

Japanese encephalitis virus

Information for horse owners

Japanese encephalitis (JE) is a mosquito-borne viral disease that can cause reproductive losses in pigs and encephalitis in horses. It is caused by the Japanese encephalitis virus which is a member of the Flavivirus genus.

How is it transmitted?

The JE virus is primarily spread by mosquitoes feeding on infected pigs or birds and does not usually spread directly from animal to animal (i.e. it is not contagious from animal to animal, animal to human or human to human). Certain types of mosquitoes can become infected with JE virus such as *Culex* spp. and these tend to be most active at dawn and dusk.

Pigs with the infection do not transmit the infection to other animals but may infect mosquitoes if bitten while they still have the virus in their blood.

Other livestock such as horses, cattle, sheep and goats are end hosts and cannot transmit the disease back to mosquitoes.

In general, spread is through the movement of waterbirds (herons and egrets) and through the movement of infected mosquitoes, often over long distances due to wind dispersal.

What are the symptoms of Japanese encephalitis in horses?

In horses many cases are asymptomatic and most clinical disease is mild, however more severe encephalitis (inflammation of the brain) can occur which can be fatal. Signs include fever, jaundice, lethargy, anorexia and neurological signs which vary with severity of the clinical disease. Neurological signs can include incoordination, difficulty swallowing, impaired vision, and rarely a hyperexcitable form occurs. Disease can also occur in donkeys. Infected horses cannot infect mosquitos.

What might happen if my horse gets Japanese encephalitis?

There is no specific treatment for JE in horses; your veterinarian will provide supportive care according to the signs observed.

You are not at risk of JE infection from your horse; however, other diseases that are transmissible to people (such as Hendra virus in areas where flying foxes occur) could present with similar disease signs. Horses can be dangerous to

people if they are unsteady on their feet so these risks should be kept in mind.

Horses are not a significant host of JE virus in terms of disease transmission, so there is generally no requirement for official controls to be put in place such as quarantine.

If your horse becomes infected, you may be at risk of being infected by mosquitoes in the area and should take precautions to avoid being bitten.

What are the symptoms of Japanese encephalitis in humans?

More than 90 per cent of JE virus infections are asymptomatic (show no signs of disease). Less than one per cent of people infected with JE virus develop clinical disease. A small number of people infected with JE virus may become seriously ill with encephalitis (inflammation of the brain). Other people may develop an illness with fevers, headaches and aches and pains.

Symptoms of encephalitis may include rapid onset of fever, headache, sensitivity to light, neck stiffness, vomiting, confusion or disorientation and sometimes seizures, progressing to coma. Anyone experiencing symptoms, particularly if they've visited regions near the border of Victoria and New South Wales or been in contact with pigs or with mosquitoes should seek urgent medical attention.

Any person who is experiencing any of the symptoms should seek urgent medical attention. Please visit the [Department of Health](#) website for public health advice.

How do I protect my horse from Japanese encephalitis?

Mosquito management is critical to reducing the risk to both people and animals.

Chemicals used for larvae or adult mosquito control or used as a direct application to horses as a repellent:

- should be used in accordance with the product label
- must be used only by people authorised to use chemicals
- should be restricted to being applied only to areas required to be treated, e.g. mosquito harbouring or breeding sites.

Chemical users must also keep records of their chemical use in accordance with Victorian law.

Horse owners should seek the advice of a veterinarian before applying chemicals to horses and must not apply chemicals in an off-label manner (i.e. a manner that is not consistent with the label instructions) to horses without the authorisation of a veterinarian.

Some repellents registered for use on horses do not allow treated horses to ever be used for human consumption. These products must be avoided if there is any likelihood of this occurring at some time in the future.

If available, stable horses between dusk and dawn. If stabling, consider using the following measures:

- install appropriate physical barriers at entry and exit points (e.g. a double door entry-exit system)
- turn off lights inside stables during the night
- use fluorescent lights in stables that do not attract mosquitoes
- place incandescent bulbs around the stable perimeter to attract mosquitoes away from horses
- screen building openings (e.g. windows) with shade cloth mesh that has been treated with an insecticide registered for the treatment of netting/mesh.

In addition to stabling horses overnight there are other ways to prevent mosquito bites including:

- topical treatment using repellents registered for direct application to horses
 - NOTE: certain repellents cannot be used on horses that may be slaughtered for human consumption at any later date
- physical barriers – rugging and hooding horses in lightweight permethrin treated material (if climatically appropriate); Horse owners can treat their own horse rugs using agricultural chemicals registered for the treatment of horse rugs
- spraying of stable walls with insecticides registered for use as a structural treatment around agricultural buildings; In order to prevent possible adverse reactions DO NOT apply to areas where horses may come into direct contact with the sprayed area
- where possible, eliminate all potential mosquito breeding sites on the premises, including dripping or leaking taps and water troughs, or if not possible to eliminate, treat potential breeding sites with a chemical registered for the control of mosquito larvae.

Further information on mosquito control in horses is available at agriculture.vic.gov.au/JE.

What happens if I suspect my horse has Japanese encephalitis?

If you suspect Japanese encephalitis in any animal, phone the all-hours **Emergency Animal Disease Watch Hotline 1800 675 888**.

How do I protect myself from Japanese encephalitis?

There are two ways to protect yourself and your family: avoiding mosquito bites and vaccination.

Steps to protect yourself and your family against mosquito-borne diseases include:

- wearing long, loose fitting clothes outdoors.
- using mosquito repellents containing picaridin or DEET on all exposed skin.
- limiting outdoor activity if lots of mosquitoes are about.
- using 'knockdown' fly sprays and plug-in repellent devices indoors.
- using mosquito coils in small outdoor areas where you gather to sit or eat.
- making sure your accommodation is mosquito-proof.
- sleeping under mosquito nets treated with insecticides if you don't have flywire screens on windows on your home or are sleeping in an untreated tent or out in the open.
- making sure there is no stagnant water around your home.
- remember, dusk and dawn is when most mosquitoes are more active but some will also bite during the day.

Further information can be found at [Beat the Bite](#).

What should I do if I suspect I have Japanese encephalitis?

Any person who is experiencing any of the symptoms should seek urgent medical attention. Please visit the [Department of Health](#) website for public health advice.

Is there a vaccine available for animals?

Vaccines for horses and pigs are used in some countries where the disease is endemic. No vaccines for animals are currently registered for general use in Australia. Expanded availability of animal vaccines is under consideration by the Australian Government Department of Agriculture, Water and Environment.

Will horse movements be impacted?

Movement controls are only needed for animals that contribute to disease transmission (primarily pigs).

Horses are not a significant host in terms of disease transmission, so there is generally no requirement for official controls on horses to be put in place such as quarantine and movement controls. People movements are not affected.

HORSE EVENTS

Will I still be able to attend events?

Horses are considered an incidental host of the virus, so there is no need to prevent horse movements or congregations at events from a disease control perspective.

What do I need to know if I am organising an event?

Event organisers are encouraged to disseminate human health and animal health messaging and advice on protection from mosquito bites in advance of events.

For events in proximity to active mosquito breeding grounds, organisers should consider seeking professional advice regarding integrated mosquito management options.

ACCESSIBILITY

If you would like to receive this publication in an accessible format, please telephone DJPR on 136 186.

This document is also available in HTML format at agriculture.vic.gov.au
