

Hendra Virus Infection

Description:

Hendra virus was discovered following an outbreak of illness 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 and, rarely, from horses to people. Research and testing of many other animals and insects has shown no evidence of Hendra virus occurring naturally in any other species.

Since it was first discovered, 14 Hendra virus outbreaks in horses have been identified. Most of these outbreaks involved only one or two horses. Of these events, 13 occurred in coastal Queensland and one in northern New South Wales.

Several hundred people who have been exposed to horses with Hendra virus infection in the last 16 years have not become infected. Unfortunately, there have also been seven confirmed Hendra virus infections in humans, all in Queensland. Four of these people died.

About 45 horses have been confirmed (or considered likely) to have Hendra virus infection in the 14 outbreaks to date. Of these, 20 were from the original Hendra outbreak in 1994. All affected horses have either died as a direct result of their infection or been euthanised.

Symptoms:

Disease in humans

The few known cases of human Hendra virus infection have become unwell with:

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

Time from exposure of a person to a sick horse until the start of illness in humans has been between 5 and 21 days.

Disease in horses

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

Transmission:

While the exact route of infection is not known, it is thought that horses may contract Hendra virus infection from eating food recently contaminated by flying fox urine, saliva or birth products. Spread of infection to other horses can then follow. Spread happens more often when the sick horse is kept with other horses in a stable, but is possible wherever horses have close contact with secretions from an infected horse. Small amounts of 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 close contact with respiratory secretions and/or blood from an infectious horse. Many people have reported similar contact with infected horses but have remained well, and their blood tests have shown no evidence of Hendra virus infection.

There is no evidence of human to human transmission. Testing of people who have had contact with a person with Hendra virus infection, including health care workers and family contacts, has shown no evidence of the virus.

There is no evidence that the virus can be passed directly from flying foxes to humans, from the environment to

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humans, from humans to horses, or can float in the air.

Hendra virus in the environment is killed by heat, drying and cleaning with detergents. Some disinfectant products are also effective against the virus.

Treatment:

Research is being undertaken into monoclonal antibodies to see if they may be useful in preventing Hendra virus infection from developing in people who have had high risk exposures.

A person who becomes unwell in the weeks after close contact with a Hendra-infected horse should 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. Sometimes the person will be admitted to hospital for monitoring while waiting for test results. If Hendra virus infection develops, the person is likely to be admitted to hospital for close monitoring and, if needed, intensive care.

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

Prevention:

Preventing horse infection

Research into development of a horse vaccine against Hendra virus is well under way.

Steps can be taken to decrease the risk of Hendra infection in horses. Protecting horse food from contamination by fluids of flying foxes, early isolation of a sick horse while awaiting test results, and attention to standard hygiene and cleaning practices are important. Detailed information is available from [Biosecurity Queensland](#) or call 13 25 23, and also from the [Queensland Horse Council](#).

Preventing human infection

Because it is possible that horses may be infectious with Hendra virus before actually becoming unwell, it is important to pay attention to standard hygiene practices in all contact with horses. Hands should be cleaned regularly whilst caring for horses, particularly before eating, smoking or touching the eyes, nose or mouth. Wounds should be covered with a waterproof dressing. Directly kissing a horse on the muzzle is strongly discouraged at any time, and definitely should not occur if the horse is sick or quarantined. 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](#) website for more information.

If body fluids or manure from a horse 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 and then wash the area with soap and water. Where water is not available, wipe the area clean, then use a waterless cleanser or antiseptic. If eyes are contaminated then 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 a horse becomes unwell and Hendra virus infection may be a possibility, as few people as possible should care for the horse until Hendra virus infection is ruled out. It is strongly recommended that children are kept away from the horse. If close contact with the sick horse is considered essential, then appropriate personal protective equipment that prevents contamination of skin, eyes, nose or mouth by a horse's body fluids should be worn.

Although there is no evidence of human to human transmission, close contact with the secretions of a person who is unwell with possible Hendra virus infection should be avoided. In hospital, healthcare workers will take routine precautions which include the use of personal protective equipment. In home settings particular attention should be

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given to standard hygiene measures such as regular hand washing.

Notification

Suspected cases of Hendra virus infection in horses should be notified urgently to Biosecurity Queensland on 13 25 23 (during business hours) or the Emergency Animal Disease Watch Hotline on 1800 675 888 (24-hour hotline). In turn, Biosecurity Queensland will notify the appropriate public health unit of the situation if there is a high suspicion of Hendra virus infection.

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

Help and Assistance

Assistance for human exposures to an infected horse

Help and assistance for human exposures to an infected horse When a horse is identified as having Hendra virus infection, the local public health unit will work closely with Biosecurity Queensland, the property owners and property managers to identify people who may have been exposed. If you consider you have had recent exposure to an infected horse and feel that you have not been identified, please telephone your nearest public health unit, which will be in the White Pages under Queensland Health; or contact 13 HEALTH.

For other information or assistance about Hendra virus infection in humans please contact 13 HEALTH.

Other resources

Biosecurity Queensland or call 13 25 23. Information about Hendra virus for the general public, horse owners, horse handlers and veterinarians. The latest version of the 'Guidelines for veterinarians handling potential Hendra virus infections in horses' is also available from this site.

Queensland Horse Council Information for horse owners and handlers.