level is reached.

The daily amount of a fully fortified grain a horse receives should not exceed 1 percent of his body weight (ie, 10 pounds a day for a horse that weighs 1,000 pounds). No single feeding should exceed 5 pounds of grain. A horse ingesting a complete feed should be fed 2 percent of his body weight per day. Caretakers should follow manufacturer's guidelines for feeding complete feeds.

DAY 1-10 FEEDING SCHEDULE

Days 1 – 3: Offer approximately 1 pound of high-quality, leafy alfalfa every 4 hours for a total of 6 pounds of hay per day in six feedings.

Days 4 – 6: Slowly increase the amount of alfalfa being fed while decreasing the number of feedings. By day 6, the horse should be offered just over 4 pounds of alfalfa every 8 hours for a total of ~13 pounds of alfalfa per day.

After Day 10: Re-evaluate the horse. If the horse has responded positively, your vet may suggest that any dental issues and deworming be addressed; both of these are beneficial to weight gain. The horse can now be offered unlimited alfalfa and feedings can be decreased to twice a day. A salt block can be provided at this time and the horse can slowly be introduced to pasture grass, beginning with 30 minutes per day. Contact your veterinarian for more-specific guidelines as nutrient loads in pasture grasses are dependent on the region of the country in which you reside and the time of year.

If a Horse Can't Eat

Some malnourished horses are unable to ingest an appropriate number of calories because their teeth have not been cared for.

A horse being fed a complete feed can have his feed soaked to accommodate ingestion. A horse eating a fully fortified feed can also be offered soaked alfalfa cubes, soaked alfalfa pellets or soaked beet pulp.

Fat Supplementation

If the horse has shown no ill effects to the refeeding plan after the first 30 days, additional fat supplementation can begin. Topdressing grain meals with fat adds calories to the malnourished horse's diet to encourage weight gain.

Fat is often fed in the form of canola, corn, soy or vegetable oil. Fat should be added over a 2- to 3-week period to avoid gastrointestinal upset.

Begin topdressing grain with ¼-cup of oil daily, increasing the volume by ¼-cup every 5 days until the desired oil level is reached. A horse should be fed no more than 1 fluid ounce of oil per 100 pounds of body weight.

If the horse's manure becomes loose, his body is having trouble processing all the oil he is receiving. Reduce his oil intake by 2 fluid ounces until his manure solidifies.

> ***Diarrhea and colitis are serious and can compromise the chance for successful rehabilitation.***
>
> ***Ongoing veterinary involvement in refeeding horses is often key to a positive outcome.***

When Euthanasia is Warranted

Though we hope that a concerted refeeding protocol would assist all malnourished horses in returning to health, some horses will not be able to overcome the damage done to their bodies and a peaceful passing may be warranted.

Consider euthanasia when:

- A horse with a BCS of 1 has shown no improvement in 60 days of refeeding.
- The horse has been down for 5 or more days.
- A veterinarian has diagnosed the horse with serious health issues in addition to being malnourished.
- The horse will not eat.
- The horse's organs are failing.
- There is evidence of heart, liver and kidney failure.
- Labor and money for proper care of the malnourished horse is not available.

APPENDIX: BODY CONDITION SCORING

Just like humans, horses come in all shapes and sizes, and each has a different metabolism. Often people struggle with a subjective system of labeling horses as thin, fat or just right. An easy way to determine the condition of a horse is to gauge their body condition score (BCS) using the Henneke Body Condition Scoring Chart (see table below).

The neck, withers, shoulder, ribs, loin and tailhead should be examined both visually and by touch; the scores for each area should be recorded. The body condition score of the horse is the average of the six scores. Scores range from 1 to 9, with an acceptable BCS from 4 to 7. The ideal BCS is 5.

Horses with less-than-ideal BCS (3 or lower) may need a change in diet to increase their nutrient intake to accommodate their needs. Horses with a BCS greater than 7 also need a change in diet to decrease their caloric intake to help them lose excess weight.

The physical appearance of a horse can appear far different from the actual score it receives, especially if the horse has a thick hair coat, is pregnant or has prominent bone structure (high withers, angular hips, etc). It is imperative that you touch each of the six areas to accurately determine body condition score.

BCS GUIDELINE

The ideal body condition score for a horse is 5. Horses with certain chronic health conditions (like an endocrine disorder) may maintain low body condition scores despite being offered acceptable nourishment and having the ability to ingest it. Some older horses may not maintain body condition well. Law enforcement officials (often animal control officers and sheriffs) are often called to investigate the care of a horse with a body condition score of less than 3 to ensure that the horse is not being neglected and that it is being offered the minimum food, drink, space and health care requirements.

CONDITION	NECK	WITHERS	SHOULDER	RIBS	LOIN	TAILHEAD
1 Poor	Bone structure easily noticeable	Bone structure easily noticeable	Bone structure easily noticeable	Ribs protruding prominently	Spinious processes projecting prominently	Tailhead, pin bones 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 over ribs; ribs easily discernable	Fat buildup halfway on spinous processes, but easily discernable. Traverse processes cannot be felt	Tailhead prominent, but individual vertebrae cannot be visibly identified. Hook bones appear rounded, but are still easily identifiable. 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 discernable

HENNEKE BODY CONDITION SCORING CHART

CONDITION	NECK	WITHERS	SHOULDER	RIBS	LOIN	TAILHEAD
5 Moderate (Ideal Weight)	Neck blends smoothly into body	Withers rounded over spinous processes	Shoulder blends smoothly into body	Ribs cannot be visually distinguished, but can easily be 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 a slight positive crease (a groove) down back	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 the neck	Area along withers filled with fat	Area behind shoulder flush with body	Difficult to feel ribs	Positive crease down the back	Fat around tailhead very soft
9 Extremely Fat	Bulging fat	Bulging fat	Bulging fat	Patchy fat appearing over ribs	Obvious crease down the back	Bulging fat around tailhead