

EQUUS

EXTRA

VOLUME 84



BROUGHT TO YOU BY:

GUARDIAN OF EQUINE HEALTH®



DIGESTIVE CHALLENGES

- Insulin resistance
- Colic
- Gastric ulcers

You know I know you have a crush on the farrier. I won't tell.

You and your horse share a unique bond. Just as well as you understand each other, we understand how important nutrition is to them. That's why our experts have created a wide choice of extruded nugget formulas for exceptional nutrition and optimal horse health.



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You know it's been a week since we took our trail. Well, I'm waiting.

You understand your horse's likes and dislikes like no other. Just as deeply as you share a connection with them, we share a commitment to keeping them healthy. That's why our nutritionists have created a wide choice of feeds in the form of light and airy extruded nuggets to provide exceptional nutrition.



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DIGESTIVE CHALLENGES

How much do you know about the conditions that can complicate your horse's nutritional needs? Take our quiz to find out.

Thankfully, feeding horses is usually straightforward. Most will thrive on good-quality hay and a commercial feed formulated for their specific life stage and activity level. Occasionally, however, challenges arise. Even a well-managed horse can develop a metabolic condition, gastric ulcers or minor digestive upsets—all problems that require some adjustment in feeding routine. The more you know about these potential nutritional complications, the better able you'll be to deal with them. So how much do you know? Take our quiz to find out.





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INSULIN RESISTANCE

1. Which of the following best describes insulin resistance (IR) in horses:

- a. The horse's pancreas does not produce enough insulin to transport glucose from his bloodstream into the cells that need it for energy.
- b. The cells in a horse's body do not respond normally to insulin, leaving them unable to take up glucose from the bloodstream.
- c. The horse's immune system mistakes insulin for a foreign substance and launches an inflammatory response to destroy it.

Answer: b. The hormone insulin facilitates the uptake of glucose into cells to provide energy and helps transform any excess glucose into glycogen, large molecules that are stored in the liver or muscle tissues. As a horse digests a meal, glucose enters the bloodstream

Lifestyle—including diet, exercise and turnout—help determine whether a horse maintains a healthy weight.



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and the pancreas responds by releasing insulin. This causes blood glucose levels to drop steadily, and insulin production decreases accordingly. The process goes awry, however, when cells don't respond to insulin properly and glucose remains in the blood. The resulting high blood-glucose concentrations stimulate the release of even more insulin, a cycle that can stress and damage organs and even trigger laminitis.

DIFFERENTIAL DIAGNOSIS

2. True or False? Equine Metabolic Syndrome (EMS) is just another term for IR.

Answer: False. The term EMS encompasses a collection of signs and clinical changes, including insulin resistance (IR), hyperinsulinemia (high levels of insulin in the blood), infertility and obesity. A horse can have EMS

without having IR. Furthermore, high insulin levels are not necessarily a result of insulin resistance. One theory holds that in EMS, the intestinal system is more efficient extracting glucose during digestion, which increases the demand for insulin. The horse isn't insulin resistant, but simply needs to produce much higher amounts of the hormone to deal with overly efficient glucose absorption.

SIGNS OF TROUBLE

3. One of the most distinct signs of EMS is:

- a. bulging eyes
- b. fat deposits on the hindquarters and crest
- c. loose manure
- d. rings around a horse's hooves

Answer: b. Horses with EMS aren't necessarily overweight, but they do tend to accumulate fat in distinct patterns—on top of the neck, over the ribs and at the top of the tailhead. In addition to monitoring your horse's overall weight and making dietary adjustments as needed, take notice of where fat is deposited on the horse's body and have your horse tested for metabolic dysfunction if you suspect a problem.

SUSCEPTIBLE HORSES

4. Which of the following can contribute to a horse developing EMS?

- a. genetics
- b. feeding practices
- c. lack of exercise
- d. all the above

Answer: d. Researchers suspect that a susceptibility to EMS can be inherited, but how a horse is managed—including diet and exercise—will determine if the



GUT HEALTH GLOSSARY

Equine gastric ulcer syndrome (EGUS)—widespread condition characterized by erosions and ulcers in the distal esophagus, stomach and entrance into the duodenum; Most closely associated with horses involved in performance disciplines, changes in housing or social interaction, and illness.

equine metabolic syndrome (EMS)—endocrine disorder characterized by increased fat deposits in specific locations of the body or overall obesity; insulin resistance, which leads to abnormally high levels of the hormone circulating in the bloodstream; and a predisposition toward laminitis in the absence of other recognized causes.

gastrointestinal flora—beneficial one-celled organisms normally

residing in a horse's gut and playing an important role in digestion.

glucose—a carbohydrate, the principal form of sugar found in the blood; a source of energy when metabolized.


insulin resistance—metabolic disorder, similar to type 2 diabetes, that occurs when certain cells in the body become less sensitive to the action of insulin, and normal amounts of the hormone can no longer keep adequate amounts of glucose moving into the cells for use as fuel.

insulin—hormone secreted by the pancreas to control blood sugar level and utilization of sugar in the body.

pancreas—gland near the stomach that secretes digestive enzymes into the intestine, as well as insulin into the blood.

laminitis—inflammation of the sensitive plates of soft tissue (laminae) within the horse's foot caused by physical or physiologic injury. Severe cases of laminitis may result in founder, an internal deformity of the foot. *Acute* laminitis sets in rapidly and usually responds to appropriate, intensive treatment, while *chronic* laminitis is a persistent, long-term condition that may be unresponsive to treatment.

pituitary pars intermedia dysfunction (PPID, Cushing's disease)—disease caused when the cortex of the adrenal gland produces excessive amounts of hormones, including cortisol; signs include persistent long hair, thin skin, fragile bones, stupor, weakness and sweating.



You know how I feel about that new blanket. Itchy, itchy, itchy.

Every horse has their own distinct personality. Just as well as you know your horse's, we know how important it is to find the feed that keeps them well. That's why our nutritionists have created a wide choice of purposefully formulated feeds to fit every life stage and activity level of your horse.



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problem develops. If you know your horse's bloodlines, it's worthwhile to investigate if he's from a family with a history of EMS so you can take precautions to keep him healthy.

PRACTICAL MATTERS

5. True or False? Horses with insulin resistance should never be fed treats.

Answer: False. But choose your treats wisely. While traditional treats, such as apples and peppermints, can cause a spike in a horse's blood glucose levels, there are alternatives that are safe for horses who are sensitive to sugars. Try, for instance, a crunchy piece of celery or a few alfalfa pellets. There are also several commercially available low-glycemic horse treats on the market.

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WEIGHT ISSUES

6. True or False? Only obese horses are at risk of developing laminitis.

Answer: False. Although obese horses are more likely to have metabolic conditions that put them at increased risk of laminitis, a horse at a healthy weight can be susceptible to the devastating hoof condition. Indeed, horses with pituitary pars intermedia dysfunction (PPID, also known as Cushing's) may be underweight but still at high risk of laminitis.

HORSES AT RISK

7. What percentage of horses are estimated to have gastric ulcers?

- a. less than 10 percent
- b. 25 percent
- c. 50 percent
- d. up to 90 percent

Answer: d. Studies of different populations of horses have found between 30 and 90 percent have gastric ulcers. That number may seem extremely high but remember that many horses show no signs of ulcers and instead cope with the ongoing discomfort quietly.

Choose treats for your horse wisely and feed them in moderation.

Horses at particular risk are those fed diets high in concentrates, competition horses who regularly travel and horses who are on non-steroidal anti-inflammatory medications.

MANAGEMENT MEASURES

8. Which management change is likely to be the most effective in preventing gastric ulcers?

- a. soaking hay before feeding it
- b. separating mares and geldings in different herds
- c. feeding smaller grain meals more frequently
- d. cutting back on a horse's salt intake

Answer: c. Gastric lesions occur when digestive acids damage the lining of the horse's stomach, which is more likely to occur when the stomach is empty. Feeding smaller, more frequent grain meals is an effective tactic to prevent the formation of gastric ulcers, as is always keeping hay available to horses. The goal is minimizing the amount of time a horse spends with an empty stomach each day.

GUT CARE

9. What is the role of probiotics in equine nutrition?

- a. to help populate the equine gut with “good” bacteria and organisms that perform essential functions.
- b. to provide bulk and fiber, making a horse feel full.
- c. to seal off any microscopic “leaks” in the small intestines.
- d. to increase a horse’s metabolism, helping him lose weight.

Answer: a. Probiotics are live micro-organisms that promote the growth of beneficial bacteria in the gut. Their main contribution is the breaking down of foodstuffs, such as starches and cellulose, so that the body can extract, synthesize or derive vitamins, amino acids or other vital nutrients. Meanwhile, probiotics also work to keep damaging bacteria in check and toxins from the bloodstream. Gut flora are the ultimate multitaskers.

TUMMY TROUBLES

10. Which of the following horses might benefit from a probiotic?

- a. an older horse being moved to a new boarding stable
- b. a young foal recovering from diarrhea
- c. a horse on a course of antibiotics
- d. All the above

Answer: d. Each of these horses is in a situation that can cause imbalances in his gut flora and may benefit from



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the addition of a probiotic to his diet. Some commercial feed mixes contain probiotics; you’ll see that listed on the label. You can also purchase a probiotic as a top-dressing supplement you can add to any ration.

PREVENTIVE MEASURES

11. True or False? Water can help prevent colic.

Answer: True. Dehydration is a significant cause of digestive upset in horses. When there’s not enough water in a horse’s digestive system, the ingesta form impactions that block the further flow of food, causing potentially serious colic.

The average horse will drink about 12 gallons per day, given the chance. The actual amount may vary; If, for example, he’s eating drier hay he will drink more than when he’s

grazing moisture-rich grass. Most horses naturally drink what they need if they have access to clean water, but you’ll still want to monitor their intake—particularly in the winter months—to ensure they are getting enough. 🐾

Clean, fresh water is vital to equine health. The average horse will drink about 12 gallons of water each day.

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How did you do?

Don’t worry if you didn’t get every answer correct. Just by taking the quiz you’re better prepared to protect your horse’s digestive health. If you nailed it, don’t celebrate just yet—scan this QR code to challenge yourself with our “Extra Credit” questions online!



You know I know when you have treats. And in which pocket.

No one knows your horse's thoughts, emotions and moods as well as you. Just as in touch as you are with your horse's personality, we're in tune with their nutritional needs. That's why our experts have created a wide choice of purposefully formulated feeds so you can find the perfect fit for your horse.



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