**Equine Herpes Virus (EHV-1)**
Information Sheet
March 16, 2016

**EHV-1 – What is it?**
Equine herpes virus -1 is a subset of herpes virus found in horses. The virus is similar to that which causes chickenpox and shingles in human beings. There are two different strains of EHV-1 found in the environment.

1. Nonneuropathogenic strain (wild type) is most commonly associated with respiratory disease, abortion and neonatal foal death. Rarely, it may result in neurological disease. Killed and modified live vaccines are available for protection against this strain.

2. Neuropathogenic strain of EHV-1 (mutant type or NEHV-1) most often results in the neurological disease, known as Equine Herpes Myeloencephalopathy (EHM). There are currently no licensed vaccines labeled for use against the neuropathogenic strain.

**Equine Herpes Myeloencephalopathy (EHM)**
EHM is the neurological disease syndrome caused by EHV-1. The virus damages blood vessels in the brain and spinal cord causing a variety of neurological signs, depending on where the damage occurred.

**Clinical signs of EHM**
- Fever > 102F (generally precedes clinical signs)
- Bilateral nasal discharge
- Edematous limbs
- Neurological signs (sudden, rapidly progressing, peak at 24-48 hours)
  - Lethargy
  - Lack of tail tone
  - Incoordination, hindquarter weakness, recumbency
  - Urine dribbling (overflow bladder)
Species affected by EHV-1
- All horse breeds including ponies and miniature horses
- Mules and donkeys appear to be asymptomatic carriers that shed the virus but do not show any clinical signs
- Rarely llamas and alpacas; guinea pigs?
- Not in humans, ruminants, dogs, cats

Spread of disease
- Shed in nasal secretion by both symptomatic and nonsymptomatic horses; generally for 7-10 days but may persist longer
- Directly by nasal secretions in the environment
- Directly by horse to horse contact
- Indirectly by contaminated objects (humans, clothing, tack, water and feed buckets, rub rags, etc.)
- Indirectly through air (short distances only)

Length of time virus lives in environment
- Clothes and human hands – 4 to 6 hours
- Sunlight and hot, dry environments kill the virus
- Normal environment – up to 7 days
- Moist, wet environments – up to a month

Asymptomatic carriers
- An unknown number of horses are thought to be asymptomatic carriers. Herpes virus may lie dormant for a number of years and then reactivate when stressed. The amount of viral shedding is generally low and reactivation occurs less often with carriers of the neuropathogenic strain.

Incubation period
- It is defined as the time from exposure to onset of clinical signs.
- Usually 2 to 10 days, but may be 24 hours up to 14 days

Statistics
- 80% of infected horses will display a fever
• 30-35% of infected horses will develop neurologic signs
• 5-10% of infected horses will die or require euthanasia
• Horses that survive generally have a good prognosis, but this varies depending on the location of neurological damage

**Diagnosis**
• Clinical signs and detection and isolation of the virus
• Nasal swab and blood sample from an exposed horse
• Laboratory testing (UC Davis and Kentucky) can determine the presence and specific strain of EHV-1

**Treatment**
• Intravenous fluids
• NSAIDs such as phenylbutazone or flunixin
• Corticosteroid use questionable
• Antiviral drugs – expensive but some of them have successfully decreased the severity of signs in an infected horse
• Supportive care

**Vaccinations**
• There is no USDA licensed EHV-1 vaccine labeled for prevention of the neurologic strain of EHV-1
• Some licensed EHV-1 vaccines have been shown to reduce nasal shedding of the virus
• Use of vaccination during an outbreak is controversial
• Repeated, frequent vaccinations may increase the incidence of EHV-1

**Effective disinfectants**
• Many available but manure inactivates them so all areas need to be cleaned well with soap and water before disinfected
• Bleach in a 1:10 dilution
• Phenolics
• Accelerated hydrogen peroxide products
• Quaternary ammonium compounds

**Biosecurity**
• Healthy horses
- **Handle healthy horses first; sick animals last**
  - Wash hands with soap between horse contacts
  - Use separate grooming, feeding and handling equipment for each horse

- **Suspect, exposed, or confirmed positive EHV-1/EHM horse.**
  - Isolate and restrict access of personnel to isolation area.
  - Wear disposable gloves and protective clothing and disinfect or discard between horses
  - Disinfectant foot baths