Equine Biosecurity

The Key to keeping your horse safe and healthy from contagious disease

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Infectious Diseases

• Big challenge in the horse industry
  • Single horse that never leaves the farm
  • Large farm with regular horse movement

• Always a risk for infection!

• Biosecurity goals
  • Prevent diseases
  • Contain diseases when they occur
What is Biosecurity?

• Biosecurity or infection control?
• Not just for hospitals
• Biosecurity = trying to keep “bugs” from getting onto a farm
• USDA definition:
  Biosecurity means doing everything you can to reduce the chances of an infectious disease being carried onto your farm by people, animals, equipment, or vehicles, either accidentally or on purpose.
• Infection control – reduce risk and disease occurrence
  • Cannot eliminate 100%
What are my farm’s risks?

• Risks for individual horses and individual farms vary
  • Closed herd?
  • Population of horses
    • Broodmares vs. older horses
  • Shows, competitions, and events?

Remember…

1. Big challenge for all sizes of farms
2. Goal is to reduce problems before they happen
3. And contain them if they occur
Equine Biosecurity

• Every horse owner and every farm should have an infection control plan

• Involve your veterinarian!
  • Cleaning and disinfection
  • Testing sick horses
  • Horse movement
  • Vaccination

• This is the BIGGEST thing you can do to reduce the risks of disease!
Remember...

1. Have a plan for your barn or farm
2. Your plan won’t prevent all disease, but will help to control infection
3. Following steps for infection control will reduce cost & stress (could mean the difference between an isolated case and an epidemic)
Infectious vs. Contagious Disease

• Infectious disease: may be caused by a pathogen that causes disease in the animal, but may not be contagious
  • Ex. West Nile Virus is not contagious horse-to-horse

• Contagious disease: spread from horse-to-horse
  • Direct horse-to-horse contact poses the biggest risk
  • Ex. Strangles, influenza, equine herpes virus
Contagious Diseases

- Influenza
- Equine rhinopneumonitis
  - Equine herpes virus 1,4
- Equine viral arteritis
- Strangles
- *Salmonella*
- *Rotavirus*
- Resistant GI parasites (?)
- Emerging diseases

Photo courtesy of Google images
Reservoir: A horse may or may not appear sick can contaminate equipment and/or the environment

Portal: new animals, travelling animals, visitors, wildlife, vehicles, veterinarians, farriers, etc.

Chain of Infection

Modes of transmission: nose to nose contact, equipment, coughing, sneezing, manure, pets, pests, visitors, clothing

Susceptible hosts

Adapted from AB.VMA Biosecurity Book
Viral Respiratory Diseases

- Highly contagious!
- **Transmission:**
  - Horse-to-horse (nasal secretions)
  - Aerosol (snorting, cough)
  - Indirect (humans, equipment, water)

- **Clinical Signs**
  - High fever (103° to 105°F)
  - Depression, off-feed
  - Nasal discharge (clear → mucoid)
  - Dry, deep cough
  - +/- muscle pain and malaise

Photos courtesy of Google images
Infection of young horses (also older naïve horses) in pregnant mares can lead to abortion. Latent infection can establish in carrier horses, which can "recover" from infection. Stressors can reactivate the latent infection, leading to nasal shedding of virus. Latency can be established in these carrier horses.
Neruologic Form (EHM)

• **Clinical signs**
  - Minimal respiratory signs
  - Fever
  - Weak, stumbling, unable to rise, urine dribbling

• **Vaccination will not prevent EHM!**
“Strangles” – *Streptococcus equi*

• HIGHLY contagious bacterial infection

• **Transmission:** nasal secretions & pus from draining abscesses
  • Direct contact, aerosol, fomites (equipment, hands, clothing)
  • 20% of recovered horses shed for several weeks
  • Asymptomatic long-term carriers (months to years)

• **Clinical signs**
  • Abscessed lymph nodes, fever, nasal discharge (clear → cloudy white → thick white/yellow), cough

Photos courtesy of Google images
Prevention

• **Vaccination**
  • **Influenza**
    • IM or intranasal vaccines
    • Every 3-12 months
  • **Herpes virus**
    • IM or intranasal vaccines
    • Every 3-12 months
    • The following horses should be revaccinated every 6 months
      • Horses < 5 years
      • Horses on breeding farms in contact with pregnant mares
      • Horse housed on premises with frequent movement of horses
      • Performance and show horses
      • **No vaccines are protective against the neurologic form!**

• **Strangles**
  • IN vaccine in endemic area
  • IM – injection site reactions
  • Do not fully protect

Photos courtesy of Google images
Remember...

1. Know your horse
2. Maintain accurate, detailed health records
3. Your vaccination plan is important, but is only part of infection control
Clean Hands!

• 10 most common causes of infection – your fingers!
  • Contact with horse’s nose and manure → touch other horses, touch their tack, our clothes and ourselves
• Good handwashing and thorough drying important
• Provide convenient hand cleaning or hand sanitizing stations throughout the barn
  • If it is easy, people will do it

Photos courtesy of Google images
Clean your feet

• Feet easily track things around farms and between farms
  • Step in manure and secretions that may have bacteria or viruses in them
• Disinfectant mats or foot baths
  • Useful in high risk facility (broodmares, young foals)
  • Must be handled properly – do not work when full of organic debris
• Wear designated footwear in the barn
• Clean footwear on a regular basis
• Separate boots/shoes for visiting
Clean and Disinfect

• Routine cleaning and disinfection practices
  • Barns, pastures, & paddocks difficult to clean & disinfect
  • Goal is not to sterilize (impossible!), but reduce the burden of “bugs”

• **Clean first to remove debris**
  • Brush off loose dirt and manure
  • Wash with detergent first

• Follow with disinfectant

• Try to minimize rodent and insect populations
Disinfectants

• Read the label and follow directions
• Make sure effective in climate
• Make sure safe around horses
• Must be effective in presence of 10% organic matter
  • Bleach (1 part bleach to 10 parts water) should be used only after a thorough cleaning with detergent
• Wash/rinse stalls from top to bottom
Remember…

1. Surfaces must be clean for disinfectants to work
2. Materials in stables often porous & can be cleaning challenges
3. Fill in knots with wood filler and seal walls with varnish or polyurethane
Introducing New Horses

• **Any new horse increases risks**
  - Stress = higher risk

• Know as much as you can about the new horse
  - Health status
  - What has it been exposed to?
  - Vaccination & deworming history

• Have a plan before the horse arrives

• Protect resident horses with proper vaccination

• Keep every new horse isolated for 30 days

• Handle last or wear protective clothing

• Check temperature daily (optimally twice daily) normal = < 101.5°F

• Health considerations
  - Consider having Strangles PCR testing prior to accepting the horse
  - Consider requiring a health certificate and Coggins
  - Fecal egg counts
Visitors to the Farm

• Disease producing organisms can be transferred from one facility to another

• Anyone that comes on to the farm can carry something with them!
  1. Identify high-risk animals on your farm that you want to keep people away from
     ▪ Pregnant mares, young foals, sick animals
  2. If coming from another horse farm, make sure they are not wearing the same clothes & footwear, and have washed their hands
  3. Reduce visitor contact from one horse to another
     ▪ Wash hands or hand sanitizer between horses
  4. Post signs to respect biosecurity
Horses Leaving the Farm

• Inherent risk
  • ↑ chance exposed to infectious disease

• Reduce risk
  • Use your own trailer & only haul your own/farm’s horses
  • Avoid nose-to-nose contact with other horses
  • Avoid indirect contact
    • Don’t share equipment/water buckets/grooming supplies
  • Wash hands after touching another horse
  • Don’t let people handling other horses handle your horse
  • Before leaving the event, clean and disinfect your tack and equipment
  • When you get home: shower, blow your nose, change clothes & footwear
Remember...

1. Any time a horse leaves a farm it has a chance of contracting an infectious disease
2. To reduce risk: avoid nose-to-nose contact & people that handle other horses handling yours
3. Bring your own water buckets and grooming supplies (don’t share!)

Photos courtesy of Google images
Trailering Horses

• Risks:
  • Stress
  • No water for periods of time
  • Head in abnormal positions
  • Exposed to infectious agents from trailer-mates

• Reduce risk by:
  • Avoid shipping with horses from other farms (same farm only)
  • Use common sense to take breaks and allow horses to lower their heads
Remember…

1. Use your own trailer when possible
2. Clean & disinfect your trailer
3. Isolate your horse for 2 weeks after returning (no nose-to-nose contact)
   - Take temperatures daily for a week
4. Keep horses that leave the property separate from ones that do not leave
   - Turn out horses in small “like” groups
     - Traveling horses separate from young horses & mares/foals
Managing an outbreak

• Consider all sick horses infectious until examined by a vet!
  • Fever, respiratory signs, neurologic signs, diarrhea → immediately notify your veterinarian and do not move the horse or horses in the immediate area
  • Cease all movement of horses in and out of facility until a diagnosis is confirmed

• Check temperatures of all horses on the farm twice daily

• If EHV-1 confirmed case, maintain isolation procedures for 28 days after last suspected new infection

• View all recovered Strangles horses as potential sources of infection for at least 6 weeks after clinical signs resolved (and PCR/culture neg)

• Develop a plan with your veterinarian!
Creating a Horse Quarantine

• Separate barn best
  • Separate paddock with a shelter and dedicated water source
  • Portable pen with shelter/windbreak
  • Well-bedded stock trailers as temporary isolation
  • Stall at end of the barn as isolation stall, leave stall next to it empty; located by entry

• If possible, assign 1 person to care for isolated horse (& do not allow that person to handle healthy horses)

• Handle healthy horses 1\textsuperscript{st}, exposed horses next, sick horses last
  • Wash hands before & after

• Use “barrier” clothing (gowns, coveralls, separate clothing/boots, gloves)

• If dealing with a horse that has diarrhea and fever, consider taking him/her to a veterinary clinic with an isolation facility
Remember…

1. Separate sick horses from other horses
2. Handle isolated/sick horses last
3. Wear protective barrier clothing
4. No communal water sources
   - Including hoses (do not allow hose to touch sides of bucket or submerge in water; best to bring a separate clean bucket to water source and carry & fill bucket in isolated area)
5. Designated equipment (manure buckets/wheel barrows, manure forks, grooming supplies) – bright colors
6. Do not spread manure/leftover feed onto pastures or open-air pile
Your Obligations

• Avoid travel with your horse if you suspect (or know!) they have an infectious disease.

• Avoid traveling with a horse that may have been exposed to an infectious agent until you can be sure they are disease free.

• Discuss with your veterinarian whether your horse poses a risk to other horses.

• In the event of a disease outbreak, do not allow horses to leave or new horses to arrive until the disease has been eliminated or tightly controlled and your vet has given the ALL CLEAR.
Take-Home Points

1. **Bisosecurity** means doing everything you can to reduce the chances of an infectious disease being carried onto your farm.

2. Infectious agents can be shed from an apparently healthy horse.

3. **Work closely with your vet.** Your veterinarian can help you maintain your horse’s health and recommend appropriate vaccination and deworming programs.

4. **Be smart at equestrian events** and practice good biosecurity. Quarantine and monitor for illness when you come home to protect your other horses.

5. It is not just your horses that interact with other horses and carry diseases home. **Don’t let it be you or your equipment that accidentally carries germs home!**
6. Bringing a new horse home is one of the most likely ways for diseases to enter your farm. **Keep new horses away from your horses for 30 days.**

7. **Keep germs from spreading.** If one of your horses is sick, **isolate** the horse and put up signs to keep everyone away.

8. **Prevention is generally easier than cleanup,** especially when it comes to contagious disease.

YOU are the best protection your horses have!
Questions?

To learn more about equine biosecurity, visit
http://www.equineguelph.ca/Tools/biosecurity.php