

CENTER FOR EQUINE HEALTH

HorseReport

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*The Biosecurity
Issue*



UC DAVIS
VETERINARY MEDICINE
Center for Equine Health

DIRECTOR'S Message

Biosecurity is something that we at the Center for Equine Health and the UC Davis veterinary hospital think about all day, every day. With horses constantly coming and going, a significant amount of time, effort, and training go into making our facilities as safe as possible for horses and humans alike.

This issue is especially timely considering the biosecurity measures that we are taking every day in our personal lives to address the COVID-19 pandemic. Many of the concerns about the spread of infectious diseases, as well as their containment and prevention, are similar to those addressed in equine biosecurity plans. Worldwide, our increasingly mobile equine population requires everyone to prioritize infectious disease awareness and biosecurity.

We were fortunate to collaborate with one of my mentors, Dr. Gary Magdesian, on this issue. Dr. Magdesian is a world-renowned specialist in equine internal medicine, critical care and emergency medicine, and neonatology, and acts as the infectious disease officer for the hospital. We are grateful to him for sharing his expertise on this crucial topic.

During my residency training at UC Davis, I spent quite a lot of time in our equine isolation unit treating clinical cases. We are incredibly fortunate at UC Davis to have a state-of-the-art isolation building with individual air-conditioned stalls that meet all of the required infectious disease precautions. During the summer, both horses AND residents were grateful for the air conditioning! It should be extremely comforting for our clients to know that horses with infectious diseases are separated from the rest of the hospitalized population while getting top-level care.

Whatever your level of comfort and experience with equine biosecurity, this issue is meant to serve as a handbook for quick reference on some of the most important concepts. You will find information about how infectious diseases are transmitted to horses, some of the most common diseases to keep on your radar, the role of asymptomatic carriers in disease spread, tips to keep your horse safe and healthy at home and while traveling, and our recurring "10 Things You Might Not Know" feature.

We hope that this issue inspires you to examine ways to augment your current biosecurity protocols and encourage you to share this important information with fellow equestrians.

Carrie J. Finno, DVM, Ph.D.
CEH Director



Equine Biosecurity Resources

For more information about equine biosecurity, including steps you can take at home and at events to keep your horses safe and healthy, please visit the following resources:

Equine Disease Communication Center:

www.equinediseasecc.org/biosecurity

**California Department of Food and Agriculture,
Biosecurity Toolkit for Equine Events:**

www.cdfa.ca.gov/AHFSS/Animal_Health/Equine_Biosecurity.html

Healthy Farms, Health Agriculture, Equine Biosecurity Overview:

www.healthyagriculture.org/livestock/horses



DR. KNICKELBEIN receives 2020 James M. Wilson Award

Ophthalmology resident Dr. Kelly Knickelbein received the 2020 James M. Wilson Award. Her *Equine Veterinary Journal* [publication](#), “A missense mutation in damage-specific DNA binding protein 2 is a genetic risk factor for ocular squamous cell carcinoma in Belgian horses,” was chosen as the year’s most outstanding research report. She completed the work under the mentorship of Drs. Mary Lassaline and Rebecca Bellone.

“Dr. Knickelbein personifies a combination of compassionate, knowledgeable, skilled veterinarian and intellectually curious, logical, meticulous researcher: a true clinician scientist,” said Lassaline, professor emeritus. “We look forward to seeing where she will take our field.”

[Squamous cell carcinoma \(SCC\)](#) is the most common equine eye cancer. Knickelbein’s research revealed that a variant in the gene previously associated with ocular SCC in Haflingers is also associated with the disease in Belgian horses.

“It has been a pleasure to get the opportunity to work with and mentor Dr. Knickelbein,” said Bellone, director of the [UC Davis Veterinary Genetics Laboratory](#) (VGL). “She has substantially contributed to several projects investigating how genetics influences ocular disorders in horses.”



Dr. Knickelbein with mentors Dr. Lassaline (left) and Dr. Bellone (right).

A [genetic test for ocular SCC](#) is available through the VGL that allows owners of high-risk horses to tailor management practices to decrease cancer risk and enable early detection and treatment.

“I am honored to receive the James M. Wilson Award,” said Knickelbein. “The opportunity to perform research that may improve the health of horses has been a highlight of my residency, and I am grateful to my supportive mentors. Thank you to the Center for Equine Health for providing funding opportunities for resident research.”

EQUINE STUDENTS Receive 2020 Chancellor’s Awards for Excellence in Undergraduate Research

The 2020 UC Davis Spring Awards ceremony recognized two undergraduate students who conducted research in equine genetics.

Yael (Izzie) Hack, an Animal Science major, received the Chancellor’s Award for Excellence in Undergraduate Research and the Dean Keith Simonton Prize. This award recognizes outstanding undergraduate students for research, scholarship, or creative activity. Hack investigated the genetic cause of [Congenital Stationary Night Blindness](#) in a Tennessee Walking Horse under the mentorship of UC Davis Veterinary Genetics Laboratory Director Rebecca Bellone. Her work led to a [genetic test](#) that is now available to breeders to avoid producing affected horses.

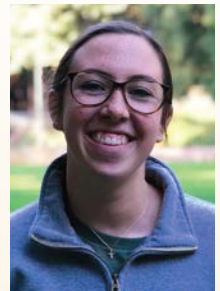
“It is an honor to receive this award,” said Hack. “I am grateful to have had the opportunity to contribute to equine genetics research, and learn from amazing people at the Veterinary Genetics Laboratory.”



Callie Wilcox, an Animal Science major, received the Hanson Family Undergraduate Research Publication Award. This award recognizes publication of outstanding undergraduate research, scholarship, or creative activity with guidance by UC Davis faculty. Wilcox was the primary author of the [publication](#), “Previously Identified Genetic Variants in ADGRL3 Are Not Associated with Risk for [Equine Degenerative Myeloencephalopathy](#) Across Breeds” in the journal *Genes*. She performed her research under the guidance of Center for Equine Health Director Carrie Finno.

“It is a great honor to receive this award, which I could not have done without the mentorship of Dr. Finno, along with the support of graduate students and fellow undergraduate researchers,” says Wilcox. “Being a part of Dr. Finno’s laboratory has been an integral part of my undergraduate career and solidified my passion for animal health and genetics.”

Congratulations Izzie and Callie!



From Flies to Fomites: HOW INFECTIOUS DISEASES SPREAD

Controlling infectious diseases relies on understanding how they spread. Infectious organisms are transmitted to horses through the following routes:

Aerosols – Respiratory droplets from sick horses become airborne through coughing, snorting, or sneezing. Residue from evaporated droplets and infected dust particles can also become suspended in the air. Infectious organisms are transferred when they contact the eyes, nose, or mouth. Pathogens vary in their ability to survive and transmissibility in the air, which are impacted by environmental factors including wind, humidity, and temperature.



Diseases capable of transmission by aerosols include [equine influenza](#) and [equine herpesvirus](#).

Airborne diseases are challenging to contain and can spread quickly. Keep distance between horses, keep dust down, and ensure proper ventilation in enclosed spaces.



Direct contact – Some diseases spread through close physical contact with infected animals, their body fluids or tissues, and direct touching of wounds, skin or mucous membranes around the nose, eyes, and mouth. Affected animals can infect other animals

through nose-to-nose contact or biting.

[Equine influenza](#) is an example of a disease spread by nose-to-nose contact.

Limit contact with horses between stalls, in aisle ways, and at cross ties or wash racks. Do not tie horses near each other. Clean and disinfect water troughs regularly.

Oral – Horses can consume pathogens in feed or water contaminated by feces or urine from infected animals. Licking or chewing contaminated objects in the environment can also lead to ingestion of pathogens.



Diseases spread through oral transmission include salmonellosis and equine coronavirus.

Control feed sources, ensure feed quality, and handle and store feed properly. Clean stalls regularly, manage fecal piles in fields and turnouts, and ensure proper waste management. Avoid natural water sources such as streams that may be contaminated with feces or urine from wildlife and livestock.

Indirect contact – Objects contaminated with infectious organisms are called fomites. These can include tack, buckets, grooming supplies, hoses, clothing, and even vehicles.



Diseases spread by indirect contact include [strangles](#) and [equine herpes virus 1](#).

Avoiding sharing equipment between horses. If equipment must be shared, clean and disinfect between uses. Dedicate supplies and equipment for sick horses. Keep vehicles and trailers in designated areas. Limit traffic, people, and other animals in horse areas.



Vectors – Insects, such as mosquitoes and flies, or ticks can transmit infectious organisms between animals.

Vector-borne diseases include West Nile, Eastern, and Western equine encephalitis.

Proper vector control is an essential part of any biosecurity plan. Use insecticide applications as appropriate. Fence off areas with high insect and tick populations, and keep horses inside when these vectors are active (dusk to dawn). Eliminate insect breeding areas, including standing water and decaying organic matter.

Wildlife – Rodents, skunks, opossums, bats, birds, and other wildlife can also act as disease vectors.

Diseases spread by wildlife include [rabies](#) and [equine protozoal myeloencephalitis \(EPM\)](#).



Prevent wildlife from accessing barn areas. Sweep regularly, keep barns and tack rooms tidy, and clean up and store feed in containers with securable lids. Patch holes and gaps in buildings to prevent wildlife access. Do not leave pet food or water out overnight. Keep compost piles away from barns.

WHAT YOU DON'T SEE: Asymptomatic (Subclinical) Carriers as Sources of Infectious Disease

While the term “asymptomatic carrier” has been making headlines recently with regard to the SARS-CoV2 virus that causes COVID-19, the concept is actually nothing new to epidemiologists and other researchers who study a variety of diseases in humans and animals. Asymptomatic carriers play critical roles in the transmission of infectious diseases in humans, horses, and other species, but they largely go undetected, thereby hampering control efforts.

Asymptomatic carriers, also known as subclinical or silent shedders, are individuals infected with a pathogen that do not show clinical signs or symptoms of disease. Although they appear healthy, they can incubate and shed the organism into the environment in nasal secretions, respiratory droplets, feces, etc., presenting potential sources of infection for others. Some pathogens remain viable in the environment for extended periods after being shed by horses or other animals. Direct evidence of asymptomatic carriers is understandably scarce, which complicates how health professionals measure the effectiveness of disease mitigation responses.

It is important for horse owners to understand the potential roles of asymptomatic carriers in their biosecurity plans. Horses that appear healthy can shed contagious pathogens and endanger the health of other animals. Asymptomatic individuals can have the pathogen but not show signs of disease for many reasons. They may already have immunity to that particular pathogen or are not genetically susceptible. Stress, caused by transportation, illness, intense exercise, hospitalization, foaling, weaning, etc., can activate pathogen shedding by asymptomatic carriers, sometimes leading to disease outbreaks.

Research on horses that are asymptomatic carriers of [strangles](#) shows that once a horse recovers, it can be a source of infection for at least 6 weeks after clinical signs have resolved - the equine equivalent of Typhoid Mary. Up to 10 percent of horses that recover from an outbreak can become long-term silent shedders for months to years, acting as reservoirs that can perpetuate the disease. Horses can also be carriers during the incubation period without any clinical signs.

▶ Asymptomatic carriers of disease do not stand out from the herd and can be difficult to identify.

During outbreaks of strangles in large herds, identifying and treating carriers is essential to eliminate long-term sources of the disease.

Asymptomatic carriers play significant roles in other equine infectious disease outbreaks as well. These include respiratory diseases such as those caused by [equine herpesvirus](#), equine coronavirus, and [equine influenza virus](#), gastrointestinal illnesses such as [salmonellosis](#), and venereal diseases such as [contagious equine metritis](#). For some diseases, such as [equine infectious anemia](#), carriers pose such a significant threat to others that they are euthanized or restricted to permanent quarantine.

Reliable detection of asymptomatic carriers is important as equine populations worldwide become increasingly more mobile. A [study](#) that utilized the databases of the World Organization for Animal Health (OIE) and international surveillance reports noted that 88 percent of incidences of introduction of pathogens into importing countries involved infected horses that did not show any clinical signs at the time they were imported.

Simple biosecurity measures can help reduce the risk of disease from asymptomatic carriers. These include isolating new arrivals and testing as needed (in consultation with your veterinarian), regularly vaccinating resident horses, and avoiding the use of shared equipment between horses.



COMMON OFFENDERS:

Equine Pathogens to Keep on Your Radar

Equine herpesvirus: Of the nine equine herpesviruses (EHV), 1, 3 and 4 pose the most serious risks. Of these, EHV-3 causes a venereal disease and EHV-4 causes a respiratory disease in foals. [Equine herpesvirus 1](#) can cause respiratory infection, neonatal infection, abortion, or neurological signs. The neurologic form of EHV-1, [equine herpesvirus myeloencephalopathy \(EHM\)](#), attacks the spinal cord and brain and can be fatal.

Equine influenza: This highly contagious respiratory disease spreads easily through contact with infected horses or infected clothing, equipment, brushes, tack, etc. Outbreaks result in significant economic losses to the equine industry, and are more likely to occur where large groups of horses gather, such as shows, races and events. Increased transportation of horses facilitates the spread of the virus.

Equine coronavirus: Coronaviruses cause illness in many species and attack specific organ systems such as the respiratory or gastrointestinal tracts. There is currently no evidence that equine coronavirus (ECoV) is infectious to humans. Historically, ECoV was thought to occur only in foals, but it has been increasingly reported in adult horses. It is highly contagious and transmitted between horses through exposure to contaminated feces. There are no specific treatments or licensed vaccines. Most horses recover fully, but some develop severe complications.

Salmonella enterica: This bacterium causes diarrhea in humans and horses ([Salmonellosis](#)). In horses, transmission occurs through contaminated feed, water, or surfaces, or by contact with infected individuals. Mice, chickens, pigeons, and wildlife can be sources of *Salmonella*. Some horses are carriers that do not show any signs of disease but can actively transmit the organism. Stress plays an important role in the progression of the disease, and severe cases can be fatal.



Streptococcus equi subspecies equi: This bacterium causes the highly contagious respiratory disease [strangles](#), which results in swollen lymph nodes that can compress the upper respiratory tract. It is the most common infectious agent identified in horses 6 to 10 years of age. Infection occurs through horse-to-horse contact, drinking contaminated water, or contact with contaminated material or equipment. Some horses become carriers that intermittently shed the bacteria, creating a reservoir of chronically infected animals that perpetuate the disease in the population.

Corynebacterium pseudotuberculosis: This bacterium can cause large abscesses on the horse's chest resembling a pigeon's breast, hence the name "[pigeon fever](#)." The bacterium can survive for long periods in the ground and shorter periods in hay and shavings. It gains access to the body through small scrapes or wounds in the skin, either by contact with contaminated soil or objects, or by insects that transfer the bacteria to broken skin. Other forms of the disease include internal abscesses, most commonly seen in the liver, spleen, kidneys, and lungs, and ulcerative lymphangitis, a painful infection of the lymphatics, most

often involving the hind limbs and causing swelling and oozing sores.

West Nile virus: Mosquito-borne West Nile virus (WNV) can affect horses, humans, and other species. Some infected horses do not show signs of illness, but others develop neurologic disease, which can be fatal. There is no specific treatment for WNV. Many horses recover fully, but some exhibit long-term effects, including gait and behavioral abnormalities. The American Association of Equine Practitioners recommends that horses be vaccinated for WNV annually.

Rhinitis viruses: Equine rhinitis viruses A and B (ERAV and ERBV, respectively) are highly prevalent in horses worldwide and can cause disease that is indistinguishable from other respiratory pathogens such as equine influenza virus. Although not well studied, rhinitis viruses are known to cause mild to severe respiratory disease affecting both the upper and lower airways. They may also contribute to, or exacerbate, inflammatory airway disease and recurrent airway obstruction (heaves).

FOAL-SPECIFIC PATHOGENS

Rotavirus – Equine rotavirus damages the lining of the intestines, inhibiting digestion and absorption of food. It is one of the most common causes of diarrhea in foals less than six months of age. Infection occurs when foals ingest materials or lick surfaces contaminated with infected feces. Pregnant mares can be vaccinated to provide foals with antibodies to the virus.

Cryptosporidium parvum – These highly contagious parasites infect the intestine and cause diarrhea and weight loss.

Cryptosporidiosis is most commonly seen in foals one to four weeks of age, especially those that are immunocompromised or stressed. They become infected by ingesting the parasite in contaminated food or water. There are no specific treatments or available vaccines for Cryptosporidiosis.

Clostridium perfringens – This bacterium causes inflammation of the small and large intestine, resulting in severe abdominal pain, colic, diarrhea, and failure to nurse within the first week of life. The disease progresses rapidly and has a high mortality rate. Intensive medical care is required, but many affected foals do not survive. Mares may be vaccinated prior to foaling to limit foals' susceptibility to infection.

Rhodococcus equi – This bacterium lives in the soil and causes pneumonia in foals that are one to four months old. Foals inhale airborne bacteria or ingest contaminated soil. The disease progresses slowly and can be life threatening in severe cases. Treatment includes antibiotic therapy. Early detection and treatment result in the best outcomes. There are currently no vaccines.



KEEPING YOUR HORSE HEALTHY at Home



Work with your veterinarian to develop a customized health care program for your facility, taking into account the diseases in your area, number of horses on the property, their age groups, if they travel to shows or events, whether they are kept outside or inside, and other factors specific to your situation. It is important to have protocols in place before something happens. The plan should include:

1. Vaccination protocol
2. Deworming protocol
3. Nutrition program
4. Exercise program
5. Manure control
6. Insect and rodent control
7. Biosecurity, especially during travel

An effective program requires day-to-day diligence, including:

- Close monitoring of horses for signs of illness
- Cleanliness

Know the signs of possible contagious diseases:

- Fever (Have a thermometer for your horse!)
- Cough
- Nasal discharge
- Diarrhea

Confine all new arrivals to the property to a quarantine area for 21 days.

What to do if a horse gets sick

- Quarantine the horse in its stall.
- Minimize traffic in the location of the affected horse.
- Call your veterinarian.
- Perform testing and isolate the affected horse from other horses.
- Determine if quarantine is necessary for the whole facility.

How do I quarantine?

- Quarantine procedures should be customized to the premises. Have a plan and train staff before quarantine is needed.
- The safest option is to quarantine a sick horse in a separate barn designated for this purpose.
- The next best option is a pen separated by 30-50 feet from other horses.
- If neither option is available, quarantine the horse in a stall at the end of a barn, with no immediate neighbors (either across or adjacent).
- If none of these options is possible, quarantine the horse in its stall.
- Restrict movement of the horse and horses in the immediate area.
- Wash your hands and/or utilize hand sanitizers before and after interacting with sick animals.



- Place a disinfectant footbath outside the stall and disinfect footwear when entering and exiting the stall.

- **Bleach:** Use a 1:10 - 1:16 dilution of bleach to water and ensure 10 minutes of contact time. Make sure your footwear is free from debris before going into a footbath (bleach is inactivated by organic matter such as bedding, hay, and manure).
- **Accelerated Hydrogen Peroxide:** These are hydrogen peroxide products modified for increased stability. The Environmental Protection Agency (EPA) has rated them among the safest disinfectants for the environment. They are safe to handle, work for a very wide spectrum of infectious agents, hold up better to organic matter than bleach (as long as there is <5% organic matter by mass in the footbath), and have a comparatively short contact time (5 minutes). These products include Accel/Rescue® and Intervention™.

- Use protective equipment when handling sick horses, including gloves and disposable gowns. Change your clothes after handling a sick animal.
- Designate separate stall cleaning equipment for quarantine areas.
- Horses that are newly arrived to the property should be quarantined for 3 weeks in a separate barn or separate paddock 30 feet away from resident horses. Feed and handle these horses last, or designate separate personnel to care for them during the quarantine period.



KEEPING YOUR HORSE HEALTHY

Away From Home



Before you go:

Only take healthy horses off the property

Avoid transporting sick horses, even if they only appear mildly sick. Horses with signs of any of the following should stay at home for monitoring:

- Fever
- Cough
- Nasal discharge
- Diarrhea

Protect your horse

- Shipping is stressful for horses, and stress can impair their immune responses to infectious organisms.
- Ensure horses are current on vaccines, including influenza, herpes (no vaccine for neurologic form), and possibly strangles. Note that vaccines do not guarantee protection, but they make the disease milder and reduce shedding if your horse becomes affected.
- Allow your horse to lower its head during transport, either freely or intermittently at stops. This allows for the horse to clear its airways of accumulated dust or particulate matter, and helps to protect against pneumonia.

Pack your own equipment

This includes:

- Water and feed buckets
- Hand sanitizer
- Manure fork, shovel
- Thermometer
- Disinfectant foot bath
- Gloves

While you are away:

Disinfect stalls when you arrive

- Remove organic matter, including manure and bedding material.
- When feasible and the facility is amenable, scrub/wash the walls with soap (liquid laundry detergent) from top to bottom.
- Rinse the soap off.
- Disinfect the stall with bleach or an Accelerated Hydrogen Peroxide (AHP) product. Follow product labels and allow adequate contact time. Note that AHP products do not need to be rinsed off, but should be dry before putting a horse in the stall. If washing with soap first is not possible, the use of AHP products is optimal in that they include a surfactant for cleaning.



Minimize exposure

- Don't share equipment or tack.
- Don't allow nose-to-nose contact with other horses.
- Don't allow visitors to pet your horse.
- Wash your hands or use hand sanitizer often.
- When filling up buckets, keep the hose elevated out of the bucket (not under water level) to minimize transfer of organisms from the hose into the water.

Monitor your horse's body temperature and feed intake

- Know your horse's normal vital signs, including temperature, pulse, and respiration rate.
- Train horses to having their temperature taken.
- Take your horse's temperature every morning (normal temperature is approximately 99° - 100.5°F). An elevated temperature can be an early indicator of illness. If your horse's temperature is 101.5°F or above, contact a veterinarian and isolate the horse to prevent exposure to other horses. The earlier an illness is detected, the better the prognosis, the easier it is to treat, and the better the outcome.

When you get home:

- Separate traveling horses from resident horses as much as possible.
- Maintain good vaccination protocols on resident horses.
- Monitor body temperature on returned horses once a day for 7-14 days.
- House traveling horses at one end of the barn and horses that do not travel as much at the other end of the barn.

Don't forget about your trailer!

- It is important to disinfect your trailer, especially if you haul other people's horses.
- At end of the day, or after hauling sick horses, strip out all of the bedding. Scrub the whole trailer down with liquid detergent, rinse, and apply dilute bleach or AHP.



For more information on how to keep your horse safe at events, refer to the CDFA Biosecurity Tool Kit at www.cdfa.ca.gov/ahfss/Animal_Health/pdfs/Biosecurity_Toolkit_Full_Version.pdf.



10 THINGS

You Might Not Know About Equine Biosecurity

Practicing good biosecurity at home and while traveling is important for your horse's health and safety, and is an important part of industry-wide disease control measures. We collaborated with Dr. K. Gary Magdesian, infectious disease control officer and faculty member in the Equine Internal Medicine Service at the UC Davis veterinary hospital, to present a list of important things to remember when it comes to equine biosecurity.

1 Disinfecting footbaths are ineffective if there is organic material on your boots.

Manure, dirt, mud, and plant material prevent disinfectants in the footbath from doing their job of killing germs. They also contaminate the water, meaning that footbaths need to be changed more often. Before using a footbath, scrub the bottoms and sides of your footwear with a brush and rinse with a hose to remove visible debris. To encourage boot scrubbing, keep a scrub brush next to the footbath.



2 Disinfectants have contact time requirements - don't just spray and go.

Effective disinfection protocols ensure appropriate disinfectant contact time with surfaces. The contact time needed to inactivate disease organisms varies by product. Always follow product labels and manufacturer's instructions when using disinfectants.

3 Biosecurity protocols protect horses, but they are important for human safety too.

Some diseases are zoonotic, meaning they can be [transmitted from horses to humans](#). These include ringworm, salmonellosis, leptospirosis, and rabies, among others. Practicing good hygiene and sanitation as part of a comprehensive biosecurity plan helps keep horses, people, and other animals on the property healthy and safe.



4 Biosecurity is an all for one, one for all management scheme.

While practicing good biosecurity is important for individual horse health, it is also for the safety of the whole herd and facility. Effective biosecurity protocols protect the most vulnerable individuals, including foals and older horses.

5 Biosecurity is an important part of day-to-day equine life.

Biosecurity is not just for when there is an outbreak. It needs to be practiced every day. Assess which aspects of your horses' daily life expose them to disease risks and engage in practices to reduce those risks. Disease risks are not eliminated even if you have a "closed herd" in which horses do not move on and off the property (see page 5 on asymptomatic shedders). Effective biosecurity at the facility level is essential to the broader picture of reducing regional, and even global, spread of disease. The impact of infectious diseases can be significant and poor on-farm biosecurity puts the industry at risk from serious endemic and emerging diseases.



6 At veterinary hospitals, huge amounts of work, labor, expense, and time go into biosecurity considerations for each case, for everyone's protection. This includes regularly changing footbaths, culturing feces on every patient to identify horses that may be harboring infectious organisms, and taking the temperature of every patient twice per day to catch fevers early. Although these procedures go on in the background, they are vital to running horse hospitals.



7 Shared water sources can put horses at risk of disease. One of the highest risks for transmission of infectious disease occurs when communal water sources are shared between resident horses and visiting horses, for example at shows or events. Bring a water bucket for each horse when you travel and avoid shared water sources. This includes shared natural water sources such as ponds, which may harbor infectious organisms that could make your horse sick.



8 Good hand hygiene is important to prevent the spread of disease. By now, everyone is aware of the importance of frequent hand washing to prevent the spread of infectious diseases like COVID-19 in humans. It is also important to practice good hygiene in the barn. Scrub your hands with soap for 20 seconds, or the time it takes to sing the "Happy Birthday" song twice.



9 When going from one facility to another, change your clothes and put on clean shoes. Ideally, it is advisable to put on clean clothes and shoes between visits when going to more than one facility. At the very least, wash your hands thoroughly and make sure there is no organic matter contamination on your shoes.



10 If you are going to haul someone else's horses, ask a few questions first to ensure only healthy horses get onto your trailer. Find out if there have been any diseases in the barn lately. Has the horse you are going to transport been sick or had any fevers? Be sure to remove manure after you unload the horses, and run a disinfecting wipe over the area where the horse's head was tied, including bars, doors, clips, and mangers.




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UC Davis Equine Isolation Facilities – The Next Frontier

The Equine Isolation Unit at the UC Davis veterinary hospital allows for care of horses with serious and highly contagious infectious diseases such as equine herpesvirus and strangles. Located away from other barns and buildings, this facility was specially designed to care for infectious cases. Each horse is housed in a biosecure stall with full climate control, including air-conditioning in the summer!

Doctors and staff undergo two levels of biosecurity when entering the isolation unit. First, they wash their hands and then don a set of pink coveralls (only used in isolation) over their outerwear and clean rubber boots. When entering each stall, hands are washed again, a white lab coat (specific to that horse) is then worn over the coveralls, and gloves and a hair covering are utilized. Each stall has its own footbath, in addition to footbaths throughout the facility. Dedicated staff are assigned to each case and do not interact with other patients during shifts.

A new Equine Isolation Facility is planned for the future Veterinary Medical Center (VMC) at UC Davis. Its design will focus on continuing UC Davis' ability to provide state-of-the-art infection control environments for equine patients and help prevent the spread of harmful pathogens. The VMC, a decade-long campaign to build the foremost veterinary care facility in the world, will allow UC Davis to set the gold standard of care while defining advanced clinical research and education.



▲ The current equine isolation facility at the UC Davis veterinary hospital.

