



AN OWNER'S GUIDE TO EQUINE METABOLIC SYNDROME (EMS)

Background

EMS - describes a cluster of clinical signs seen in horses that develop laminitis.

The condition is characterized by:

1. Obesity with or without regional deposits of fat. Not all ponies will be obviously fat, but they will often have cresty necks or other localized deposits of fat.
2. Bouts of laminitis
3. Insulin resistance (IR)

Diagnosis

Diagnosis can be very straight forward in some cases, though in others it can be more complex and involved. In most cases a blood sample is taken to measure the resting serum insulin concentration. Pain and stress can confuse the results and therefore it is best to wait for the pain of laminitis to subside before performing this test. For this test the animal is usually held off the pasture and fed hay overnight.

Occasionally where the result of a resting insulin is either dubious or in doubt a combined glucose-insulin test (CGIT) is used. This is a dynamic test which is more involved than the simpler resting insulin assay. Because it is believed that 90% of laminitics have an underlying endocrinopathy it is now common place to test them for both EMS and Cushing's disease.

Managing obesity, insulin resistance and laminitis

For more advice see our webpage – 8 tips to achieve weight loss - <http://www.equitait.com/page42.htm>

In general try to achieve energy intake equal to or less than maintenance requirements and feed low glycaemic index feeds (GI) ie avoid cereals, carrots, apples and initially grass. With time and on veterinary advice it is possible to use non-molassed sugar beet pulp, hi-fi light, happy hoof and introduce grass.

As a guide to energy intake for maintenance - digestible energy (MJ/day) intake should be approximately equal to the horses body weight divided by 7. This roughly equates to between 0.5 and 2% body weight as hay.

Aim to start on meadow hay at 2% of current body weight for 1 week then 1.5% of current body weight followed by 1.5% of target body weight.

Initially start with a diet of hay plus vitamin/mineral supplement (soaking hay in clean, ideally warm water for 20-30 minute can significantly help to reduce the sugar)



Grazing management - Consider the following aids to help reduce grass intake and minimise laminitic bouts.

1. Limit grazing time to 1-2hours/day
2. Avoid high-risk times of the day and year. Turn the horse out to pasture when fructan levels are likely to be at the lowest, such as late at night to early morning - removing them from the pasture by mid-morning. Try to avoid grazing pastures exposed to low temperatures (frosts), or pastures that have been stressed through drought. Try to maintain a young, leafy sward as mature stemmy grasses contain higher levels of stored fructans.
3. Confinement within a small grazed paddock
4. Strip grazing behind another horse.
5. Wearing a grazing muzzle.
6. Putting a deep layer of wood chips over a small paddock or utilise a ménage.

Daily exercise is recommended only if not currently affected by laminitis. This can take the form of ridden exercise or lunge and lead rope exercise. This not only helps reduce weight but also directly reduces the risk of insulin insensitivity resulting in a laminitic bout.

It is also important to balance special nutrients such as n-3 polyunsaturated fatty acids, trace elements, dietary antioxidants.

Metformin is a human drug used to aid weight loss, by reducing glucose production from the liver thereby lowering blood glucose levels. It has undergone various equine trials now and on balance appears to give good short term effects with few concerns over safety. It is also a relatively cheap drug and so we may advocate it's use to aid recovery.

Magnesium, cinnamon, iron chromium, zinc and vitamin E have all been implicated in helping in insulin resistance although evidence for their efficacy is sparse. If you would like to speak to one of the vets regarding use of supplements please do not hesitate to contact us at the practice.