Hendra virus – information for veterinarians

Hendra virus is a sporadic disease of horses caused by spillover of virus from flying foxes. Hendra virus infection in humans is rare, but it’s a very serious disease, and has occurred following close contact with the blood, tissues and body fluids (e.g. respiratory secretions) of an infected horse. Veterinarians and veterinary nurses are particularly at risk of exposure to Hendra virus. This creates important work health and safety considerations for veterinarians and their staff.

Risk
Hendra virus is a serious zoonotic disease for which stringent biosecurity, work health and safety and infection control measures are necessary. Hendra virus prevention requires careful professional risk management including safe systems of work, staff training and the use of personal protective equipment (PPE).

Evidence from previous Hendra virus incidents¹ and Hendra virus research² indicates that infected horses can potentially shed Hendra virus in their naso-pharyngeal secretions before showing clinical signs of illness, and that by the time an infected horse is showing clinical illness there may be systemic spread of Hendra virus throughout the horse’s blood, tissues and body fluids.

Prevention
Work health and safety precautions for Hendra virus are detailed in Biosecurity Queensland’s Guidelines for veterinarians handling potential Hendra virus infection in horses. Following these guidelines will assist veterinarians and staff to manage Hendra virus risks to self and others.

A Hendra virus vaccine for horses is available. The vaccine is the single most effective way of reducing the risk of Hendra virus infection in horses and provides a work health and safety and public health benefit.

Vaccination of horses is strongly encouraged and veterinarians should discuss this with their clients. It is important to continue to practise good personal hygiene and biosecurity measures when working with horses, regardless of their vaccination status.

The following work health and safety precautions should also be adhered to:
- Adopt veterinary standard precautions for infection control for all contact with horses, including equine procedures that are invasive, involve close contact with blood, body fluids and tissues or involve the respiratory tract, to reduce the risk of infection. Standard precautions include:
  - regular hand hygiene using soap and water, or alcohol-based hand rub if no visible soiling, and covering cuts and abrasions with a water-resistant dressing
  - cleaning and disinfecting/sterilising equipment that is contaminated with any horse’s blood and body fluids
  - ensuring safe systems of work for the use, handling, storage, transport, reprocessing and/or disposal of equipment, laundry, clinical waste, sharps and pathology specimens
  - wearing PPE appropriate to the level of contact with blood, tissues and body fluids
  - maintaining the clinic, yards and stables in a clean and hygienic condition.
• Develop a plan for responding to a potential Hendra virus case including the minimisation of risk to veterinarians, veterinary nurses, and other persons (including clients) and train workers in the implementation of this plan.

• Ensure early diagnostic consideration of Hendra virus and implement appropriate response procedures including full PPE—do not wait for confirmation of diagnosis.

• Provide and use appropriate PPE for contact with potential Hendra virus cases and provide training in its correct use. PPE may include:
  - gloves
  - overalls
  - rubber boots
  - safety goggles or face shields
  - respirators.

• The minimum level of respiratory protection for exposure to bio-aerosols is a disposable P2 respirator and it is important to note that surgical masks do not provide respiratory protection. A fluid resistant brand of respirators should be selected where there is potential exposure to splashes of blood and body substances. Respirators should be changed if they become moist or if respiratory effort increases, taking care to avoid accidental contamination. Disposable respirators should not reused. The correct fitting of a respirator is important and a fit check should be performed when donning a respirator. Veterinarians who regularly care for horses should provide respirator fit testing so that they and their workers know which respirator will best protect them. In addition, men who wear respirators should be clean-shaven because facial hair can compromise the facial seal.

• Disposable PPE, such as respirators, overalls and gloves should be disposed of as clinical waste. PPE designed for reuse, such as safety goggles and rubber boots, should be decontaminated after use using a suitable disinfectant.

• Be aware of heat stress when wearing PPE especially when working in hot environments. Take steps to prevent heat stress such as selecting PPE that promotes thermal comfort in addition to protection against infection, and ensuring adequate hydration, use of shade and rest breaks.

• Contact your local supplier for more information about PPE selection and respirator fit checking and fit testing.

• Always have a dedicated Hendra virus field kit readily available at all places that horses are examined to minimise the risk of being caught on a property with no prior suspicion of Hendra virus. This should include:
  - appropriate PPE
  - hand cleansers
  - cleaning agents
  - disinfectants
  - waste disposal bags
  - sufficient supplies for people assisting the veterinarian.

• Never recap needles as this is a high risk activity for sharps injury. Dispose of sharps immediately in a suitable sharps container. Consider using safety engineered sharps such as retractable blood collection units and syringes.

• Make sure that any person (including the client) who assists with the examination of a potential Hendra virus case is properly protected and supervised, and is provided with appropriate PPE. Children should not assist with the examination of a sick horse, unless Hendra virus has been excluded.

• If you suspect Hendra virus, inform the client of the risk and provide sufficient information to ensure the person’s ongoing health and safety while they are waiting for the test results. If the horse dies or is euthanized, instruct the client to inform the horse carcass disposal contractor of the Hendra virus risk.

• Manage accidental contamination with horse blood and body fluids:
  - if blood, body fluids or excreta gets on unprotected skin, the area should be washed with soap and water as soon as possible
  - if the exposure involves a cut or puncture wound, gently encourage bleeding by lightly squeezing the wound and then wash the area with soap and water. Where water is not available, wipe the area clean and apply a waterless cleanser such as alcohol based hand rub
  - if eyes are contaminated, gently but thoroughly rinse open eyes with water or normal saline for at least 30 seconds
  - if body fluids get in the mouth, spit the fluid out and then rinse the mouth with water several times.
• If you determine that a potential Hendra virus case requires ongoing treatment before the Hendra virus test results are received, conduct a risk assessment to ensure the health and safety of the person administering the treatment. Non-veterinary staff should not be requested to administer invasive treatments, including giving injections, until Hendra virus infection is excluded. Anyone who has close contact with a suspect case (e.g. to administer medications) should follow appropriate infection control measures including PPE, safe sharps handling and disposal, hand hygiene and decontamination. They should also be provided with any information, instruction, training or supervision that is necessary to ensure their health and safety.

• Ensure that you exercise appropriate biosecurity controls when visiting a property with a potential Hendra virus case.

Notification
Work-caused infectious diseases must be notified to Workplace Health and Safety Queensland. Information on reporting incidents is available at www.worksafe.qld.gov.au.

Further information
For more information on Hendra virus and work health and safety, contact Workplace Health and Safety Infoline on 1300 369 915 or visit www.worksafe.qld.gov.au.

For more information on Hendra virus and animal health or biosecurity, contact Biosecurity Queensland on 13 25 23 or visit www.biosecurity.qld.gov.au.

For more information on Hendra virus and human health, contact Queensland Health on 13HEALTH (13 43 25 84) or visit www.health.qld.gov.au.

For more information on flying foxes, and horse carcass transport and disposal, contact Environment and Heritage Protection on 1300 130 372 or visit www.ehp.qld.gov.au.

Download the fact sheets:
• Hendra virus – information for horse properties and other horse businesses
• Hendra virus – information for businesses that dispose of horse carcasses.

Watch the Australian Veterinary Association PPE training video Suit up! Personal protective equipment for veterinarians.

Reference