



## Ontario Animal Health Network (OAHN) Equine Expert Network Quarterly Owner Report – October to December 2016

October-December 2016

Report #7

### Highlights

#### Key Points

*Preparing your mare for breeding*

*Looking Ahead – Understanding some infectious causes of abortion*



### Your OAHN Equine Network Team:

#### Practitioners

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## Ontario Equine Disease Surveillance (October to December) - Key points

- Impaction colics, hoof canker, slip and fall accidents, ringworm and upper respiratory viruses were reported.
- Incidents of muscle disorders in equine athletes were frequent and, in some cases, unusually severe.
- A successful biosecurity plan limited a diagnosis of equine neurological disease due to the wildtype strain of EHV-1 to one horse.
- Several horses were admitted to a referral hospital with a diagnosis of chronic pneumonia due to *S. zooepidemicus*.
- As of December 28, 2016 there were 265 rabies cases in the Hamilton area. Go [here](#) for more information. The total number of rabies cases for Ontario are reported on the CFIA website [here](#).

## Preparing your mare for breeding

Spring is an exciting time of year. For many first time breeders, it is filled with the anticipation of selecting a stallion for that special mare and the hopes and dreams that foal will bring. An important part of the process, however, is ensuring that the chosen mare is not only physically ready for carrying a foal but has a healthy uterus to support a developing embryo and maintain the pregnancy till birth.

A veterinarian's role is key to this process. At a breeding soundness visit he or she will perform a thorough assessment of the mare as well as a detailed examination of her reproductive tract as follows:

- A complete physical examination of the mare will be performed paying close attention to overall body condition, conformation, breathing (rate and effort), the heart (rate and abnormal sounds or rhythm), and the gastrointestinal system (sounds, consistency/ quality of manure). Submission of blood samples for further assessment may be recommended.
- The conformation of the perineum of the mare (vulva and pelvis) will be closely evaluated. A vulva that tips back towards the pelvis suggests a high likelihood of urine pooling in the vagina and poor fertility. Surgery may or may not be recommended to correct this fault.
- The veterinarian will examine the vulva for the presence of a Caslick's procedure whereby the top 2/3 of the vulvar lips have been sutured closed. This procedure is recommended in female equine athletes to prevent windsucking (air being drawn into the vagina during physical exertion) and irritating the vagina posing an issue for future breeding. Some mares will also have a Caslick's procedure done after breeding to limit contamination of the vagina.
- After hygienically washing the mare, the vagina will be assessed using a vaginoscope (a long cardboard tube placed into the vagina) and the walls and cervix will be assessed for any abnormalities.



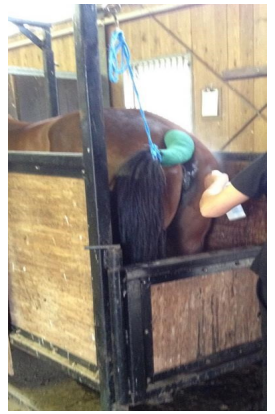


The National Farm and Facility Level Biosecurity Standard for the Equine Sector is available [here](#)

The *Equestrian Canada Emergency Planning and Action Plans—A Guide for event organizers*

outlines the development of action plans, communications, dealing with extreme weather and the health and welfare of horses at competition and is available [here](#)

- At this point, the veterinarian will often perform a rectal examination to evaluate the uterus, and ovaries for any abnormalities and to determine the stage of the mare's estrus cycle. This manual examination is usually followed by an ultrasound examination to more closely assess the structures on the ovaries (e.g. follicles), look for any abnormalities and evaluate the uterus for size, fluid, cysts, masses and sometimes congenital abnormalities.
- Following this, the veterinarian may take some samples from the uterus to determine if there is any inflammation or infection that will hinder fertility. The types of samples taken will be determined by the mare's breeding history and intended purpose (e.g. embryo transfer recipient). For maiden mares (not been bred before), a simple culture (looking for bacteria and fungi) along with a sample for cytology (looking for inflammatory cells) using a swab may be done. If the mare has had a previous foal or history of infertility then other procedures such as a lavage of the uterus to gain samples from a larger area of the uterus or a biopsy of the lining of the uterus may be done. The latter can provide information of the likelihood of carrying a foal to term. Treatment may involve antibiotics or antifungal agents delivered directly into the uterus, products to enhance the immune system of the uterus and/or products to expel fluid from the uterus.



Courtesy of Millcreek Equine Veterinary Services

After the mare receives a clean bill of health, she is ready to continue on through the breeding process with the best possible chance of delivering a healthy foal.

## Looking Ahead—Understanding some infectious causes of abortion.

Eleven months is a long time to wait for that special foal to arrive so when an abortion occurs it is both devastating emotionally and financially. Understanding what types of diseases can cause abortion in mares and how to prevent them or reduce their impact is key to maintaining a healthy pregnancy and preventing heartbreak.

### Equine Herpesvirus 1 and 4

Equine herpesvirus is the most common viral cause of abortion in mares and the serotypes 1 and 4 are the most common. Equine Herpesvirus –1 (EHV-1) is the better known serotype as it is the same one implicated in outbreaks of fatal neurological disease in horses especially at competitions and racetracks. It is thought that 75% of horses are infected with EHV-1 at birth and carry the latent (or silent) virus in a group of nerve cells in their head (trigeminal ganglion). During times of stress, such as pregnancy, the virus awakens and may cause disease in the form of respiratory disease, neurological disease and/or abortion. Mares in which the virus awakens may not show any signs but can shed the virus in nasal secretions infecting other mares and causing abortion. In mares that abort, the virus usually infects the uterus after the 5th month of pregnancy and the fetus is aborted in the third (or last) trimester. The fetus and placenta should be sent to a veterinary laboratory for testing. Vaccination of pregnant mares during the 5th, 7th and 9th month of pregnancy with an approved vaccine is recommended to reduce the likelihood of abortion due to EHV-1. As well, pregnant mares should be kept away from competition or young horses who may spread the virus through respiratory secretions.





**\*See OAHN Q2 owner report (April-June 2016) for more information on Potomac Horse Fever.**

#### Recent OAHN podcasts:

- **Equine Proliferative Enteropathy (Lawsonia) Part 1 and 2 with Dr. Nathan Slovis**
- **Equine Proliferative Enteropathy in Ontario with Dr. Memo Arroyo**

Are available [here](#)

#### Stay current with Social Media



**OAHN offers a wide assortment of social media tools so that you can keep informed on equine disease. Follow us on Facebook & Twitter. Keep up to date with OAHN podcasts.**

#### Neorickettsia risticii \*

This organism causes Potomac Horse Fever (PHF) which is a disease characterized by fever, low protein in the blood, and often diarrhea and laminitis. It is endemic in the eastern part of the province and common in some areas of southwestern and central Ontario. The Animal Health Laboratory at the University of Guelph reported two cases of abortion in 2015 due to *N. risticii* in mares that had been previously diagnosed with Potomac Horse Fever. The mares were in their 2nd and 3rd trimester. Although not a common cause of abortion, it should be on the list of possibilities particularly if one lives in an area endemic for PHF.

The effectiveness of the PHF vaccine to protect against abortion is unknown. If the pregnant mare had previously been diagnosed with PHF, prophylactic treatment should be discussed with your veterinarian .



#### Leptospirosis

This bacteria (or spirochete) is more commonly known as being associated with “moonblindness” or equine recurrent uveitis (ERU) however it is a growing cause of abortion in Kentucky. Abortion due to leptospirosis has been diagnosed in Ontario and a proportion of Ontario horses have antibodies to the bacteria.

Abortions occur in the last trimester of pregnancy, however, not all infected mares will abort. Abortions occur 2-4 weeks after infection and the aborting mares may develop uveitis

(moonblindness) several weeks to months later. This bacteria infects the mares either through soil , standing water or hay/grain contaminated by urine from infected wildlife or other horses, aborted fetuses or vaginal discharge. It is therefore important to protect pregnant mares, and their feed, from standing water sources and wildlife as much as possible during pregnancy. If an abortion has been diagnosed as being due to leptospirosis then the mare should be isolated from other mares for 14-16 weeks as they shed the organism in their urine for up to 3 months or longer. There is a vaccine in the United States (Lepto EQ Innovator®, Zoetis) that is licensed to protect against leptospirosis but it is not available in Canada at this time.



#### Determining the cause of abortion

There are many other organisms that can infect the placenta or fetus leading to abortions. Usually only an individual mare is affected, however, it is important to try and determine the cause of the abortion particularly if there are other broodmares on the property or if the affected mare will be bred again. Ideally the fetus and placenta should be submitted for a post mortem, however this is not always possible particularly if the remains have been scavenged by predators. Consultation with your veterinarians will assist in determining if blood samples from the mare can aid in the diagnosis. As well, if it isn't economically feasible to submit the entire fetoplacental unit, your veterinarian may be able to send in more targeted samples to reduce costs while identifying the most common culprits. Keeping informed about the common causes of infectious abortion in your area is a key part of prevention. This can only be done if veterinarians are kept informed as to what is happening at your farm and samples are submitted when possible. Broodmares are critical to growing Ontario's equine industry and keeping them healthy is key to a sustainable future.