



Equine Metabolic Syndrome (EMS)

Equine Metabolic Syndrome (EMS) is characterized by three main features:

- 1) Obesity or regional adiposity (accumulation of fat in certain areas, particularly the neck).
- 2) Insulin Resistance (IR) a “pre-diabetic” like state.
- 3) Laminitis in horses and ponies.

EMS likely begins with a genetic pre-disposition. Certain breeds or individual horses are predisposed and often referred to as “easy keepers” by their owners. These horses are very efficient at utilizing calories and often require a lower plane of nutrition to maintain body weight than other horses, which is why EMS is a metabolic disorder. Laminitis (or “founder”) is a devastating feature of EMS. Laminitis is a painful and debilitating disease of the digital laminae (the tissue inter-connection between the coffin bone and hoof wall). Often by the time clinical signs are recognized, crippling body changes such as sinking, and rotation of the pedal bone have occurred. Although there are several inciting causes of laminitis, the most common form of the disease is “grass founder” which occurs in horses and ponies kept on pasture. An interesting feature of the disease is that in any given population of horses or ponies, certain individuals are susceptible to laminitis while others of the same breed, sex, and age managed in the same circumstances do not develop the disease. Environmental factors play an important role, with cases typically occurring during periods of rapid pasture growth. However, the differences in susceptibility among horses managed in the same conditions may be a result of an underlying genetic predisposition.

Diagnosis

Because overweight animals are at risk of developing laminitis, they should be assessed for EMS. Animals with normal weight but that have noticeable fat accumulation (as mentioned above) should also be evaluated. EMS should also be considered in any horse with unexplained forelimb lameness, since laminitis is sometimes the first sign of EMS.

Numerical body condition scores are used to rate a horse’s degree of obesity and are useful in monitoring the success of weight loss programs. Screening for EMS is commonly done by measuring blood insulin and glucose concentrations, and this is useful for identifying animals with moderate to severe insulin dysregulation. However, in less affected animals, metabolic abnormalities may not yet be severe enough to detect with this screening method, and dynamic tests are needed to uncover insulin resistance.

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Treatment

Because most horses with EMS are overweight, the mainstay of treatment involves management changes that promote weight loss. These include reducing overall calorie intake, dietary sugar restriction, and increased exercise. Typically, grain and pasture grazing are eliminated during the initial weight loss phase. Once horses lose weight, most can resume pasture turnout if they wear a grazing muzzle. Under certain circumstances, medications may be used to help promote weight loss and improve insulin sensitivity.

Please ask us so we can design a customized management plan tailored to your horse's individual needs.

If your horse has already developed laminitis, proper therapeutic farrier care and careful use of analgesic medications are essential.

We work very closely with your farrier to determine the best techniques to help improve your horse's comfort level and quality of life.

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