Equine Metabolic Syndrome and Obesity in Horses

You have likely heard about Type 2 Diabetes, the type of diabetes which can occur in overweight adult humans. What you may not know is a similar problem can affect horses. This problem is called Equine Metabolic Syndrome. Like humans with diabetes, horses with Equine Metabolic Syndrome have difficulty processing sugars in their body, which can lead to many health problems. Although similar to a disorder known as "Cushing's Disease" EMS is distinguished by the fact that all the horse's internal hormonal glands are normal. In "Cushing's Disease" there is generally a slow growing abnormality on the horse's pituitary gland, one of the glands that controls hormone secretion.

Although certain breeds, such as the pony breeds, Morgans, and Arabians seem to have a predisposition toward EMS, it can occur in any breed of horse. It generally occurs in horses 7-17 years of age, that are largely sedentary and often overweight or obese. Signs include abnormal fat deposits, such as a cresty neck, pads of fat on the shoulders, around the eyes, or around the rump, and often, laminitis. It is the risk of laminitis that often has the greatest effect on the horse's health.

It is suspected that obesity may cause at least some of the hormonal changes associated with EMS, as horses managed for weight loss often show a normalization of their hormone levels. While it was once thought that body fat didn't do anything except provide energy storage for later use, we now know that body fat is very active metabolically. It secretes numerous hormones, some of which lead to health problems.Unfortunately, as with their owners, the sedentary lifestyle and frequent meals the modern horse receives can cause health risks. In EMS, horses have abnormally high insulin and blood glucose levels. This leads to changes in their tissues, particularly those in their hooves, that can lead to laminitis and be potentially life threatening.

How do you know if your horse has EMS? First of all, at his regular physical, your vet should monitor his weight and give him a body condition score. The body condition score is a measurement of how thin or fat the horse is, giving a standard that can be used with horses of many varied heights, similar to how body mass index is used in humans. Body condition score is measured on a scale of 1-9. Ideal is a 5, where you can easily feel your horse's ribs WITHOUT pressing, but only see a faint outline of them at the rear of the rib cage. Since horses with normal body condition scores rarely struggle with EMS, this is a good starting point. In addition, if your horse has a history of unexplained laminitis, he should be screened for EMS.

If your horse IS overweight (body condition score 6 or greater) or has a history of laminitis, then your vet can do some basic blood tests to screen for insulin resistance. These include fasting blood insulin and blood glucose levels. However, even if these levels are normal, it is best for the overweight horse to lose weight. Often your vet will also do some tests to rule out Equine Cushing's disease. This is because we do have medications that can help with Cushing's disease, but only changes in diet and body condition will help the horse with EMS.Y

If you horse does show signs of EMS, it becomes very important to manage the horse to promote weight loss. Eliminate grain if possible. If grain is necessary to give supplements or

medications, use a low-starch grain such as Purina's Wellsolve. Some grains advertised as "low starch" are not actually low enough in starch to be safe for a horse with EMS. It is important that any horse with EMS that is getting grain gets grain with an NSC (starch level) lower than 16% . Grass hay that is first or second cutting is generally lower in sugars than alfalfa hays or 3rd cutting grasses. However, for horses with severe laminitis or other problems, it may be necessary to test the hay (a company called Equi-Analytics does this) to find out the sugar levels, or to feed a hay replacement product with a guaranteed NSC level such as the "Square Meal" hay replacement cubes. Again NSC levels need to be below 16 %. You should feed the horse at 2% of his TARGET weight, not his current weight, to promote weight loss.

Pasture can be very dangerous for horses with EMS because fresh grass is very high in sugars. Grazing may need to be limited or eliminated altogether. Some horses wear grazing muzzles to allow them time out with the herd while limiting their grass consumption.

Regular exercise helps these horses a lot. Obviously however, the horse with active laminitis can not exercise and must receive appropriate care first. In addition for VERY obese horses we sometimes use a thyroid replacement supplement for several months to aid weight loss.

If you suspect your horse could be at risk for Equine Metabolic Syndrome, your vet can help you learn to monitor his body condition, and help you set up a nutrition plan that will allow weight loss and prevent complications such as laminitis