



Welcome to South Shore Equine Clinic's Client Education Seminar



Infectious Disease Control On Your Farm

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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

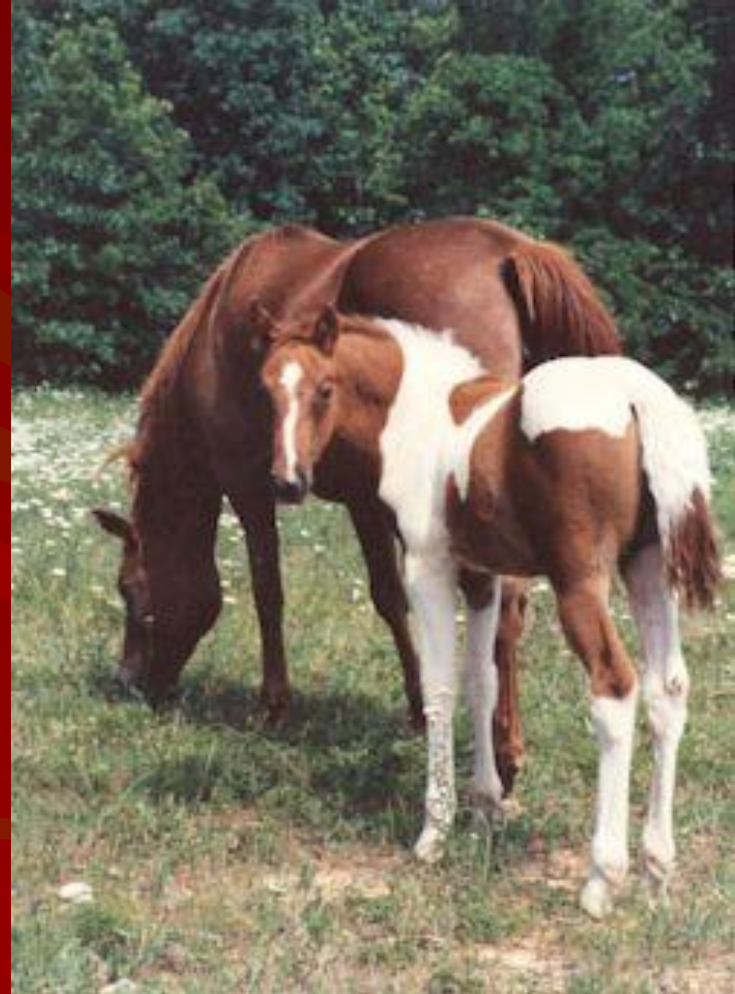
- Types of Vaccines
- Diseases to protect against
- Time of Year
- Identify Animals at Risk
- Number of visits
- Reaction History?



Strategic Vaccination

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

Goal in vaccination:

**MAXIMIZE IMMUNE RESPONSE
WITHOUT OVERLOADING IMMUNE
SYSTEM**



Strategic Vaccination

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

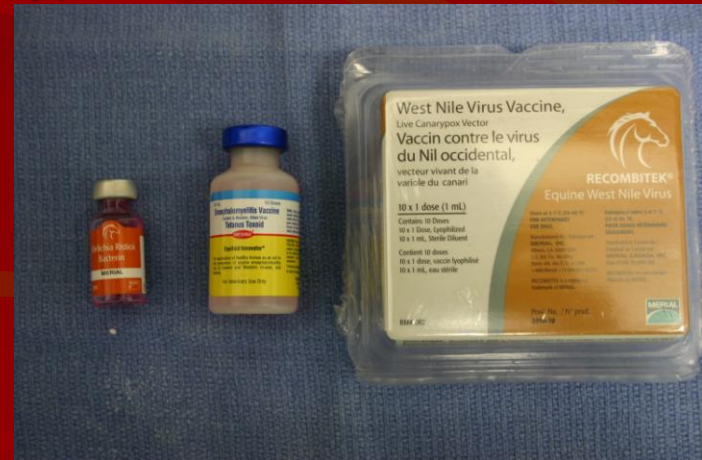


Strategic Vaccination

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

Vaccination Reactions

Expected or Adverse?

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



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.



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)



Infectious Disease Control

■ Viruses - Respiratory

- Influenza
- Rhino (EHV-1 Outbreak)

■ Bacterial

- Strep. Equi (Strangles)
- Rhodococcus



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 (Clorox/Pine sol) buckets at least weekly
- Minimize stagnant water



STAGNANT WATER

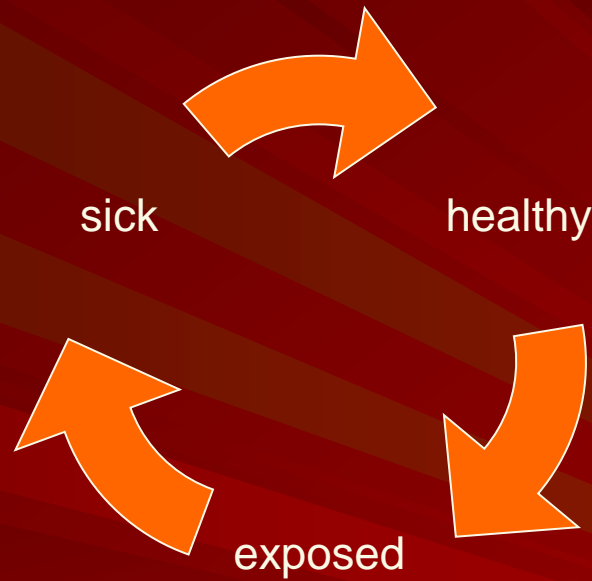
- Breeding grounds for mosquitoes >> West Nile, EEE
- Mayflies >> Pot. Horse Fever
- Algae, bacteria, Salmonella, Clostridium
- Strep Equi – can survive up to 6 weeks in water



STRANGLES

- What is it ?
 - Strep Equi. equi.
- How is it transmitted?
 - Direct contact

STRANGLES...



STRANGLES...

TREATMENT

- WHO?

- WHEN / WHY?

- With WHAT?



STRANGLES...

■ Treatment - WHO?

- No systemic treatment if external abscesses (warm compresses)
- Symptomatic treatment for fever, inappetance (NSAIDs)
- Treatment for sick horses – 4-8 weeks with antibiotics
- {Aggressive treatment for exposed, feverish subjects - with appropriate medication for at least one week}



STRANGLES...

- Treatment – WHEN / WHY?
 - If abdominal abscesses = colic
 - If enlarged throat LN abscesses = respiratory difficulty
 - Minimize transmission to others
 - Kill confirmed organism with prolonged antibiotic therapy



STRANGLES...

- Treatment – with WHAT?
 - Systemic Penicillin
 - IV Potassium Penicillin
 - IM Procaine Penicillin



STRANGLES...

– Local Flushing

- Ruptured external abscesses
- Guttural Pouch Flushing



STRANGLES



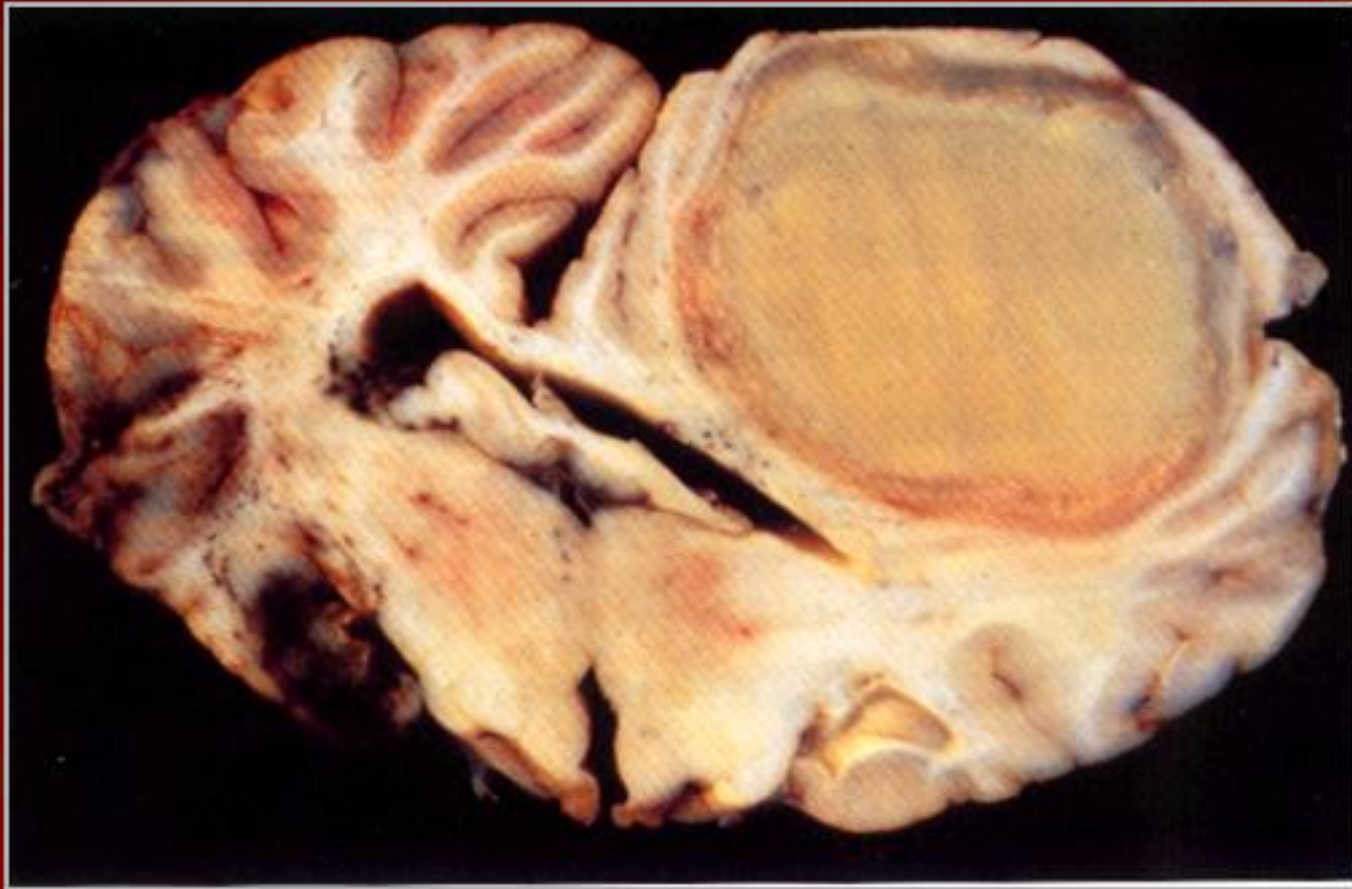
STRANGLES



STRANGLES



STRANGLES



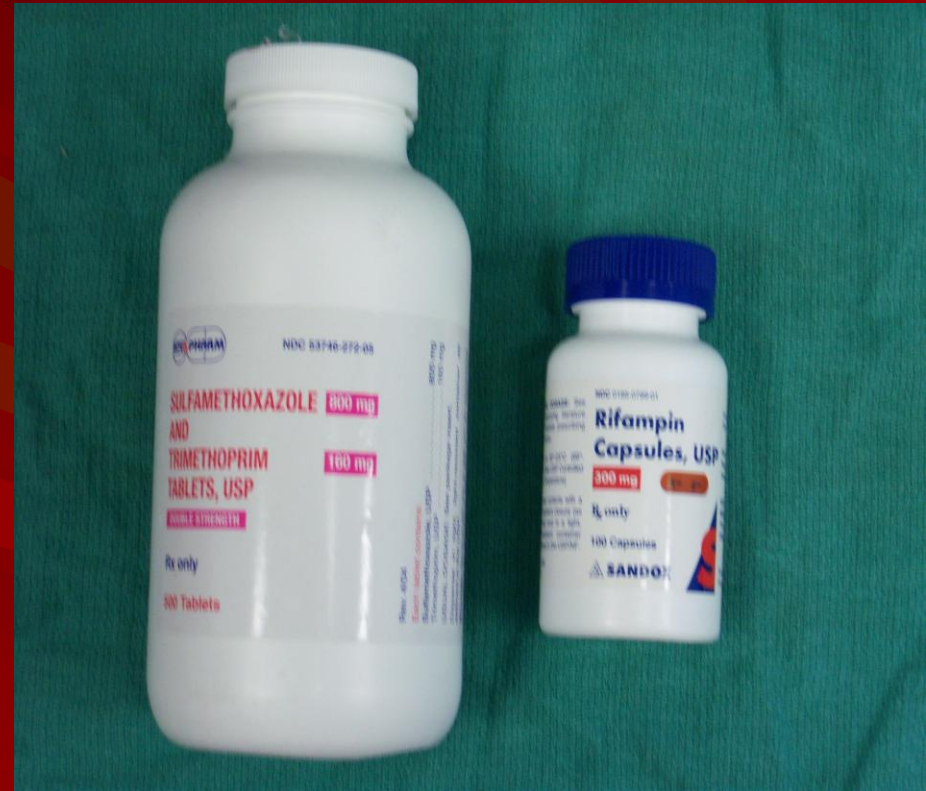
STRANGLES...

■ Treatment

- Prolonged Antibiotic Therapy

- SMZ-TMP tablets

- Oral Rifampin



How Do I Know I'm Done Treating?

■ Retesting

- PCR – tests for DNA of the organism



How Do I Know I'm Done Treating?

□ PCR – tests for DNA of the organism

- Cannot distinguish b/w LIVE or DEAD
- 3 Consecutive Negatives, each one week apart
- Takes 5-7 days for results
- IF POSITIVE – Endoscopy of the Guttural Pouches



How Do I Know I'm Done Treating?

- Positive PCR – now what?
- Endoscopy of Guttural Pouches
 - Large mucosa-lined outpouchings of the eustachian tubes
 - About 350 cc volume in 1000 pound horse
 - Ventral floor of medial compartment bordered by the retropharyngeal lymph nodes
 - Look for enlargement of LN's or accumulation of abnormal secretions (pus)



How Do I Know I'm Done Treating?

■ Endoscopy of Guttural Pouches

- Abscesses of the R-P lymph nodes (on the floor of the pouch) may rupture and drain into the pouch
- Pus may be seen draining from the pouch, and/or there may be exudate or chondroids within the pouch
- LAVAGE or ASPIRATION of the fluid for PCR testing or culture



How Do I Know I'm Done Treating?

■ Retesting

- Culture – grows the organism and can differentiate from other bacterial infections or viruses
- ** Chronic carriers of Strangles may harbor the bacterium within the pouches WITHOUT obvious swollen LNs or clinical signs **



How Do I Know I'm Done Treating?

■ Guttural Pouch Treatments

- Repeated 3-4 times a week to encourage drainage of purulent material
- Chronic pus accumulation (“empyema”) may lead to stagnation of material – this may result in CHONDROID formation.
- Small ones removed with endoscopic basket forceps; reduced to small pieces and lavaged; or surgically removed if large in size



How Do I Know I'm Done Treating?

■ Guttural Pouch - Chondroids



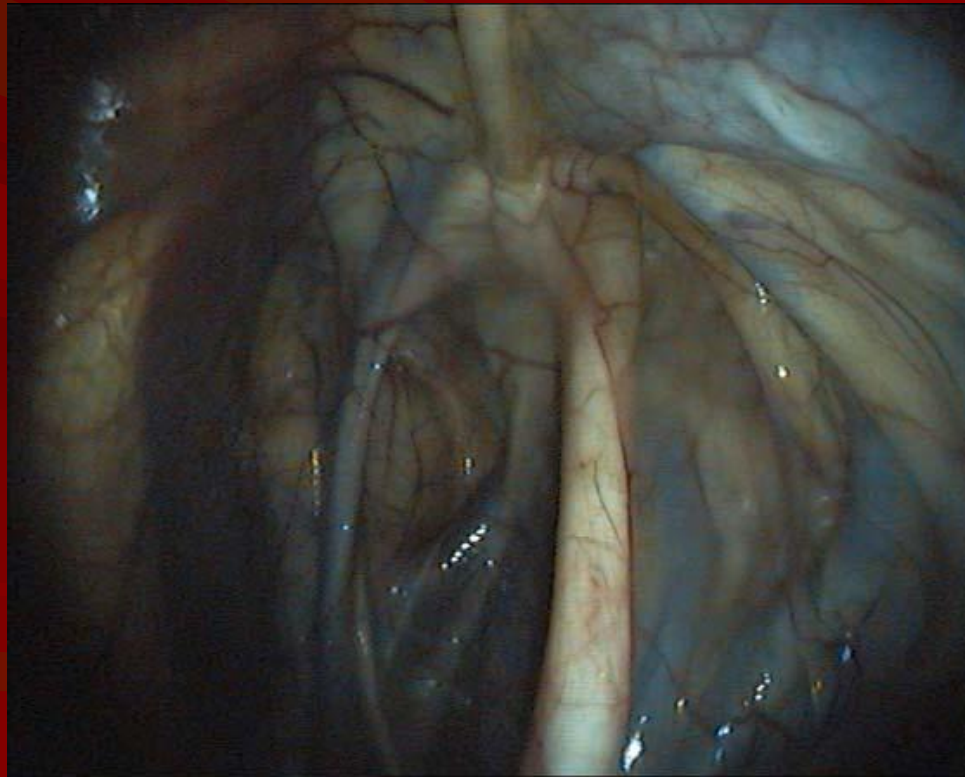
How Do I Know I'm Done Treating?

■ Guttural Pouch - Chondroids



How Do I Know I'm Done Treating?

■ Normal Guttural Pouch



Do I Vaccinate?

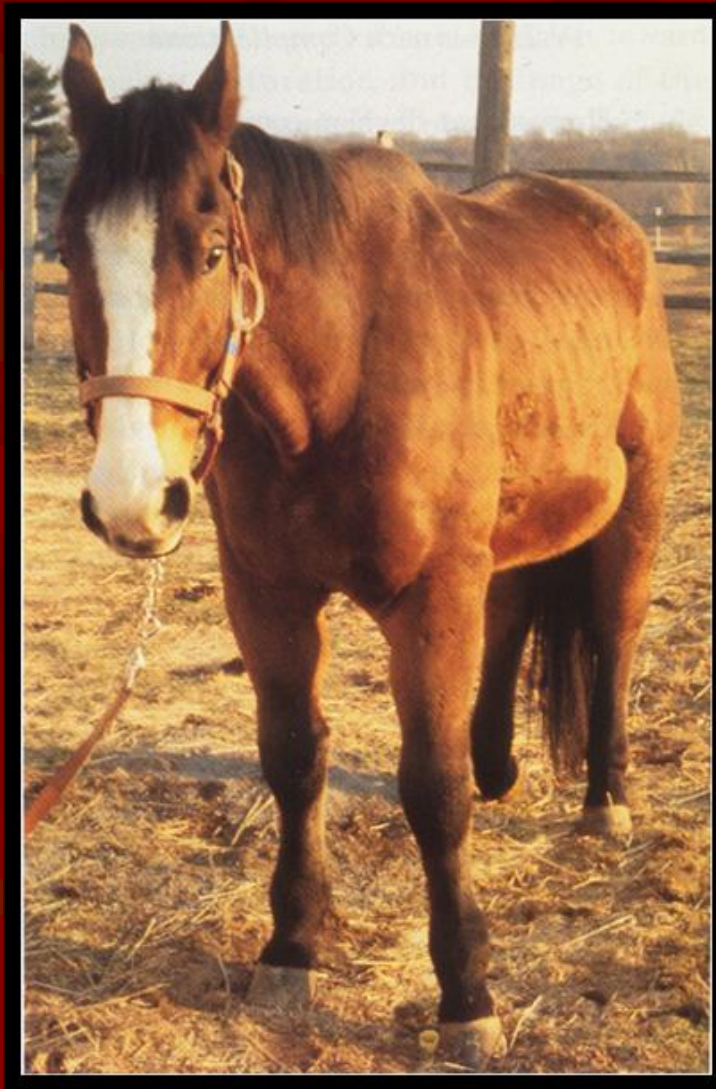
TITERS

determine Antibody level of host
vs. Strep equi

- Low titers = vaccinate
 - Poor Immunity
- High titers = do not vaccinate
 - Purpura Hemorrhagica
 - Natural Protection



PURPURA HEMORRHAGICA



Do I Vaccinate?

Pinnacle Intranasal Vaccine

- Fort Dodge
- Live Bacterin
- Must be given intranasal, not IM !!



....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 designated 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” 2x)
- Install Hand Sanitizers
- Isolated barn clothing / barn shoes



Optimum Control Against Infectious Disease

- Strategic Vaccinating ✓
- Strategic Deworming ✓
- Housing ✓
- Hygiene ✓



Optimum Control Against Infectious Disease

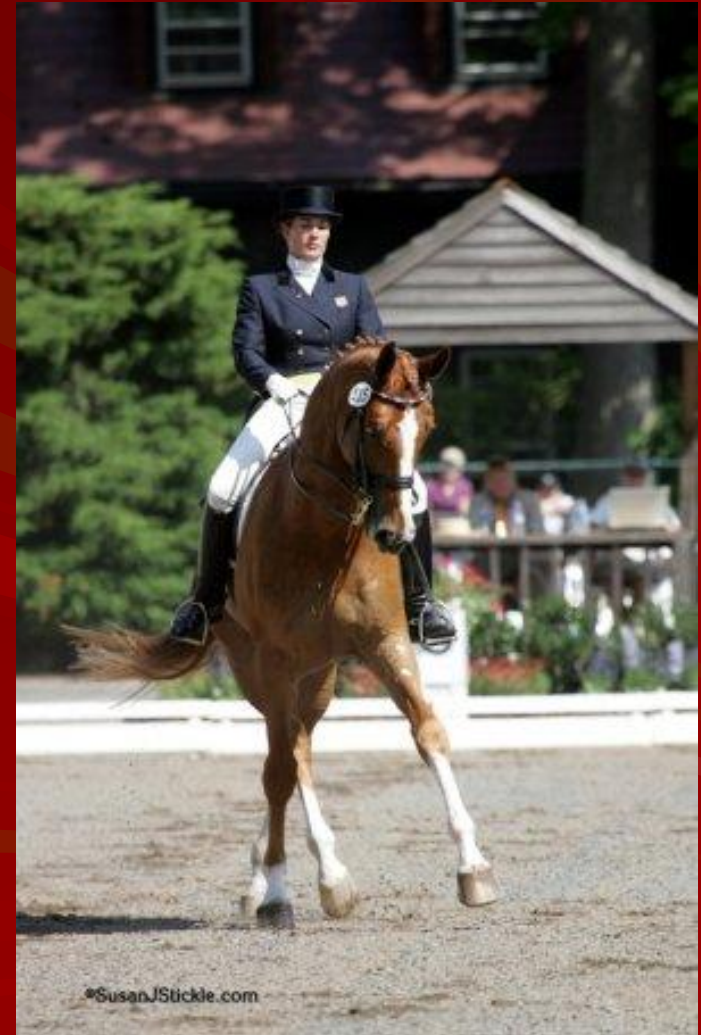
■ “QUARANTINE”

- Restrict movement
 - On and off
 - Within Farm
 - Between Paddocks



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



Optimum Control Against Infectious Disease

Certification Statement

- “I certify as an Accredited Veterinarian that the equine (s) described above have been examined by me and appear to be free of any infectious or contagious disease or exposure thereto.”
- Veterinarian Signature & Date



Thank you for your Attention!

Questions?

Comments?

