

Hendra Virus Infection

Hendra virus was discovered following an outbreak of illness in horses in a large racing stable in the suburb of Hendra, Brisbane in 1994.

The natural host for Hendra virus is the flying fox. The virus can spread from flying foxes to horses, horses to horses and rarely, from horses to people.

Since Hendra virus was identified in 1994, more than 90 horses are known to have been infected. These animals have either died as a direct result of their infection or have been euthanised.

Several hundred people have been exposed to Hendra virus infected horses but have not been infected. However, 7 people have been confirmed to have Hendra virus following high levels of exposure to infected horses. Four of these people died, the most recent in 2009.

Evidence of exposure to Hendra virus has been identified in asymptomatic dogs on two occasions. These dogs were identified as contact animals on properties with infected horses. Research and testing of many other animals and insects has shown no evidence of Hendra virus infection occurring naturally in any other species.

Signs and Symptoms:

Disease in humans

People infected by the Hendra virus have become unwell with:

- an influenza-like illness with symptoms such as fever, cough, sore throat, headache and tiredness (which led to pneumonia in one case) and/or
- encephalitis (inflammation of the brain) with symptoms such as headache, high fever and drowsiness, which progressed to convulsions and/or coma.

The time from exposure to a sick horse until the start of illness in humans has varied between 5 and 21 days.

Disease in horses

Hendra virus infection in horses can produce a wide range of signs and is often difficult to recognise. Early signs can include fever, increased heart rate and restlessness. Other common features may include difficulty breathing and/or weakness and neurological signs such as uncoordinated gait and muscle twitching, quickly leading to death in most cases.

Treatment:

It is important that people who have been in close contact with a horse infected with Hendra virus monitor their health. A person who becomes unwell in the weeks after close contact with an infected horse should contact their nearest [public health unit](https://www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units) (<https://www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units>) and seek medical advice promptly. Tests may be recommended to rule out Hendra virus as the cause of their illness. In most cases, a cause other than Hendra virus will be found. If Hendra virus infection develops, cases are managed supportively by a specialist medical and nursing team in hospital.

There is no known specific treatment for Hendra virus infection. To date, antiviral medications have not been effective but three people have recovered from infections with general medical support.

People who have had high level exposures to the body fluids of an infected horse may be offered experimental treatment with a type of antibody that may prevent infection.

Transmission:

While the exact route of infection is unknown, it is thought that horses may contract Hendra virus infection from sniffing or eating matter recently contaminated with flying fox urine, saliva or birth products. Spread of infection to other horses can then happen. Spread is possible wherever horses have close contact with body fluids of an infected horse. Small amounts of the virus may be present in a horse's body fluids, particularly nasal secretions, for a few days before they become sick.

The seven confirmed human cases all became infected following high level exposures to respiratory secretions and/or blood of a horse infected with Hendra virus, following activities such as assisting with post mortem examination of a dead horse without adequate personal protective equipment (PPE), performing certain veterinary procedures or having extensive exposure to respiratory secretions without adequate PPE. Other people have reported similar contact with infected horses but have remained well and their blood tests have shown no evidence of infection. No one with a lower level exposure (e.g. grooming, feeding, patting) has ever developed Hendra virus infection or shown evidence of infection in blood tests.

There is no evidence of human to human transmission. People who have had contact with a person with Hendra virus infection, including health care workers and family members, have been tested and shown no evidence of infection with the virus.

There is no evidence that the virus can be passed directly from

- flying foxes to humans
- dogs to humans
- the environment to humans, or,
- from humans to horses

There is no evidence of airborne spread (where tiny particles remain suspended in the air).

Hendra virus is killed by heat, drying and cleaning with detergents.

Prevention:

Preventing horse infection

A vaccine to prevent Hendra virus infection in horses has been available since November 2012. The Hendra virus vaccine was registered by the Australian Pesticide and Veterinary Medicines Authority (APVMA) on 4 August 2015. Further information can be found on the [APVMA website \(http://apvma.gov.au\)](http://apvma.gov.au) and in product information accompanying the vaccine. While the vaccine has been shown to be safe and to provide high levels of protection in horses, continued efforts to reduce exposure of horses to Hendra virus are essential.

It is important to

- protect horse food and water from contamination by flying fox fluids,
- isolate sick horses early while awaiting test results, and
- pay attention to standard hygiene and cleaning practices.

More information is available from [Biosecurity Queensland \(http://www.biosecurity.qld.gov.au/\)](http://www.biosecurity.qld.gov.au/) or call 13 25 23 and [Workplace Health & Safety Queensland \(https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/hazardous-exposures/biological-hazards/diseases-from-animals#hendra\)](https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/hazardous-exposures/biological-hazards/diseases-from-animals#hendra) or call 1300 369 915.

Preventing human infection

As a horse may be infectious with Hendra virus before becoming noticeably unwell, it is important to pay attention to standard hygiene practices when interacting with any horse. Horses should never be kissed on the muzzle. Hands must be washed with soap and water regularly after touching horses, particularly before eating, smoking or touching your eyes, nose or mouth. Wounds should be covered with a waterproof dressing. The use of personal protective equipment is recommended when it is likely that a person will come into contact with body fluids from any horse.

See [Biosecurity Queensland \(http://www.biosecurity.qld.gov.au/\)](http://www.biosecurity.qld.gov.au/) and [Workplace Health & Safety Queensland \(https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/hazardous-exposures/biological-hazards/diseases-from-animals#hendra\)](https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/hazardous-exposures/biological-hazards/diseases-from-animals#hendra) for more information.

If a horse's body fluids or manure comes into contact with 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 and then wash the area with soap and water. Where water is not available, wipe the area clean, then use a waterless cleanser such as alcohol based gel. If eyes are contaminated, gently but thoroughly rinse open eyes with clean 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 clean water several times.

If a horse becomes unwell and Hendra virus infection may be a possibility, as few people as possible should care for the horse until the infection is ruled out. Children should be kept away from the horse. Appropriate personal protective equipment which prevents contamination of the skin, eyes, nose or mouth from the horse's body fluids should be worn when in close contact with the sick horse.

Although there is no evidence of human to human transmission, close contact with the body fluids of a person who is unwell with possible Hendra virus infection should be avoided. In hospitals, healthcare workers will take routine precautions which include the use of personal protective equipment. In home settings, pay particular attention to standard hygiene measures such as regular hand washing.

People exposed to Hendra virus should not donate blood or other tissue until they are cleared of infection. Confirmed cases should never donate blood or any other tissue, even if they fully recover.

Notification

Suspected cases of Hendra virus infection in horses should be notified urgently to Biosecurity Queensland on 13 25 23 (during business hours) or 1800 675 888 (24-hour Emergency Animal Disease Watch Hotline).

Pathology laboratories are required to urgently notify all requests for Hendra virus testing in humans to the appropriate public health unit.

Public health response

When a horse is strongly suspected or confirmed to be infected with Hendra virus, Biosecurity Queensland will notify Queensland Health and take urgent measures to minimise risk to other people and other animals (horses, dogs and cats).

Public health staff will seek to identify all people who may have been exposed to an infectious horse and conduct a detailed assessment of their level of exposure.

People at risk of infection will be provided with information about Hendra virus and advised of appropriate ongoing monitoring and management.

If you have had recent exposure to an infected horse and have not been contacted by public health staff, please telephone your nearest [public health unit](https://www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units) (<https://www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units>) or 13 HEALTH (13 43 25 84).

Other resources:

[Biosecurity Queensland](http://www.biosecurity.qld.gov.au/) (<http://www.biosecurity.qld.gov.au/>) or call 13 25 23.

Information about Hendra virus for the general public, horse owners, horse handlers and veterinarians, including Guidelines for veterinarians handling potential Hendra virus infections in horses.

[Workplace Health & Safety Queensland](https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/hazardous-exposures/biological-hazards/diseases-from-animals#hendra)

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Help and assistance:

For other information or assistance regarding Hendra virus infection in humans please contact 13 HEALTH (13 43 25 84).