



This information is a professional communication for practicing equine veterinarians. The information was obtained from a survey of the clinical impressions of practicing veterinarians and laboratory data from the Animal Health Laboratory and IDEXX Laboratories, with input from equine specialists. It is the intent of this program to improve the health of horses in Ontario.

Responses: Responses were received from 41 practitioners. 27 indicated that they worked with foals and breeding stock, 25 with racehorses (15 noted that >50% of their practice was racehorses), and 32 worked with performance and pleasure horses. 56% were equine-only practitioners. More responses are needed from the Ottawa/Eastern Ontario region and northern Ontario to ensure a representative data set.

Foals and breeding stock: Top issues of concern for veterinarians this breeding/foaling season included (in descending order):

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|------------------------------------|--|
| 1. Uterine infections | 5. Perinatal death |
| 2. Angular limb deformities | 6. Pneumonia (both <i>Rhodococcus</i> pneumonia and <i>Rhodococcus</i> not suspected) |
| 3. Neonatal diarrhea | |
| 4. Septicemia | |

These issues were not surprising, as these are the most common diagnoses in breeding and foaling season. 5 of 27 veterinarians felt that rhodococcal infections were increased when compared with this time last year. All other issues trended toward unchanging and sporadic/rare.

The network discussion centered on joint infections, pneumonias, and antibiotic selections. A comment was made by a practitioner that joint infections resistant to amikacin were being seen with increasing frequency. AHL laboratory bacteriology data from the past 7 years (isolates from all body sites) show that *Staph aureus* (including MRSA) and *E. coli* continue to be relatively susceptible to amikacin (<10% isolates were resistant). *A. equuli* appears to show variable resistance patterns. *Strep* spp are known to have high rates of resistance to amikacin as supported by laboratory data (83-100% resistance). *Enterococcus* spp are also considered inherently resistant to amikacin, and accordingly were 100% resistant. Monitoring of resistance patterns will continue and an OAHN podcast reviewing equine antibiotics is in the planning stages.

Septic joint lab submissions: Noting the site of sample is very important when submitting, both to aid in optimal diagnosis and for monitoring trends. If a septic joint is suspected, culture samples should be submitted in a red-top blood tube (aseptic collection and inoculation into tube is imperative). Synovial fluid in a purple-top (EDTA) tube for white cell count and total protein, together with cytology smear created at or near time of sample collection, are also recommended for further characterization of sample. Some research suggests an improved level of pathogen detection in joints when blood culture medium is used, but practical issues when used in the field can be obstructive. Instead, the AHL typically adds enrichment broth for joint fluids in order to increase the yield of bacteria.

The panel discussed the use of imipenem as a first-line drug in Kentucky and the possible impact this may have on Ontario anti-biograms. Further research is required on this drug's impact on GI flora. It is widely accepted that imipenem should not be used in veterinary medicine and never as a first-line drug.

A comprehensive review article was recently published in EVE on diagnosis and treatment of neonatal sepsis: <http://onlinelibrary.wiley.com/doi/10.1111/eve.12234/full>.

Review of equine sepsis: <http://onlinelibrary.wiley.com/doi/10.1111/eve.12290/pdf>

ADULT STOCK (>1 year old)

Top issues of concern for veterinarians this quarter included (in descending order):

1. Pastern dermatitis
2. RAO/heaves
3. Laminitis
4. Upper respiratory tract infections (URTI)
5. Urticaria/skin allergies
6. Cushing's/equine metabolic disease

Skin disease: Skin issues (whether pastern dermatitis or skin allergies) were high on the list of issues veterinarians faced this quarter. An excellent review article about diagnosis and management of the pruritic horse can be found here:

<http://onlinelibrary.wiley.com/doi/10.1111/eve.12278/pdf> The panel discussed infectious causes of skin disease and comments from the survey pertaining to resistance of skin issues to griseofulvin and skin issues from horses returning from the US were discussed. This pertains to skin issues commonly observed across all equine practice disciplines that appear to occur in the spring, often from horses originating from the US, and involves scurfy, crusty lesions that are generally self-limiting and not always helped by antibiotics. A similar infection appears in the spring in north-eastern Ontario. Another issue originating from horses shipping from the southern states is habronemiasis, or summer sores. These infections are easily treated with appropriate, intensive topical and oral ivermectin or moxidectin. Typical lesions are seen on the penis or other genitalia, open wounds, and sometimes tear ducts, with pathognomonic yellow sulfur granules in the lesions. Rare cases of swamp cancer (pythiosis) have also been seen in horses returning from the southern US, and can appear similar to habronemiasis. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC516349/>

Respiratory disease: The second theme that emerged from the survey was the frequency of respiratory issues, both allergic/RAO-related and URTI. The recent outbreak in Woodbine may have been related to this. Investigations into this outbreak, with samples from 50 horses, show that the significant changes in the titers are the Rhinitis A virus, however a small number of horses had also significantly increased titers to influenza A virus which is not an uncommon feature with rhinitis, likely in horses that have never received a vaccination. With regard to the prevalence of IAD, there is clinical evidence that following such severe infections that many horses with previous mild to moderate IAD will later show more severe clinical signs of IAD affecting substantially their performance level. (Source: Dr. Laurent Viel, email communication). Practitioner comments this quarter overwhelmingly cited that this spring was a difficult year for allergic airway disease.

Strangles: Several cases of strangles have been reported and diagnosed this quarter. London area and Cambridge area have both experienced several known cases. Practitioners may wish to review the ACVIM treatment consensus statement on strangles here (diagnostics and treatment): http://www.capecodfarms.com/papers/ACVIM_Concensus_Statement.pdf and circulate the **OAHN strangles infographic** to clients. The free printable infographic can be found here: <http://oahn.ca/resources/equine/equine-strangles-infographic/>

Severe vaccine reaction: 6 practitioners noted severe vaccine reaction this quarter. Various vaccine products were involved, and various causes are suspected (vaccine frozen in transit to clinic, etc.) Veterinarians can report adverse reactions directly to their drug company suppliers, or to CFIA. Drug companies report to CFIA within 6 months and advise more quickly of severe adverse reactions. Direct reporting to CFIA can be completed by filling out form 2205 online here: http://inspection.gc.ca/DAM/DAM-aboutcfia-sujetacia/STAGING/text-texte/c2205_re_1371586374762_eng.pdf

Anaplasmosis: Anaplasmosis (*A. phagocytophilum*) was not reported by practitioners this quarter, and IDEXX tests were negative (6 samples tested), but a recent article from Manitoba's provincial laboratory discusses seeing anaplasmosis organisms (morulae) on CBC smears from horses and dogs in increasing numbers. Clinical signs of anaplasmosis include

fever, depression, and stocked-up legs. Diagnosis can be made via IDEXX 4Dx snap test, and active infection is confirmed by visualizing organisms in neutrophils. Practitioners should consider submitting a blood smear for horses with fever of unknown origin. Treatment with tetracycline drugs is typically effective, and should resolve infection within 7 days.

LABORATORY DATA

Fecal egg counts: This quarter, from both IDEXX and AHL data, a total of 270 fecal egg counts (McMaster, Wisconsin, and Modified Stoll's) were performed. 98 samples were >50 eggs per gram, 30 were >500 epg.

Mineral testing: 83 samples were tested for selenium this quarter. While this number is doubled from this time last year, the percentage of low selenium samples has increased slightly (16% in 2014, 31% in 2015).

Abortions: 14 abortions were submitted to AHL this quarter. 4 cases of EHV-1 were diagnosed, 1 case stillbirth/no lesions; 2 cases idiopathic, no lesions; and 2 cases of umbilical torsion. Note that mineralization/atrophy is not a cause of death, but merely a part of a morphologic diagnosis.

Neurological diagnosis: 2 cases of cervical stenosis/myelopathy were diagnosed, 1 case of EPM, 1 case of EHV-1, 2 cases of bacterial meningitis. Cerebral necrosis is a morphological diagnosis, and while it may be a cause of death, is etiologically non-specific.

Skin neoplasia: This winter 2 cases of penile papillomas with viral inclusions, typical of papilloma virus were seen, with signs of transformation to squamous cell carcinoma, so early diagnosis of suspicious penile masses with biopsy is recommended. When diagnosing sarcoids, a bovine papilloma PCR test can be performed on biopsy samples, along with histology. The test can be done on the formalin-fixed tissue you submit, or fresh tissue. An S100 IHC stain is often done in conjunction with this to differentiate it from a peripheral nerve sheath tumor (aka neurofibroma, aka Schwannoma). This testing can also be done on the submitted formalin-fixed biopsy sample if histology is inconclusive. Practitioners should include overlying skin in their "sarcoid" biopsy, and several areas of the mass should be sampled. Whirlpaks are available through your laboratory, and are generally shipped for only the cost of supplies.

Podcast on obtaining best samples from biopsies:

<http://oahn.podbean.com/e/improving-your-surgical-pathology-diagnostic-success-with-dr-andrew-vince/>

Podcast on obtaining helpful, high quality photos for lab submissions:

<http://oahn.podbean.com/e/photographing-lab-samples-in-the-field-practical-tips-for-veterinarians/>

***C. difficile*/*C. perfringens*:** 9 samples were positive on the IDEXX toxin PCR tests for *C. diff* toxin A and B genes, and 2 positives for the IDEXX *C. perfringens* Enterotoxin A PCR. **Practitioners should be aware that the presence of the gene does not indicate confirmation that *C. diff* is the causative agent. If positives are found, follow up with *C. diff* toxin ELISA testing is wise to confirm.**

EHV-1: A total of 11 positives for EHV-1 on PCR were noted this quarter. This will include abortion cases. This does not necessarily indicate unique cases, as the same horse may be tested multiple times. 2 EHM cases were investigated by OMAFRA this quarter, and risk assessments performed.

OMAFRA Immediately Notifiable List for 2014: this list includes positive test results and does not necessarily indicate clinical cases. In 2014 there were 24 cases of EEE, 1 of WNV, 2 botulism cases, and 3 *Salmonella* infections. Practitioners should keep WNV and EEE on their list of differentials for neurologic signs as we move into summer.

ORC data: 10 horses were reported as part of the ORC death registry this quarter, with a variety of issues noted as cause of death/on postmortem. 6 Standardbreds, 3 Thoroughbreds, and 1 Quarter Horse were included. At this time, no trends were noted.

NATIONAL/INTERNATIONAL DISEASE REPORTS

Manitoba: Anaplasmosis has been noted in Manitoba, Canada in horses and dogs. See earlier comments under adult stock.

Quebec: several reported cases of strangles from around the province (total 7 cases since January 2015) in 3 regions. You may also wish to use the OAHN strangles infographic: <http://oahn.ca/resources/equine/equine-strangles-infographic/> to help communicate infection control, prevention and testing to your clients.

Brazil, Germany, USA: Glanders has been reported in Brazil, Germany, and the USA, but all outbreaks are reportedly under control. For veterinarians involved with importation of animals from Europe and South America or frequent travel to these countries, an excellent review article on clinical signs, diagnosis, etc. is located in the DEFRA disease report here: http://www.aht.org.uk/skins/Default/pdfs/DEFRA_report1q_2015_3.pdf (pp. 14). Glanders is on the list of reportable diseases for equids in Canada.

OTHER

Equine Canada (Health and Welfare Committee) is sponsoring a national disease surveillance call for veterinarians on a monthly basis. Calls are chaired by Dr. Scott Weese, with speakers from across Canada and the US. The next call will be taking place at 12 pm EST August 5th. Veterinarians are invited to listen in to reviews from experts on infectious disease in horses, learn about outbreaks and issues across Canada. Recordings of the calls will be posted on the OAHN podcast site, www.oahn.ca for those who missed the call. Further sign in information will follow via OAEP listserv.