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OAHN Q3 Survey: Key Results

Each quarter the Ontario Animal Health Network sends out a survey to equine veterinarians to obtain information on health issues affecting horses in the province. This quarter, survey responses were received from 30 counties across the province with 59% of the respondents reporting greater than 50% of their patient base was horses.

Responses to the “Foals and Breeding stock” section revealed a decrease in reporting of all diseases and disorders compared to Q3 of 2017. Conditions seen by survey respondents included infection in a uterus caused by a multi-drug resistant strain of the bacteria *Escherichia coli* and a dystocia (difficult birth) caused by a fetus in a difficult position in the uterus. Resistance of bacteria to antibiotics is a growing concern in the veterinary community and veterinarians may be discussing treatments with equine owners that include options other than antibiotics to manage conditions where they may have been used in the past. Attention to proper nutrition and disease prevention will be even more important.

Due to concerns with rising antimicrobial resistance, Health Canada is limiting access to medically important antimicrobials for veterinary use. In particular, it moved all medically important antimicrobials to the Prescription Drug List with the intention that they can only be obtained with a prescription from a veterinarian. As of December 1, 2018, the federal change will be in effect and Livestock Medicines Outlets will not be able to receive medically important antimicrobials for further sale. For more information go [here](#).



Responses to the “Adult” section revealed an increase in the reporting of horses with suspected equine protozoal myelitis (EPM), vaccine reactions and uveitis (moon blindness) due to leptospirosis compared to Q2 of 2017. One horse, being treated for equine asthma, developed pneumonia due to the bacteria *Streptococcus zooepidemicus*. A muscle disorder known as exertional rhabdomyolysis (tying up) was diagnosed frequently in racehorses, likely due to the hot weather, and difficult-to-treat pastern dermatitis (mud fever/scratches), slobbers (salivations) with no evidence of clover and immune-mediated keratitis (inflammation of the cornea) were reported. Intestinal parasite resistance (small strongyles) was reported on a farm and one clinic reported 7 deaths related to Eastern equine encephalitis. One equine welfare case was reported to the OSPCA.

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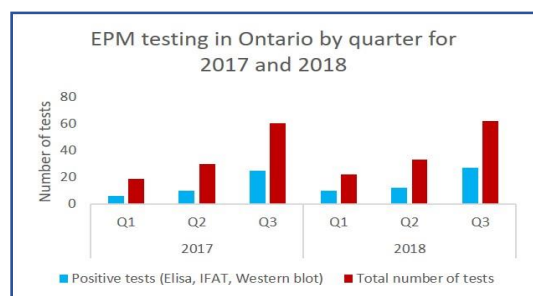
Equine neurologic disease in Ontario

Equine veterinarians reported testing or evaluating horses for neurological disease in increased numbers in Q3. Why do they see increased numbers of neurological horses this time of year?

Equine Protozoal Myeloencephalitis (EPM)

EPM was first diagnosed in Ontario in 1990's. It is caused by a one of two identified protozoal parasites, *Sarcocystis neurona* and *Neospora hughesi* although most cases are caused by *S. neurona*. This parasite is transmitted to horses in North America by opossums (*Didelphis virginiana*) through the consumption of food or water contaminated with opossum feces containing sporocysts (the infective stage of the parasite).

Intermediate hosts such as cats, raccoons and skunks play a role in the protozoan lifecycle however they **cannot infect horses**. Racehorses and show horses seem to have a higher risk of developing EPM which may be due to the stress of competition and transport. Young horses (1-5 yrs) and older horses (>13 years) are at a higher risk for developing EPM and one small study suggested that EPM risk was highest in male Standardbreds.



Clinical signs of EPM can look like other diseases. The most common sign is difficulty in knowing where the legs are (ataxia) and muscle atrophy usually affecting muscles on one side of the body i.e. gluteal muscle. Riders or trainers may complain of stumbling, interference, difficulty with picking up a certain gait etc. and hence EPM might be mistaken for a lameness. If the protozoa infects part of the brain, signs may include depression, difficulty eating or swallowing, upper airway issues/noise, wasting of the muscles of the cheek or a head tilt. Diagnosis is through a blood sample, which may only indicate exposure to the

parasite, not disease, or a combined cerebrospinal fluid and blood test which is the most sensitive for identifying disease. Treatment is with an antiprotozoal medication and sometimes medication or supplements to support the immune system. Treatment does not always rid the horse of the parasite but may control it until the horse becomes stressed or ill at which point EPM might flare up again. For more information on EPM please go to aaep.org/horsehealth/equine-protozoal-myeloencephalitis

So why might veterinarians see more cases in the fall? It may be because young horses are starting training in some disciplines so are being asked for more coordinated movement. It is also nearing the end of a long competition season for some horses and their immune systems may be more stressed and less able to control or ward off the protozoa. As well, the opossum, who does not hibernate and may find very cold or very snowy winters difficult to manage, may forage more for food during this time. Ontario is not the only place that sees an increase in EPM cases in the late summer/fall. Interestingly, a study out of The Ohio State University in 2000 found that the risk of EPM infection was the highest in the fall (6 times more likely) when compared to the spring and summer. The least risk of EPM infection occurred in the winter as the amount of snow and freezing weather can hamper the opossum's ability to forage for food leading to starvation. The risk of EPM occurring on a farm was also significantly reduced by preventing wildlife access to feed and when a river or creek was present as a water source.

Neurologic diseases due to vector-borne viruses: West Nile virus (WNV), Eastern equine encephalitis virus (EEEV)

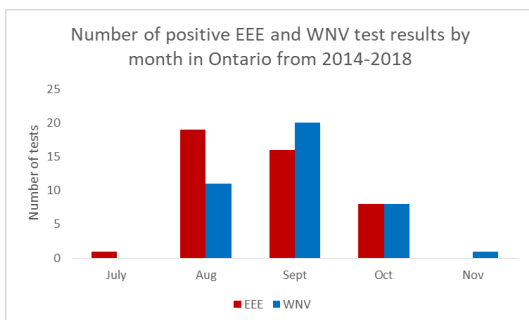
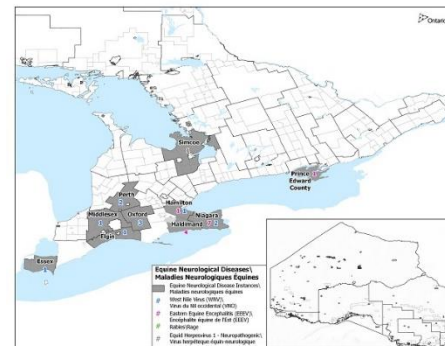
In Ontario, it is normal for equine veterinarians to see cases of WNV and EEE in the late summer/fall as infections typically occur from the end of July to November depending on the weather that year. These viral infections are transmitted by different species of mosquitoes that have very different habitats.

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Culex pipiens is the main species of mosquito that transmits WNV and it reproduces in standing water in hot spots across the province. *Culiseta mulinera* is the mosquito that transmits EEEv in the province. It reproduces in underwater crypts of hardwood swamps and the larvae can overwinter. In Ontario, the populations of both mosquitoes peak in late summer. Knowing this, veterinarians recommend that horses be vaccinated for both WNV and EEE in the spring of the year to allow time for the horse to mount an appropriate immune response and be protected from infection. Vaccinating too early in the year may require a booster in early summer. Clinical signs of WNV vary from mild to severe requiring euthanasia. Mild signs include a sleepy appearance, muscle twitching particularly in the head, neck and/or shoulder, and mild gait abnormalities. Horses with mild signs usually recover uneventfully. More severe signs include being down and unable to rise and single limb paralysis. Horses that are more severely affected may require euthanasia. Some horses that recover may have residual neurologic deficits.



Clinical signs of EEE develop more rapidly usually over 24-48 hours, and the majority of horses die or are euthanized. Horses initially demonstrate a sleepiness or depression, which progresses quickly to an abnormal gait and going down and unable to rise. Sometimes horses are just found down in a pasture. Some may demonstrate head pressing, if still standing, or seizures. In the rare instance that a horse recovers, neurological issues may be longstanding or permanent. There is no specific treatment for WNV or EEE. Supportive therapies such as anti-inflammatories and intravenous fluids, and downer horse management may be tried.

Cervical vertebral stenotic myelopathy (CVSM) (Wobbler syndrome)

CVSM or Wobbler syndrome is thought to be a developmental condition of horses influenced by the horse's genetics and environment, namely diet, rate of growth and exercise. It is a common cause of ataxia that is caused by compression of the spinal cord by the vertebrae in the neck. Sometimes this compression is caused by abnormally formed bone, changes in the bone and instability of the vertebrae. Clinical signs involve ataxia and weakness which is often worse in the hind legs than the front. However, not all horses develop neurological signs initially and may have behaviour signs such as an unwillingness to work, bucking, bolting or stumbling. Pain is usually only present in mature horses with arthritis of the lower vertebrae of the neck. These horses may have difficulty flexing their head and neck or may carry them abnormally. Diagnosis is by physical examination including a neurologic examination and radiographs. Dye may be injected into the spinal canal under anesthesia to diagnose compression of the spinal cord. Treatment for wobbler syndrome may be medical or surgical depending on the location and severity of the disease. Surgical treatment is aimed at fusing vertebrae to limit movement and is only done on horses who fit specific criteria. Young horses may be treated with diet and exercise modifications. Older horses with arthritis are treated with vertebral joint injections, anti-inflammatory medication and rehabilitation exercises. **So why do Ontario equine veterinarians diagnose these cases more often in the fall?** Some horses start training in the fall and gait abnormalities are noticed when more coordinated movements are required. Some horses may have had a growth spurt when turned out on summer pasture and issues are noticed when they are brought in for training. Other horses are finishing their competition season and fatigue affects horses that were previously compensating for mild gait deficits.

