Disease Prevention in Horses
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Boehringer Ingelheim
Disease Prevention – the big picture

• Vaccination

• Environmental Management
Vaccination
Which vaccines, which horses, when?

- Age
- Use
- Breed
- Exposure Risk
- Geographic location
- Pregnancy status
- State, national, international requirements
- Time of year
Pregnant Mares

- Vaccines boosterized 4-6 weeks before foaling
Youngstock

**If Mom Vaccinated:** start vaccines at 6 months old

**If Mom NOT Vaccinated:** may start vaccines by 4 months old
Environmental Control
Rabies
Rabies

- **Transmitted**: through saliva – Bite wound
- **Symptoms**: aggression, dull/lethargic, fever, lameness, seizures, death
- **Diagnosis**: test brain and spinal cord for virus
- No cure – always fatal
Rabies - 2011

- **In New Jersey:**
- 293 total cases of rabies in animals
- Raccoons, skunks, domestic cats
- Only 1 horse
Rabies - Prevention

• **Vaccination:** protected within 28 days of initial booster
• *** Must be vaccinated by a veterinarian ONLY **
• Initial booster vaccine series (two doses) 4 weeks apart, then annually thereafter
Rabies - Prevention

- **Environment:**
  decrease potential exposure with wildlife
Encephalidies

- Eastern, Western, and Venezuelan Encephalitis
- West Nile Virus
Encephalidies - Symptoms

**Eastern Encephalitis**
- High fever
- Hyperexcitability
- Depression
- Lack of coordination (ataxia)
- Blindness
- Recumbency
- Head pressing
- 75-100% death rate

**West Nile Virus**
- Fever
- Muscle fasciculation (esp. head and neck)
- Weakness
- Ataxia
- Recumbency
- Sudden death
- 35% death rate
Encephalidies - Prevention

*From the Centers for Disease Control and Prevention, through MMWR week 53 (ending 12/31/2002 - 2,480 counties). Reported and verified through ArboNet as of 1/21/2003.*
Encephalidies - Vaccination

- EWT & West Nile Virus vaccines
- Initial booster series 3-6 weeks apart; every 6 months or annually thereafter
Encephalidies - Prevention
Tetanus (lockjaw)

- Toxin producing bacteria *Clostridium tetani*
- Lives in soil
- Gets into horses through open wounds, umbilical stump
Tetanus – common signs

- Generalized muscle stiffness
- Prolapsed third eyelid that does not return to normal
- Hypersensitive to sound
Tetanus - prevention

**Vaccination:** initial booster series (combined with *eastern encephalitis vaccine*) 4-6 weeks apart, then annually

**Environment:**
Core Vaccinations – the essentials

- Rabies
- Eastern, western encephalitis
- West Nile Virus
- Tetanus
Botulism

• Caused by *Clostridium botulinum*

• **Symptoms**: muscle weakness, fasciculation; difficulty swallowing, standing, severe wound infection
Botulism - Prevention
Potomac Horse Fever

- Bacteria *Neorickettsia risticii*
- Causes profuse diarrhea, high fever, secondary laminitis
- Vaccination available but protection variable
**Influenza – The Flu Virus**

- Respiratory virus
- Viral particles are inhaled to cause infection
- Very contagious between horses
- Young horses or immunocompromised horses
Influenza – Clinical Signs

• High fever
• Serous to thick yellow/white nasal discharge
• Depression
• Not wanting to eat
• Cough **
Influenza - Prevention

• Vaccination
• **Isolation**: new horses, Sick horses
Rhinopneumonitis – Equine Herpes Virus (EHV)

• Equine Herpes virus (EHV): Type 1 and Type 4 are the most common
Herpes Virus – Type 1

1.) Respiratory disease
EHV -1 & 4

2.) Abortion and foal death

3.) Neurological disease
Herpes virus infection – how it spreads

- Aerosol
- Horse-to-horse contact
Herpes Virus – How is Spreads - Humans
Equine Herpes Virus – How it spreads – Latent Carriers
EHV-1 Infection cycle
EHV-1 Respiratory Symptoms

- Fever (102 – 104.5)
- Lethargic
- Nasal Discharge
- Lack of appetite
- Cough
EHV-1 Neurological Symptoms

- Mild incoordination to severe hind end paralysis
- Recumbency
- Loss of tail and bladder function
EHV-1 Abortion and Foal death

**Abortion:**
- Occurs 7 days to several months following exposure
- 7th – 11th month of gestation
- Foal dies soon after birth

![Abortion Image](image)

![Foal Image](image)
Equine Herpes Virus – Prevention with Vaccination

- “Flu/Rhino” shot
- Initial two vaccine booster series 4-6 weeks apart; then every 6 months
- Respiratory form EHV-1 and EHV-4 (& Influenza virus)
Equine Herpes Virus – Prevention with Vaccination

Pregnant mares:

• Vaccine for EHV-1 to prevent abortion
• Given at 5, 7, and 9 months gestation
Equine Herpes Virus - Outbreaks
Equine Herpes Virus - Outbreaks

- 13 horses died or were euthanized
- 90 confirmed cases of EHV-1, 54 horses present at the championship
Equine Herpes Virus – Outbreak!

What to do???

**Isolation:** 21 days min.

1.) New Horses
2.) Sick horses
3.) Pregnant mares
EHV-1 Outbreak - Hygiene

- Wash hands/wear gloves/handle last
- Change outer layer of clothes
- Dip boots
- Separate buckets, lead ropes etc.
EHV-1 Outbreak – Take Action

• Isolate: sick horse
** If mare aborts or signs of neurological disease CALL VET

• Temperature

• Hygiene

• End of Quarantine = 21 days
Strangles

- *Streptococcus equi* bacteria

**Symptoms:**
- Fever
- Yellow/white nasal discharge
- Swollen lymph nodes +/- abscesses
Strangles – Silent Carriers
Strangles - Vaccination

- Intranasal vaccine
- Initial 2 part vaccine booster series given 2-3 weeks apart
- Annually thereafter
Strangles – Controlling the spread of infection

• Isolation – 21 days
• Bacterial culture and PCR testing for those infected
• Temperature of those in contact
• Hygiene
• Disinfect ** Dilute bleach
In Summary - Vaccination

- Avoid 2 weeks before/after stressful event
- Avoid if showing symptoms of disease
- Avoid vaccinating at longer than 12 month intervals!
In summary – Environmental Control

**Isolate:**

- New horses or “busy” horses for 3 weeks
- Pregnant mares

- Bring your own (lead ropes, grooming tools, buckets) when traveling
- Manage barn and pasture
Information Sources

• Our website! [www.coltsheadvet.com](http://www.coltsheadvet.com) **
  check out “Outbreak alerts” link under “education” section
• Facebook page
• The Horse.com
Resources

- American Association of Equine Practioners: [www.aaep.org/horseowner](http://www.aaep.org/horseowner)
- Allen, G.P.; (June 2002), Epidemic disease caused by Equine herpesvirus-1: recommendations for prevention and control. *EVE*. 177-183
- Merck Veterinary Manual: [www.merckvetmanual.com](http://www.merckvetmanual.com)
Thank You !! Questions ??