

Japanese encephalitis is a rare but serious infection of the brain caused by a virus that is transmitted through mosquito bites. It occurs in many parts of Asia.

Japanese encephalitis (JE)

Last updated: 17 January 2017

What is Japanese encephalitis?

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

What are the symptoms?

The majority (about 99%) of JE infections in people cause no symptoms. Some infected people experience an illness with fever and headache. Those with a severe infection may experience neck stiffness, disorientation, tremors, coma, convulsions (especially in children) and paralysis. JE can cause permanent neurological complications or 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 mosquitoes. Certain types of mosquitoes can become infected with JE. Humans are not able to pass the virus to other humans.

Who is at risk?

JE occurs throughout most of Asia and parts of the western Pacific. Transmission primarily takes place in rural agricultural areas, often associated with rice cultivation and flooding irrigation. For most travellers the risk of acquiring JE 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?

A Japanese encephalitis vaccine is available for people aged 12 months and older and is recommended for travellers spending one month or more in rural areas of high-risk countries for JE. For more detailed JE vaccination advice see the [Australian Immunisation Handbook](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis/) (<https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis/>) and consult with your GP or travel medicine clinic.

Even if you have been vaccinated it is still important to protect against mosquitoes and reduce the risk of diseases they transmit. Prevention measures include:

- covering-up with a loose-fitting long sleeved shirt and long pants when outside
- applying mosquito repellent to exposed skin
- taking special care during peak mosquito biting hours. The mosquitoes that transmit diseases such as JE, dengue, chikungunya and Zika will also bite through the day.
- removing potential mosquito breeding sites from around the home and screen windows and doors
- taking extra precautions when travelling in areas with a higher risk of mosquito-borne diseases.

In addition to the general protection measures above, overseas travellers should also:

- stay and sleep in rooms with fly-screens or air-conditioning
- use a bed net if the area where you are sleeping is exposed to the outdoors. Bed nets are most effective when they are treated with a pyrethroid insecticide, such as permethrin. Pre-treated bed nets can be purchased before travelling, or nets can be treated after purchase.
- avoid known areas of high mosquito-borne disease transmission or outbreaks.

For more detailed information on reducing the risk of mosquito bites at home and while travelling see the [Mosquitoes are a Health Hazard](http://www.health.nsw.gov.au/Infectious/factsheets/Pages/mosquito.aspx) factsheet (www.health.nsw.gov.au/Infectious/factsheets/Pages/mosquito.aspx). This also includes more information on mosquito repellents.

See the [Staying healthy when travelling overseas](http://www.health.nsw.gov.au/Infectious/factsheets/Pages/Staying-healthy-when-travelling-overseas.aspx) fact sheet for further information on travel (www.health.nsw.gov.au/Infectious/factsheets/Pages/Staying-healthy-when-travelling-overseas.aspx).

See the Smartraveller website (www.smartraveller.gov.au) which also has health information for specific destinations.

How is it diagnosed?

JE infection is usually diagnosed from measuring levels of antibody in samples of blood or spinal fluid.

How is it treated?

There is no specific treatment available for JE.

What is the public health response?

Laboratories diagnosing cases of JE must notify the local public health unit. Public health units follow up each case to determine where the person acquired the infection. This information is important to assist identifying if transmission is occurring in areas considered to be low-risk and to prevent transmission.

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 .