

# Protecting your family from JE

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Another disease that can be spread through mosquito bites is Japanese Encephalitis.

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JAPANESE Encephalitis (JE) is a flavivirus related to the dengue, yellow fever and West Nile viruses, and is spread by mosquitoes.

It is estimated that globally, 13,600 to 20,400 fatal JE cases occur and that 14,300 to 27,200 JE survivors develop long-term neurological damage each year.

JE can be found in South Asia, South-East Asia, East Asia, and the Pacific. An estimated three billion people live in countries where the JE virus is endemic.

JE primarily affects children, and most adults in endemic countries have natural immunity after childhood infection, but individuals of any age may be affected. Because JE is more predominant in rural areas of the country, it is suspected that the incidence of JE in Malaysia may be under-represented.

## Transmission of the virus

The main JE vectors are *Culex tritaeniorhynchus* mosquitoes and similar species that lay eggs in rice paddy fields and other open water sources (Mansonia and Anopheles species). They carry the virus with them after they bite either pigs or wading birds, which are amplifying hosts for the JE virus.

Humans are considered dead-end hosts for the JE virus, meaning the virus is unable to multiply to high levels, hence, the virus cannot be passed on to other biting mosquitoes or from person to person. Most people who are infected

## Who are more at risk?

Anyone can be infected; however, there are certain people who may be more at risk, such as:

- People living or working in areas near pig farms or agricultural land (e.g. paddy fields).
- Travellers who are planning extensive outdoor exposure (camping, hiking, working, etc) in endemic countries, especially in rural areas.
- Locals who are planning long trips to areas where cases have been recorded.

## Treatment and prevention

Treatment is focused on relieving symptoms and supporting the patient to overcome the infection.

Because there is no cure for the disease, prevention should be prioritised. This can be done either by avoiding mosquito bites and/or by getting vaccinated against the virus.

To avoid mosquito bites:

- Wear long-sleeved clothing, and avoid dark-coloured clothing.
- Apply mosquito repellent when doing outdoor activities.
- Use mosquito spray/vaporisers, or coil when necessary.
- Avoid outdoor activities during peak times when mosquitoes are most active (sunrise and sunset).
- Install wire mesh on windows.

In Sarawak, the JE vaccine is covered under the National Immunisation Programme (NIP). Each child will receive a total of

three doses, the first two initial doses to be administered at the age of nine and 21 months, followed by a booster dose at seven years.

Studies on the effectiveness of the JE vaccine in Sarawak concluded that over a 10-year surveillance period (1997-2006), the vaccine had substantially reduced the number of JE cases and the risk of infection.

People living in other areas can get vaccinated at private clinics nationwide. Consult your doctor about getting vaccinated and whether it is suitable for you.

Datuk Dr Zulkifli Ismail is a consultant paediatrician and paediatric cardiologist. This article is courtesy of the Malaysian Paediatric Association's Positive Parenting Programme in collaboration with expert partners. This article is supported by an educational grant from Sanofi Pasteur. For further information, visit [www.mypositiveparenting.org](http://www.mypositiveparenting.org). The information provided is for educational and communication purposes only and it should not be construed as personal medical advice. Information published in this article is not intended to replace, supplant or augment a consultation with a health professional regarding the reader's own medical care. The Star does not give any warranty on accuracy, completeness, functionality, usefulness or other assurances as to the content appearing in this column. The Star disclaims all responsibility for any losses, damage to property or personal injury suffered directly or indirectly from reliance on such information.



About one in every 250 infected with JE will develop more serious symptoms such as fever, seizures (especially in children), stiff neck, confusion and muscle weakness or paralysis. — Handout

- Confusion
  - Inability to speak
  - Muscle weakness or paralysis
- Thirty percent of patients who are affected by disease symptoms may die.

For patients who do survive these more serious symptoms, recovery is sluggish and approximately 20-30% of them may also develop inflammation of the brain (encephalitis), causing irreversible neurological damage.

- High temperature (fever)
- Seizures (especially in children)
- Stiff neck

show very mild flu-like to no symptoms at all. In persons who develop symptoms, the incubation period (the time between catching an infection and symptoms appearing) is typically five to 15 days. About one in every 250 infected will develop more serious symptoms such as: