



Take an individualized approach when tailoring a vaccination schedule for your horse

A Guide to Disease Control

LET EXPERTS HELP CRAFT YOUR
HORSE'S WELLNESS PROGRAM

By AMANDA DUCKWORTH

WHILE AN INDIVIDUAL horse's vaccine schedule may seem like a fairly set piece of care, it is important to remember that both changes to the horse's situation and changes within vaccine protocols themselves need to be kept in mind. Recent events have impacted Thoroughbreds globally, and scientists, veterinarians, and officials have been working together for the safety of the breed.

The American Association of Equine Practitioners separates vaccinations into two categories: core vaccines and risk-based vaccines. There is no one-size-fits-all vaccination program for horses.

As the name implies, core vaccines are ones every horse should receive every year, no matter where they are located or what kind of work they might be doing. They include Eastern & Western equine encephalomyelitis (EEE and WEE), West Nile virus, tetanus, and rabies.

Risk-based vaccines are much more dependent on a number of factors, including geography, travel plans, and possibility of exposure. According to the AAEP's recommendations, risk-based vaccines include anthrax, botulism, equine herpesvirus (rhinopneumonitis), equine influenza, equine viral arteritis, leptospirosis, Potomac horse fever, rotaviral diarrhea, snake bite, strangles, and Venezuelan equine encephalomyelitis (VEE).

"A 'standard' vaccination program for all horses does not exist," explained the AAEP in its 'Principles of Vaccination.' "Vaccination alone, in the absence of good management practices and biosecurity directed at infection prevention and control, is not sufficient to prevent infectious disease transmission. Vaccination serves to minimize the risk of disease but should not be expected to be fully preventative in all situations.

"All horses in a herd should be vaccinated at intervals based on manufacturer recommendations and the professional judgment of the attending veterinarian. Ideally, the same schedule is followed for all horses in a population, thus simplifying record keeping, minimizing replication and transmission of infectious agents in a herd and indirectly protecting those horses in the herd that responded poorly to vaccination, thereby optimizing herd-immunity."

ANNE M. EBERHARDT PHOTOS

The AAEP also reminds everyone that a vaccination schedule requires evaluation based on the following criteria: risk of infection (anticipated exposure, environmental factors, geographic factors, age, breed, use, and sex of the horse); consequences of the disease (morbidity/mortality, zoonotic potential); anticipated effectiveness of the selected product(s); potential for severe adverse reactions to a vaccine(s); and cost of immunization (time, labor, and vaccine costs) vs. potential cost of disease (time out of competition, impact of movement restrictions imposed in order to control an outbreak of contagious disease, cost of treatment, or loss of life.)

Although core vaccines are meant



"It is recommended that all imported horses be evaluated and appropriately vaccinated by a veterinarian immediately upon release from USDA quarantine," according to AAEP

for all horses, some owners still choose not to vaccinate. In August, it was announced horses in at least five states—Idaho, Indiana, Louisiana, Utah, and Wyoming—have tested positive for West Nile virus. At least four of the horses impacted were Quarter Horses, and all of the horses were unvaccinated. There is no cure, although some horses can improve with care. The mortality rate in horses is somewhere between 30%-40%.

West Nile virus is not just an American concern but a global one. In March 2026, Pathogens published "West Nile Virus in Europe: Epidemiology, Vector Ecology, Environmental Drivers, and the Role of Equine Sentinel Surveillance in a One Health Framework."

An advertisement for Equiade Body Builder. The background is a photograph of a brown horse with a white blaze on its face, standing in a field with autumn leaves. In the foreground, a white bottle of Equiade Body Builder is shown. The bottle has a black label with the Equiade logo and text. To the left of the horse, there is a white Equiade logo and text. Below the logo, the text 'BUILD CONDITION. PERFORM WITH CONFIDENCE.' is written in large, bold, white letters. Below this, the text 'Support for muscle development, healthy weight and overall condition.' is written in smaller white letters. At the bottom left, the website 'equiade.com' is listed, along with a phone number and email address. At the bottom right, the text 'SUPPLEMENTS OF CHAMPIONS SINCE 1984' is written.

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“West Nile virus (WNV) is a mosquito-borne flavivirus that remains an important public and veterinary health concern across Europe,” explained researchers. “Periodic outbreaks affecting humans, horses, and wildlife highlight the complex ecological interactions underlying viral circulation.

“Recent studies suggest that environmental variability, vector adaptation, and host community composition play important roles in shaping regional transmission risk, although the relative contribution of these factors remains incompletely quantified. Despite expanding surveillance networks and One Health initiatives, important knowledge gaps persist regarding the integration of environmental risk indicators, vector ecology, and operational preparedness into coherent risk-assessment frameworks.”

While some diseases like West Nile virus are global problems, not all of them are. Given the international nature of equestrian sport, it is important to understand what does and does not happen during travel quarantine.

“Horses recently imported to the United States are unlikely to be vaccinated for local and regional diseases prior to importation,” explained the AAEP. “It is recommended that all imported horses be evaluated and appropriately vaccinated by a veterinarian immediately upon release from USDA quarantine. Multiple doses may be required to achieve adequate protection. Current vaccine recommendations for horses in the United States can be found on the website of the American Association of Equine Practitioners.”

An example of a vaccine that has been adapted recently due to changes in Kentucky is the one created for salmonella. Hagyard Equine Medical Institute, the Gluck Equine Research Center, and the Kentucky Thoroughbred Association announced this June that they had collaborated to update



Magic Weisner, the 2002 Preakness Stakes runner-up, tested positive for West Nile virus during the fall of his 3-year-old year and only raced once after that. He recently died at the age of 27 at Old Friends in Kentucky from complications of West Nile



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—AMERICAN ASSOCIATION
OF EQUINE PRACTITIONERS

the equine salmonella vaccine after researchers identified emerging strains.

About 15 years ago, emergent disease conditions within the Central Kentucky Thoroughbred herd led the Gluck and Hagyard to work

together to create a salmonella vaccine, and the success of the collaboration was considered a milestone moment. They have recently partnered again to enhance the vaccine.

“This achievement reflects the dedication of leading experts who collaborated to ensure the best outcomes for the horses in our care,” said Dr. Luke Fallon, medical director at Hagyard. “The vaccine was developed through extensive pro bono work by the Gluck Equine Research Center and Hagyard veterinarians, with financial support from the Kentucky Thoroughbred Association. We are proud to continue Hagyard’s longstanding commitment to equine health and well-being.”

According to the press release on the vaccine update, Dr. Yosra Helmy, an associate professor at the Gluck Center, helped identify one of the circulating strains as salmonella Saintpaul. Whole-genome sequencing revealed the salmonella Saintpaul isolates were genetically highly similar and clustered together, indicating

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they were closely related. The core genomes of the Kentucky strains closely resembled those from outbreaks in Texas and Georgia in 2023 and showed acquisition of antibiotic-resistance genes.

“When an infectious disease threat emerges in horses, rapid response is essential,” said Helmy. “Whole-genome sequencing allowed us to

confirmed case of equine influenza and EHV-4 in a livery yard immediately adjacent to the racecourse.

The British Horseracing Authority (BHA) emphasized this was done as a precautionary measure, as the result of how contagious the disease is, but that the infected horse was an unvaccinated, non-Thoroughbred. All horses running in Britain must be vaccinated

rides as part of family fun day entertainment. Additionally, racecourses were required to increase the period of time between hosting an equine event involving horses from unlicensed premises and a licensed race day taking place. This period is now six clear days when it was previously three.

“The news will understandably be disappointing for many people, but levels of equine flu are higher than at any time in recent history and it’s essential that we take all necessary steps to protect the Thoroughbred herd,” said BHA director of Equine Regulation, Safety and Welfare, James Given. “These measures follow extensive engagement with independent infectious disease experts about how we further reduce the risk of exposure and ensure the continuity of racing.

“In addition to vaccination, this can be best achieved by preventing the mixing of racehorses with horses and ponies from premises that are not licensed by the BHA, where we have more limited information about their health and vaccination status. I’m encouraged by the response we have already seen from the racing community about the vital importance of maintaining the biosecurity of the Thoroughbred racing herd. We continue to urge constant vigilance, especially around the movement and mixing of horses.”

The restrictions are set to remain in place until the levels of equine influenza in the British horse population have fallen and there is no heightened risk to the Thoroughbred racing herd.

The BHA has published updated information for racehorse trainers, racing veterinarians, and others about biosecurity measures on yards and how to ensure the best possible protection for Thoroughbreds. It also noted most of the reported cases are in non-vaccinated animals, but some have occurred in vaccinated horses. It emphasized, however, that these are



Technological advancements, such as microchips, make it easier to track horses' health records

identify the circulating salmonella strain and support a targeted vaccine update. This work shows how Kentucky’s equine health community can quickly translate genomic data into practical protection for horses and the Thoroughbred industry.”

Adapting and changing to emerging disease threats is a global concern. In the United Kingdom this year, racing was directly impacted by several outbreaks of equine influenza. Racing was canceled at Plump-ton Racecourse in May following a

in line with the Rules of Racing.

Due to the continued rise in reported equine influenza cases in the non-Thoroughbred population, the BHA then took another precautionary measure announcing only horses from licensed training yards would be permitted to enter racecourse property on race day.

This directly affected other equine events due to take place on British racecourses, including Retraining of Racehorses (ROR) parades and activities such as petting farms and pony

horses approaching the point of their next booster vaccination, and therefore their immunity is lower.

Understanding vaccines and working to improve them is an area that is highly researched. In March 2026, Equine Veterinary Journal published “Adjuvant combination enhances immune response of equine influenza virus vaccine in horses.”

“Despite routine vaccination, equine influenza outbreaks occur due to disparities of virus strains between vaccine and field, and immunity gaps between vaccinations,” explained researchers. Their objective was to evaluate whether a combination of adjuvants can enhance immune responses to equine influenza virus (EIV) vaccines.



The Gluck Equine Research Center played a role in making updates to the equine salmonella vaccine to combat emerging strains

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For the *in vivo* experimental study, a total of eight mixed-breed horses were immunized intramuscularly with a recombinant canarypox-based EIV vaccine, either alone or in combination with monophosphoryl lipid A (MPL) and polyinosinic-polycytidylic acid (poly I:C). Researchers collected serum samples before the immunization as well as at two, eight, and 23 weeks after.

“The combination of MPL and poly I:C significantly enhanced serum IgG antibody concentrations and haemagglutination inhibition (HI) titres against H3N8 A/equine/Kyonggi/SA01/2011 (Florida sub-lineage clade 1) and maintained these for up to 24 weeks post-immunization,” concluded researchers. “This combination led to increased cytokine mRNA expression and interferon-gamma (IFN- γ) responses in PBMCs. Enhanced memory B cell responses were also observed in the bone marrow and lymph nodes at eight weeks post-immunization. MPL and poly I:C induced higher frequencies of CD4+ and CD8+ T cells following *in vitro* restimulation with H3N8 EIV.

“The use of MPL and poly I:C as adjuvants in EIV vaccines significantly improved immune responses by enhancing humoral immunity, memory cell responses, and antigen-specific cellular immunity.”

Something that is helping in the global effort to contain equine outbreaks is technology. In June 2026, Sensors (Basel) published “Smartphone-Based Technologies in Equine Sports Medicine: Supporting Athlete Management—A Review.”

“Equine sports medicine is increasingly oriented toward objective, field-based monitoring systems that support both performance optimization and welfare assessment,” explained researchers. “In this context, smartphone-based technologies have emerged as accessible tools capable of integrating data acquisition,

processing, and interpretation within a single platform.”

One area that has been significantly enhanced is that of accurate and up-to-date record keeping. Researchers went into detail about the framework established by the Fédération Équestre Internationale (FEI), where mobile

has also had a substantial impact on vaccination monitoring and biosecurity management. Infectious disease control in equine populations, particularly for equine influenza, depends on strict adherence to vaccination schedules. Mobile-based systems now enable automated validation of vaccination



British Horseracing Authority officials at Plumpton Racecourse check documentation that horses have been vaccinated against influenza

technologies have been progressively integrated into veterinary governance and biosecurity workflows.

“Through such systems, veterinary officials can verify microchip-linked identity, review medical and vaccination records, and ensure regulatory compliance directly at the point of care,” explained researchers. “This shift enhances traceability and reduces administrative errors, while also addressing long-standing concerns related to document integrity and fraud.

“The integration of smartphones

intervals, real-time identification of non-compliance, and standardized interpretation of regulatory requirements across different jurisdictions.”

There is no perfect singular vaccine schedule. Working with trusted veterinarians about an individual horse’s needs is crucial to any health plan. For the bigger picture, continued collaboration and cooperation between researchers, veterinarians, and horsemen remains key to helping ensure the best possible health outcomes for herds of horses the world over. **BH**