

PROTECTING US FROM EQUINE INFLUENZA

Equine Influenza is a highly contagious viral disease of all equidae (ie horses, donkeys, mules and zebra) and with the outbreak in Australia it is right on our doorstep. What can we do to reduce the risk of it coming to New Zealand other than via infected horses?

Current knowledge indicates the virus can survive away from infected horses for varying lengths of time depending on the degree of contamination and environmental factors such as the surface (porous or non-porous), humidity, temperature, exposure to UV or other inactivating agents. The opportunity for contact with horses also has a significant impact on risk. Thus it is hard to give simple directions about how long people and equipment that have had contact with infectious horses in Australia (or for that matter any country that has endemic EI) should be kept away from horses here.

The virus is known to survive in the environment for 8 to 36 hours. It can survive on clothing or porous surfaces for less than 8 to 12 hours, on hard, non porous surfaces such as stainless steel or plastic for 24 to 48 hours, in soil for 24 hours, in urine for up to 5 days and as long as 18 days in water at 22 degrees C. Exposure to sunlight reduces the period of virus viability. It has been recorded that the virus can be spread in the aerosol created by coughing horses over 32 meters. It is possible that longer distance aerosol or windblown transmission could have been a factor in some overseas outbreaks, but dilution in such circumstances greatly reduces the risk of an infectious dose finding its way to a susceptible horse.

It is important to note here that many of the above guidelines have come from experience in countries where the disease is endemic (ie circulating all the time). As both New Zealand and Australia have very naïve (no previous experience of the disease) populations of horses the picture here may be very different. When the disease rapidly affects a large number of previously unexposed horses at once it is possible the quantity of virus produced is such that other routes of transmission, not usually seen in endemic circumstances, could become significant. For example, a large and dense population of recently infected horses could well give risk to an air-borne plume of virus sufficient to transmit the disease in the air over longer distances than we expect based on current knowledge. It is important to acknowledge that this is speculation at the current time.

Experience overseas and with other diseases indicates that people are all too ready to blame air-borne spread in the absence of other explanations, only to find that alternative more likely mechanisms are eventually found to explain disease occurrence. This is the case even for foot-and-mouth disease, which has been proven to be spread long distances in air-borne plumes under specific environmental circumstances, but certainly wasn't spread in this way in many specific instances where air-borne spread was originally hypothesised (e.g. the recent outbreak in Britain, which is now known to have spread via the drainage system).

New Zealand and Australia were the only countries with significant horse populations to be free of this disease. Australia does have some equine diseases that we don't but it was principally our mutual freedom from EI that has allowed the ease of movement between our two countries in the past. We have shared similar expectations in terms of Import Health Standards (the conditions we impose on horses from other countries) and horses that do quarantine in Australia are free to immediately enter New Zealand and vice versa. This incursion could have so easily been in our post arrival quarantine facility. We hope that it would have been contained there.

While our Import Health Standards and included quarantine requirements take into account a number of other exotic diseases it is the threat posed by EI that dominates most of the testing procedures and time intervals both for Pre Export Isolation (PEI) and Post arrival Quarantine (PAQ). These conditions will be widely aired and debated in following weeks but what can we recommend about the risk posed by people and gear?

The Equine Influenza virus is lipid enveloped (i.e. the outer membrane is covered by a fatty protective layer) and therefore detergents, which we all know are active against fats and oils, will destroy the virus. For this reason simple cleaning using water and detergents is a highly effective decontamination measure. Virkon (a disinfectant available from many agricultural and veterinary suppliers) at a concentration of 2% is recommended for highly contaminated areas. However the virus is sensitive to heat and a wide range of disinfectants including 0.4% available iodine solution, 4% Lysol, formalin, alcohol, detergents and oxidising substances. Phenolic or iodophor disinfectants are the most effective.

So equipment and tack that has been in contact with the virus can be readily cleaned and made safe. What about the people? There has been considerable debate about letting Australian jockeys ride in New Zealand

but are they the real risk? Surely trainers, stable hands, drivers, owners, in fact anyone, who can get close to an infected horse or premise could be considered a risk.

If people who have been in contact with infected horses or premises wash thoroughly (with soap!), put on freshly washed clothes and different shoes or shoes cleaned and disinfected, then the risk of carrying and transmitting EI is negligible.

There have been recent comments about Equine Influenza Virus residing in the naso-pharynx of humans and this being a potential source of infection for our horses. *It is recorded that the virus has been isolated from humans and there is experimental evidence that they can carry the virus for a period of time but there is no evidence of this ever having resulted in the transmission of the virus to horses.* Obviously the closeness to Australia and the greater traffic of horses and horse people increases the risk of transmission of EI, but it must be remembered that we have allowed millions of visitors into New Zealand from countries where EI is endemic with no incursions to date.

So if you own, train or farm horses and have workers or visitors that have been in endemic areas of especially Australia (because it is 6-7 hours between horses) then to be really safe it may pay to keep them away from your horses for 3 days.

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