

Equine Newsletter

Laminitis - A Springtime Risk

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Central Ontario Veterinary Services

132 Commerce Park Drive, Unit N, Barrie ON L4N 8W8

705-722-3232

info@centralontariovet.com

April 2020

As the snow recedes from our paddocks and pastures, the grass begins to turn slightly green and our horses quickly start nibbling. There is not much to eat, but it tastes like candy to our equine friends. By the time we get into the months of May and June, that tinge of green will have turned into a potentially dangerous feast of lush, sweet grass. We will then be into the spring laminitis season.

Laminitis is a potentially crippling inflammation of the living layers of the hoof, called laminae, that are also known as the quick (quick is an old word for living). It may seem odd that grass, which must be as natural a feed as can be for a grazing animal such as the horse, could also be so dangerous to them. The reason for this is probably that since horses evolved in areas where grass was scarce, many varieties of horse developed to efficiently survive on relatively little feed – in Arabia, the steppes of Asia, the mountains of Spain, and the Great Plains of North America. Further selective breeding after domestication favoured efficient working breeds such as Welsh Ponies, draft breeds, and the American Quarterhorse, and these are among the breeds in which we see most of the laminitis cases in our practice area. No breed of horse is immune from pasture-associated laminitis, however, and the risk is greatest to all horses in the spring and at other times when the sugar content of grass is at its highest.

How Does Lush Grass Cause Laminitis?

The mechanisms that cause laminitis are the subject of ongoing research around the world, and concepts are continually being revised. There are likely different biochemical mechanisms involved in different types of laminitis cases. Pasture-associated laminitis is currently believed to be triggered by the high contents of soluble sugars such as glucose and fructose that are present in lush, fast-growing grass such as we see typically in late April, and in May and June in Ontario. Consumption of these sugars by horses triggers the release of large amounts of the hormone insulin, which has harmful effects on the cells that line blood vessels in the hooves.

Equine Metabolic Syndrome is combination of obesity, insulin resistance, and a tendency to laminitis; not surprisingly, affected horses that may already have high levels of circulating insulin are the most susceptible to pasture-associated laminitis.



How can we prevent pasture-associated laminitis?

Reducing exposure to large quantities of grass containing soluble sugars is the underlying goal of pasture management in April, May, and June. The following techniques can be helpful:

- Ensure that horses are fed hay before turning them out onto grass. A stomach full of hay will prevent them from gorging themselves on grass.
- Bring horses in from grass in the afternoon on sunny days during the spring high-risk period. Sunlight increases the content of soluble sugars in grass over the course of the day by photosynthesis.
- Allow horses to become adjusted to grass gradually over a month. This can be done by increasing daily turn-out time by 5 minutes per week, starting at 30 minutes per day. In horses who live outside all year, this adjustment tends to occur naturally as grass starts to grow as the ground warms up in the spring. Nevertheless, even for these horses, it is important to be aware of periods of sudden, rapid growth of grass that can trigger pasture-associated laminitis.
- Reduce or eliminate grain from the ration of horses on pasture. Digestion of starch produces glucose and stimulates insulin release. This can add to the effect of soluble sugars in pasture plants.

Laminitis can also be caused by septic inflammation, and can therefore be a

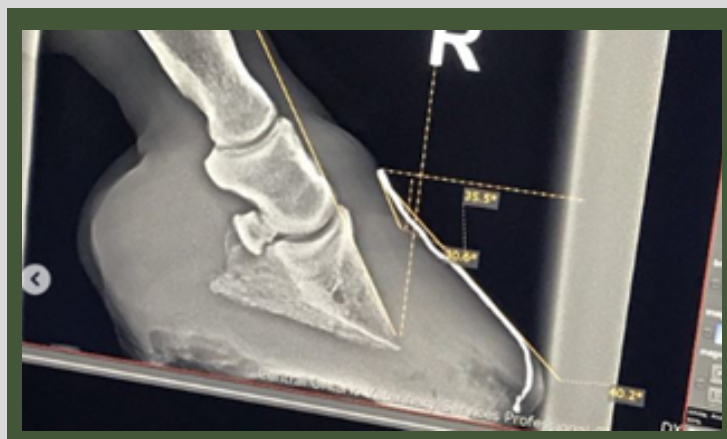
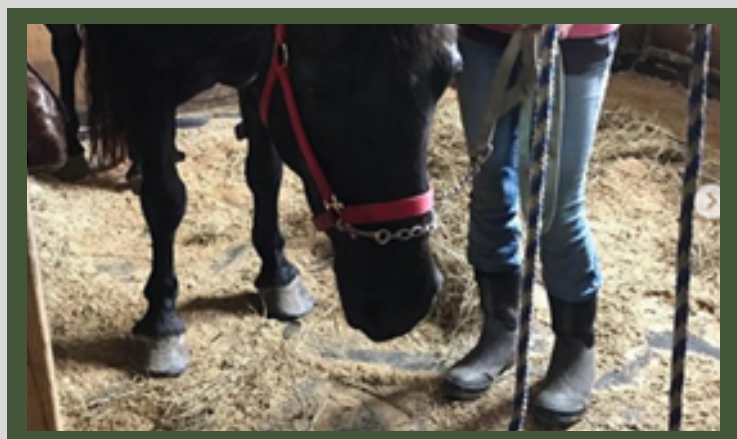
secondary result of diseases such as colic, colitis, and retained placenta in mares after foaling. Severe lameness in one or more limbs can trigger laminitis in the limbs supporting more weight. Accidental grain overload and ingestion of toxic plants such as black walnut can also cause laminitis. Part of our diagnostic plan will be to identify the most likely cause of laminitis so that treatment can include elimination of the inciting factor.

Other causes of laminitis



What to do if you suspect laminitis

Laminitis is a medical emergency, and the sooner treatment is started the better. Affected horses will be stiff-gaited and reluctant to move, especially on hard ground. They may lie down more than usual, and you may be able to feel heat at the coronary bands or in the hooves.



When to call Central Ontario Veterinary Services

Call us immediately if you suspect that your horse may be experiencing laminitis. A very effective method for reducing inflammation in the feet that you can begin immediately is to stand each foot in a bucket of ice water for 10 minutes. This can be repeated several times each day. We will prescribe anti-inflammatory medication such as phenylbutazone, flunixin, or meloxicam. Mechanical support and cushioning for the feet can be provided by pads held on by casts or shoes, and we will work with your farrier to arrange this where necessary. Affected horses should have no access to grass and should be on a diet of first-cut hay. Soaking the hay before feeding can remove soluble sugars in hay.



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To discuss any concerns you have about the hoof health of your horse, please contact our office by telephone 705-722-3232 or email info@centralontariovet.com