

Equiflunet pages

Horse Owners

What is equine influenza?

Equine influenza, or horse flu, is an infectious disease that affects the upper respiratory tract (nose, throat and wind pipe) of horses. It is common and recurring ('endemic') in the UK and therefore is believed to be present in the equine population all the time. It is caused by a virus, a tiny microscopic organism about a millionth of a millimetre in diameter, which infects and damages the cells lining the upper respiratory tract.

Signs of infection

Unvaccinated horses

In unvaccinated horses we tend to see certain 'cardinal' signs. The virus targets the upper respiratory tract where the cough receptors are positioned so a very **harsh dry ('hacking') cough** is typical. Often horses will develop a **raised temperature**, which will last around 7-10 days. During this time horses may be quiet, off their food and generally sluggish, they may also have a small amount of clear or white nasal discharge and enlarged lymph nodes in their throat.

Vaccinated horses

Horses that have been regularly vaccinated often show no clinical signs, but they may still shed enough virus to infect other horses. This is how the outbreak in Australia in 2007 started.

Horses that have been vaccinated but only have partial protection, either because they haven't been vaccinated frequently enough or because the vaccine type used was not updated, may show variable signs of mild non-specific respiratory disease. This can include **mild lethargy, nasal discharge** and possibly a **cough**.

Complications

There are a number of long-term complications that follow infection with equine flu, these tend to be poorly recognised and therefore their importance is often underestimated.

The development of **secondary bacterial infections** after having flu is a very important complication, both in terms of the degree and longevity of the illness and the financial implications to the owner. For non-sports horses it is probably the most important part of the whole equine flu syndrome. Secondary infection may occur if the horse has a compromised immune system, either due to older age, stress or illness or because the lining of the respiratory tract has not fully recovered and the horse is over exercised. Typical signs include a thick yellow/green nasal discharge, and a wet, often productive cough. The horse may

develop a raised temperature and be dull and off its food. These signs will usually last for much longer than they would with flu virus infection alone. Horses that are very compromised may develop particularly severe infections, leading to pneumonia or even death.

What you should do

If your horse is showing signs of flu then the best thing to do is call your vet **as soon as possible**. If they also suspect flu, they will then be able to take a swab from inside your horse's nose and throat and send it to a laboratory where they will test it for the presence of flu virus.

Horses shed the most virus in the first few days of infection, so the sooner your vet takes a sample, the more likely they are to get a positive test result. Measuring rising antibodies against flu virus in paired blood samples are also useful for making a diagnosis, especially if your horse is not sampled for several days after it first shows signs of infection.

Once your vet has received the result, they will be in a better position to advise you on the most appropriate treatment and on the long-term recovery for your horse. They will also help you identify other susceptible animals and suggest isolation strategies to limit the spread of the disease.

It takes between 50-100 days for the lining of the respiratory tract to fully recover after a horse has been infected with flu virus. During this period they should avoid any stress or strenuous exercise, as they will be predisposed to developing other respiratory infections. A good rule of thumb is for every day that they had a temperature they will need at least a week off from exercise.

The information that is gained from nasal and throat swabs can be used to advise vaccine companies on how to make their products as effective as possible and therefore provide maximum protection to vaccinated horses.

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Influenza transmission

Horse flu is an infectious disease, which means that it can be passed on from one horse to another. As the virus sits in the nose, throat and windpipe it is spread into the air when the horse breathes, coughs or sneezes. Other horses that are close by can then breathe the virus in and become infected. When horses are in close contact, flu can spread extremely quickly. Shows or sales where horses come together in large groups, and are under stress from travelling or competing, can provide the perfect environment for the virus to spread. For this reason outbreaks of flu are often traced back to such events.

Risk factors

Any horse with a compromised immune system, either due to age (young or old), stress or illness, for example Cushings disease or chronic allergic respiratory disease, will be at higher risk of horse flu. Not being regularly vaccinated is also a risk factor. Horses that travel or live on large yards are particularly likely to encounter the virus.

Vaccinated horses may show no signs of flu themselves but are still able carry the influenza virus around and pass it on to other horses. For this reason vaccination protocols for companion ponies and older horses should be carefully considered because even if they don't leave the yard themselves they can still be infected by other vaccinated horses who do travel. As mentioned earlier the consequence of infection in compromised unvaccinated horses may be more severe.

Prevention of disease

As horse flu is endemic in the UK, most horses will come into contact with the virus at some point. The control of horse flu in the UK is based on limiting the signs of infection in horses that have been exposed to the virus, rather than trying to prevent exposure itself. This is primarily achieved through regular vaccination, which is given either once or twice a year. There are a number of vaccines available in the UK, which differ in their formulation and also the strains of virus used. Vaccination is compulsory for racing and some competitions.

All viruses increase their numbers by making copies of themselves whilst inside the animal they have infected, this is called replication. An important feature of the flu virus is that during replication it regularly 'makes mistakes' so over time the virus will change. This poses a problem for vaccines because they need to be regularly updated to ensure they stay effective against the virus as it changes. We are already familiar with this situation in people where the flu vaccine strains are reviewed annually.