



SHOW-STOPPING EQUINE INFECTIOUS DISEASES

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One night in February a few years ago, I received a call from a concerned trainer that her Welsh pony was dull, standing in the back of the stall with a fever of 102 F. She asked in a restless tone, "Can you bring your thermometer because mine might be broken. It's really old and I haven't used it recently."

As an official horse show veterinarian, the word "fever" always sends shivers down my spine. I was the only attending veterinarian at this horse show and was just beginning to respond to a variety of emergencies in the wee hours of the night. To say the facility was large would be an understatement. Enormous was more like it. It was fully enclosed, temperature-regulated and housed up to 1,500 horses.

I always hope as a veterinarian that the cause of any horse's elevated temperature is obvious, like cellulitis or a history of traveling 20 hours on a trailer. When it comes to my personal life, family and friends, I tend to have an optimistic view of the world. When it comes

to medicine, I tend to fear the worst. This 3 a.m. call didn't turn out to be an ordinary case of "give NSAIDs and antibiotics q12h." Indeed, the Welsh pony gelding had an elevated 102 °F temperature. And so did the trainer's gray Warmblood mare stalled next to the pony, munching away on her hay as if nothing in her world was abnormal. Typical, isn't it?

I calmly asked the trainer to continue temping her other horses while I anxiously waited for the serum amyloid A (SAA) reader to render results. I was already planning the worst-case scenario. The results came in...Elevated SAA → quarantine → nasal swab → communicate → supportive care → wait for PCR results, in that order. Please don't be herpesvirus!

It was 5 a.m. when I received a phone call from another trainer in another isle, stating her horse seemed "off." (TPR: 101.7, 44, 24, SAA – 450). There were now three infected horses in close proximity, in two different barns. It wasn't a

coincidence—it was the early signs of a biosecurity event.

And so it began. The innate but also learned skills/experiences that no one can truly prepare you for in school: communication, leadership, poise, setting boundaries, the hours of anxiously waiting for lab results to come in. The juggling of phone calls between owners, trainers, owners' home veterinarians, show officials, show management, the governing body of the horse show, state veterinarians, even managers of other shows and their official show veterinarians. Can someone please turn off my phone?

No one prepares you for this. This equine influenza virus (EIV) strain, a highly transmissible but not very virulent pathogen, had a disturbing impact on the horse show and affected numerous training operations. Many horses were ill, but no lives were lost. Horses were quarantined, vaccination records checked, bloodwork run, and care rendered until SAA was at 0 or a negative PCR result came in.

Some trainers took their horses home and self-quarantined; others ran SAAs on all their horses and left horses at the show if levels were above 50ug/mL, indicating early signs of infection. Several trainers stayed and continued to show healthy animals. Because EIV is a non-reportable disease, there were no mandated restrictions on horse movement. As you can imagine, there were a lot of opinions on how to handle the situation.

I often reflect and ask myself, what did we do well? What could we have improved? How do we prevent infectious disease outbreaks with so many horses moving from one event to the next? What principles should be in place to minimize future outbreaks moving forward? What did we learn from Covid-19 that can influence preventive measures in the equine community?

Prevention is priority

Given how difficult it is to stop the spread of certain infectious diseases, prevention needs to be our top priority. Prevention is in the textbooks we read, and equine vet conferences always seem to have a good panel of speakers on biosecurity. Of course, as veterinarians we advocate for prevention with our clients because we care about it and it's our duty.

We remind clients that their horses are particularly vulnerable at shows, races and events. We emphasize a 2-week quarantine for new horses welcomed at barns and after transport with horses outside their normal population. But how often does this happen? As a barn owner, I know I'm guilty of committing this crime. It's additional work when so many operations are already short-staffed. How do we do a better job as equine veterinarians of emphasizing and educating on the importance of preventive measures?

Frankly, my firsthand experience of this outbreak absolutely changed the tone with which I discuss

preventive measures with clients. I have a lot more urgency in my voice. Conversations around recent outbreaks, such as vesicular stomatitis in California this year, usually gets their attention. One gift the pandemic gave us was heightened awareness of contagious diseases. It's a relatable conversation with horse owners.

Considering the 'not fun' factor of an outbreak, one 'fun fact' I loved sharing during this particular outbreak was, **"Did you know a horse can sneeze and shed a virus reaching half the length a football field?"**¹ That's 50 yards (150 feet) according to the Equine Disease Communication Center (EDCC). Let's not wait to prioritize biosecurity measures until it's too late. Let's focus on prevention first.

Trust the science and vaccinate

Routine preventive care and vaccination is critical for all horses at all stages of life. No matter if the horse travels, lives at a facility where others travel or simply is exposed to other horses across the fence line, the end game is the same—healthy, happy and protected.

Although vaccinating doesn't guarantee prevention of disease, science has shown that it significantly reduces the risk of clinical signs as well as the duration of disease. The AAEP divides vaccinations into **core** and **risk-based**. Core diseases are those that are endemic, pose risk of significant harm to a horse and are potentially significant to public health. Core diseases include Eastern equine encephalomyelitis, Western equine encephalomyelitis, tetanus, rabies and West Nile virus.

Risk-based vaccines that target diseases such as equine rhinopneumonitis (EHV-4/1) and EIV are often chosen based on the nature of commingling, travel and geographic location. Because respiratory viruses are the most common risk-based viruses, most

organizations overseeing performance horse events require horses to be vaccinated for EHV-1 and -4 and EIV every 6 months.

In studies, Fluvac Innovator® EHV-4/1 was shown to be highly immunogenic in stimulating a cross-protective titer against all 14 circulating strains of EIV in 2022 and all 66 other influenza strains between 2017 and 2021. These strains were isolated and tested by the World Organization for Animal Health's reference lab^{2,3,4,5,6,7} Important note: The AAEP recommends that all horses get vaccinated 2 to 3 weeks prior to traveling.

Improving biosecurity through heightened communication

The transmission of information is essential for effective outcomes. The governing bodies regulating horse shows and large equine events, along with the veterinarians involved, need to have an action plan in place before potential biosecurity events occur. Like COVID-19, social and economic impacts are at risk. Alternating perspectives of all parties involved can often make a plan of action difficult to execute.

On the management side, show owners may not want to lose entry money or make it publicly known that there may be a biosecurity threat at their show. It's not good for business. Trainers and owners may be hesitant to inform others of their sick horses out of fear that they'll be blamed as the source of disease transmission. Many febrile horses are treated by trainers, sometimes for days before getting a veterinarian involved. Veterinarians may feel obligated to protect their clients and have a mindset that if a horse is already shedding a virus, he's already shed to neighboring horses at this point. All these mindsets are a recipe for disaster. As veterinarians, professionals and experts in the equine field, it's our

duty not only to treat these horses but also to communicate potential threats to the community. It's our responsibility to have these difficult conversations. Sometimes I think we don't give our little horse world enough credit. I saw firsthand, as many of you would probably agree, a quick moment of panic followed by a huge support network around the outbreak. Let's applaud the horse show for releasing a public statement and being forthcoming. Let's applaud the staff who rallied together to create a safe and healthy quarantine. Let's create a mindset that applauds individuals openly communicating and proactively working to contain outbreaks!

Let's also give a huge shoutout to the **EDCC**, whose sole purpose is to help track equine outbreaks and improve the welfare of horses by communicating real-time alerts across the country.

Horses that travel: spread the word, not the disease

Most horse owners travel with their horses at some point during the year. After all, most horses are part of the family, and for equestrian enthusiasts, some of the best vacations are spent at events accompanied by their horse. The following are simple guidelines you can share with your clients when traveling:

- Be up to date on all core and risk-based vaccinations
- Provide proof of a negative Coggins test within the last year (6 months for some states/events)
- Have a current certificate of veterinary inspection, required for interstate travel
- Run a SAA stall-side test to assess whether there are no early indicators of infection (before and after the show)
- Ensure manure is removed and the stall is cleaned and disinfected prior to unloading a horse from his trailer to enter the show barns
- Take your horse's temperature upon arrival at an event, twice daily during an event and at departure

- Do not share tack, cleaning or grooming equipment
- Minimize nose-to-nose contact, including avoiding sharing rags to wipe horses' faces
- Isolate your horse for 2 to 3 weeks when returning from an event and monitor for any signs of disease
- If a horse is coming from a previously infected farm or event, a nasopharyngeal swab and culture may be warranted
- Communicate with your veterinarian if your horse(s) show any signs of infectious disease or if other horses at the event are reported febrile

In the face of an outbreak

Shut down a horse show or training barn for a week? Wait, what?!

In the event you're faced with a potential outbreak, setting up proper isolation depends on the capabilities of the property. Most farms and events have the ability to isolate horses. For those that can't, implementing things such as foot baths, personnel protocols, proper ventilation and human hygiene when working with horses is imperative. Some events have a biosecurity and outbreak plan in place that can be found by contacting show management. Open communication with event staff, show officials and other veterinarians from the beginning of a potential outbreak helps reduce the number of horses exposed and disease transmission.

The AAEP has an extensive and resourceful link on its **recommended biosecurity guidelines**. Many governing bodies of horse shows also offer informative guidelines on biosecurity.

The need to rethink potential impact

No one around the world grasped just how large the impact of Covid-19 would be. Beyond the enormous human and economic impact, the pandemic exposed the weaknesses of organizations, lack of preparedness and poor

response of health care systems. The virus inflicted carnage across the world, as did EIV at the large horse show I was officiating at, with dozens of horses, trainers, owners and businesses affected.

Currently, outbreaks of more devastating diseases such as equine herpesvirus, equine herpes myeloencephalitis and strangles continue to populate our newsfeeds and social media. In the future, the equine community may be confronted with other viruses whose combination of virulence, transmissibility and other characteristics pose even greater danger.

Sometimes biosecurity measures get neglected. We underestimate the potential impact to our horses' health, along with the economic impacts to owners and the industry. The necessary measures continue to require leadership, time, education, routine preventive care and public awareness.

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