Information associated with the reported equine herpesvirus (EHV) outbreak at a Waco, Texas, barrel race event

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General considerations and recommendations

Quarantine:

- All horses that are returning from the recent Waco event and any other events with known EHV-1/EHM cases should follow strict isolation protocol.
- Returning horses **<u>should be at least 30 feet away</u>** from any other horse.
- Clusters of horses that traveled together may be quarantined together in groups.
- Horses should not have nose to nose contact with other horses, no sharing of buckets, tack, pitch forks, halters and lead ropes, or equipment between quarantined horses and other horses.
- Change your clothes or wear disposable personal protective equipment including shoe covers and exam gloves while handling all quarantine horses.
- Horses should have their rectal temperature checked twice a day. Horses have a fever if rectal temperature is >101.5F; normal if <101F.
- Monitor any nasal discharge, difficulty urinating or defecating, loss of tail tone (dead tail), dog sitting, ataxia, and stumbling of the hindlimbs as these are common clinical signs.
- **<u>Respiratory signs will precede neurologic signs.</u>**

Disinfection:

- Disinfect trailers and buckets **<u>by removing all organic material</u>** (bedding, manure, debris) and then using a dilute 1:10 bleach solution (5 tablespoons in 1 gallon of water).
- Spray all potentially contaminated areas with dilute bleach and allow to dry completely and then areas can be rinsed.
- Other disinfectants include quaternary ammonium compounds accelerated peroxide and peroxygen compounds, and iodophors; follow contact time recommendations per label use of different products.

Veterinary Appointments:

- No routine veterinary appointments for the next **<u>14-21</u>** days on horses from known exposure. **<u>This includes but is not limited to lameness exams, joint injections, vaccines, Coggins, routine blood testing or reproductive appointments</u>**.
- Emergencies should be handled on a case by case basis, working closely with your veterinarian.

- Colics, chokes and lacerations might need to be initially evaluated in the quarantine areas and then determine capabilities of being able to treat on the farm, or if referral is necessary.
- **Transparency with your veterinarian is essential as horses coming from these events pose a high risk — not only to your farm but to veterinary practices and the patients housed at the hospital.**
- Bringing in known exposed horses into veterinary facilities can lead to continued spread and the shutdown of veterinary facilities, affecting care for other horses.
- All other non-exposed horses should have **limited travel for the next 2-3 weeks**.
- Essential travel includes routine veterinary appointments and emergencies — again, working with your veterinarian as to best handle all cases.

Testing:

- Horses can be tested via nasal swab and whole blood. **The Mizzou VMDL does perform this test, so your veterinarian can submit samples locally within the state.**
- If tested too early after a known exposure, horses may still test negative and quarantine protocols should be continued.
- As testing on many horses is occurring, please be aware labs may become backed up, which can cause a delay in receiving results.

Treatment:

- **Horses that test positive should be kept in strict isolation as per state recommendations. Remember, this is a reportable disease.**
- As treatment is largely supportive, horses who test positive, are standing ambulators, with normal urination and defecation may be treated on the farm.
- Horses who test positive and are recumbent should pursue further treatment, with university veterinary schools having the only facilities at this tie to be able to treat these horses.
- Due to overwhelming number of cases, **contact the veterinary hospitals before any decision as their space is limited and they might be at full capacity**.
- While ehv-1/ehm does carry a high mortality rate (upwards of 75), survival is possible but is not quick, easy or inexpensive.
- Severely affected horses might need to be hospitalized for several weeks or months, might need to receive care in a sling, and continued rehabilitation might be months or more.

Release

- Release from quarantine can be **14 days after last known exposure with testing of horses**.
- **If no testing or horses is to be performed, these horses should remain in quarantine for 21 days.**
- Continue to work closely with your veterinarian as recommendations are ongoing and might change.

Vaccinations:

- Vaccination of exposed horses is *not recommended*.
- Non-exposed horses should have an ehv-1 vaccine booster if they have not been vaccinated within the **past three months.**

Equine Herpesvirus Myeloencephalopathy (EHM)

Disease Name: Equine Herpesvirus Myeloencephalopathy

Disease Type: EHM is a neurologic syndrome caused by the EHV-1 virus. While EHV-1 is common in equine populations, the neurologic form of disease is rare. In extremely rare cases, EHV-4 can also cause EHM.

Transmission: EHV-1 is spread from horse to horse through contact with nasal discharge or inhalation of aerosolized respiratory droplets. Horses can also contract the virus by coming into contact with contaminated surfaces such as stalls, water, feed, tack, and transport vehicles. Humans can spread the virus from horse to horse through contaminated hands, clothing and equipment.

Frequency: Although EHV-1 and EHV-4 are a relatively common cause of mild respiratory disease (also called equine rhinopneumonitis), EHM, the neurologic form of EHV infection, is rare. It is poorly understood why this virus develops into neurologic disease in only some horses.

Incubation period: Ranges from 2-10 days. Horses can shed the virus during the incubation period, before they develop clinical signs.

Carrier status: Infected horses become lifelong carriers and can intermittently shed the virus even when showing no clinical signs. It is thought that most horses become infected with EHV early in life. While horses with EHM can be very contagious during an active outbreak situation, there are no documented cases of EHM horses causing additional cases of EHM after they have recovered and have been cleared by testing, quarantine, or both.

Latency: The virus can remain latent for the lifespan of the horse. Reactivation and viral shedding can occur periodically, especially during stressful events such as travel, illness, etc.

Severity: EHM is a life-threatening condition. Horses that are unable to stand may have lower survival rates while those that survive may have residual neurologic deficits.

Clinical signs:

- Fever may be intermittent throughout the course of disease, and the absence of fever does not rule out EHM.
- Nasal discharge
- Lethargy
- Distal limb edema
- Incoordination
- Hind limb weakness
- Loss of tail tone or bladder tone (urine dribbling or inability to urinate)
- Dog sitting position
- Leaning against a fence or wall to maintain balance
- Recumbency (inability to rise)

Diagnosis: EHV-1 is diagnosed by PCR testing of nasal swab and whole blood samples. Horses that test positive for EHV-1 and have neurologic signs are considered positive for EHM.

Treatment: Supportive care and rest. Non-steroidal anti-inflammatory medications, such as phenylbutazone (bute) or flunixin meglumine (banamine) are used to control fever and improve appetite. Antivirals, heparin, aspirin, and intense supportive care (urinary catheterization, sling, etc) are also often utilized for EHM cases.

Prognosis: Prognosis for horses with EHM is guarded and dependent on severity of clinical signs. EHM outbreaks have reported survival rates of up to 75%. Horses that survive may or may not have residual neurologic deficits.

Prevention: There is currently no vaccine labeled for the prevention of the neurologic form (EHM). Management practices for preventing EHV-related disease include maintaining current vaccinations on all horses on the property, practicing biosecurity while traveling and showing, and quarantining any new horses (or horses returning to a farm after travel) for at least 21 days before integration into the farm herd. Horses at shows should have their temperatures monitored twice daily.

Biosecurity: Biosecurity practices for EHV focus on minimizing horse-horse transmission through aerosol particles from nasal discharge or through contaminated surfaces including people, clothing, feed and water, implements, and stalls. This includes extensive disinfection of surfaces and equipment that come in contact with infected horses, as well as isolation of any horse that tests positive on nasal swab or blood.

Equine Herpesvirus (EHV-1 and EHV-4)

Disease Name: Equine Herpesvirus 1 and Equine Herpesvirus 4

Disease Type: Viral

Transmission: EHV is spread from horse to horse through contact with nasal discharge or spread as aerosol droplets. Horses can also contract the virus by coming into contact with contaminated surfaces such as stalls, water, feed, tack, and transport vehicles. Humans can spread the virus from horse to horse through contaminated hands, clothing and equipment.

Frequency: EHV-1 and EHV-4 are common causes of mild respiratory disease in foals and young horses and EHV-4 occasionally causes abortion in mares. Equine Herpesvirus Myeloencephalitis (EHM), the neurologic form of EHV-1, is comparatively rare.

Incubation period: Ranges from 2 to 10 days. Horses can shed the virus during the incubation period, before they develop clinical signs.

Carrier status: Infected horses become lifelong carriers and can intermittently shed the virus even when showing no clinical signs. It is thought that most horses become infected with EHV early in life.

Shedding period: Varies by horse and strain. Horses with clinical signs (nasal discharge, abortion, neurologic signs) should be considered contagious until cleared by their veterinarian through testing, quarantine, or both.

Latency: The virus can remain latent for the lifespan of the horse. Reactivation and viral shedding can occur periodically, especially during stressful events such as travel, illness, etc.

Severity: Highly variable; mild signs of respiratory illness to abortion to severe neurologic disease

Clinical signs:

- Fever
- Nasal discharge
- Enlarged mandibular and/or submandibular lymph nodes
- Lethargy
- Late-term abortion (may occur up to two months following infection)
- Foal death in first 48 hours of life (rare)
- Neurologic disease: incoordination, urine dribbling, inability to stand

Diagnosis: EHV-1 and EHV-4 are diagnosed by PCR testing of nasal swab and whole blood samples.

Treatment: Supportive care and rest. Non-steroidal anti-inflammatory medications, such as phenylbutazone (Bute) or flunixin meglumine (Banamine) are used to control fever and improve appetite. Antivirals and more aggressive therapies are used for EHM cases.

Prognosis: Although infection with herpesvirus is lifelong, most horses make a full clinical recovery from the respiratory form in 1-2 weeks. Horses with EHM may take longer to recover and neurological signs may never fully resolve.

Prevention: Vaccinations are available for prevention of the respiratory and abortive form of EHV-1 and EHV-4. There is currently no vaccine labeled for the prevention of the neurologic form (EHM). Management practices for preventing EHV-related disease includes maintaining current vaccinations on all horses on the property, practicing biosecurity while traveling and showing, and quarantining any new horses (or horses returning to a farm after travel) for at least 21 days before integration into the farm herd. Avoiding co-mingling of horses in different age groups (e.g. broodmare with yearlings) is also helpful to reduce EHV transmission. Horses should have their temperatures monitored twice daily, particularly in higher risk settings like travel or show.

Biosecurity: Biosecurity practices for EHV focus on minimizing horse-horse transmission through aerosol particles from nasal discharge or through contaminated surfaces including people, clothing, feed and water, implements, and stalls. This includes extensive disinfection of surfaces and equipment that come in contact with infected horses, as well as isolation of any horse that tests positive on nasal swab or blood.

