Teaching Biosecurity at Shows & at Home

Here are tips about educating clients and facility managers before disease causes a problem.

By Katie Navarra

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The 2011 outbreak of equine herpesvirus type 1 (EHV-1) and the disease's neurologic form (equine herpesvirus myeloencephalopathy, or EHM), which was associated with horses that attended a cutting horse event that spring in Ogden, Utah, is sometimes referred to as a biosecurity "game-changer" in the equine industry.

The United States Department of Agriculture reported a total of 90 confirmed EHV-1 or EHM cases in 10 states. That included both primary exposed (those that went to NCHA event in Ogden) and secondary cases, which were those horses exposed to primary exposed cases. Of the 90 confirmed EHV/EHM cases, 54 were horses that were at the Ogden event.

"No one in the horse industry used the term 'biosecurity' 20 years ago. Now it is used in lay publications so people are more aware of the term," explained Roberta Dwyer, DVM, MS, Dipl. ACVPM, a professor in the Department of Veterinary Science at the University of Kentucky.

The EHV-1 and EHM outbreak at the Ogden event illustrated the importance of preventative measures at show facilities and home stables to reduce the risk for transmission of infectious diseases.

"Biosecurity plans are sort of like having a will," explained Josie Traub-Dargatz, DVM, MS, Dipl. ACVIM, a professor of equine internal medicine at Colorado State University's College of Veterinary Medicine and Biomedical Sciences, Department of Clinical Sciences. "Nobody likes to think about it, but at some point it's going to be necessary to have a plan. Having a plan is much better than not having made a plan."

Vets play a key role in developing biosecurity tactics as they help show managers, trainers and owners learn how to limit the spread of contagious disease.

In this article we will look at various aspects of biosecurity for your clients, whether they are top-level competitors, weekend warriors or those who have horses at a facility where other horses move on and off the property.

Vets know that vaccinations are the first line of defense against diseases; sometimes owners don't understand their importance.

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Some of the information is included for you, the veterinarian, while other parts are intended for you and your staff members to help educate your clients.

Vaccinate

Veterinarians understand that vaccinations are the first line of defense against contagious diseases, and while horse owners, trainers, managers and show officials should know this, sometimes they don't appreciate the importance of proper vaccination.

Even though vaccines are effective and inexpensive, some horse owners balk at the suggestion, or they choose to vaccinate against one disease and not another. Equine veterinary medicine doesn't have the same rules as human medicine (or even veterinary medicine for other species).

The following is from a report by the CDC released in August 2015 on childhood immunization:

"Vaccine exemption levels for kindergarteners are low for most states, and infant vaccination rates are high nationally, according to data from two reports published in this week's Morbidity and Mortality Weekly Report (MMWR).

"The first report looked at vaccination coverage and exemption levels among children entering kindergarten for the 2014-2015 school year. Nationally, exemption levels remain low with a median level of 1.7%. However, state exemption levels ranged from a low of less than 0.1 percent in Mississippi to a high of 6.5% in Idaho. Additionally, five states did not meet the reporting standards for providing exemption data.

"The second report examined vaccination rates among children ages 19 months through 35 months for 2014. Vaccination coverage remained high: over 90% for measles-mumps-rubella (MMR); polio; hepatitis B; and varicella vaccines. The percentage of children who do not receive vaccinations also remained low, at less than 1%."

"Collaborative efforts are the reason our nation has been able to achieve such high coverage nationally, but much work is still needed to shield our schools and communities from future outbreaks," said Anne Schuchat, MD (RADM, USPHS), director of CDC's National Center for Immunization and Respiratory Diseases.

While there are some parents who, for various reasons, don't want to vaccinate their children (and some human outbreaks have been reported because of those failures to vaccinate), the childhood immunization laws help protect the general population. Unfortunately, the same can't be said for animal diseases (aside from rabies in some animals, such as dogs and cats).

Approximately 50 cases of equine rabies are reported each year. By the numbers, it's highly unlikely a horse will become infected with rabies. But in the event a horse contracts the disease, it is deadly to the horse, and any humans exposed to the horse will need to undergo preventative treatment that is costly and has risks associated with it.

"If a person is exposed to a rabid animal and fails to seek follow-up care, they can die," Dwyer emphasized.

On the other hand, the West Nile virus (WNV) vaccination tends to be an easier sell to horse owners because of the number of cases reported each year. The highest number of cases reported to the United States Department of Agriculture was recorded in 2002 during the peak of the outbreak (and before a vaccine was introduced). That year, 15,257 laboratory confirmed cases were reported. The reported number of confirmed cases this year was 199 as of November 3, 2015.

Dollars and cents might be the explanation horse owners need to hear in order to understand the value of vaccinations. For hesitant horse owners, use a detailed estimate that compares vaccination versus care for a sick horse and recovery time as an example. (*Editor's note: The costs below are only for illustrative purposes. Costs vary from practice to practice, and on a case-by-case basis.*)

Cost of a farm call and the vaccine:

Farm call: $45

Vaccine: $35

Cost of services for diagnosing a sick animal:

Farm call: $45

Bloodwork: $120

Then explain that depending on the

disease and how ill the horse is, the animal might require antibiotics, IV fluids and a hospital stay, which can quickly reach thousands of dollars. Then there is loss of use while the horse is recovering. Beyond the financial strain, there are instances where the horse will not fully recover or survive.

"The bottom line is educating horse owners about how sick their horses could become. The potential they can die or be left with lingering neurologic issues can help owners understand the importance of WNV vaccination," Traub-Dargatz said.

Recommended vaccines might vary based on geographic region and the use of the horse. "Someone who is showing year-'round in Kentucky and Florida will need to consider a different vaccination schedule than someone who is only showing in their home state of Minnesota, because of mosquito-transmitted diseases," Dwyer added.

The American Association of Equine Practitioners (AAEP), based on guidelines established by the American Veterinary Medical Association (AVMA), identifies a list of core vaccinations and risk-based vaccinations (*see pages 25 and 32*).

According to the AAEP definition, core vaccinations are those that provide protection against diseases that are endemic to a region; those with potential public health significance; those required by law; those that protect against diseases that are virulent/highly infectious; and/or those that protect against the risk of severe disease.

"The AAEP Vaccination Guidelines are the gold standard," Dwyer emphasized.

Vaccines for Eastern/Western equine encephalomyelitis (EEE/WEE), rabies, tetanus and West Nile virus are considered "core vaccinations." Detailed information regarding these diseases and the corresponding vaccinations can be found at aaep.org/info/core-vaccination-guidelines.

Educating horse owners about how vaccines work also is critical. During barn visits, explain that vaccinations take time to get into a horse's immune system and that horses shouldn't be vaccinated, then shipped the same day or the very next day.

It's important that you help horse owners understand that vaccines are not a 100% guarantee that the horse won't get sick. "You can't say, 'I've had my horse vaccinated for everything so it can't get sick,' " Dwyer said. "Vaccines also don't negate an owner's or trainer's need to isolate, disinfect stabling or take other measures necessary to prevent transmission."

Biosecurity at Horse Shows

It's nearly impossible to eliminate all opportunities for the spread of diseases. Careful planning and strategic implementation of a biosecurity plan reduce the opportunity for the transmission of contagious diseases. Vets can help design and help implement these plans on an individual, stable/farm and show facility basis.

The first line of defense begins with the trainers or owners who are bringing horses to an event. Ideally, you should encourage them to thoroughly examine and clean the stalls that their horses will be using prior to unloading horses from the trailer.

"The reality of horse shows is that sometimes a trainer pulls into a facility at 2 a.m. with a load of horses," Dwyer said. "It's often not practical for the individual to scrub, sanitize and bed each stall."

Instead, offer clients alternatives. "Suggest they look for piles of manure, diarrhea stains or other signs the previously stabled horse was ill," Dwyer advised. "It can be tempting to skip this step in the dark, but a flashlight provides enough light to examine a stall."

Tell a client that if a stall is obviously dirty, request a different stall, or be prepared to clean it yourself. Encourage clients to look for other risk factors such as a potent ammonia smell, which can indicate poor ventilation. That poses risks for respiratory disease.

On the management side of an event, veterinarians can help show managers develop a plan of action before an infectious disease outbreak occurs. Because contagious diseases are spread by more than horse-to-horse contact, a prevention plan should take into account the multitude of ways a horse can become sick.

Infectious disease pathogens can be brought to—and spread around—an event premises by horses, people, domestic animals other than horses, vehicles, equipment, insects, ticks, birds, wildlife (including rodents), feed, waste and water. Thus, a biosecurity plan should include fly, rodent, bird and pest control and prevention, as well as traffic control into and out of the facility.

The Colorado State Veterinarian's Office provides online access to a Business Continuity Plan, which is a hands-on exercise designed to aid in preventing a disease outbreak from hitting your bottom line. (Find it by going to www.colorado.gov and search for "business continuity plan.)

"Having a plan and implementation of that plan can allow an event to continue, while providing sustained monitoring of the other horses on the grounds," Traub-Dargatz said.

Handling an Outbreak

With diseases such as influenza virus, equine herpesvirus types 1 and 4 and others, you need to help clients and show organizers understand that illness can quickly be spread through a facility. Often horses are exposed to the disease before it is apparent that the first horse is sick.

In the event that an infectious disease outbreak occurs, an established plan that includes protocols and procedures can limit the risk of exposure of horses and humans, and the potential spread outside of the show grounds or farm. Each veterinary practice should have thought of these protocols and have them available before an outbreak occurs.

Veterinarians also might get called in at the onset of an infectious disease

outbreak during an equine event. There are a variety of resources for you to use in that scenario. The California Department of Food and Agriculture (CDFA) Biosecurity Tool Kit for Equine Events advises event staff to instruct all exhibitors who share equipment to stop doing so. The equipment should be immediate cleaned of organic matter. The items should be thoroughly scrubbed with detergent and water, rinsed, dried and disinfected. That includes all previously shared equipment such as lead ropes, chains, bits, twitches, thermometers, grooming supplies, etc.

The CDFA Tool Kit also recommends establishing check-in gate or admittance procedures. Locating horses might require barn-to-barn inspection and documentation. If a disease outbreak warrants movement controls, a check-out protocol from the show grounds will be necessary.

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Veterinarians need to help owners understand that even if horses don't leave home, they might mingle with those that travel and come back to the home farm or stable.

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Owners need to know that biosecurity includes the environment and other animals that their horses might contact.

The California guide also identifies continuous health monitoring recommendations of all horses on the premises as a priority. You might be called in to perform these or other tasks for your clients or the facility. The health assessments on horses should be performed by designated, knowledgeable, experienced persons. Periodic walk-throughs of stables and event grounds directly observing horses for any sign of clinical disease should be included in your recommended protocols.

Even though you are an equine vet, if you are called into service during an outbreak, keep in mind that dogs present at horse shows can offer a potential risk for spreading contagious diseases. The California Tool Kit urges show facilities to remove dogs from the event grounds during an outbreak. The guide cautions that dogs should not be placed in trailers or vehicles due to the possibility of escape, barking and temperature stress. Even when a communicable disease is not known, the Tool Kit recommends dogs be kept on leashes during events to limit the potential for spreading disease.

Another recommendation in the California Tool Kit is the restriction of human-to-horse contact. During an infectious disease outbreak, only the owner or designated personnel should handle horses on the event grounds. You can also recommend that stables limit the sharing of personnel. Visitors should not be in horse stabling areas.

Traub-Dargatz emphasized that early detection and relocation of sick horses out of the main flow of traffic is critical. "Medically, it's important not to leave sick horses in the middle of an event facility," she said. "It's also important to move the horses to manage people's concerns about the risk of disease spread."

The Colorado State Veterinarians Business Continuity Plan, which Traub-Dargatz co-authored along with personnel from the Colorado State Veterinarian's office, highlights the importance of identifying and preparing an area to be used as an isolation facility for sick horses. The plan also encourages discussions among those involved with the event veterinarian to determine what clinical signs would prompt movement of a sick horse to isolation.

Healthy Horses at Home

When you are discussing strategies for keeping your clients' horses safe from diseases at events, you also need to address strategies for protecting horses at home.

Sharing of equipment, water tubs and feed buckets is a regular occurrence at most facilities. Educate clients about the risks for spreading diseases and how to disinfect shared equipment.

While bleach is inexpensive and available, it is readily inactivated in the presence of organic matter, such as manure and dirt. "Many veterinary disinfectants are commercially available that have been tested in the presence of organic matter. Thoroughly cleaning surfaces with detergent and water can remove 90% of bacteria and inactivate enveloped viruses," Dwyer said.

Information pertaining to disinfectants is available in a PDF for you to share by visiting the Center for Food Security and Public Health on the Iowa State University website (cfsph.iastate.edu) and searching for "characteristics of selected disinfectants."

Remind your horse owners and trainers that eliminating areas of standing water that offer breeding grounds for flies, mosquitoes and other disease-carrying insects is important. "Insect, pest and rodent control are part of an efficient farm biosecurity plan," Dwyer said.

Educate horse owners, especially those keeping horses in large boarding stables, that human contact is a conduit for spreading disease. "Blacksmiths, trainers, veterinarians and other visitors are advised to disinfect boots and wash hands before entering the barn and handling horses," Dwyer recommended.

Clean water, liquid hand soap and paper towels for hand washing after handling sick horses can help limit the spread of disease. If running water is not available, Dwyer said that you can recommend an alcohol-based hand sanitizer.

Preventing disease introduction is an important part of a stable's biosecurity plan. Dwyer said that veterinarians need to train their clients to "... isolate new arrivals and horses returning from a show or event in the barn or separate pasture for approximately two weeks to help reduce the risk of them introducing an infectious disease to the resident horses."

Veterinarians should encourage horse owners and trainers to separate broodmares from competition horses and youngsters. Train clients that as soon as a horse exhibits signs of a nasal discharge,

cough, fever or diarrhea, it should instantly be quarantined from other horses and you should be called in to investigate. After the horse is well, the stalls or barns housing the sick horse(s) should be disinfected.

Be the Source

Establish yourself as the expert source in developing and implementing biosecurity plans. Incorporate discussions about biosecurity in routine wellness visits. "Don't simply talk about vaccines; market an equine health plan that includes a biosecurity assessment, and use a checklist to record your assessment—then provide a written report of your findings," recommended Traub-Dargatz.

Host a workshop at boarding facilities and show grounds. "When a problem arises, people are concerned about the cost of treatment and the well-being of their horses," Traub-Dargatz said. "A seminar encourages buy-in from owners before there is even a problem."

Veterinarians should help all facilities and farms develop a disease outbreak protocol.

Boarding facilities pose unique challenges. Each horse owner has the opportunity to select a vet. In some cases, the veterinarians' opinions on the course of action will vary. "Advise facility owners/managers to choose a veterinarian for the facility. Even if the owner/manager doesn't own a horse themselves, they should select a veterinarian whose expertise they will follow when developing a biosecurity plan and in responding to a disease situation," she said.

During an outbreak, horse owners, facility managers and show organizers rely on vets to reduce the risk of exposure to other horses and to manage ill horses. Once the situation is managed, use the opportunity to discuss strategies to prevent similar issues in the future.

Take-Home Message

Competition horses regularly travel, and with increased mobility comes increased exposure to diseases.

"We have to accept that since we have a mobile population of horses, we have some level of risk," said Traub-Dargatz. "A well-prepared response that is disease-specific is necessary to reduce the impact of a disease incident."

As a veterinarian, it's your responsibil-ity to educate clients on the steps they can take at home and at shows to limit the opportunities for their horses to become exposed and ill. On a large scale, that might mean working with a show facility manager to develop and implement an equine event biosecurity plan. In other cases, you might be working with a backyard horse owner with a closed herd whose risk is limited to pests and insects. No matter the situation, a biosecurity plan is an essential responsibility of the equine stable or event manager that is critical to protecting the equine industry.

Communication is vital in managing an outbreak. "With the advent of social media, outbreaks have received a lot of national attention," Dwyer said. "It's important to educate horse owners and trainers to consult you for accurate information about associated risks to their horses."

Most important is putting yourself at the top of the list with your clients and the industry as the best source of reliable information on disease prevention and control. "We can provide horse owners with information on how to reduce their horses' risks of contracting an infectious disease at home, 20 miles down the road, across the country or on the other side of the world," Dwyer concluded. EM

Ad Index

Akorn Animal Health ..... Inside Front Cover
Blue Seal 11
Boehringer Ingelheim AAEVT 2
Boehringer Ingelheim 3
EquiCrown 36
Kent Nutrition 11
Kentucky Performance Products ..... Inside Back Cover
Life Data Labs 37
Lubrisyn 43
Merck Animal Health 35
Merial 13, 14
Merial 19
Neogen Corporation 7
Nutramax Laboratories 15
Nutrena 47
Platinum Performance ..... Back Cover
SmartPak 31
Soft-Ride 45
Sound 21
Sox for Horses 39
Zoetis insert 8-9
Zoetis insert 24-25
Zoetis 29