Welcome to South Shore Equine Clinic's Client Education Seminar

Infectious Disease Control On Your Farm

Infectious Disease Control On Your Farm

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South Shore Equine Clinic
& Diagnostic Center
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Infectious Disease Control

- Strategic Vaccination
- Strategic De-worming
- Biosecurity Measures

Strategic Vaccination

VACCINES MAKE THE IMMUNE SYSTEM THINK IT HAS THE DISEASE

Strategic Vaccination

- Types of Vaccines
- Diseases to protect against
- Time of Year
- Identify Animals at Risk
- Number of visits
- Reaction History?

Strategic Vaccination

Types of Vaccines

Killed Vaccine – Dead portion of virus

Modified Live – Inactivated virus

Bacterin – Vaccine vs. Bacterial disease

Strategic Vaccination

Types of Vaccines

Killed Vaccine

PRO	CON
Safety	Adjuvant Required
Broad Response	
No Replication	

Strategic Vaccination

Types of Vaccine

Modified Live

PRO	CON
No adjuvant necessary	Short Shelf-life
Broad Response	Safety in Pregnancy
Limited Replication	Revert to virulence

Strategic Vaccination

Diseases to vaccinate against :

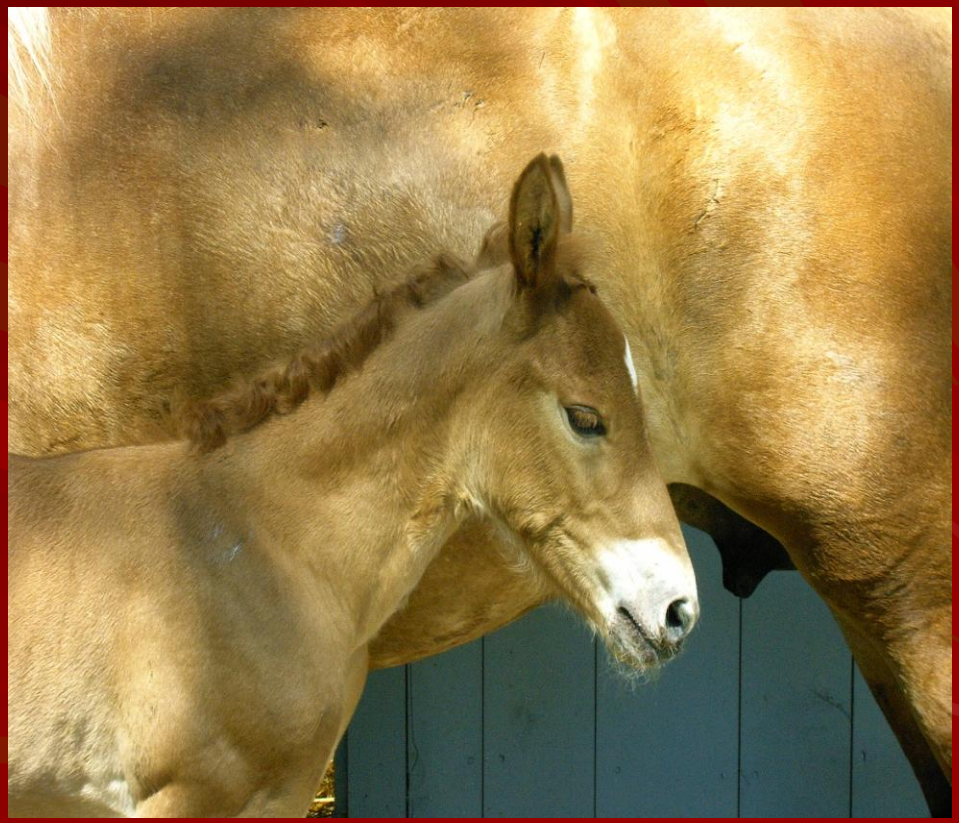
- Influenza
- Rhinopneumonitis (Herpes)
- Rabies
- Eastern/Western Encephalitis
- West Nile Encephalitis
- Tetanus
- Potomac Horse Fever
- Strangles (Strep. Equi)

Strategic Vaccination

- Timing of Vaccination
  - Spring
  - Fall
  - Prior to Shipping
  - Prior to Exposure
  - After Exposure
  - Annually vs. Biannually vs. Tri-annually

Strategic Vaccination

- Animals at Risk
  - Young or Naïve
  - Mature/Adult – resident
  - Mature/Adult – competitive/traveling
  - Senior – isolated
  - Breeding Stock
    - Prior to Breeding
    - During Pregnancy



Strategic Vaccination

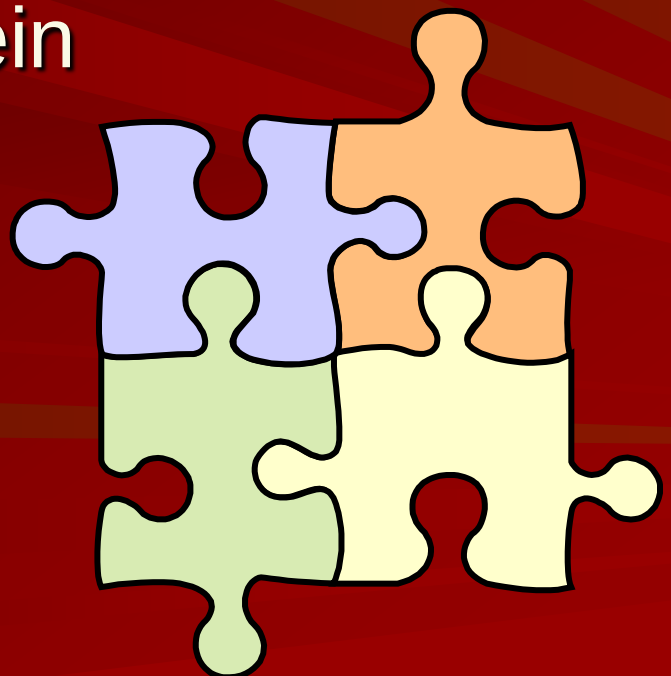
- Number of Visits Necessary to Complete Vaccination Series

"ANTIGEN" = foreign protein used to promote immune response

Strategic Vaccination

- Number of Visits Necessary to Complete Vaccination Series

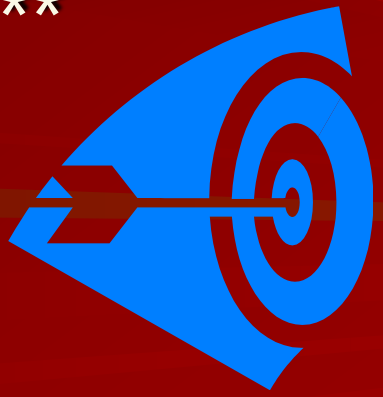
"ANTIBODY" = Immune System Response to foreign protein



Strategic Vaccination

- Number of Visits Necessary to Complete Vaccination Series

"ADJUVANT" = necessary to enhance the Antigen presentation and help drive the Immune Response. ***Causes INFLAMMATION***



Strategic Vaccination

Goal in vaccination:

MAXIMIZE IMMUNE RESPONSE WITHOUT OVERLOADING IMMUNE SYSTEM

Strategic Vaccination

- Number of visits Necessary ??
  - # Adjuvants -- limited to 2 or 3 per visit
  - # Antigens – limited to 4 or 5 per visit
  - Use of combinations and similar products
  - Visits no sooner than 12 to 14 days apart

Strategic Vaccination

EXAMPLES

Visit #1: Influenza/Rhino, Rabies
Visit #2: EWT, West Nile, (PHF)
Visit #3: Strangles

(Rhino & Influenza boosters every 3 to 6 months)
(EWT boosters at 6 months, if necessary)

Strategic Vaccination

EXAMPLES

Visit #1: West Nile, Rabies, Influenza

Visit #2: EE/WE/Tetanus, Rhino, (PHF)

Visit #3: Strangles

(Rhino & Influenza boosters every 3 to 6 months)
(EWT boosters at 6 months, if necessary)

Strategic Vaccination

EXAMPLES

Pregnant Mare

Visit #1: 3-5 months: Rhino

Visit #2: 7 months: Rhino

Visit #3: 9 months: Rhino

Visit #4: 10 months: EWT, Influenza, West Nile

Strategic Vaccination

EXAMPLES

Foal

Visit #1: 4-6 months: Rhino (EHV-1 & 4)
Visit #2: 5-7 months: Rhino #2
Visit #3: 6 months: EWT, West Nile, Rabies
Visit #4: 7 months: EWT#2,West Nile #2,Rabies #2
Visit #5: 9 months: Influenza, Strangles, Rhino #3
Visit #6: 10 months: Influenza #2, Strangles #2
Visit #7: 11 months: Influenza #3

(spaced by 2 weeks, where necessary)

Strategic Vaccination

Vaccination Reactions

Expected or Adverse?

- Individuals in a population?
- Appropriate Immune Response?
- 2 – 3 days or longer?

Strategic Vaccination

History of Reactions

- Which vaccine? Adjuvant? Antibody? Manufacturer?
- Number of vaccines given at same time?
- Lump?
- Fever?
- Does Pre-treatment Help?
- Any other horses affected?
- Help from the Pharmaceutical Company?

Strategic Vaccination

Vaccinate all horses in a herd

"Just a single unprotected horse in a herd can provide a reservoir of infection to all the others."

Strategic Vaccination

Preventing a disease through **proper** vaccination programs is far safer, easier, and more economical than treating the disease after the horse is already sick.

Infectious Disease Control

- Strategic Vaccination √
- Strategic De-worming
- Biosecurity Measures

Internal Parasite Control

- Internal parasites (worms) can cause *extensive* internal and external damage to your horse
  - GI tract
  - Lungs
  - Integument
  - Eyes

Internal Parasite Control

- Large and Small Strongyles
- Ascarids
- Tapeworms
- Bots
- Pin worms

Internal Parasite Control

3 Basic Deworming Programs

1. Continuous
2. Interval
3. Strategic

….or any combination of the above

Continuous Deworming

- A de-wormer is fed daily throughout the year and supplemented with paste twice yearly

- Ex. Strongid, Continue-X

Continuous Deworming

- Preventicare Program

- Offered by Pfizer
- Covers up to $5000 of colic surgical or medical treatment
- Ask your veterinarian

Interval Deworming

A horse is treated with a de-wormer paste every 6-8 weeks.

These may be rotated every cycle or annually.

Strategic Deworming

- The horse is de-wormed at certain times of the year with specific products and/or de-wormed when fecal egg counts rise.

- SSEC offers *free* fecal exams in November

Strategic Deworming

Drug Class	Trade Name	Tapes	Bots	Round	**Strongyles**	Pin
Ivermectin	Eqvalan Zimectrin	+ / -	++	++	++	++
Benzimida-zoles	Panacur Safeguard	++	- -	++	++	++
Pyrantel	Strongid Imathal	+ / - (dd)	- -	++	++	+/-

Strategic De-worming

Example

- Jan 1 - Jan 15: Benzimidazoles (Panacur)
- Feb 15 - Mar 1: Benzimidazoles
- Apr 1- Apr 15: Benzimidazoles
- May 15 – June 1: Ivermectin
- July 1 – July 15: Ivermectin
- Aug 15 – Sept 1: Pyrantel
- Oct 1- Oct 15: Pyrantel (Strongid – double dose)
- Nov 15 – Dec 1: Ivermectin

BIOSECURITY

Biosecurity Measures

- Strategic Vaccinating √
- Strategic Deworming √
- Housing
- Hygiene
- How to manage a sick horse/outbreak

HOUSING

- Air Flow
- Ventilation
- Decrease incidence of respiratory disease/COPD
- Decreased Aerosolization of viral particles

HOUSING

- Clean, **FRESH** Water
- *Individual* buckets
- *Individual* feed tubs
- *Individual* halters and leads

- Decrease incidence of disease transmission

HOUSING

- Population Density
- Hygiene

POPULATION DENSITY

- Sharing Paddocks
- Parasite control
  - Horses acquire parasites primarily by ingestion
- Infectious disease control (Isolation paddock)

Sharing Paddocks

- *Strategic*

De-worming Protocol

- ALL horses
- New Horses
- Annual Intestinal Parasite Exam (fecal)

- www.ssequineclinic.com

Infectious Disease Control

- Viruses - Respiratory
  - Influenza
  - Rhino (EHV-1 Outbreak)
- Bacterial
  - Strep. Equi (Strangles)
  - Rhodococcus

Infectious Disease Control

Neuropathic Herpes (EHV-1) Outbreaks

- 2003 – 4 outbreaks
- 2004 – 2 outbreaks
- 2005 – 5 outbreaks
- 2006 – 11 outbreaks

More aware? Spreading? Protection?

Infectious Disease Control

- Do you have the ability to quarantine animals?
  - 35 feet minimum

  ** 3-4 stall lengths

  - Isolation paddock/run-in

Infectious Disease Control

- Minimize Spread of Infectious Disease and Parasite burden by practicing good HYGIENE

HYGIENE – Ideal Conditions

HYGIENE – Ideal Conditions

- Closed herds
- No shared water buckets or feed tubs
- Individual halter/lead

HYGIENE – Ideal Conditions

- Minimize shared tack /grooming supplies
- Clean/Disinfect all shared tack/blankets between users

HYGIENE – Ideal Conditions

- Change water daily
- Clean/bleach (Chlorox/Pine sol) buckets at least weekly
- Minimize stagnant water

STAGNANT WATER

- Breeding grounds for mosquitoes >> West Nile, EEE
- Mayflies >> Pot. Horse Fever
- Algae, bacteria, Salmonella, Clostridium

Hygiene
….if you have a sick horse

- Have designated person to work with sick horse
- Handle after all others have been handled
- Clean stall last - or 1 person

If you have a sick horse…

- Have own muck tub, shovel, fork, etc.
- Don’t use the same hose as all others to fill water bucket!!

If you have a sick horse…

- Isolate – use tape as a marker
- Have booties or a foot bath between affected and common areas

If you have a sick horse…

- Monitor temperature twice daily (less than 101.5˚F)
- Monitor temperature of other horses in the barn
  - Early detection and isolation is key!!

Hygiene – Human
if you have a sick horse…

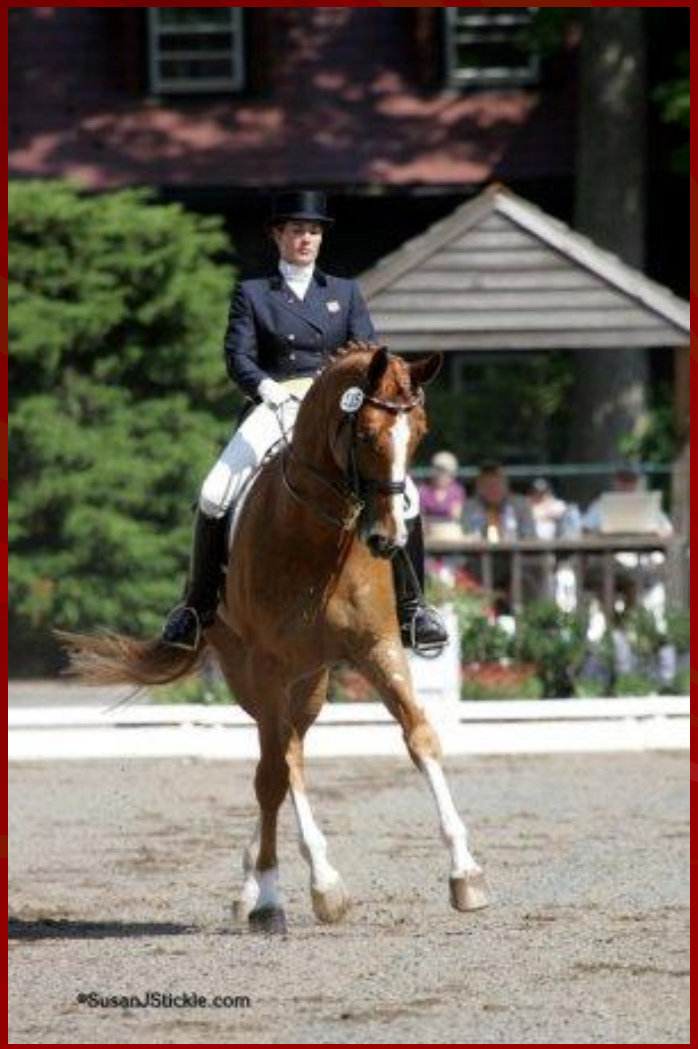
- Wear gloves / Wash hands (Happy Birthday)
- Install Hand Sanitizers
- Isolated barn clothing / barn shoes

Optimum Control Against Infectious Disease

- Strategic Vaccinating √
- Strategic Deworming √
- Housing √
- Hygiene √

Optimum Control Against Infectious Disease - SHOWING

- Strategic Vaccinating √
- Strategic Deworming √
- Require verification of vaccination status of horses entering your farm
- Verification of no fever in past 72 hours



Optimum Control Against Infectious Disease

Certification Statement

- Name, Breed, Sex, Color
- Temperature and date(s) taken
- Vaccination Statement
  - Dates vaccinated
  - Name of Vaccine
  - Name of Owner/Trainer and Signature
- Testimony to No Known Exposure
- Veterinarian Signature & Date

Thank you for your Attention!

Questions? Comments?

REMINDER

Upcoming client education seminar

Joint Disease and Non-Surgical Joint Therapy

April 11, 2007, 5:30 pm