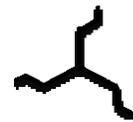


# Equine Vaccinations

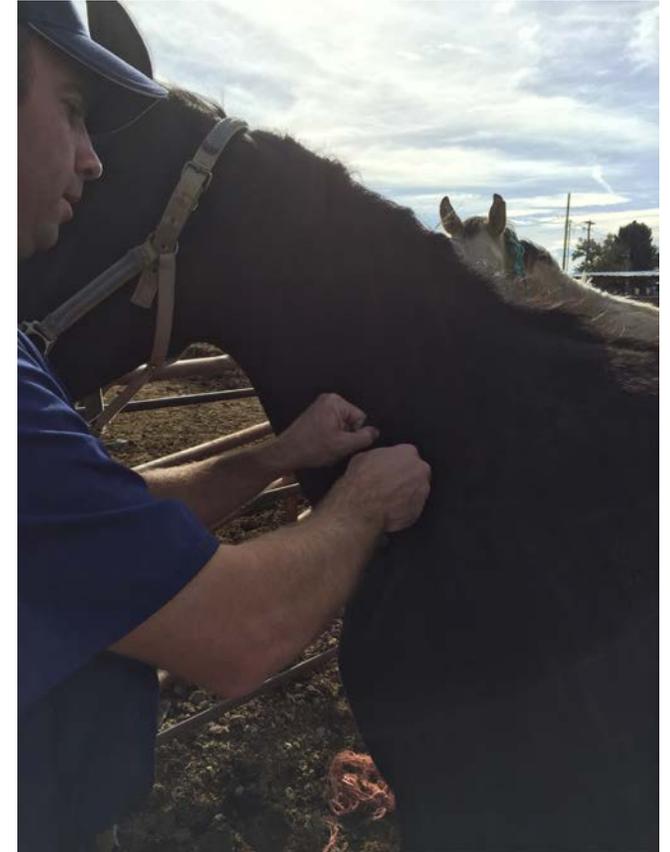
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*Karl Hoopes, DVM USU Equine Extension Specialist*



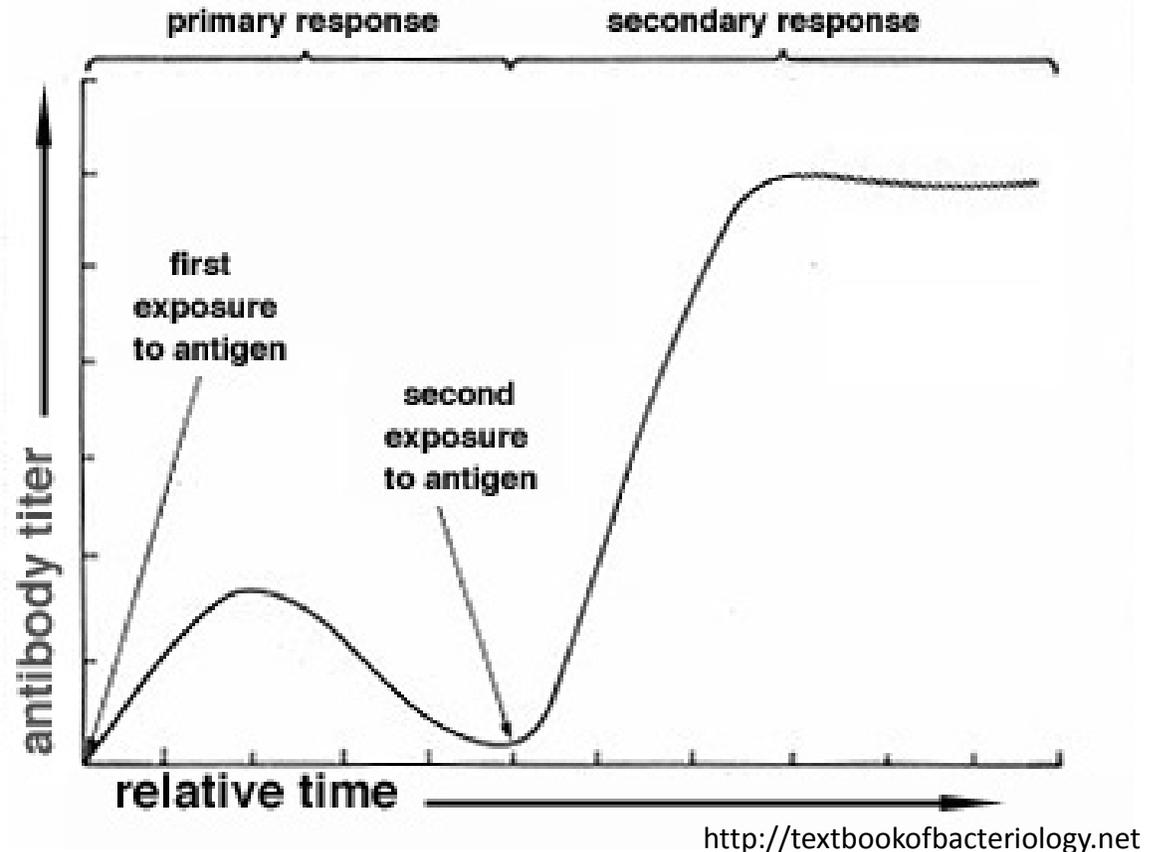
# Why vaccinate?

- 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

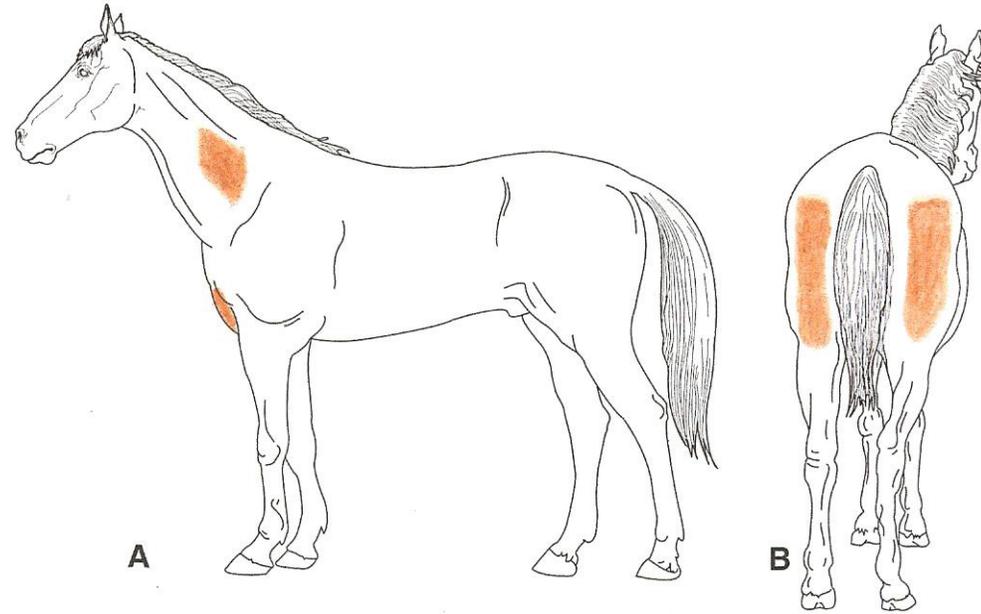


Figure 2-1 Sites for intramuscular drug delivery. **A**, Lateral view. **B**, Posterior view.

[Oregonequine.vetsourceweb.com](http://Oregonequine.vetsourceweb.com)

# 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



[www.thehorse.com](http://www.thehorse.com)

# 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.

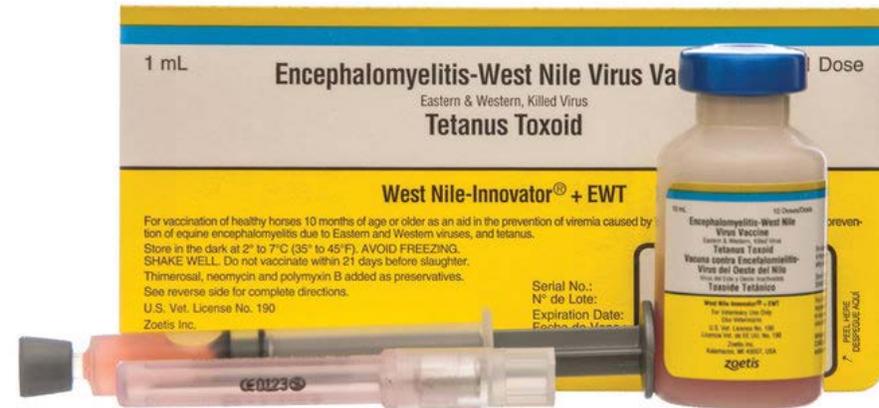
# Core vaccines

- Eastern/Western equine encephalomyelitis
- Rabies\*
- Tetanus
- West Nile virus

**\*Due to zoonotic potential**



Valleyvet.com



# 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



[www.mypetsnvets.com](http://www.mypetsnvets.com)

# 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

EXTENSION.USU.EDU

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UtahStateUniversity

# 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.



Valleyvet.com

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# Risk-based vaccines

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



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# 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

*Spring!*

# 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



Wynoaksfarm.com

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UtahStateUniversity

# 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

