

The Equine Clinic at OakenCroft

Equine Metabolic Syndrome

Equine Metabolic Syndrome (aka peripheral cushing's, omental cushing's, non pituitary cushing's) is a rapidly emerging disease in equine medicine. Obesity has become a major problem due to the management of the modern horse. More and more horses have moved into a sedentary lifestyle with little exercise and high grain diets making them more prone to the development of EMS.

When fatty tissue becomes excessive, the hormones this tissue secretes becomes more prominent, leading to insulin resistance, glucose intolerance, and increased circulating cortisol levels, leading to the clinical signs of EMS. These include generalized obesity, cresty neck, abnormal estrous cycles, fatty deposits in the sheath, and laminitis. Certain breeds are more at risk, including Morgans, Paso Finos, Peruvian Pasos, Tennessee Walking Horses, Mustangs, and all ponies.

Diagnosing EMS:

- Clinical signs are very characteristic.
- Serum thyroid and insulin levels will support the diagnosis. The thyroid levels will typically be low or low normal. The insulin may be normal or elevated.
- The intravenous glucose tolerance test (IVGTT) reveals an abnormal glucose metabolism. Horses are fasted for 12 hours then given intravenous glucose. The blood glucose levels are measured every thirty minutes for 3 hours, or until the glucose level returns to the initial baseline level. Failure to do so indicates glucose intolerance.

Management of EMS:

- These horses are very easy keepers and need little to no grain. If grain must be fed for the horse to eat supplements, choose a low sugar and low starch feed. Examples of these include Triple Crown Low Starch, Triple Crown Lite pelleted, Nutrena Lite Balance, Horse Kwik 12 or 14, or a pelleted hay stretcher.
- Grass hay with a good vitamin and mineral supplement is the best diet for these horses. Hay should be analyzed to determine if the ESC and starch is an acceptable level (less than 10%). Hay CAN NOT be evaluated by appearance alone.
- Pasture which is well managed is acceptable in small quantities. There must also be a dirt dry lot with NO grass. Grass which is grazed to the dirt is stressed grass. Even in small quantities, this grass contains very high amounts of NSC which can send a sensitive horse into a laminitic crisis.
- Daily exercise is extremely important. Thirty minutes of rigorous exercise EVERY day can increase metabolism and encourage weight loss.
- Currently, chromium and magnesium have been supplemented in EMS horses to improve insulin sensitivity. Thyroid supplements are also used for those with lower than normal thyroid levels. Laminitis should be treated under a veterinarian's direction.

Hand out provided by Dr. Amy Serk