



LIPHOOK
EQUINE HOSPITAL

Equine Influenza

Equine Influenza virus is one of the most contagious diseases that affects horses and can be devastating in susceptible populations.



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We are often complacent about this disease because we expect horses to be vaccinated; however the proportion of horses vaccinated in the UK (around 30%) falls well below that which is required to prevent a major disease outbreak (around 70%). Should a major outbreak occur with a new virus strain then unvaccinated horses will suffer severe and potentially fatal disease and vaccinated horses may also be affected. Multiple small outbreaks occur every year in the UK, and major outbreaks have occurred before and may well occur again. Should it happen then equine sport will grind to a halt and the economic consequences will be potentially huge; in 2007, a billion dollars was spent in Australia eradicating influenza after it entered the country for the first time. Vaccination of susceptible horses formed an important part of the eradication programme.

Clinical signs

Following infection, the incubation period (the time taken for clinical signs to develop) is between 3 and 5 days. The severity of the disease is variable depending upon the strain of the virus, the horse's immune system and the horse's vaccination status. Once infection occurs the virus attacks the lining of the upper airways and prevents the normal drainage of secretions from the lungs. Fluid may collect in the lower airways and may become infected by bacteria, even giving rise to pneumonia. A nasty **cough and snotty nose** often develop and the horse usually develops a very high temperature (103°F to 105°F / 39.5°C to 40.5°C). Affected horses usually **lose their appetite** and become **depressed**.

They may also have muscle soreness and be reluctant to move. Illness may last from 2 to 10 days but complete recovery takes much longer and horses remain capable of spreading disease throughout the period during which they are sick. In rare cases influenza may affect other body systems and cases of heart disease and meningitis have been reported.

In vaccinated horses there will hopefully be no clinical signs. However, some horses will have a mild cough and clear nasal discharge, and they may be capable of spreading the virus depending upon the similarity between the strain of virus used in the vaccine and the strain responsible for the infection, and the length of time between vaccination and infection.



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Diagnosis

Influenza infection may be suspected from clinical signs but confirmation requires either detection of the virus or detection of changes in the horse's antibody levels to the virus. The virus can be detected from swabs collected from the back of the throat but this has to be done in the first few days of infection. In an outbreak it is important to collect the virus to determine where it may have spread from and to determine how it may be mutating. Changes in influenza viruses are monitored by The Animal Health Trust in Newmarket and reported to international surveillance panels allowing vaccines to be updated appropriately. Changes in antibody levels in blood confirm that influenza infection has occurred but do not give any information on the virus itself. Two blood samples taken around two weeks apart may be necessary to show an individual's increasing level of antibodies if antibody levels on a first sample were low.

Treatment

Affected horses should be **isolated immediately** as this disease is highly contagious. There are no anti-viral drugs that are proven to benefit horses with influenza so treatment is essentially supportive and symptomatic. Anti-inflammatory drugs are important to bring temperatures back to normal and also help reduce muscle soreness, improve attitude and encourage eating and drinking. Some horses may stop drinking and supplementary oral or intravenous fluids may therefore be necessary.



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If secondary bacterial infection occurs antibiotics may be required and some vets will give them early in severe cases of disease to prevent secondary infection.

Following infection it takes 1-2 months for the lining of the respiratory tract to repair and it is important that horses are rested throughout this time. It has been suggested that for every day the horse is sick with influenza and has a temperature it should be given a week off to recover in order to prevent the risk of long-term lung damage or heart disease.

Influenza Vaccination Protocols

Vaccination is vital in **protecting individual animals and preventing the spread** of disease. To optimise protection in horses that are in high risk situations the vaccine can be used to mimic natural infection and can be given every 6 months after the initial course of 3 vaccinations.

To comply with FEI rules in competition horses the vaccines must be given within strict time periods: the second vaccination must be given 21 – 92 days after the first, and the third vaccination must be given 150-215 days after the second. Boosters must then be given within 6 months.

A primary vaccination course should include:
Two vaccinations 4-6 weeks apart then a vaccination 6 months after the first, followed by an annual vaccination.



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