



Japanese encephalitis

What is Japanese encephalitis?

Japanese encephalitis (JE) is a rare but serious disease caused by the Japanese encephalitis virus (JEV). It is spread to humans by infected mosquitoes.

What are the symptoms?

Less than 1% of people infected with JEV will experience symptoms. Some infected people experience an illness with fever and headache. People with a severe infection may experience neck stiffness, disorientation, tremors, coma and seizures. If you have any of these symptoms, seek medical treatment.

Among those who develop severe infection, some will go on to experience permanent neurological complications or possibly death.

Symptoms, if they are to occur, usually develop 5 to 15 days after being bitten by infected mosquitoes.

How is it spread?

JE is spread by the bite of infected *Culex* species mosquitoes which are commonly found in NSW. *Culex* mosquitoes can become infected with JEV from biting infected animals.

The virus is spread when mosquitoes bite an infected animal and the mosquito then bites a human. Infected pigs and some waterbirds are the animals more likely to infect mosquitoes.

Humans are not able to pass JEV to other humans. Humans cannot get infected with JEV by touching an infected animal or eating animal products including pork or poultry products.

Who is at risk?

JEV has recently been identified in commercial piggeries in locations in NSW, Queensland, Victoria and South Australia. NSW Health is working to better understand the full extent of JEV in NSW. Local infection risks in NSW are likely highest among:

- People working at and/or living close to piggeries which have tested positive for JEV.
- People who engage in outdoor activities (e.g., camping, fishing, hiking) near significant mosquito populations, particularly near waterways.

JEV is endemic in much of Asia and parts of the Pacific. For most travellers in these regions, the risk of being infected with JEV is very low. People at the greatest risk of becoming infected are those who are staying more than a month in rural areas in countries where the disease is endemic or in some of the Torres Strait Islands.

How is it prevented?

Avoid mosquito bites

The mosquitoes that transmit JEV are most active at dawn and dusk and into the evening. Take extra care during peak mosquito biting hours, avoid the outdoors if possible or take preventive actions.

Personal protection measures

- Wear light-coloured, loose-fitting long-sleeved shirts, long pants and covered footwear and socks (to reduce skin exposure). There are insecticides (e.g. permethrin) available for treating clothing for those spending extended periods outdoors.
- Apply repellent to all areas of exposed skin, especially those that contain DEET, picaridin, or oil of lemon eucalyptus which are the most effective against mosquitoes. The strength of a repellent determines the duration of protection with the higher concentrations providing longer periods of protection. Always check the label for reapplication times.

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- Reapply repellent after swimming. The duration of protection from repellent is also reduced with perspiration, such as during strenuous activity or hot weather so it may need to be reapplied more frequently.
- Apply the sunscreen first and then apply the repellent. Be aware that DEET-containing repellents may decrease the sun protection factor (SPF) of sunscreens so you may need to re-apply the sunscreen more frequently.
- For children in particular – most skin repellents are safe for use on children aged 3 months and older when used according to directions, although some formulations are only recommended for children aged 12 months and older – always check the product information. Infants aged less than 3 months can be protected from mosquitoes by using an infant carrier draped with mosquito netting that is secured along the edges.

Environmental measures

- Stay and sleep in rooms protected with flyscreens and check screens do not have any rips or holes.
- Make sure your tent is well protected with flyscreens when camping, or sleep under mosquito nets.
- Use over-the-counter insecticide sprays when mosquitoes are present inside the room, especially behind furniture and in dark places.
- Reduce all water holding containers around the home where mosquitoes could breed. Mosquitoes only need a small amount of liquid to breed.
- Use mosquito coils and other devices that release insecticides to assist reducing mosquito bites, these should be used in combination with topical insect repellents.

Vaccination

A safe and effective vaccine for JE is available for people aged 2 months and older. Vaccination against JE is currently only recommended for those at highest risk of infection (see section “Who is at risk?” above).

How is it diagnosed?

JEV infection is usually diagnosed from measuring levels of antibodies to JEV in samples of blood or spinal fluid. If you have been infected, you do not put others at risk.

If you have symptoms consistent with JE seek medical treatment.

If you have any severe signs such as headache, vomiting, confusion, paralysis or seizures you should call 000 immediately.

How is it treated?

There is no specific treatment available for JE. The best way to avoid infection is to avoid being bitten by mosquitoes.

For further information please call your local Public Health Unit on **1300 066 055** or visit the NSW Health website www.health.nsw.gov.au