



# Avoiding “Feed Founder”

*For some horses, you can reduce feed, farrier, and vet bills in one fell swoop*

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**J**ust the word “laminitis” can strike fear into the heart of a horse owner. It is an all-too-common condition responsible for debilitating lameness in horses and devastating economic loss. Despite intense study, there is still much about laminitis that is not fully understood, but we do know that many cases are related to improper nutrition/overnutrition.

Let’s start out with a quick overview of this condition. Researchers are still working to understand the precise mechanisms by which the disease progresses, but ultimately it results in some degree of laminae failure, either in particular locations or around the entire hoof. The laminae are interlocking leaflike tissues that hold the hoof onto the coffin bone; thus, swelling or inflammation of the laminae (laminitis) yields instability of the coffin bone within the hoof to some extent, with accompanying severe pain and potentially downward or rotational movement of the coffin bone within the hoof (termed sinking or rotation). Laminitis is called “founder” by some (based on an old maritime term meaning “sinking ship”), and this term is most accurately used to describe a case in which the coffin bone has sunk straight down within the hoof.

Laminitis is an unfortunately common cause of lameness, affecting 13% of all horse operations and approximately 1% of resident horses in one study.<sup>1</sup> It is often associated with carbohydrate overload in the form of high-sugar feeds, too much feed, and/or access to pasture high in soluble carbohydrates. Indeed, nearly half the laminitis cases reported in the National Animal Health Monitoring System’s Equine ’98 study were attributed to this trigger.<sup>1</sup> The mechanism for this is not completely understood, and it’s important



Nearly half the laminitis cases in one study were attributed to grazing lush pasture.

to note that not all horses will develop laminitis when they’re exposed to potential triggers such as too much starch/sugar. Those that do are most likely metabolically susceptible to the disease.

It is always my recommendation to try to prevent the condition (in this case, by reducing the amount of sugars in the diet), rather than have to treat it. Here in Northern California, it has been my observation that natural spring grasses are as dangerous for these animals as irrigated lush summertime pasture. Also, it’s important to note that weather conditions can significantly affect the sugar content of pasture grasses and hay.<sup>2</sup> Pasture grasses’ sugar content can vary from day to day with sun and rainfall, and even by hour of day (hint: sugars are lowest in the morning, so turn those overweight horses and ponies out

early and for a brief time!).

So how do you use this information to prevent laminitis in your horses? Start with simple measures, including understanding your horse’s body condition. This might seem easy, but many veterinarians have observed that owners often underestimate their horse’s body condition, leading them to believe that the horse is at a good weight when in fact he’s overweight. We have near epidemic levels of obesity in the American horse population, with more than half of randomly evaluated horses found to be overweight and almost 20% classified as obese in one study.<sup>3</sup>

Correct body condition scoring can help you determine if the horse is eating too much and carrying too much weight, which can lead to increased metabolic problems. Have your veterinarian assess

your horse's condition and if indicated, evaluate the animal for equine metabolic syndrome (EMS), a predisposing condition for chronic laminitis. If your horse is found to have EMS, then strict dietary management becomes even more important. Grain restriction or removal from the diet usually is recommended.

Severely restricting or eliminating pasture access for severely affected animals might be necessary, but many are likely to do well if pasture time is simply restricted and grain-based, high-sugar feeds are avoided. Consult your veterinarian to design an optimal feeding/turnout regimen for susceptible horses. If reducing turnout on grass is not possible, a grazing muzzle might help reduce the horse's intake of grass, as can turnout on a drylot rather than a high-sugar pasture. I've regulated my own horses' access to pasture—they are healthy, and I've saved hundreds of dollars in hay purchases.

In severe cases, also consider testing your hay. Finding low-sugar (<15-20%

nonstructural carbohydrate) hay is easy in most regions of the U.S. But it can be a tall order in some areas and/or when growing conditions haven't been optimal (drought and freezing weather stresses the grasses and causes them to accumulate more soluble carbohydrates). You can reduce soluble sugars in hay by up to 30% by soaking it in warm water for 30-60 minutes before giving it to your horse<sup>4</sup> (although this is often not necessary).

As a farrier, I often see laminitic, overfed animals and despite individualized care, sadly I cannot help all of them. That's why I make an effort to educate all owners about the risks of overfeeding. Veterinarians have estimated that the majority of laminitis cases can be prevented with improved grazing management.<sup>5</sup> With proper diet, exercise, and nutritional supplementation where necessary, many horses can live laminitis-free.

I do this job because I love horses, and I look forward to a day when I never see another case of preventable feed founder. 🐾

## REFERENCES

- <sup>1</sup> Lameness and Laminitis in U.S. Horses. USDA: APHIS:VS, CEAH, National Animal Health Monitoring System. Fort Collins, CO. #N318.0400. USDA, 2000. [www.aphis.usda.gov/animal\\_health/nahms/equine/downloads/equine98/Equine98\\_dr\\_Lameness.pdf](http://www.aphis.usda.gov/animal_health/nahms/equine/downloads/equine98/Equine98_dr_Lameness.pdf)
- <sup>2</sup> West, C. Fall and Winter Bring Forage Risks. Nov. 10, 2004, [www.TheHorse.com/1801](http://www.TheHorse.com/1801).
- <sup>3</sup> New Study: Equine Obesity More Prevalent than Previously Reported. [www.TheHorse.com/10038](http://www.TheHorse.com/10038).
- <sup>4</sup> West, C. Cutting Down on Carbs (for Your Horse). Nov. 17, 2003, [www.TheHorse.com/4777](http://www.TheHorse.com/4777).
- <sup>5</sup> Kane, A, et al. The Occurrence and Causes of Lameness and Laminitis in the U.S. Horse Population. American Association of Equine Practitioners Proceedings, 2000, 277. [www.ivis.org/proceedings/aaep/2000/277.pdf](http://www.ivis.org/proceedings/aaep/2000/277.pdf).

## FURTHER READING

- West, C. Feeding Laminitic Horses. *The Horse*, May 1, 2007. [TheHorse.com/9658](http://TheHorse.com/9658)
- Watts, K. Finding and Testing Low-Sugar Forage. May 14, 2007. [TheHorse.com/9587](http://TheHorse.com/9587).
- Laminitis information: [TheHorse.com/laminitis](http://TheHorse.com/laminitis)
- Metabolic Syndrome information: [TheHorse.com/metabolic-syndrome](http://TheHorse.com/metabolic-syndrome)
- Body Condition Scoring information: [TheHorse.com/body-condition](http://TheHorse.com/body-condition)
- Horse Weight Calculator: [TheHorse.com/Tool/Weight-Calculator.aspx](http://TheHorse.com/Tool/Weight-Calculator.aspx)

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