

EQUINE DISEASE QUARTERLY

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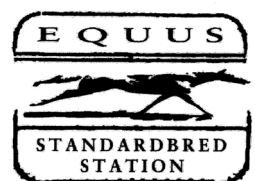
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Second Quarter 2026
International Report
on Equine Infectious
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A PREVIEW OF THE JULY 2026 EDQ

While the *Equine Disease Quarterly* focuses primarily on infectious diseases, the University of Kentucky Department of Veterinary Science also addresses many other significant challenges affecting equine health and welfare. The following highlights showcase current research efforts spanning infectious diseases, reproductive health, a pasture-associated toxicity, idiopathic trigeminal-mediated headshaking and musculoskeletal injury prevention.

In this issue, the research spotlight features the work of Ph.D. candidate Grace Camp, mentored by Dr. James MacLeod, John S. and Elizabeth A. Knight Endowed Chair in Equine Veterinary Science at the Maxwell H. Gluck Equine Research Center. Catastrophic fractures of the proximal sesamoid bones account for nearly half of fatal injuries in Thoroughbred racehorses. Using one of the world's largest collections of postmortem CT scans, Camp and MacLeod used advanced imaging and machine learning to identify early bone changes associated with fracture risk with the ultimate goal of improving prevention of injury.

Shifting to the infectious disease front, Drs. Allison Siu and Kelly Giesbrecht, both with the Kentucky Department for Public Health, present a case report of rabies in an unvaccinated Quarter Horse from last July in Kentucky. The case highlights the continued risk of wildlife-associated rabies in Kentucky and reinforces the importance of annual rabies vaccination to protect both equine and human health.

Dr. Rebecca Ruby, a boarded veterinary internist and pathologist within the UK Veterinary Diagnostic Laboratory, then provides an update on equine abortion in Central Kentucky. UK VDL evaluated 374 equine abortion cases during the 2025–2026 breeding season, identifying infectious, placental and congenital causes while nearly half remained undiagnosed. Continued surveillance is improving understanding of reproductive diseases, particularly the variable occurrence of mucoid placentitis, and this is reflected in the improved diagnostic rate.

Dr. Emma Adam, professor and research and industry liaison within the Department of Veterinary Science, Dr. Megan Romano, toxicology section head at the UK VDL, and Krista Lea, an agriculture Extension specialist in the Department of Plant and Soil Sciences,

summarize ongoing collaborative work that addresses toxic tall fescue, one of the most important pasture-related reproductive threats to horses, causing prolonged gestation, dystocia, placental abnormalities, agalactia and poor foal health. These UK researchers are investigating changing seasonal patterns of pasture toxicity while advancing education, pasture management strategies and new diagnostic tools to reduce risk.

Another primarily seasonal disease of horses is idiopathic trigeminal-mediated headshaking, which has been compared to photic sneezing in humans. However, the manifestation and severity of disease in some horses is nothing to “sneeze at” – and Dr. Monica Aleman from the University of California Davis, provides a comprehensive summary of what is known about this disease.

Drs. Yosra Helmy, Yosra A. Helmy and Beatrice Sponseller, both from the Gluck Center, provide a summary of an ongoing, promising study evaluating the safety and efficacy of a vaccine candidate for strangles for the U.S. market. Strangles remains a highly contagious bacterial disease requiring rapid diagnosis, biosecurity and identification of carrier horses for effective control. UK researchers are evaluating the recombinant Strangvac® vaccine with other investigators to improve future prevention strategies and reduce the health and economic impacts of outbreaks.

As Drs. Lutz Goehring and Edward Olajide point out in their overview of equine infectious diseases circulating throughout the world, strangles remains the most consistently reported disease in the Western Hemisphere. However, other viral, parasitic and bacterial diseases are of significant concern as well.

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Advanced Imaging-Based Assessment of Proximal Sesamoid Bones in Thoroughbred Racehorses

The majority of career-ending health concerns in Thoroughbred racehorses are attributed to musculoskeletal injuries. Very importantly, of these injuries, a small subset can be life-threatening to both horses and jockeys if they occur during high-speed exercise or racing. Although the industry has achieved a reduction in fatal injury rates in Thoroughbred racing over the past decade, understanding the causes and development of lower forelimb bone fractures that lead to these catastrophic musculoskeletal injuries (CMI) remains one of the highest safety and welfare priorities in horse racing.

The metacarpophalangeal joint (MCP), widely referred to as the fetlock joint, is the most common site of serious orthopedic injuries in Thoroughbred racehorses. Specifically, significant clinical and research efforts have focused on the proximal sesamoid bones (PSBs), as they account for an estimated 45-50% of fatal injuries among U.S. Thoroughbred racehorses.

The Musculoskeletal Research Group at the University of Kentucky, in collaboration with veterinary practitioners, racing regulators, racetracks and scientists at other universities, has ongoing studies in a number of areas that all aim to support and advance the orthopedic health of racehorses and, indeed, all equine athletes. One of these research projects is the PhD dissertation research focus of graduate student Grace Camp. Her project involves the collection and analysis of postmortem computed tomography (CT) forelimb scans from horses that have died on Kentucky racetracks or training facilities that either sustained a CMI or died for reasons unrelated to a CMI (sudden death, colic, etc.). Each scan is assessed for bone lesion pathology across a total of 105 forelimb anatomical sites, from the distal radius to the navicular bone. To date, 1,644 CT scans from 431 horses have been collected, resulting in more than 98,000 anatomical site assessments. This large-scale dataset enables the research team to utilize “big data” strategies and advanced machine learning or data mining techniques to identify and characterize bone lesions and fracture patterns from a large sample set perspective.

Catastrophic PSB fractures have commonly been reported to occur biaxially, but at the same time exhibit distinct fracture configurations between the medial and lateral PSB. With Thoroughbred racehorses, the repetition of fracture locations and patterns that are often observed indicate that consistent pathological processes are important as opposed to random “bad step” events. Advancing our understanding of these processes should

facilitate efforts to more effectively identify horses at higher risk of bone fracture, while also providing a foundation of knowledge to improve training methods, diagnostic approaches and therapeutic strategies. Large sample sets will help in learning how to better distinguish between normal and pathological PSB changes associated with high-speed locomotion exercise, while also providing the statistical power to resolve biomedically important relationships.

Veterinary clinicians routinely use advanced diagnostic imaging techniques to evaluate and monitor patient health. In addition to the diagnostic value of these medical images for the specific patient, the captured radiometric data provide details on bone structure, texture and often skeletal adaptation over time. Camp, who earned her undergraduate degree in Equine Science and Management at UK, seeks to extract meaningful information using powerful new computational methods. Her research aims and experimental plans apply biomedical image analysis techniques from a “big data” perspective to investigate three-dimensional size and structural parameters and image-based features of PSBs from CT images, with the goal of identifying and characterizing bone features or patterns of bone alterations that may predispose an equine athlete to a CMI or indicate an elevated risk or susceptibility for a CMI.

Further research into the relationship between bone structure and lesion pathology in PSBs could open new avenues to enhance musculoskeletal health in Thoroughbred racehorses. The insights gained from this medical imaging study and others being conducted around the world have the potential to improve our ability to identify structural features associated with pathological changes and fractures in PSBs. The ultimate goal is to enhance the sensitivity and specificity of detection, monitoring and prevention of serious musculoskeletal injuries in Thoroughbred racehorses and all equine athletes.

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KENTUCKY

2025 Confirmed Rabies Case in Kentucky Horse Underscores Ongoing Risk

An The Kentucky Department for Public Health (KDPH) was notified on July 28, 2025, of a confirmed rabies case in a 21-year-old American Quarter Horse gelding. The horse had a clinical history that included one month of weight loss and one week of anorexia. On July 24, the horse was evaluated at a veterinary clinic for agitation and photosensitivity and returned the following day exhibiting aggression and a high fever. The horse, which had not been vaccinated against rabies, was euthanized on July 25. Postmortem specimens were sent to the University of Kentucky Veterinary Diagnostic Laboratory where diagnostic testing confirmed rabies, and the CDC later identified the virus as the skunk variant rabies.

This case underscores the ongoing risk of rabies in Kentucky, where 24 equine cases have been identified since 1989. While the owner did not report observing wildlife on the property, recent trends show an uptick in skunk variant rabies in the south-central region of the state, highlighting the often-unseen risk posed by wildlife reservoirs. In Kentucky, both skunk and bat variants circulate, and horses may be exposed through direct contact with bites or scratches from infected animals.

The Kentucky Department for Public Health worked with local environmental health officials to quickly identify and contact individuals who may have been exposed to the infected horse. Post-exposure treatment is effective but is time-sensitive and costly. Thirteen people were assessed, including 12 veterinary staff and one community member. Of these, nine were determined to have high-risk exposures and were advised to receive rabies post-exposure prophylaxis (PEP). Rabies PEP for humans typically includes immediate wound cleansing (if a wound is present), administration of human rabies immune globulin (if not previously vaccinated) and a series of rabies vaccinations on Days 0, 3, 7 and 14.

Animal health measures were also enacted. Two unvaccinated equine pasture mates were identified as exposed and placed under a 180-day strict quarantine by the Kentucky Department of Agriculture.

No additional domestic or livestock exposures were identified. In this case, the Kansas State three-dose PEP animal protocol was implemented, with vaccines administered on Days 0, 7 and 21–28 for the two exposed horses.

This case highlights the critical importance of rabies vaccination in horses. Rabies is a universally fatal and completely preventable disease. Rabies



By Wallace Keck - CITY OF ROCKS NATIONAL RESERVE — Striped Skunk, Public Domain.

is a core vaccine recommended annually for all equids by the American Association of Equine Practitioners. Infected unvaccinated animals not only face a horrific death but also pose a significant risk to human health. Vaccinating all of our domestic animals against rabies protects our families in addition to protecting our animals.

While preventing this disease by vaccination is paramount, quarantine considerations, particularly for the performance horse, can also be significant. If a rabid skunk were found in a horse paddock, unvaccinated horses in that paddock would be subject to 180 days of quarantine, as compared to 45 days for vaccinated horses.

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Equine Abortions in Central Kentucky in 2025-26

Equine abortion is a common and frustrating condition with a variety of infectious and noninfectious causes. Evaluation of the fetoplacental unit can aid in understanding the cause of individual foal losses and identify emerging or changing trends between seasons.

Causes of abortion are categorized as *infectious and contagious* (Equine Herpesvirus, Equine Arteritis Virus, Leptospirosis); *infectious* (bacterial and mycotic infections, Potomac Horse Fever); and *non-infectious* (congenital malformations, twins, placental infarction, umbilical cord torsion, idiopathic). This is not an exhaustive list of causes of abortion, but represent the most common diagnoses within the University of Kentucky Veterinary Diagnostic Laboratory.

In 2025-26, the laboratory received 374 equine abortion cases. Of these, there were 172 of undetermined cause, 27 umbilical cord torsions, 23 cases of equine herpesvirus-1, six cases of leptospiral abortion, 17 congenital anomalies and five cases of cervical pole necrosis. Cases of placentitis are further categorized as bacterial ascending placentitis, mycotic placentitis, mucoid placentitis (most commonly associated with nocardioform bacteria) and placentitis not otherwise specified. In this breeding season, there were 41 cases of nocardioform placentitis identified, 47 cases of ascending bacterial placentitis, three cases of mycotic placentitis and 17 cases of placentitis not otherwise specified. Nine cases of bacterial abortion were diagnosed. Rare cases of fetal neoplasia, *in utero* fracture and hepatopathy were also observed.

In addition to abortions, placentas may be submitted for evaluation following foaling. These may be submitted due to observed abnormalities, a history of ultrasound abnormalities, high risk pregnancy or to confirm the chorioallantois is complete and normal. Fifty-four cases of mucoid placentitis were diagnosed. Of these, there were 20 cases identified as *Amycolatopsis sp.*, 24 cases as *Crossiella equi*, six cases as *Streptomyces sp.*, and one case that was positive for *Crossiella equi* and *Streptomyces*. Two cases cultured a gram-positive branching bacillus but PCR was negative for *Amycolatopsis sp.*, *Crossiella equi* and *Streptomyces sp.* Of the 41 cases of abortion diagnosed with nocardioform placentitis, there were three cases where *Amycolatopsis sp.* was identified, 28 cases with *Crossiella equi*, six cases with *Streptomyces sp.*, two cases with both *Crossiella equi* and *Amycolatopsis sp.* and one with *Streptomyces* and *Amycolatopsis sp.*

Compared with other years of abortion, cases of mucoid placentitis continue to be variable between years, highlighting the need for continued investigation of the factors that make some seasons a higher incidence year than others.

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Aerial photo of the University of Kentucky Veterinary Diagnostic Laboratory, Martin-Gatton College of Agriculture, Food and Environment.

Tall Fescue - a Robust Grass With a Naughty Trick Up its Sleeve

Tall fescue is the most predominant grass in the U.S., covering some 36 million acres of pasture. It is a robust grass resistant to heavy grazing, drought, heat and cold, properties endowed by a synergistic relationship with endophytic fungi, *Epichloë coenophiala*.

This endophytic fungus, which grows within the plant, produces ergopeptine alkaloid compounds that endow the plant with natural resistance to damaging pests, heavy grazing, repeated mowing and drought and heat and cold tolerance. When ergopeptine alkaloids are being produced in high quantities, the term ‘toxic tall fescue’ is used, and people may describe the pasture as ‘hot.’ Because tall fescue that is heavily endowed with endophyte alkaloids is much more resistant to overgrazing, dry or hot conditions, it outcompetes other grazing grasses, such as bluegrass and orchardgrass, during their growing seasons.

Additionally, tall fescue can continue to grow well after warm season grasses become dormant. For example, during a mild November and December, tall fescue will continue to grow whereas bluegrass and orchardgrass will become dormant.

In mares, we recognize that ingestion of even relatively low levels of endophyte alkaloids during late gestation leads to a host of serious issues, such as premature placental separation at birth – ‘red bag’ delivery, hard-to-break placental tissue – leading to fetal asphyxia at birth, poorly muscled foals, prolonged gestation, dystocia and agalactia.

Levels above 200ppm total daily intake have been a traditional benchmark for alarm for pregnant mare pastures, however, this is not an absolute as it varies depending on the analytical method, individual sensitivity and the specific ergopeptine alkaloid structures measured in the lab. This serves to highlight how little data we possess on these substances, including their effects during all stages of gestation on fetal development and of exposure to moderate levels during breeding.

Nonpregnant mares exposed to sufficient concentrations of ergopeptine alkaloids may not respond normally to seasonal photoperiod changes, leading to long spring transitional periods. These mares can experience irregular or prolonged estrus without ovulation. Increased incidence of early embryonic loss has also been reported following experimental ergopeptine alkaloid exposure. It has been reported that young stock are affected by high levels of ergopeptine alkaloids, but literature is sparse about these problems.

The limited grasp on these biological interactions is due to a multitude of factors, including that horses are not always considered an agricultural species and thus many funding sources are unavailable; there are no validated blood, urine or tissue tests to detect ergopeptine alkaloids in horses; and testing pastures at the time of the onset of clinical signs is often too late. These factors



Photo courtesy Martin-Gatton College of Agriculture, Food and Environment.

have hampered research into the effects of ergopeptine alkaloid exposure in horses at any age and gestational status.

Traditionally, pasture testing has indicated that the highest levels of ergovaline are usually in April and May. However, that does not appear to exclusively be the case anymore. Weather patterns over the last several years have supported vibrant tall fescue growth as late as November and December, during which our team has persistently identified alarmingly high levels of ergovaline in pastures. This is of tremendous importance since our traditional view was that these were ‘safe’ months for grazing pregnant mares on tall fescue pastures.

Additionally, there is a long-held view that a few very cold consecutive days and nights (between 20°F and 40°F) would stop ergovaline synthesis and lead to a rapid decline in concentrations in tested samples. However, limited anecdotal information found that after a period of more than two weeks of snow and ice cover on the ground in January 2026, ergovaline levels remained high in a pasture tested immediately after snow and ice melted.

At the University of Kentucky, in collaboration with our equine industry, we are striving to address the issues and myths relating to tall fescue. Our efforts include:

- Continuing to provide accessible education on tall fescue, how to test, mitigation strategies and pasture management and refurbishment assistance. (https://forages.mgcafe.uky.edu/pasture_eval)
- Ensuring that people know that endophyte-free tall fescue is not a robust enough grass to withstand harsh conditions and is readily outcompeted just a few years after being sown.
- Novel endophyte tall fescue is a grass proven to be safe for equine stock as it is incapable of producing toxic alkaloids but is a resilient grass that persists under harsh conditions. Novel endophyte pastures do not produce toxic ergopeptine alkaloids. However, it looks identical to other tall fescue and genetic testing is required to differentiate it from endophyte-infected tall fescue.
- Pasture ergovaline analysis is not just about ergovaline levels

but also reflects how much other herbage is present and growing to dilute it, especially during specific months.

- Constant vigilance is needed year-round with frequent testing recommended.
- Even in pastures with a small percentage of tall fescue, levels ingested can be high if that is the only grass growing at that time, e.g. warm winter months.

The UK effort includes scientists in the Department of Veterinary Science's Gluck Equine Research Center and Veterinary Diagnostic Lab, the UK Forage Extension Program and the U.S. Department of Agriculture Forage Animal Production Research Unit. An initial goal is to try and generate a validated method to detect ergovaline ingestion in mares as a basis for further research. We have also formed a small group of interested academic and industry partners to confidentially assess local real-time data on pasture ergovaline burdens and possible fescue-related farm problems so that we may provide better and more agile service to our community.

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Photo courtesy Mark Pearson.

Idiopathic Trigeminal-Mediated Headshaking

Idiopathic trigeminal-mediated headshaking (HSK) in horses is a debilitating disorder characterized by facial pain that compromises performance, daily activities and overall quality of life, often leading to euthanasia.

This disorder is associated with inappropriate firing of the trigeminal nerve due to a low threshold for activation manifesting as violent vertical jerking shakes in 90% of cases, resembling an electrical shock to the horse's nose. Anxious facial expression, rubbing the nose in the ground or against objects, striking of the face with the thoracic limbs, excessive snorting, sneezing and blinking are also common. Manifestations of pain in between episodes also occurs as shown by increased facial grimace scores.

These horses become unrideable and even dangerous for those around them. The episodes can occur spontaneously or be triggered in association to exposure to UV light, wind, light touch to the nose (hay), exercise (triggers or exacerbates) and sharp sounds (e.g., metal to metal). The mean age at first episode is usually at 8 to 10 years old. Clinical manifestations can occur year-round but most commonly present in a seasonal fashion (spring, summer and early fall).

The underlying cause(s) remains unknown but multifactorial factors such as environment (e.g., UV light, temperature, season of the year), hormones (more common in geldings – 76% – and diet (acid diets, low ionized magnesium) play an important role.

It is essential to rule out other disorders that can present with head shaking, including

- External, middle and inner ear infection
- Temporohyoid osteoarthropathy (THO)
- Ear ticks (*Otobius megnini*)
- Ear mites (*Trombicula autumnalis*)
- Guttural pouch disorders
- Periapical dental osteitis
- Other dental problems (e.g. wolf teeth abnormalities)
- Allergic rhinitis
- Vasomotor rhinitis
- Ocular disorders (cysts, masses)
- Intranasal masses
- Sinusitis
- Nuchal crest avulsion
- Cervical vertebral osteoarthritis, especially of the cranial cervical vertebrae
- Apparent neck pain
- Inappropriate tack, bridle or bit
- Poor rider skills
- Herpes virus infection causing neuritis and/or ganglionitis of the trigeminal ganglia

Caution must be practiced when performing facial surgeries involving the paranasal sinuses because the infraorbital nerve is contained in the infraorbital canal, a thin osseous canal that can be easily damaged and trigger signs undistinguishable to the

idiopathic headshaker. Masses or any other alteration or damage to the infraorbital canal will trigger signs of headshaking due to severe pain. Idiopathic trigeminal-mediated headshaking has no known macroscopic nor histochemical abnormalities; therefore, presumed to be a functional disorder. What makes the nerve trigger in a seasonal manner or all year remains uncertain.

Because the cause(s) is unknown, it has been challenging to manage this disorder. However, several modalities from environmental (moving to a different geographical area, avoiding exposure to UV light, modifying riding practices) and dietary (alkalinization of diet) modification, supplements (magnesium with boron), physical devices (e.g., nose nets, facemasks or goggles with UV light protection), various types of electrostimulation (e.g., percutaneous infraorbital nerve stimulation, electroacupuncture, and transmagnetic stimulation) and drugs with various mechanisms of action (channel blockers, antihistamines, antiseizure medication) have been tried with variable results. The goal of electrostimulation is to alter the sensory input to the trigeminal complex. Environmental and dietary modification, physical devices and electrostimulation should be attempted first whenever possible before considering pharmacological intervention because of unknown pathophysiology of disease; therefore, lack of targeted therapy, extra-labeled use of some drugs, limited pharmacokinetic studies, unknown established dosages and potential adverse effects with variable results.

Recent studies have shed some light with regards to possible biomarkers of disease (e.g., calcitonin gene-related peptide in CSF, although not specific) and the identification of cannabinoid receptors in the trigeminal ganglion which might be a potential target for therapeutic management while the underlying cause is identified. The search for answers must continue to address this important welfare issue that affects our equine companions.

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Strangles: An Old Equine Disease and New Opportunities for Prevention in U.S. Horses

Strangles remains one of the most common and important contagious diseases affecting horses worldwide. Although the disease has been recognized for centuries, outbreaks continue to disrupt breeding farms, boarding facilities, training centers, veterinary hospitals and equine events. The movement and commingling of horses, combined with the ability of apparently healthy horses to carry and spread the causative bacterium, make strangles particularly difficult to control.

Strangles is caused by *Streptococcus equi* subspecies *equi*, commonly abbreviated as *S. equi*. The bacterium is highly adapted to horses and spreads primarily through direct contact with infected animals or through contaminated equipment, clothing, hands, water sources, feed containers, trailers, stalls and other surfaces.

Clinical Features of Strangles

The incubation period is approximately three to 14 days, depending on the horse's immune status and level of exposure. Fever, often exceeding 102°F (38.9°C) and frequently accompanied by lethargy and reduced appetite, is typically the first clinical sign of strangles. As the disease progresses, affected horses may develop purulent nasal discharge, coughing, swallowing difficulty, painful enlargement of the lymph nodes beneath the jaw or behind the throat and abscess formation with subsequent drainage from affected lymph nodes. Swelling of the retropharyngeal lymph nodes can obstruct the upper airway, producing the respiratory difficulty that gave the disease its name. Although the majority of horses recover, 10% of horses in some outbreaks may die from the disease. Affected animals experience substantial pain, dehydration and weight loss. Some horses experience prolonged illness, and may develop serious complications such as metastatic strangles, in which abscesses develop in lymph nodes or organs distant from the upper respiratory tract. Another complication that occurs in some horses is purpura hemorrhagica, an immune-mediated condition characterized by inflammation of blood vessels, resulting in swelling of the limbs and head, and areas of hemorrhage (bleeding) below the skin and mucous membranes. Pneumonia, accumulation of pus in the guttural pouches (empyema), persistent infection and airway obstruction can also occur.

Diagnostic Approaches for Strangles

Clinical signs may strongly suggest strangles, but laboratory confirmation is important for managing individual horses and controlling an outbreak. Diagnosis commonly involves bacterial culture, polymerase chain reaction or both. Appropriate samples for diagnostic testing include nasal swabs, nasopharyngeal swabs or washes, guttural pouch washes and purulent material collected directly from abscesses. The most appropriate specimen depends on the stage of infection and the horse's clinical presentation. Polymerase chain reaction is a rapid and highly sensitive method for detecting *S. equi*, while culture has less sensitivity, but permits further investigation of the strain causing the outbreak. Results must be interpreted together with the horse's clinical history, exposure status, and sampling method.

A single negative test does not always exclude infection. Horses sampled very early in the incubation period may test negative before bacterial shedding begins. Similarly, nasopharyngeal samples may fail to identify horses with persistent guttural pouch infection. Endoscopic examination and testing of guttural pouch lavage fluid are especially important when evaluating possible carriers.

The Hidden Role of Persistent Carriers

Most horses stop shedding *S. equi* within several weeks after clinical recovery. However, a small proportion develop persistent infection within one or both guttural pouches. Thickened accumulations of pus, known as chondroids, may form in the guttural pouches and harbor viable bacteria for months or even years. These clinically normal carriers are a major reason strangles can reappear on farms after long disease-free intervals. A carrier may shed the organism intermittently, making detection difficult and allowing infection to spread when horses are transported or introduced into new groups.

Consequently, the end of visible clinical disease does not necessarily mark the end of an outbreak. Recovered horses should be evaluated according to a veterinarian-directed testing plan before they return to an uninfected population. Horses with guttural pouch infection may require endoscopic removal of chondroids, lavage, local antimicrobial treatment or a combination of approaches.

Controlling Disease Spread During an Outbreak

During outbreaks, rapid recognition and immediate separation of affected and exposed horses are essential. During a strangles outbreak, rectal temperatures should be recorded at least once, and preferably twice, daily because fever often develops before bacterial shedding and other recognizable clinical signs. Waiting until abscesses or significant nasal discharge appear can allow infected horses to continue transmitting the disease, increasing the risk of further spread.

An affected facility should be divided into epidemiologic groups whenever possible: 1) horses with confirmed or suspected disease; 2) horses exposed to affected animals but not yet showing clinical signs; and 3) horses with no known exposure.

Personnel, equipment, water sources, feed containers, grooming tools and manure-handling procedures should be separated among these groups. Ideally, staff should care for healthy horses first, exposed horses second and affected horses last. Dedicated protective clothing and footwear should be used, and hands should be cleaned between groups.

A new fever may indicate that a horse is entering the infectious stage and should trigger immediate isolation and veterinary evaluation. A new fever should also prompt discussion with the attending veterinarian about diagnostic testing and whether any treatment is appropriate at that stage of disease.

The organism can be transferred mechanically through hands, clothing, buckets, hoses, trailers and other equipment. Cleaning should therefore remove organic material before an appropriate disinfectant is applied. Shared water troughs are especially concerning because *S. equi* can survive for extended periods in water, allowing nasal secretions to contaminate the water and facilitate transmission.

Movement of horses on and off the premises should be restricted until the outbreak investigation and post-recovery testing are complete. Clear communication with veterinarians, owners, staff, neighboring facilities and event organizers helps limit further spread and reduces misinformation.

Treatment Must Be Individualized

Treatment decisions depend on the stage and severity of disease. Many uncomplicated cases are managed with supportive care, including adequate hydration, soft feed, anti-inflammatory medication and careful monitoring. Warm compresses may encourage maturation and

drainage of external abscesses.

Antimicrobial treatment is not routinely indicated for horses with uncomplicated strangles. Once lymph node abscesses are established, antibiotics may delay resolution by interfering with abscess maturation, timely drainage and the development of natural immunity. Importantly, lymph node abscessation can develop early in the disease course, even within the first few days of fever, so antimicrobial treatment decisions should not be based on fever alone. Antimicrobials are generally warranted for horses with respiratory distress, severe systemic illness, dysphagia, pneumonia, metastatic infection or other complications. They may also be used, under veterinary guidance, to help clear persistent guttural pouch infection after chondroids or purulent material have been removed. Because antimicrobial decisions affect disease progression, carrier risk, outbreak control and antimicrobial stewardship, treatment should always be directed by the attending veterinarian.

Reducing Strangles Risk Through Biosecurity

Biosecurity remains the foundation of strangles prevention. Reducing the level of exposure to *S. equi* can help reduce the risk and severity of disease. Newly arriving horses should be isolated and monitored for at least three weeks before being introduced into the resident population. Their health history, recent travel, potential exposure to strangles, and vaccination history should be reviewed. Depending on the risk assessment, testing for *S. equi* or evidence of previous exposure may be recommended. Facilities should also have written procedures for monitoring horses for fever and respiratory disease, isolating sick or newly arrived animals, cleaning and disinfecting shared equipment, managing horse movement, investigating suspected cases, communicating during an outbreak and determining, under veterinary guidance, when recovered horses can safely leave isolation.

Progress Toward Improved Strangles Vaccines

Vaccination is an additional risk-reduction tool, but it does not replace quarantine, surveillance, testing and good biosecurity measures. In the United States, currently available strangles vaccines include killed injectable products and a modified-live intranasal vaccine. Vaccination decisions should be based on the horse's exposure risk, age, health, previous history of strangles and use pattern, including travel, showing, boarding, training, breeding or other situations involving frequent commingling with unfamiliar horses. Available vaccines do not provide complete protection, but they may reduce the likelihood or severity of disease. Vaccination during an active outbreak requires careful veterinary risk assessment, particularly for horses that may already have been exposed or infected, because of the potential risk of post-vaccinal immune-mediated adverse reactions.

A recombinant protein vaccine, Strangvac®, is available in European markets and is being evaluated through the regulatory process for potential use in the United States. Unlike modified-live vaccines, it does not contain a living infectious organism. In Europe, Strangvac® has been used as part of veterinary-directed strategies to help control and contain active strangles outbreaks; however, vaccination during an outbreak still requires careful risk assessment. Strangvac® was designed to induce immunity against eight different *S. equi* proteins while allowing the differentiation of infected from vaccinated animals, an approach commonly referred to as DIVA. This DIVA capability can support outbreak investigations by helping distinguish vaccinated horses from those naturally exposed to *S. equi*. Notably, the vaccine does not contain the M protein, a major virulence factor that has been associated with immune-mediated adverse reactions, including

purpura hemorrhagica, in some contexts following natural infection or immunization.

The Helmy Laboratory, led by Dr. Yosra A. Helmy, together with Dr. Beatrice Sponseller and Dr. Brett Sponseller, all from the University of Kentucky Maxwell H. Gluck Equine Research Center, is evaluating the efficacy of Strangvac® in collaboration with Dr. Andrew Waller and Dr. Romain Paillot of Intervacc AB. In parallel, the UK team is collaborating on multi-state safety studies being conducted in Kentucky, Pennsylvania, Iowa and Texas, in collaboration with Dr. Nathan Slovis of Hagyard Equine Medical Institute, Jodi French of Mg Biologics, Dr. Ashley Boyle of the University of Pennsylvania, Dr. Macarena Sanz of Iowa State University and Dr. Noah Cohen and Dr. Leslie Easterwood of Texas A&M University. Together, these studies are evaluating the safety and efficacy of Strangvac® under conditions relevant to U.S. horses. These studies are important because vaccine performance must be assessed against locally relevant *S. equi* strains and within the regulatory framework required for U.S. licensure. Results from this work are intended to guide future approaches to strangles prevention, but the vaccine is not currently licensed for routine commercial use in the United States. This project is supported by Intervacc AB.

Effective strangles control requires an integrated approach that combines early detection, rapid isolation, appropriate diagnostic testing, identification of persistent carriers, strong biosecurity and vaccination. No single measure can prevent every outbreak. Ongoing advances in surveillance, diagnostics and vaccination strategies provide new opportunities to reduce the negative health, welfare and economic impacts of strangles. Continued collaboration among researchers, veterinarians, horse owners and industry partners will be essential to translate these advances into more effective strangles prevention and improved equine health and welfare.

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Second Quarter 2026

International Report on Equine Infectious Diseases

This report collates information on equine infectious diseases provided by diagnostic laboratories in Lexington, Kentucky, the University of Kentucky Veterinary Diagnostic Laboratory (UKVDL), and Equine Diagnostic Solutions (EDS), Inc. We further included information from the International Thoroughbred Breeders Federation, the International Collating Centre (ICC) at the University of Cambridge, United Kingdom, data from the American Association of Equine Practitioners' Equine Disease Communication Center (EquineDiseaseCC.org) and other data sources to collate this summary.

S. equi spp *equi* (Strangles) remains the most consistently reported (infectious) disease of horses in the Western hemisphere.

While the numbers of Equine Influenza (EI) reporting throughout North America have increased for the last quarter, Europe is still in the ban of Influenza running rampant. What started in France spread north into the continental Europe countries, including Scandinavia and central Europe, including Czech Republic and Slovenia. Currently, detection is widespread in Ireland and the British Isles, also because the latter country is the one country of highest diligence in reporting equine infectious diseases.

EHM outbreaks caused by EHV-1 infections were noted during the last quarter (Europe, North America, Japan).

In the Northern Hemisphere, reports on foal diseases (*Rhodococcus equi*, *Lawsonia intracellularis*) have been noted. However, for the U.S., there have been no reports of Rotavirus B, and very few incidents of Rotavirus A. During the last quarter, there were incidental abortions reported that were attributed to EHV-1. With a delay in reporting, Japan reports 30+ abortions for the first quarter of 2026. Most of the EHV-1 abortions for the second quarter are reported from Europe. Overall, abortion reporting is relatively infrequent, and we have to consider underreporting for EHV-1 abortions as subsequent abortions in the same herd are rarely sent in for diagnostics.

However, EHV-1 abortions are still very prevalent. We are involved in a large abortion outbreak in the western parts of Canada. About 80% (68 mares) of a Quarter Horse herd have aborted their foals during the last quarter. This is a setting where mares are foaling out in a shared field (70 acres/28 hectares). Vast amounts of virus in fetal membranes, fluids and in the aborted fetus are likely the reason for this rapid spread. What is sad to convey is that all mares were vaccinated 'according to the books' with a 3x vaccination protocol during pregnancy. We will inquire more into this outbreak. In the meantime, we want to emphasize that vaccination to prevent EHV-1 abortion is still one of the two cornerstones of prevention. However, we can't stress enough the importance of management in abortion outbreak prevention: 1) The cause of abortion must be swiftly established, and 2) All pregnant mares have to be removed from the contaminated area/field for at least seven days. It is also

recommended to screen the relocated mares for viral replication in their upper respiratory tracts via nasal swab testing.

New world screwworm larvae (*Cochliomyia hominivorax*), see also the [previous EDQ edition](#), have been detected in cattle in Texas, often in the umbilical remnants of newborn calves. State and federal officials are actively implementing sterilization and quarantine protocols to contain the parasite.

Very early in the arbovirus season, first reports are in for West Nile virus (WNV) (the U.S. and the Mediterranean island of Corsica, France) and Eastern Equine Encephalitis virus (EEEV) (Florida, U.S.) It is not too late to (or begin to) vaccinate horses in endemic (or bordering) regions. Any of the available vaccines have shown to be highly efficacious in preventing neurologic disease caused by infection.

[In the previous EDQ issue](#) we reported on cases of equid parapoxvirus (EqPPV) infections mostly associated with pustulous skin lesions and mostly detected at the lower limbs of horses. Noteworthy is the zoonotic potential as lesion contacts may cause transient skin lesions in the horses' caretakers. Only recently, the Irish Equine Centre reported of pustulous lesions at the outer genitals of mares (pustulous vulvo-vaginitis) resembling lesions of Equid alphaherpesvirus 3 (EHV-3); however, samples were consistently negative for EHV-3. Lesions were positive for the novel EqPPV. Two more cases of pustulous vulvo-vaginitis, now in the United Kingdom, were positive for EqPPV during the past breeding season. It is likely that virus can spread through the stallion during natural cover, not only as a vehicle, but also causing painful lesions on the glans of the penis. EqPPV is likely to spread with manipulations and instrumentation during assisted reproduction, and it is advised to further investigate.

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