



Obesity and Equine Metabolic Issues

We have seen many horses with health problems attributed to being overweight. Some have been so severe that it has required euthanasia. Obese horses have significantly higher rates of joint and ligament disease, tendon strains, birthing difficulties, and laminitis or founder compared to normal horses. A recently recognized condition known as ***Equine Metabolic Syndrome*** or ***Insulin Resistance*** is gaining a great deal of publicity. It is a disorder of carbohydrate metabolism that is typically seen in overweight middle-aged horses and ponies. It is often associated with severe laminitis. Sugar in the bloodstream from grain or high carbohydrate hay feeding appears to interfere with blood circulation in the lamina of the foot causing inflammation and laminitis. Metabolic Syndrome can only be managed through diet and exercise. No drugs have been conclusively shown to improve the condition.

Just like in human medicine, regular exercise and proper nutrition are crucial in preventing obesity and all of the problems that go with it. One of the first things horse owners must understand is that most horses do not need grain to survive and thrive. They require only good grass hay, plenty of clean water, and a mineral supplement. Young and growing horses, horses in training, and older horses with special energy needs are the exception and will probably need some grain supplementation.

It is suspected that “insulin resistance” may be due to the cumulative effects of years of glucose “spikes” in the bloodstream following heavy grain feedings offered only once or twice a day. This high carbohydrate meal causes a release of insulin that signals tissues to absorb and clear the excess glucose. After years of this unnatural insulin cycle, the tissues begin to ignore the insulin signals just as in Type II diabetes in humans. Persistent high blood glucose can lead to laminitis. So it appears that this “new problem” may be the result of years of good eating and easy living. It can be prevented.

Prevention of Metabolic Syndrome:

- Pick up a weigh tape at the clinic and use the condition scoring procedure outlined below to begin monitoring your horse. If it's overweight, weigh tape every two weeks while on an appropriate diet.
- Feed only grass hay or grass alfalfa mix, with no grain. You may need to feed a few extra pounds of hay per day to make up for the missing grain. Don't be concerned if it takes them more of the day to finish their meals. It is better to feed smaller quantities more often than to feed the entire ration in one or two large feedings.
- Feed a trace mineral block, a loose mineral salt, or a “ration balancer” (usually a pelleted supplement fed at about ½ pound per day).

Many horses can also gain excessive weight when on grass pastures. These horses could benefit from using a grazing muzzle. It prevents them from consuming too much

grass while still allowing them the freedom and exercise of open pasture. They are available at most tack supply stores. The rubber muzzle with the hole in the middle seems to be more comfortable than the wire mesh muzzle.

If you suspect that your horse has laminitis due to metabolic syndrome, it is a good idea to schedule a physical exam. We often suggest radiographs to evaluate the laminitis problem and can run a series of blood tests to confirm an association with metabolic syndrome. We can also test your hay to determine its carbohydrate content. It's nearly impossible to tell by looking...we've tried. Timothy hay and mixed prairie grass hay is generally better than brome. Straight alfalfa is never appropriate for these horses. We can refer you to a veterinary nutritionist in the area who is growing hay and processing hay cubes specifically for horses with this syndrome.

Another metabolic disease of horses with symptoms which may be confused with Metabolic Syndrome is ***Cushing's disease***, a problem caused by an overactive adrenal gland. Laminitis can result from this disease as well. These horses delay shedding in the spring and may carry a very characteristic dense wavy hair coat well into the summer. A physical exam and appropriate blood work will help to differentiate these problems.

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