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Ontario Animal Health Network (OAHN)
Equine Expert Network
Quarterly Owner Report

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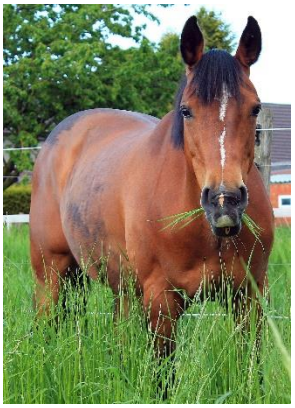
OAHN Q1 Survey: Key Results

Survey responses were received from veterinarians in 30 counties across the province with 65% of veterinarians responding that at least 50% of the patients they see are equine.



There was a slight increase in the number of uterine infections reported this quarter compared to the first quarter of 2017. Bacterial agents identified included *Escherichia coli, Arcanobacterium hippocoleae, and Streptococcus sp.* One practice experienced their first issue with *Lawsonia intracellularis* infection which involved 9 weanlings. Parasite resistance continues to be reported in young stock with both roundworms and strongyles implicated.

With respect to adult horses, there was a mild increase in the reporting of equine protozoal myelitis (EPM), skin diseases, uveitis (moon blindness) and colic. One clinic noted they had diagnosed multiple horses with gastric (stomach) impactions. Two respondents noted influenza as a cause of upper respiratory tract infections. Cyathostomiasis (small strongyles) was the cause of diarrhea with low protein in a "well-dewormed" mare and uveitis was noted to develop post-deworming in a weanling. As was typical of previous first quarters, vaccine reactions were commonly noted.

Actinomyces denticolens – a "*Strangles*" imposter

When an owner finds an abscess under the jaw there is often immediate panic. Strangles caused by the bacterium *Streptococcus equi* is a well known and highly contagious disease that causes similar abscesses under the jaw. The concern is well deserved as , with Strangles, infected horses need to be isolated from healthy horses and stringent biosecurity measures adhered to. There's another bacterium, however, that has been showing up in abscesses under the jaw called *Actinomyces denticolens*. It affects the same lymph nodes as Strangles but does not cause fever and dullness, and most importantly, is not contagious. At least 5 cases of abscesses under the jaw due to *Actinomyces denticolens* were identified in Ontario horses in Q1.

Actinomyces denticolens has recently been identified as part of the bacterial population in the horse's mouth, specifically in the tonsillar tissue. It is speculated that coarse and stemmy forage, thorns or awns damage the lining of the mouth and provide access for *A. denticolens* to enter the tissue and travel

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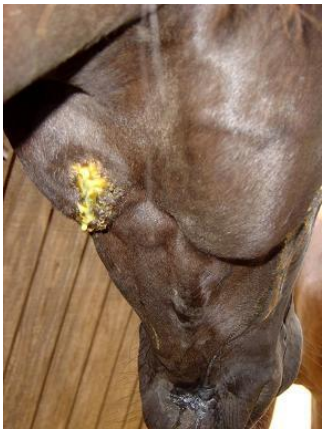


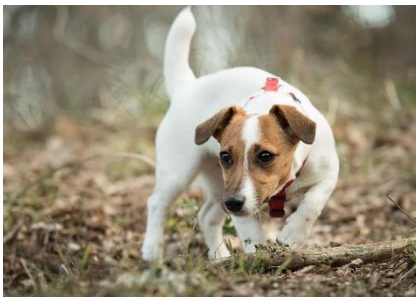
to the lymph nodes of the head and neck. Dental disease has also been proposed as a way for the bacteria to gain entry to the lymph nodes. Once the bacteria enters a lymph node, it causes inflammation and pus is produced forming an abscess. As the abscess matures it opens and drains.

Sometimes these abscesses are just monitored and heal on their own whereas other times antibiotics and repeated flushing of the abscess are required. The abscesses can take between 2 weeks and 6 months to heal and, in a small number of horses, firm but non-painful scar tissue can remain.

Because a horse with abscesses due to *A. denticolens* can appear similar to a horse with Strangles, it is necessary to have a veterinarian examine the horse and take some samples for testing. A bacterial culture of the pus from the abscess will determine the cause and the treatment plan. Alternatively a test for Strangles can be performed to rule out that disease. All horses should be assumed to have Strangles and the appropriate biosecurity measures implemented until proven otherwise.

Actinomyces denticolens colonisation identified in equine tonsillar crypts. Murakami S, Otaki M, Hayashi Y, Higuchi K, Kobayashi T, Torii Y, Yokoyama E, Azuma R. Vet Rec Open. 2016 Sep 8;3(1):e000161. doi: 10.1136/vetreco-2015-000161

Alveolar echinococcosis – An emerging One Health disease in Ontario



It's a rare equine barn that doesn't have resident or visiting dogs, many of which hunt rodents. It is therefore important for dog owners to be aware of an emerging disease in the province called alveolar echinococcosis (AE). This disease is caused by a small tapeworm called *Echinococcus multilocularis* that can infect both animals and people. The tapeworm lives in wild canids (foxes, coyotes, wolves), domestic dogs and rarely cats, and tapeworm eggs are shed in their feces. The eggs are then ingested by small rodents (voles, moles, mice) dogs and other species. Dogs can also become infected by ingesting infected small rodents. People can accidentally ingest these eggs from exposure to an infected dog or wild canid. Once ingested the eggs hatch in the intestine and the larvae travel primarily to the liver where cysts are formed. It can take 5-15 years for these cysts to develop in people and can be potentially fatal if not treated.

Ontario was considered free of this disease until 2013. There have now been 5 dogs, 2 lemurs and 1 chipmunk diagnosed with AE in Southern Ontario. Research is ongoing to determine the extent of tapeworm infection in wild canids across southern and eastern Ontario.

The tapeworm eggs can live in the environment for an extended period of time so it is important that people are vigilant about wearing gloves and washing their hands after picking up pet feces and working in soil that could be contaminated by infected wild canids or dogs. Dogs should also be discouraged from hunting and scavenging. Consult with your veterinarian to determine if your dog is at high risk for exposure to *Echinococcus multilocularis* and whether they should be tested or treated with a preventative dewormer. For more information on *Echinococcus multilocularis* and alveolar echinococcosis please go to www.emultiontario.com. See the infographic on the following page.

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EMERGING RISK: *ECHINOCOCCUS MULTILOCULARIS* IN ONTARIO

***Echinococcus multilocularis* (EM)** is also known as the fox tapeworm. Foxes, coyotes and other canids (including domestic dogs), and rarely cats, can carry adult worms in their intestinal tracts and shed the tapeworm eggs in their feces.

The eggs are usually ingested by rodents or other small mammals. They hatch in the intestine, and the larvae then migrate primarily to the liver and form budding cysts that behave like a malignant tumour. This is called **alveolar echinococcosis (AE)**. Sometimes AE occurs in dogs too.

Humans are an accidental intermediate host for EM. If a person ingests the eggs from the feces of an infected dog or wild canid, then AE can develop. The cysts grow slowly, so the clinical incubation period can be 5-15 years. **AE can be very difficult to treat** due to the invasive growth of the parasitic cysts.

FACT:
EM was known to exist in parts of central and northern Canada for decades, but until 2012 locally-acquired cases had never been detected in Ontario (people or animals)

FACT:
Since 2012, a total of 5 dogs, 2 lemurs and a chipmunk have been diagnosed with AE in Ontario. Only one dog had a history of travel outside the province

FACT:
Dogs are thought to develop AE primarily by ingesting large numbers of EM eggs in the environment, which suggests that EM is likely now present in Ontario wildlife

THROUGH A UNIVERSITY OF GUELPH RESEARCH STUDY CO-SPONSORED BY OAHN AND BAYER ANIMAL HEALTH,

FECAL SHEDDING OF EM WAS CONFIRMED IN FOXES AND COYOTES IN PARTS OF SOUTHERN AND EASTERN ONTARIO IN 2016.

ADDITIONAL TESTING WILL BE DONE IN 2017.

WHAT CAN VETERINARIANS DO?

- ✓ Emphasize the importance of routine fecal exams for dogs at high risk of exposure (e.g. dogs that hunt small mammals, or dogs imported from endemic areas) – but remember that the eggs can be hard to detect
- ✓ Pets shedding tapeworm eggs or at high risk of exposure should be dewormed monthly with praziquantel
- ✓ Unusual masses in the liver or elsewhere in the body should be tested to confirm they are not AE

WHAT CAN OWNERS DO?

- ✓ Don't allow pets to hunt or scavenge other animals, and don't allow hunting dogs to eat raw offal
- ✓ Pick up pet feces promptly to prevent contamination of the environment, and wash hands thoroughly when done
- ✓ If working with soil that may be contaminated with feces from dogs, cats or wild canids, wear gloves and wash hands thoroughly when done

The Ontario Animal Health Network is funded in part through Growing Forward 2, a federal-provincial-territorial initiative.

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For references and to learn more please visit: www.oahn.ca