Feeding Starving Horses

Unfortunately, there are still too many horses suffering from severe malnutrition. Some are lucky enough to be rescued in time; others are not. It is difficult not to react at the sight of a neglected animal, and many horse-lovers want to help. While the first impulse is to provide lots of food, it is important to resist this impulse as it does more harm than good.

by Josée Lalonde, B.Sc. and Marie-Andrée Larocque, Agr.

Malnutrition is defined as a dietary imbalance caused by an inadequate intake of certain nutrients, or by a disorder affecting the digestion and absorption of nutrients. Under this definition, a horse whose daily feed ration contains too little, too much, or the wrong proportions of the various nutrients essential to a balanced diet, falls under the category of animals suffering from malnutrition. The same applies to a horse that cannot properly assimilate the nutrients contained in its ration.

Although the primary cause of excessive weight loss in a horse is a lack of food, other causes may contribute to this condition, such as the presence of intestinal parasites, dental issues, chronic liver, kidney, pancreatic or heart disease, cancer, etc. (NRC, 2007; Kronfeld, 1993). Faced with a serious case of emaciation, consulting a veterinarian is key to making the right diagnosis and then administering the correct treatment.

Ignorance or Neglect
In most cases, common malnutrition issues are quite involuntary and are mostly due to ignorance, particularly when the clinical signs are unclear. Any conscientious and well-intentioned owner will take the advice of his horse nutritionist and veterinarian and quickly restore the balance in his horse’s feed ration or, if necessary, administer the appropriate treatment if the animal suffers from a digestive disorder.

In other cases, the signs of malnutrition and neglect are obvious, and can no longer be ascribed to mere ignorance. Emaciation, muscular atrophy, a dull coat, glassy eyes and general weakness are the tell-tale signs of malnutrition. Furthermore, undernourished horses suffer from slower gastrointestinal and immune functions, a reduced tolerance to cold and poorer wound-healing.

It is difficult to explain why a person would allow a horse to starve to death. According to the University of Minnesota Veterinary College, most cases of neglect occur when a person purchases more horses than he can afford to care for or when the workload involved exceeds his level of commitment.

Older horses are possibly more often victims of malnutrition, as some owners are often less knowledgeable of their special needs and, unfortunately, also less inclined to give them the care and attention they need.

When a horse suffers from severe malnutrition, it must initially draw from its fat reserves, then from its protein reserves, which in turn results in the complete depletion of fat, protein and
electrolytes in the body. When malnutrition is so severe that the horse has not been able to get to its feet for several days, the prognosis is grim. The same holds true for a horse that has lost 50% of its body weight.

Refeeding Syndrome
When trying to rehabilitate a neglected horse, the risk of contracting refeeding syndrome is high. Electrolyte imbalances are at the root of this serious disorder characterized by a low blood plasma concentration of magnesium, potassium and phosphorus (UC Davis). In fact, after an intake of calories, particularly in the form of non-structural carbohydrates, insulin is released in response to an increase in blood glucose, which causes an influx of electrolytes toward the cells’ interior. Because the horse’s electrolytic reserves are already practically non-existent due to malnutrition, their concentration in the blood will be insufficient.

Refeeding syndrome may lead to kidney, lung and heart failure, causing death within three to five days of food intake (Stull, 2003). It is therefore crucial to re-introduce food very gradually, providing small rations served several times a day. Also, in this way, bacterial flora present in the large intestine that was severely affected by malnutrition will progressively adapt to new food, thus helping to prevent digestive ailments such as colic, diarrhea and founder.

Refeeding to Minimize Risks
While research on refeeding a starving horse is limited, the feeding protocol listed in the following chart remains the most currently recommended, as it was used in a study carried out on horses suffering from severe malnutrition by Carolyn Stull, Ph.D. This protocol may be modified for less severely affected horses, however it is essential to exercise caution at all times and consult a veterinarian as well as a horse nutritionist.

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<th>Refeeding Protocol</th>
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<td>Days 1 to 3: Provide approximately 0.5 kg of alfalfa hay* every 4 hours, for a daily total of 3 kg, divided up into 6 small rations.</td>
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<td>Days 4 to 10: Progressively increase the amount of alfalfa hay* provided daily while reducing the frequency of feedings so that by day 6 the horse is fed 2 kg of hay every 8 hours, for a daily total of 6 kg divided up into three rations.</td>
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<td>Day 11 and onward: Provide as much alfalfa hay* as the horse can eat and reduce feeding to twice a day.</td>
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<td>Throughout this refeeding protocol, always provide fresh clean water. Beginning on day 11, a salt block may be added to the horse’s diet.</td>
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*Other studies suggest that a hay mixture of timothy and alfalfa would be more appropriate.

Once the first critical days have passed, if its health permits it, the horse may feed in the pasture, on condition that access is given slowly and progressively, for example by increasing access by an hour, at most, every three days.
According to Dr. Stull, concentrates should be provided once the horse is well on its way to recovery, rarely before three to four weeks after treatment begins. Increasing the amount of concentrates must be gradual, for example every three days, on condition that the horse is adapting well; fibre and fat-based complete feeds are preferable to starch-based varieties. Particular attention must be paid to the quality of the source of protein contained in the complete feed provided. Remember that a horse needs protein in order to reconstruct its muscles and regain muscle tone.

Because the horse’s digestive system remains extremely fragile, it is imperative to provide feed of the highest possible quality. For this same reason, a gradual introduction of probiotics is generally recommended to encourage the development of healthy intestinal flora. A feed balancer should also be added to the horse’s rations to improve its vitamin and mineral nutritional status, thus promoting immune system development and boosting recovery. Lastly, administering B complex vitamins will encourage energy metabolism, thiamin (B1) in particular may help prevent refeeding syndrome if provided at the beginning of refeeding.

The Importance of Management
Dental care and a deworming program are essential and will allow the horse to fully benefit from the refeeding protocol. However, in order to avoid stress on a horse that is already seriously weakened, it is recommended to wait until the animal is more used to its new diet. This should occur around the tenth or eleventh day or even later. Unless absolutely necessary, anything that is a source of stress should be avoided for at least the first 10 days, including horseshoeing.

Whether the horse was accustomed to living in a stall or out in a pasture with other horses, it is better to keep it in a similar environment to reduce stress. No forced exercise should be demanded of the animal before it has regained a minimal body condition of four. For a stabled horse, it is recommended to walk it daily on a lead for about 15 minutes for the first few days to avoid lower limb oedema; at the first sign of shortness of breath or fatigue, the horse must be returned to the stall. As soon as its health allows, the horse may be let out to roam freely for as long as possible in a paddock or secured pasture.

Malnutrition can cause numerous health problems. It is important to work together with your veterinarian to help your new protégé recover its health. Remember that rehabilitating horses suffering from malnutrition can take several months, sometimes even up to a year depending on the condition in which the horse was found. Precipitating matters is not useful, so it is better to proceed gradually and let the horse re-accustom itself to an abundant balanced diet. In this way, it can begin to thrive in its new life.

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