Port Perry Vet Services

January 2017

What's New at the Clinic?

We hope everyone had an enjoyable time over the holidays. We wish you all the very best in 2017 and look forward to what this year has to bring! With the cold winter weather upon us it is hard to imagine that spring will be here before we know it. We have started preparing for this time, including working on some new ideas for our Equine Wellness Program! Stay tuned for more info on this in the coming months.

We are sad to share that after sustaining an injury, Dr. Stephanie Cukier will not be returning to work at PPVS. Good luck with your continued recovery Steph!

Dr. Rachel Busato got to get away from the cold in December, and attended the American Association of Equine Practitioner's Annual Convention which was held in Florida. She mostly attended lectures focusing on reproduction, lameness, and health management. In November, Dr. Allison Doherty attended a 2 day course on equine distal limb ultrasound that included lectures and practical sessions.

Leukosis in Dairy Cattle

Bovine leukosis is caused by the retrovirus Bovine Leukemia Virus. It is a type of virus that integrates its genes into that of the white blood cells (WBCs) of the cow so that once infected, the cow has the virus for life. Cows acquire the virus at an early age but they do not show clinical disease until an average of 5-8 years of age. Because of this, it will become a huge problem in a herd without getting noticed until there starts to be a lot of disease from the virus. A 2003 study found the Canadian herd prevalence of BLV to be 78% of dairy herds.

BLV causes clinical disease in only about 1% of infected animals. Signs of clinical disease are enlarged lymph nodes especially those under the jaw, in front of the shoulder, internally in the pelvis and on the udder. They can also be present on the abomsum, spleen, heart, kidney, uterus, spine and behind the eyes. If the internal form is present, signs can be non-specific and include being off feed, down, weak in the hind end, fever, decreased milk production and gastrointestinal obstruction.

Research is divided as to the economic impact of subclinical leukosis in dairy herds, with some papers citing decreased milk production in BLV positive cattle and others saying there was no difference between seropositive and seronegative cattle as far as milk production and reproductive efficiency. However, we find that BLV positive cattle do tend to have shorter lifespans and an increased amount of money spent on drugs to treat them prior to leukosis being diagnosed.

Leukosis is not a treatable disease and once clinical signs appear generally life expectancy is short. It is transmitted via blood so the use of the same needle, tattooers and foot trimmers without disinfection between cattle are common ways to spread it. It can be transmitted in utero to the calf also, but embryos from positive cattle implanted into negative donors do not usually produce positive calves.

Testing is easy, fairly reliable and cost effective. There is an available blood test and a milk test. Because of the high number of positive animals and the high value of some of these cattle, we recommend testing your herd to understand how much of a problem you have with BLV and to better develop a plan to manage it. Some ways to help minimize the percentage of positive animals you have are to: use fresh needles for every cow, disinfect dehorners, tattooers and foot trimmers between every cow, feed calves packaged colostrum and milk, keep calves and heifers away from the infected animals, maintain a positive and a negative milking herd, use new equipment for breeding each animal, control biting flies and cull positive cattle. Each farm will have a different management program depending on what your goals are, what you can feasibly do and how much of an issue you currently have with BLV. If you have any questions about BLV or to get your herd tested please call the office and talk to any of the vets.

Equine Endocrine Diseases

PPID, or Pars Pituitary Intermedia Dysfunction, commonly known as Equine Cushing's Disease, occurs when there is a malfunction in a certain part (the pars intermedia) of the pituitary gland. The pituitary is responsible for creating hormones that control bodily functions. Nerve degeneration causes a decrease in dopamine which acts as a control mechanism on the pituitary. As a result, it works overtime and there is an excessive release of hormones including ACTH. In turn, the ACTH causes an excess of the stress hormone cortisol to be synthesized by the adrenal gland. This is thought to, over time, lead to immune system supression, creating some of the signs commonly seen in horses with PPID.

PPID is generally a disease seen in older horses but some claim to have seen it in horses as young as 5 years old. Being a degenerative disease, there is unfortunately nothing that can be done to prevent it. The most common clinical signs include a long shaggy coat that does not shed in the summer months, abnormal shedding patterns, lethargy or decreased athletic performance, abnormal sweating (increased or decreased), loss of muscle mass, fat pad deposition, chronic or difficult to heal infections, hoof abscesses, and a predisposition to laminitis. It is also thought that the elevation of cortisol is related to increased insulin and therefore a higher chance of developing insulin resistance.

EMS, or Equine Metabolic Syndrome, shares some characteristics with PPID, but there are some key differences. It is typically a disease of middle aged horses, but can be seen in a wide range of animals. In a horse with EMS, there is no primary issue with the thyroid (a common misconception) and they have a normally functioning pituitary gland. The clinical signs that must be present to diagnose a horse with EMS are similar to certain clinical signs seen with PPID. Insulin resistance, a history of laminitis and excess fat depositions (especially along the crest of the neck and at the tail base) are required to make the diagnosis. EMS is more prevalent in certain breeds. It seems to affect those with ancestors that would have needed to survive on meagre rations as they are often described as easy keepers. EMS may be a predisposing factor for PPID and therefore a horse can have both EMS and PPID, though one or the other is also a possibility.

Both of these diseases can be tested for with a simple blood test. For PPID we typically check the ACTH levels. There is a natural rise in ACTH levels in all horses in the late summer and fall months, making testing more difficult, especially in borderline cases. With a greater understanding of these seasonal differences, the test is becoming more accurate as the natural increase can be taken into account.

Treatment for PPID is readily accomplished with a medication called pergolide. It stimulates dopamine receptors which help to decrease the overproduction of other hormones by restoring inhibition to the pars intermedia. On top of treatment of the underlying cause, horses with PPIDrequire extra care to deal with the clinical signs - clipping hair to avoid overheating, careful monitoring for infection, more careful parasite management and close monitoring of hoof care. We also recommend frequent checks of ACTH levels to ensure pergolide treatment is appropriate. If IR is also present, they also need to be managed like a horse with EMS.

The basis of treatment for EMS cases involves changes in diet and management. Diets that are high in carbohydrates or sugars will worsen the condition as they will increase the insulin production by the body. Insulin resistance can be managed by attempting to make the body more sensitive to insulin by changing diet and increasing exercise. Grass hay, with a non-structural carbohydrate (NSC) content of <12% is ideal. In order to remove water soluble carbohydrates, soaking the hay for 30 minutes or more before feeding is useful. Ration balancers can be fed in addition to hay, in order to provide important vitamins and minerals without the added richness of grain. There are also medications that can help increase the horse's metabolism, namely, levothyroxine. This works by decreasing weight and leads to increased sensitivity to insulin. There are some reports that supplements containing chromium and magnesium can also help affected horses lose weight and increase sensitivity to insulin.

It should be mentioned that weight loss should happen at a reasonable rate. If it is accomplished too quickly it can lead to complications such as liver damage. Increased exercise is a good way to accomplish gradual weight loss, but can become difficult when a horse is experiencing bouts of laminitis. Walking as much as possible when the feet are not as painful is a good place to start. Discussing the management of a laminitic horse could take up several pages! So if you have any questions about PPID or EMS please do not hesitate to call the office to speak with one of the vets.