

# FACTSHEET

## EQUINE INFLUENZA

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### PREVENT THIS HIGHLY CONTAGIOUS RESPIRATORY DISEASE IN HORSES

A virus called equine influenza A2 virus (EIV) causes flu in horses.<sup>1</sup> Horses contract EIV when they interact with other infected equids. The A2 EIV is also called subtype H3N8 (which, to scientists, relates it to the H3 flu viruses in other animals). The EIV A1 subtype is considered extinct.

Horses often become infected at shows or other events where groups of horses commingle or when introduced to new horses to an established facility. Young horses (ages 1 to 5) with limited natural immunity, unvaccinated equids, and those that come into frequent contact with large numbers of horses have the highest infection risk.<sup>1,2</sup>

#### CLINICAL SIGNS

Like the flu in humans and other mammals, signs of infection include:<sup>2</sup>

- ◆ High fever (up to 106°F, or 41.1°C);
- ◆ A dry, hacking cough;
- ◆ Depression;
- ◆ Weakness;
- ◆ Anorexia;
- ◆ Serous (watery) nasal discharge; and
- ◆ Slightly enlarged lymph nodes.

Just as in humans, a horse can have the flu but not show all these signs. When in doubt, call your veterinarian.

Infected horses spread the virus in aerosolized droplets when they cough. When an infected horse coughs, invisible droplets carrying highly infectious virus particles can travel 50 yards (45 meters) or more through the air.<sup>3</sup> Other horses pick those particles up easily via inhalation, causing illness within three to five days. The virus can also transfer from horse to horse via hands, clothing, or equipment.

#### WHY IS THERE SO MUCH FOCUS ON THE FLU?

Unlike some other viruses and microorganisms, EIV is highly infectious and spreads remarkably quickly through horse populations. In fact, flu remains the most common infectious respiratory disease in horses.

Even if you personally can't recall a firsthand account of a flu epidemic, the World Organization for Animal Health's latest data assure us EIV remains an important concern for horse owners.<sup>4</sup> Consider the following:

- ◆ In 2015, researchers identified increased influenza activity in the United States with confirmed outbreaks on 46 premises in 23 states.
- ◆ In 2016, at least 30 premises in 16 states had confirmed flu cases.
- ◆ In 2016, Ireland, the United Kingdom, and Sweden reported outbreaks.
- ◆ Neither Asia nor South America reported outbreaks in 2016, although there have been outbreaks in other years.
- ◆ Iceland, Australia (from which the disease was eradicated following an extensive outbreak in 2007), and New Zealand are currently flu-free.

Ideally, when a flu outbreak occurs at an equine event, officials impose movement restrictions quickly and the event is canceled. Horses showing signs of respiratory disease should remain isolated until 21 days after the last suspected case of new infection resolves—which

Commingle at events and nose-to-nose contact can spread EIV from horse to horse.



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could be several weeks to months depending on the outbreak's extent.

When a horse harboring the virus is introduced to a farm/facility without sufficient isolation, the virus can spread rapidly to resident horses, causing illness and time off from regular use. Once exposed to the virus, horses begin showing signs of infection within 24 hours to three days.

#### PREVENTION

The best ways to prevent the flu are through vaccination and instituting appropriate biosecurity measures.<sup>1,2,5</sup>

##### 1. VACCINATION

According to the American Association of Equine Practitioners (AAEP), the flu vaccine is a risk-based vaccine rather than a "core" vaccine. Still, based on current recommendations, all horses should be vaccinated against EIV unless they live in a closed and isolated facility.

Several commercial EIV vaccines are currently available in the United States, as described on the AAEP website along with vaccination guidelines for various equine populations.<sup>6</sup>

Current estimates suggest that horses naturally infected with EIV are protected for approximately one year following infection. Vaccination, however, only protects horses against EIV infection for about six months. Therefore, adult horses typically receive boosters anywhere from once to twice a year to as frequently as every three months.

Several organizations monitor the flu virus during outbreaks to ensure that commercially available vaccines protect horses against the current "version" of the virus.<sup>7</sup> Further, even partial immunity against EIV will reduce disease severity in affected horses. Finally, vaccinating unexposed horses in the face of an outbreak can help mitigate disease spread (this is how disease spread was finally stopped in Australia and eventually eradicated).

##### 2. BIOSECURITY

Because of the flu virus' highly infectious nature, biosecurity plays an equally important role in reducing infection. Quarantine all new horses or those returning from any event where they mixed with other horses for 14 days. This is a sufficient period because horses

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shed the virus for seven to 10 days following infection not following resolution of clinical signs.

Fomites (brushes, tack, water, feed buckets) and people (owners, veterinarians, farriers, hay delivery personnel, etc.) can also spread EIV. The virus appears to live in the environment on fomites and human clothing, for example, for approximately 24-48 hours. Therefore, isolating horses means isolating everything associated with that horse. Minimize human contact between even potentially infected, isolated horses and healthy horses. Disinfectants, including alcohol, kill EIV.<sup>8</sup>

### RESPONSE AND TREATMENT

At the first sign of respiratory disease, call your veterinarian and have your records on hand to review your horse's EIV vaccination status. Vets test for EIV by collect-

ing a nasal swab and sending it to a veterinary diagnostic laboratory for analysis or collecting paired blood samples to measure antibody levels (acute and convalescent). With the nasal swab you can get an answer within generally two days, whereas the blood sample takes at least two weeks. Diagnostic testing helps differentiate the flu from other causes of equine respiratory disease, including equine herpesviruses-1 and -4, strangles, pneumonia, etc., and allows caretakers to institute appropriate control strategies to minimize disease spread.

Treatment remains largely symptomatic: non-steroidal anti-inflammatory drugs to help control fever; rest; and antibiotics only if secondary infections cause a mucopurulent (thick yellow-green) nasal discharge, rather than the watery discharge typical of the flu, or pneumonia. Even

though flu signs often resolve within 10 to 14 days, some horses can't return to work or perform at their previous level for several weeks to months.<sup>1,2</sup>

While no confirmed reports of humans naturally infected with EIV exist, the wily virus can jump species.<sup>9</sup> In the early 2000s, dogs

infected with the equine flu virus were identified in Florida, the United Kingdom, and Australia. Flu circulates in dogs (canine flu) to this day. Laboratory experiments suggest that cats are susceptible to EIV, as well. If you have horses sick with the flu, keep your pets away from them.

### References

1. American Association of Equine Practitioners. Equine influenza. [aaep.org/guidelines/vaccination-guidelines/risk-based-vaccination-guidelines/equine-influenza](http://aaep.org/guidelines/vaccination-guidelines/risk-based-vaccination-guidelines/equine-influenza).
2. Rush BR. Equine influenza. MSD Manual: Veterinary Medicine. [msdvetmanual.com/respiratory-system/respiratory-diseases-of-horses/equine-influenza](http://msdvetmanual.com/respiratory-system/respiratory-diseases-of-horses/equine-influenza).
3. Equine Disease Communication Center. Equine influenza. [aaep.org/sites/default/files/Documents/Outside Linked Documents/DiseaseFactSheet\\_EquineInfluenza\\_FINAL.pdf](http://aaep.org/sites/default/files/Documents/Outside%20Linked%20Documents/DiseaseFactSheet_EquineInfluenza_FINAL.pdf).
4. OIE, World Organisation for Animal Health. Equine influenza. [oie.int/doc/ged/D14001.PDF](http://oie.int/doc/ged/D14001.PDF).
5. Paillot R, Marcillaud Pitel C, D'Ablon X, et al. Equine vaccines: how, when and why? Report of the vaccinology session, French Equine Veterinarians Association, 2016, Reims. *Vaccines (Basel)* 2017;5(4):46. [ncbi.nlm.nih.gov/pmc/articles/PMC5748612/](http://ncbi.nlm.nih.gov/pmc/articles/PMC5748612/)
6. American Association of Equine Practitioners. Vaccination guidelines. [aaep.org/guidelines/vaccination-guidelines](http://aaep.org/guidelines/vaccination-guidelines).
7. OIE, World Organization for Animal Health. OIE Expert Surveillance Panel on Equine Influenza Vaccine Composition, OIE Headquarters, 22 March 2017: Conclusions and Recommendations. [oie.int/our-scientific-expertise/specific-information-and-recommendations/equine-influenza/](http://oie.int/our-scientific-expertise/specific-information-and-recommendations/equine-influenza/)
8. American Association of Equine Practitioners. General Biosecurity guidelines. [aaep.org/sites/default/files/Guidelines/BiosecurityGuidelines\\_Final\\_0.pdf](http://aaep.org/sites/default/files/Guidelines/BiosecurityGuidelines_Final_0.pdf).
9. Na W, Yeom M, Yuk H, et al. Influenza virus vaccine for neglected hosts: horses and dogs. *Clin Exp Vaccine Res* 2016;5(2):117-24. [ncbi.nlm.nih.gov/pmc/articles/PMC4969275/](http://ncbi.nlm.nih.gov/pmc/articles/PMC4969275/).

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