

BIOSECURITY BASICS

By Katie Flynn

A vital cornerstone of any PATH Intl. Member Center is maintaining the welfare of its equine partners, who are essential to ensuring the sustainability of center programs. Biosecurity is the key to keeping horses healthy. Taking measures to prevent the introduction and spread of new disease agents in your facility is the best way to protect your herd. A biosecurity plan is a set of measures aimed at reducing those disease exposure risks. There is no one-size fits all biosecurity plan. Thus, plans should be customized for each facility to take into account the specific risk factors of the premises. Your center's veterinarian is the best person to assist in development of a biosecurity plan as they know your horses, potential environmental diseases, the facility and the management.

It is important to remember that even the best biosecurity plan does not eliminate all risk of disease exposure. But following these general recommendations for a biosecurity plan will reduce the potential of disease exposure and help keep your horses healthy.

15 STEPS
TO PROTECT
YOUR HERD'S
HEALTH



MONITOR THE HEALTH OF ALL HORSES DAILY

Record daily health observations for early identification of sick animals. Observe horses for signs of infectious disease such as fever (temperature over 101.5F), respiratory nasal discharge, cough, diarrhea, vesicles or lesions in the mouth and neurologic signs, such as wobbly gait, inability to rise and inability to defecate or urinate. Additionally, horses should be examined for any evidence of external parasites.

ENSURE ALL ANIMALS REMAIN CURRENT ON VACCINATIONS

Require all new horses to be vaccinated and vaccinate all resident horses on a routine basis. Your veterinarian will determine which core and risk-based vaccines are most appropriate for your horses.

ALLOW ONLY HEALTHY HORSES TO ENTER THE FACILITY.

Require a Certificate of Veterinary Inspection (also known as a health certificate) from a licensed veterinarian dated within the past 14 days for all new arrivals.



IDENTIFY AN APPROPRIATE ISOLATION AREA

When determining an isolation area location, consider a site as far away as possible from the public and general horse traffic areas. The external perimeter of the isolation area should be secure and clearly marked with adequate signage designating it as a restricted area. If no suitable permanent stabling is available onsite for an isolation area, consider setting up a temporary pen structure or using an offsite facility, such as a veterinary clinic, fairgrounds or unoccupied stables.

EXAMINE AND ISOLATE NEW ARRIVALS

To prevent contact and potential disease exposure risk, new horses should be isolated for a minimum of 14 days if they originate from a facility of minimal disease risk (i.e., no known clinical horses on the origin premises). The isolated horse should be examined daily and monitored for any observations of clinical signs of disease, which should be reported to a veterinarian. The isolated horse should have no direct or indirect contact with any horses, personnel or equipment on the farm. Once the horse has completed the isolation period without any evidence of disease, the horse can be introduced into the herd.

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YOUR CENTER'S VETERINARIAN IS THE BEST PERSON TO ASSIST IN DEVELOPMENT OF A BIOSECURITY PLAN AS THEY KNOW YOUR HORSES, THE ENVIRONMENTAL DISEASES, THE FACILITY AND THE MANAGEMENT. PHOTO COURTESY OF HEARTS & HORSES, INC.

DESIGNATE AN EMERGENCY VETERINARY CLINIC/HOSPITAL

In advance, determine the location of a veterinary clinic/hospital that can treat horses with extensive medical needs that an onsite isolation area would not be able to address.

IMMEDIATELY ISOLATE SUSPECTED SICK HORSE

Any horse displaying a sign of an infectious disease should be immediately isolated. Utilize foot baths (for example, 10% bleach solution or other disinfectant the veterinarian recommends) and hand sanitizers (62% ethyl alcohol) for visitors at all entry points to the isolation area. Monitor foot baths and routinely change the solution when organic material builds up. Once the equine is isolated, the veterinarian should examine the animal to determine the diagnostic and treatment plan. The horse should remain isolated until diagnosis confirms a non-infectious disease cause for the clinical signs, or diagnostic testing and veterinary assessment indicates the animal no longer poses an infectious disease risk.

HOUSE AND HANDLE ANIMALS ACCORDING TO RISK

Horses that travel frequently, broodmares and young animals are considered high-risk for exposure and spread of infectious disease. Horses should be housed and handled in accordance to the level of potential risk. For example, if your center horses are also housed near or with groups of horses that travel routinely and commingle with horses at competitions, try to limit human-to-horse contacts between those groups. If humans are handling multiple horses, hand washing between horses reduces the risk of pathogen spread. Ideally, water buckets, cleaning equipment (pitchfork, manure wheelbarrows, feed equipment) would not be shared between groups. Labeling equipment with color-coded tape or using designated color equipment can reduce the risk of spreading pathogens between barns or groups of horses.

USE OF DEDICATED EQUIPMENT FOR EACH HORSE

Equipment such as halters, lead ropes, brushes and tack can be contaminated with an infectious disease pathogen. If such equipment must be shared, it should be cleaned and disinfected between horses. It is important to clean equipment prior to disinfection as some disinfectants can be inactivated by organic matter such as manure or dirt. For equipment such as leather tack, which is difficult to disinfect, leaving equipment out in the direct sunlight can reduce some of the pathogens.

RESTRICT VEHICLE AND PEOPLE ENTRY TO THE PREMISES

Designate parking lots for all personnel entering the facility and ensure a sign-in process to ensure access to the facility is monitored. Visitor vehicles should be prohibited from driving around the premises. Access to sick and isolated horses should be restricted. Visitors should only be handling healthy horses. Individuals visiting from a facility with other horses or livestock should be required to have clean boots and clothes to reduce the risk of pathogen entry.

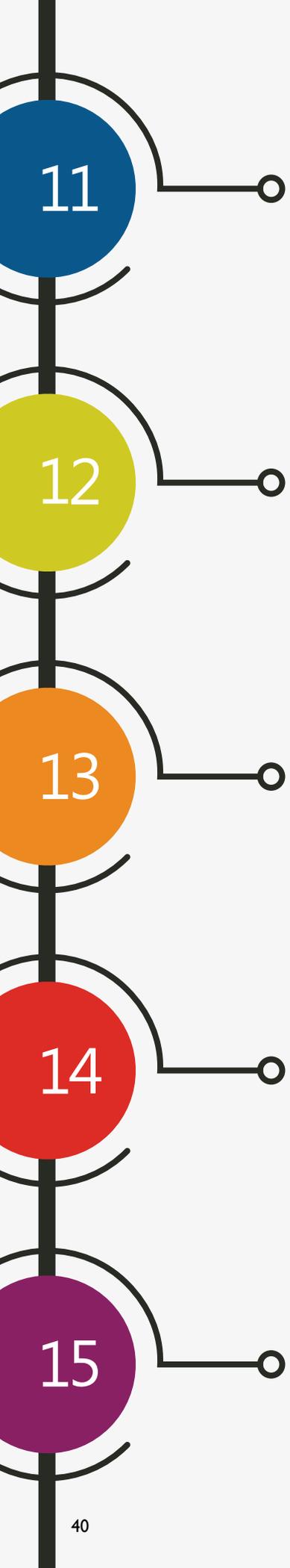
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RESTRICT DOGS IN THE STABLING AREA

Dogs have the potential to carry disease pathogens on their body around the premises. Dogs should remain on a leash and should not have direct access to the horses. Dogs should not be permitted in the isolation or sick horse stabling area.

ONCE THE HORSE HAS COMPLETED THE REQUIRED ISOLATION PERIOD WITHOUT ANY EVIDENCE OF DISEASE (A MINIMUM OF 14 DAYS), THE HORSE CAN BE INTRODUCED INTO THE HERD. PHOTO COURTESY OF EQUEST

ENSURE PROPER STALL SANITATION PROTOCOLS ARE FOLLOWED

Bacteria, viruses and parasites may remain viable in the manure, bedding and stall material. Therefore, evaluate stall cleaning protocols to ensure frequent and proper cleaning and disinfecting of stalls before and after each horse use to reduce potential exposure to disease agents. Manure and soiled bedding present in foot or vehicle traffic routes, or in areas where fluids accumulate, pose a potential risk for the spread of infectious disease agents. Evaluate manure and waste disposal protocols to make sure manure piles are not located near vehicle and foot traffic, horse stabling areas, pastures and surface water.

CONFIRM APPROPRIATE HANDLING OF WATER TO PREVENT PATHOGEN SPREAD

A shared water source can result in risks for pathogen spread. Water hoses, although helpful, have the potential to spread disease if inserted into multiple buckets or left lying on the ground between uses. Proper water disposal is important for disease control since used water or water remaining in the buckets has the potential to carry respiratory pathogens and also serve as a breeding ground for mosquitoes. Evaluate water disposal methods to ensure that water buckets are emptied directly into a drain or onto manure piles to eliminate disease agent transmission risk.

STORE AND HANDLE FEED AND HAY TO MINIMIZE DISEASE RISK

Store feed in sealed containers to eliminate access by vermin, birds or other animals that have the potential to transmit disease. Hay should be free of dirt and mold, stored off the ground and covered. Feed storage bins, equipment and feed/water buckets should be routinely cleaned and disinfected. Feeding equipment should be stored separately from manure handling equipment.

USE APPROPRIATE CLEANING AND DISINFECTION PROTOCOLS

Most disease agents are susceptible to various disinfectants. However, some disinfectants, specifically alcohol and bleach, are inactivated by organic matter, such as soil and manure. It is important to follow the four-step process for cleaning and disinfection. **Step 1:** Remove organic matter. **Step 2:** Wash with soap and rinse with water. **Step 3:** Allow time to dry. **Step 4:** Apply a disinfectant. Use disinfectants according to label directions following safety precautions. Comply with all product label application instructions and ensure adequate disinfectant contact time with surfaces for maximum efficacy. Consult a veterinarian for disinfectant recommendations.



IN CONCLUSION

It is important to remember infectious disease agents can never be eliminated as some are ubiquitous in the environment. For example, horses are typically exposed to equine herpes virus-1 and 4 at a very young age. In some of these horses, the virus is latent (hides in the body) and is periodically reactivated and shed into the environment. Additionally, asymptomatic horses can shed pathogens into the environment and expose other horses within the barn. Thus, implementation of the above biosecurity measures is necessary to protect the health of your horses.

Dr. Katie Flynn received her undergraduate degree in animal science from the University of Massachusetts and her veterinary degree from the University of Glasgow, Scotland. She is currently the Outreach and Education Staff Veterinarian and Equine Specialist for the California Department of Food and Agriculture Animal Health Branch. Dr. Flynn's area of interest is biosecurity, specifically equine event biosecurity, and she has developed biosecurity educational materials that have been distributed to all 50 states and 12 countries. She can be reached at Katherine.flynn@cdfa.ca.gov.

RESOURCES

For further information on equine biosecurity and disease prevention, visit the following links:

- California Department of Food and Agriculture: Biosecurity Toolkit for Equine Events: https://www.cdfa.ca.gov/ahfss/Animal_Health/Equine_Biosecurity.html
- The Equine Disease Communication Center: <http://www.equinediseasecc.org/biosecurity>
- What Horse Owners Should Do During the First 30 Minutes of a Suspected Infectious Disease Outbreak: <http://equinediseasecc.org/biosecurity/isolation-quarantine>
- The American Association of Equine Practitioners Biosecurity Guidelines: https://aaep.org/sites/default/files/Documents/BiosecurityGuidelines_Sept2018.pdf
- The Biosecurity Calculator: Calculate the biosecurity risk on your farm: <https://www.equineguelph.ca/Tools/biosecurity.php>



USE APPROPRIATE CLEANING AND DISINFECTION PROTOCOLS WHEN WASHING OUT FEED AND WATER BUCKETS. PHOTO COURTESY OF EMERALD HOLLOW THERAPEUTIC RIDING CENTER, INC.