

The first step in rehabilitating a thin or starving horse is to understand the Texas A&M University body condition scoring system. This system will help you accurately and objectively evaluate the horse's condition. (See the attached document, "A Better Weigh," from [www.TheHorse.com](http://www.TheHorse.com).)

The lower the body condition score (BCS), the more difficult it is to successfully rehabilitate a horse. Horses with a BCS of one or two are especially vulnerable to what is known as re-feeding syndrome. Our natural inclination is to provide an emaciated horse with a lot of calorie-dense food, but special care when feeding is what is truly needed to prevent further serious complications or inadvertent death.

## **DETERMINING THE CAUSE(S) OF EMACIATION**

The natural assumption when a horse has a low BCS is that he or she has had a lack of food. But numerous other factors can cause a horse to have a low BCS:

- Insufficient or poor-quality feed
- Neglect or abuse
- Dental disease
- Infectious or non-infectious disease
- Workload
- Pregnancy and lactation
- Bullying by herd mates
- Insufficient water
- Persistent low-grade pain
- Heavy parasite load
- High stress

To get a complete picture, it is essential to consult a veterinarian who is experienced in re-feeding syndrome and who can help put together a recovery plan to address any contributing factors.

In some cases of severe starvation, it may be necessary to wait to address contributing issues, such as dental disease or parasite load, until the horse has reached a more stable condition and is strong enough to undergo treatment.



*Red upon arrival at Best Friends*



*Red after five months*

## **THE PROCESS OF STARVATION**

The process of starvation follows a predictable course:

- Stored fat is used by the body first.
- When stored fat is depleted, muscle tissue is the next to be used. Any and all muscle tissue can be used, including heart muscle and gastrointestinal smooth muscle, which, if affected, can cause long-term problems for the horse.
- When muscle tissue is used, it leads to total body depletion of fat, protein and electrolytes.
- Finally, digestive function deteriorates, leading to diminished absorption of nutrients and abnormal gastrointestinal function.

The more advanced or prolonged the starvation, the more damage that's done, and the likelihood of a full recovery diminishes.

## **ABOUT RE-FEEDING SYNDROME**

Re-feeding syndrome occurs with the introduction of concentrated calories — typically feeds with a high glycemic value, such as grains and complete or processed pellets.

The high glycemic grains cause a release of insulin. The insulin causes a shift of electrolytes into the cells, resulting in severe electrolyte depletion throughout the body, particularly of phosphorous and potassium. The end result is red blood cell dysfunction, which results in sudden organ dysfunction and respiratory and heart failure.

## **AVOIDING RE-FEEDING SYNDROME**

Here's how to avoid re-feeding syndrome:

- Don't feed concentrates or processed feeds.
- Provide access to free choice fresh water.
- Provide access to trace mineral salt and plain white salt.
- Provide frequent small amounts of grass hay to start.
- Slowly increase the amount of feed at each meal.
- Gradually decrease the number of feedings over ten days.
- After 10 to 14 days, feed horses free choice grass hay.
- Mix alfalfa and grass hay or alfalfa hay and gradually add it to grass hay to reach a ratio of 50/50.

According to a study on re-feeding syndrome by the Center for Equine Health at the School of Veterinary Medicine at the University of California, Davis, a high-quality alfalfa is the best forage for starved horses. You can read about this study here: [vetmed.ucdavis.edu/ceh/docs/horsereport/pubs-July2012-bkm-sec.pdf](http://vetmed.ucdavis.edu/ceh/docs/horsereport/pubs-July2012-bkm-sec.pdf).

We have had the best luck starting Best Friends horses on grass hay (specifically timothy, orchard or brome) for the first 10 to 14 days. Once the horses have reached the point where they are able to eat the grass hay free choice, we begin slowly introducing alfalfa over the next 10 to 14 days, eventually reaching a 50/50 ratio.

In cases when dental issues limit the horse's ability to adequately chew hay enough to get any nutrition, we recommend using timothy hay pellets soaked with enough water to make them into a soft mush. As with the hay, start with frequent small meals throughout the day and gradually increase them over the course of 10 to 14 days. After that, you can start introducing small quantities of alfalfa pellets to the timothy pellets until you reach a 50/50 ratio.



*Dee had a BCS of one upon arrival at 36 years old. His poor condition was due primarily to dental issues as a result of his advanced years.*



*Dee at 38 years old*



*Dee was still going strong at 42 years old.  
He lived to the ripe old age of 47!*

### **ADDITIONAL TIPS AND COMPLICATIONS**

It's important to restrict exercise for starved horses since they have atrophy of cardiac muscle. You can easily overwhelm their energy reserves, even with mild exercise.

Common complications when rehabilitating starved horses can include severe colitis (diarrhea), laminitis, colic and more. Recognizing potential complications, knowing how to assess a horse's basic vital signs and involving an experienced veterinarian at the start are vital to a horse's successful outcome.

### **WHAT TO EXPECT**

The survival rate of horses with a BCS of three is 35 percent. That percentage drops as the BCS decreases. So, it's important to have realistic expectations when rehabilitating starved horses.

After two weeks, horses should start to show signs of increased energy. Ears, eyes and head movements are the first noticeable improvements. It can take six months to one year to obtain a normal body condition, so please proceed slowly.