

Suspected Case of Infectious Diarrheal Disease

Signs:

soft to watery feces
+/- fever

Primary infectious differential diagnoses with herd health implications:

Salmonella spp.
Clostridial enteritis
Potomac Horse Fever

Establish Biosecurity Perimeter

The primary biosecurity perimeter is centered on the location of the contagious disease case(s) and exposed animals. It is extended until a barrier to further spread of infection is identified.

The primary perimeter may encompass the entire equine facility (farm, showground or racetrack), or if site design permits, the perimeter may only contain part of the equine facility (barn/paddock). The perimeter should be clearly defined by physical barriers. Signs should be used to identify the perimeter and control access.

Note: More than one primary perimeter may be established if case development warrants and facility design permits.

The primary perimeter contains all suspected infected animals and animals in immediate contact with them.

All animals within the primary perimeter should be considered infected and contagious until the outbreak is declared over. Animals are prohibited from exiting the primary perimeter, and biosecurity measures are implemented to prevent infectious agents leaving the area.

If the equine facility has an appropriately designed and managed isolation facility then the primary perimeter will be around this facility.

If the affected horse was moved from its barn to an isolation facility, a primary biosecurity perimeter should remain around the barn from which the affected horse originated.

Until proven otherwise, respond based on 'worst case' scenario: *Salmonella*.

Implement Primary Perimeter

- *Stop horse movement.*
 - Affected horses should be moved to a separate isolation facility or confined to their stalls.
 - Clinically unaffected horses are confined within the primary perimeter and managed to minimize spread of infectious agent.
- *Disease surveillance:*
 - Monitor horses' fecal consistency
 - Record rectal temperatures twice daily

Note: It is preferable not share thermometers among horses; each horse should have its own thermometer. Alternatively, thermometers should be thoroughly cleaned and disinfected (w/ isopropyl alcohol) between uses.

- *Limit human movement.*
 - Access is limited to essential personnel only—veterinarians/technicians/caretakers.
 - All personnel follow biosecurity protocols.
- [Biosecurity Protocols – Click here for document.](#)

Identify Secondary Perimeter

If the primary perimeter does not encompass the entire facility, it is appropriate to establish a secondary perimeter which does. All animals within the secondary perimeter are considered free of infection, but are at increased risk of exposure, making enhanced disease surveillance and contagion control measures necessary.

Animals should travel into and out of the secondary perimeter only from outside the equine facility, and under the regulation of the veterinarian in charge.

- *Increased disease surveillance*
 - Monitor horses' fecal consistency
 - Record rectal temperatures twice daily
- *Regulate horse movement*
 - Record arrival/departure information including:
 - Date
 - Origination/Destination
 - Carrier information
 - Establish health requirements for:
 - Access to secondary perimeter from outside facilities
Health certificate w/disease specific endorsement
 - Exit from secondary perimeter to outside facilities:
Health certificate w/disease specific endorsement

Note: Exit health requirements should be established consensually with recipient facilities/jurisdictions/states. (A meeting or conference call can be an effective method of establishing consistent policy amongst recipients).

Communicate the Plan

I. Event Management

- Physical plant modification instructions
 - Barriers—designation of isolation facility & establishment of physical perimeter
 - Disinfection
 - Waste removal
 - Vermin control
- Personnel management
 - Requirements
 - Instructions
 - Notification of zoonotic risk

All cases of equine diarrhea should be considered zoonotic until Salmonellosis has been ruled out.
Link to *A Review of Equine Zoonotic Diseases: Risks in Veterinary Medicine*
(J.S. Weese)<http://www.aaep.org/proceedings/02proceedings/910102000362.pdf>

- Outbreak updates

II. Veterinarians

- Instructions— disease surveillance/testing/reporting
- [Biosecurity guidelines – link to document](#)
- Health requirements—entrance into/exit out of facility
- Outbreak updates

III. Horsemen

- Disease information for horsemen/owners
- [Biosecurity guidelines – link to document](#)
- Human exposure/zoonotic risk management
- Instructions for caretakers
 - [Caretakers' Instructions](#)
 - Notification of zoonotic risk, if present
 - Instructions for reporting human disease
- Outbreak updates
- Requirements for equine entrance into/exit out of facility

IV. Regulatory Agencies

- Disease notification
Veterinarians are required to be aware of currently reportable diseases to the state veterinarian and abide by state regulations

Note: State and USDA veterinarians remain useful resources during outbreaks of non-reportable infectious disease.
- Outbreak updates

V. Media

- Dissemination of information to horsemen and related industry members:
 - Outbreak updates
 - Requirements for equine import into/export out of facility

VI. Related Industries

- Outbreak updates
- Summary of biosecurity measures
- Requirements for equine import into/export out of facility

Attempt Diagnosis

Tests

Bacterial culture of feces

Standard aerobic

Salmonella-specific—indicate on laboratory submission form

Anaerobic + Clostridial toxin testing

Antibiotic susceptibility testing and serotyping of Salmonella spp. Isolate

PCR--Potomac Horse Fever

Serology

Laboratory Selection

Identify laboratories and their respective testing capabilities prior to need. Some laboratories are able to offer a wide array of diagnostic tests by forwarding received samples to other laboratories. In time sensitive situations, diagnostic test results can be expedited by submitting samples directly to the laboratory that will actually be performing the test.

The laboratory should be accredited by the American Association of Veterinary Laboratory Diagnosticians (AAVLD). Laboratory information is available at www.aavld.org/. Click on the Laboratory Directory: www.aavld.com/aavld-3/lab.jsp

Sample Collection

Aseptic technique (best) or free catch into urine cup

3-5 grams of feces or 3-5 cc of liquid feces (diarrhea)

or

2-3 rectal swabs if a quantity of feces is not obtainable

PCR— PHF submission of whole blood (lavender top) and/or feces

Sample Handling

Submit fecal samples cooled (but not frozen); pack surrounded by freezer packs in insulated, leak-proof containers.

Sample Transport

Contact the laboratory for information on preferred shipping methods, and hours of operation for receiving shipments.

Use the correct submission form for the laboratory as provided by FAX or downloaded from the web.

Do not ship on Friday; few labs receive samples on weekends. Refrigerate samples and ship on Monday.

If the complications of shipping are too great, put the sample in an appropriate cooled container, and have a courier drive it directly to the laboratory. Call first to find out where samples are received.

Safe shipping of samples:

For air shipping call FedEx Dangerous Goods/Hazardous Materials Hotline at 1-800-463-3339 (press 81) for further information.

The **United States Postal Service** has set specific guidelines for the proper preparation of biological materials for shipment. Diagnostic specimens, potentially infectious specimens, and other animal products are considered hazardous materials. Shipping services may refuse to handle any package that shows signs of internal breakage, spillage, or dampness. The sender could be held legally responsible for improperly packaged specimens; careful packaging is essential.

Some guidelines are as follows:

- Submit all specimens in a leak proof container.
- Enclose completed submission forms in a separate plastic bag and place between the inner sample container and the outer shipping container
- Surround that container with sufficient absorbent material to absorb any possible leakage.
- Containers must then be enclosed in a sturdy and sealed secondary container (cardboard, plastic, Styrofoam, etc.)
- If more than one primary container is placed in the secondary packaging, each container must be wrapped with enough absorbent material to ensure that contact is prevented and that the absorbent material can absorb the entire contents of all materials being shipped.
- Fresh tissue samples should be placed in individual, well sealed, heavy plastic bags or other containers. Double bag to prevent leakage.
- Ship refrigerated and frozen specimens with adequate cold packs to ensure samples are kept cool or frozen during shipment.

- **Do not**
 - submit samples in syringes
 - send needles in samples
 - use ice cubes or water filled plastic bags as coolant
 - wrap submission form(s) around sample(s)