

Equine Metabolic Syndrome

Equine Metabolic Syndrome (EMS) describes a common syndrome of obesity. It can also mean that a horse suffering with EMS has more chance of suffering with laminitis. The condition has some similarities with human metabolic syndrome and Type II diabetes.

Insulin Dysregulation

The key and central feature of EMS is Insulin Dysregulation (ID). This is a reduction in the normal response to Insulin (often previously known as Insulin Resistance). ID is used to show imbalance on insulin, glucose and lipids (fats) in the blood.

Persistently high levels of Insulin (hyperinsulinaemia) induce laminitis, although the reasons for this are not yet fully understood.

Obesity

Obesity is no longer seen as the sole cause of EMS but it is a contributing factor that can exacerbate ID. This may be in the form of an overweight horse or one which has excessive fat in abnormal areas.

Genetics

Some horses may have a genetic predisposition and certain breeds have been recognised as being at a greater risk for EMS such as Welsh, Dartmoor and Shetland ponies and Morgan, Arabian and Warmblood horses.



Diagnosis

A presumptive diagnosis can be made from the appearance of an overweight horse and laminitis. However to confirm EMS, ID must be identified. There are several ways that this can be tested and may include taking blood as a one off test, or carrying out further dynamic tests.

Your vet may take a blood test to look at basal resting levels of insulin, glucose and adiponectin. However, resting levels of insulin can be normal in some horses with EMS and so it may be necessary to carry out a dynamic test. This often involves feeding a sugary syrup to your horse (KaroLight) and then the vet taking a blood sample 60 to 90 minutes later.

Tests may also be taken to rule out equine Cushing's disease – correctly known as Pituitary Pars Intermedia Dysfunction (PPID).

Restrict diet and increase exercise. Not only does progressive weight loss improve insulin regulation but exercise also improves insulin sensitivity.



EMS, Equine Cushing's (PPID) or Both?

EMS is often confused with equine Cushing's (PPID). The two diseases have different causes but both may result in Insulin Dysregulation and Laminitis. To complicate matters, these two diseases can co-exist with some horses having both EMS and PPID.

Generally, EMS affects younger or middle aged horses. Although PPID generally affects older horses, any over 10 years of age with suspected EMS should also be tested for PPID.



Prevention and Treatment

Treatment is quite simple – Restrict diet and increase exercise. Not only does progressive weight loss improve insulin regulation but exercise also improves insulin sensitivity. Unfortunately, if your horse is suffering from acute laminitis then this will limit the amount of exercise, if any, they can do.

A safe reduction in body mass is required:

- An ideal target for weight loss in obese horses is between 0.5% and 1.0% Body Mass (BM) losses weekly.
- This may be achieved with a forage-based ration totalling 1.4%-1.7% BM as fed, or in exceptional cases that appear weight loss resistant, as little as 1.15% BM as fed.
- Forage with NSC <10% is recommended.
- Soaking hay reduces the glycaemic and insulinaemic responses when fed to both normal and ID ponies. Soak for a minimum of 1 to 2 hours.
- Ensuring your horse is getting enough protein, vitamins, and minerals is important via a ration balancer supplement.

Medical management

Metformin may be prescribed to help with weight loss. It would usually only be prescribed for a maximum of 3 to 4 months- whilst the horse is undergoing a weight loss programme.

Ultimately EMS is a disease induced by dietary and management factors and can be prevented by appropriate diet and exercise. Give us a call for a chat if you are worried that your horse may be overweight.

If you are worried about your horse's weight or want to talk about weight management, give us a call for advice.



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