Equine Vaccinations

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Why vaccinate?

• Minimally invasive
• Relatively inexpensive versus the disease
  • Prevention is always cheaper than treating disease
• Effective
• Results of disease can be catastrophic
Why do most vaccines require a two shot initial series and annual booster?

- Immune response
  - Initial (primary) response
    - Longer lag phase
    - Lower antibody response
  - Memory (amnestic response)
    - Shorter lag phase
    - Higher antibody response
Intramuscular injection sites

• Neck
  • Avoid
    • spine
    • scapula
    • ligamentum nuche

• Thigh muscles
• Pectorals

Figure 2-1 Sites for intramuscular drug delivery. A, Lateral view. B, Posterior view.
Why do we have vaccine failure or breakthrough?

• No vaccine is 100% effective – why?
  • Not the real thing
    • Equine Influenza – Virus changes (shift and drift)
  • Immune system of animal may not be fully operational
    • Stress
    • Nutrition
    • Age
  • Environmental exposure may overwhelm the immune system
    • Exposed to pathogens at very high levels
Possible adverse reactions

• Infections
  • Need for proper protocols

• Systemic Allergic Reaction
  • Veterinarian administered epinephrine

• Local reaction to adjuvant
  • Supportive care
  • Higher

• Injury to horse and handler
Vaccinations Guideline

• American Association of Equine Practitioners
  • Core vaccine
    • These are vaccines that protect from diseases that are endemic to a region, those with potential public health significance, required by law, virulent/highly infectious, and/or those posing a risk of severe disease. Core vaccines have clearly demonstrated efficacy and safety, and thus exhibit a high enough level of patient benefit and low enough level of risk to justify their use in the majority of patients.
  • Risk-based vaccine
    • These are vaccinations included in a vaccination program after the performance of a risk-benefit analysis. The use of risk-based vaccinations may vary regionally, from population to population within an area, or between individual horses within a given population.
Core vaccines

• Eastern/Western equine encephalomyelitis
• Rabies*
• Tetanus
• West Nile virus

*Due to zoonotic potential
Rabies

- Currently no laws in Utah requiring equine vaccination
- Wildlife that horses can encounter that are known carriers of rabies include raccoons, fox, skunk, or bats.
Rabies in a horse

• Rare in horses but can happen
• Spread through saliva in bites from an infected animal
  • Most often on muzzle, face, and lower limbs
• Virus migrates to the brain where it replicates and becomes fatal
• No treatment available
• Diagnosis is made by testing brain
Signs of rabies in a horse

- Two forms exhibit in horses
  - Furious Form (not common)
    - Anxious
    - Aggressive and dangerous
  - Paralytic Form
    - Ataxia
    - Drooling
    - Unable to swallow
    - Weakness
    - Drooping of lower jaw
Zoonotic potential

- People can be infected when examining the horse's mouth or giving it medication with bare hands.
  - Can be spread to humans by infected saliva from the horse coming into contact with mucus membranes of people
  - Strict adherence to biosecurity is important

Horsevetguide.com
Vaccination of horses for rabies

- Must be labeled for horses
- Adhere to label instructions
- Single does with yearly booster
- Vaccinate pregnant mare 4-6 weeks prior to foaling
- If a certificate is required, the vaccine must be administered by a licensed veterinarian.
Risk-based vaccines

- Equine herpes virus (Rhino)
- Equine influenza
- Equine viral arteritis (Mainly in breeding stallions, mares)
- *Streptococcus equi* (strangles)
- Potomac horse fever

Valleyvet.com
Vaccine MUSTS!!

• Consult a veterinarian
• Follow labeled directions
  • Storage
  • Application
    • Subcutaneous versus Intramuscular
• Strict adherence to interval between boosters
• Switching Brand Names may require the booster series not just annual revaccination
  • West Nile vaccine
When should you vaccinate?

• Always follow label directions
• In general
  • Unvaccinated horses
    • Initial two shot series with a 4-6 week interval between doses before the vector season
  • Previously vaccinated horses
    • 3-4 weeks before exposure or the vector season
  • Brood mares
    • 4-6 weeks before foaling
Why do we vaccinate pregnant brood mares?

- Colostrum milk
  - First milk that the baby ingests needs to be rich in antibodies
- Baby will be born without a functional immune system
- Mother confers immunity (antibodies) to baby through colostrum
- Absorbed within first 12 hours
Vaccination Pointers

• Involve your Veterinarian
• Strategic planning to annual boosters
  • Plan for vaccines before vector season
  • EEE/WEE, WNV – give in spring before mosquitoes
• Increase interval for stressed animals or animals exposed more frequently – EHV and Influenza
  • Eventing/Rodeo
  • Shows
  • Fairs
  • Training
• Strict adherence to booster intervals in foals
• Always read and follow label directions
• Keep a RECORD! of vaccine given and date