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DODSON & HORRELL
ANIMAL HEALTH, NUTRITION AND WELL-BEING
FEEDING SUCCESS

EQUINE METABOLIC SYNDROME

All you need to know

What is Equine Metabolic Syndrome?

Equine Metabolic Syndrome (EMS) is a syndrome not a disease. EMS usually occurs in horses and ponies between 5 and 15 years of age and is characterised by:

1. **Insulin resistance:** Horses and ponies with EMS are insensitive to the hormone insulin and as a result, they have difficulty controlling their blood sugar (glucose) levels and have high circulating levels of insulin in the blood.
2. **Obesity/abnormal fat distribution:** EMS is more commonly seen in horses and ponies that are overweight, however not all horses with EMS are obviously overweight; some will only have abnormal body fat deposits such as a cresty neck, fat pads behind the shoulder and/or fat-filled eye sockets.
3. **Laminitis:** Mild recurrent laminitis, with no obvious cause, is often the first sign of EMS. However, just because your horse has laminitis does not necessarily mean it has EMS; your vet will need to run a series of tests before making a diagnosis.

What causes Equine Metabolic Syndrome?

EMS develops over time and is brought about by fat cells actively producing hormones such as leptin and inflammatory mediators such as TNF, IL-3 IL-6. These contribute to insulin resistance. Insulin functions in removing glucose from the blood in order to maintain consistent blood glucose levels, however this does not occur in horses with insulin resistance. Ultimately this leads to the production and release of more insulin. It is thought that these factors combined with sustained inflammation due to the inflammatory mediators, can effect normal blood flow and pressure in the hoof, increasing the risk of laminitis.

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FEEDING AND MANAGING CASES OF EQUINE METABOLIC SYNDROME

The aim of managing a horse or pony prone to EMS is to reduce both body fat and insulin resistance. To achieve this requires both patience and determination!

Set a weight loss goal:

This will depend on how much weight your horse or pony has to lose. An obese horse (more than 20% overweight) could healthily lose 1% of body weight every two weeks. To monitor weight loss we recommend that you use a scientifically validated weigh tape every fortnight. Taking photographs of your horse regularly can help you visualise the changes in body shape.

Monitor neck and other fatty deposits:

Fat scoring your horse every two weeks will help you assess and monitor the amount of fat they are carrying. Ideally you should aim for a fat score of 2.5-3 on a scale from 0 to 5. Researchers have shown that horse and ponies with a cresty neck are more likely to be insulin resistant and so are at increased risk of laminitis.

Reduce overall calorie intake:

Horses and ponies with EMS need a diet which is low in energy. When trying to reduce energy intake you should consider grazing, forage and concentrate feeds. Total daily intake of forage may need to be restricted to as low as 1% of bodyweight per day however, this should only be done under veterinary supervision, as severe feed restriction can result in behavioural and health problems such as stereotypies or gastric ulcers.

Limit dietary non-structural carbohydrates (NSCs):

It is also important to get the NSC content of your forage tested. Hay that contains high NSC levels will increase blood glucose levels, which will contribute to insulin resistance. Soaking hay for a minimum of 30 minutes can reduce energy, starch and sugar content. Alternatively, you can mix hay with lower energy oat or barley straw (50:50).

Limit grazing:

Grazing, particularly spring pasture, can contain high levels of starch and sugar which can increase the risk of laminitis for horses with EMS. Restricting turn-out time may not be sufficient to limit grass intake as horses can compensate for this by eating more in a shorter period. Consider using a grazing muzzle as they can lower grass intake by as much as 83%. Ideally, turn out during the evening and at night when the levels of NSC in the grass are likely to be at their lowest. In severe cases horse or ponies with EMS may need to be removed from grazing. Alternatively, they can be turned out on hard standing or an all-weather arena with access to soaked hay (in a haynet to prevent sand colic) to ensure their fibre requirements are met. Feeding a digestive support supplement can help remove sand that may be ingested.

Feed vitamins, minerals and antioxidants:

Horses and ponies with EMS do not need large amounts of a concentrate feed but they still require a fully balanced diet to support health and well-being. Feeding a low intake, low energy, vitamin and mineral balancer is ideal. Try to choose a balancer that also contains added antioxidants, which help neutralise free radicals, as our research has shown that laminitics produce more free radicals than non-laminitics, this is possibly due to the increased inflammatory cytokines.

Increase exercise:

Exercise is protective against insulin resistance and will help to aid weight loss. Provided your horse or pony does not have laminitis and is sound, daily exercise is recommended. Exercise does not necessarily have to be of high intensity - a good starting point is to aim for 30 minutes of brisk walking every day. The horse can be walked in hand or long reined if ridden work is not possible.

We are here to help!

Managing the horse or pony diagnosed with EMS takes dedication and hard work, and a major part of this is feeding the correct diet. Our team of Nutritional Advisors are on-hand to offer free, friendly and practical feeding advice that can really make a difference to your horse or pony's life.

Please visit our website, get in touch via social media or call: 01270 782223

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