

Japanese encephalitis

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Japanese encephalitis (JE) is a viral infection of the brain transmitted to humans by mosquitoes in parts of Asia and the Pacific Rim. The mosquitoes that transmit JE feed predominantly during the night, between dusk to dawn and are prolific in rural areas, where rice cultivation and pig farming are common. However, they have also been found in urban locations.

The risk for most travellers to Asia is very low, especially for short-term travellers visiting urban areas. The overall incidence of JE among persons from non-affected countries travelling to Asia is estimated to be less than one case per 1 million travellers. Risk varies on the basis of: destination, duration, season and activities. It increases for persons who intend to live or travel in risk areas for long periods of time and have rural trips. Certain activities, even during short trips, where there is significant rural, outdoor or night time exposure e.g. fieldwork or camping can increase the traveller's risk.

Most human infections with JE virus do not result in symptoms. When symptoms do occur they include fever, headache and confusion. In symptomatic cases requiring hospitalisation death rates are high and neurological complications are common.

Prevention

The risk of acquiring JE can be reduced by insect bite avoidance, particularly between the hours of dusk and dawn, when *Culex* mosquitoes are most active.

Japanese encephalitis vaccine

A licensed JE vaccine; IXIARO® is available and should be offered to those intending to stay for long periods in rural regions where JE occurs during the main transmission season or whose planned activities increase their risk.

IXIARO® vaccine schedule

Age range	Dose	Primary course	Reinforcing immunisation
Under 2 months of age	Not usually recommended (no safety or efficacy data)	-	-
Children aged 2 months to under 36 months of age	0.25ml (discard half of the vaccine)*	2 doses: Day 0 and 28 See also accelerated schedule***	For those at ongoing risk** a single first booster dose of IXIARO® 12 months after primary

<p>Children aged 3 to 17 years</p>	<p>0.5ml</p>	<p>2 doses: Day 0 and 28 See also accelerated schedule***</p>	<p>immunisation is recommended. Other should be offered a first booster dose at 12-24 months following the primary course, prior to re-exposure to JE virus. Duration of protection, beyond two years after the first booster is uncertain.</p>
<p>Adults 18 to 64 years</p>	<p>0.5ml</p>	<p>2 doses: Day 0 and 28 See also accelerated schedule***</p>	<p>For those at ongoing risk** a single dose of IXIARO® booster 12 months after primary immunisation is recommended. Others should be offered the first booster dose at 12-24 months following the primary course prior to re-exposure to JE virus. A 2nd booster (4th dose) should be offered at 10 years for those who remain at risk.</p>
<p>Adults aged 65 years and older</p>	<p>0.5ml</p>	<p>2 doses: Day 0 and 28 See also accelerated schedule***</p>	<p>For those at continued/further risk a single dose of IXIARO® booster at 12 months should be considered. The duration of protection is uncertain for the primary course. The length of protection following a booster dose (3rd dose) is not known.</p>

*See IXIARO® Summary of Product Characteristics for details on preparing the 0.25 ml dose for children aged 2 months to less than 3 years.

**Long term travellers who expect to reside in endemic areas for appreciable periods of time.

*****See also accelerated schedule below.**

In situations where the primary course (days 0,28 or days 0,7) plus the first booster has been interrupted, the schedule should be resumed, and not restarted.

Accelerated schedule

Adults aged 18-65 years can be vaccinated using a licensed accelerated schedule as follows: first dose at day 0, second dose: 7 days after first dose. With both schedules, the primary immunisation schedule (first and second dose) should be completed at least one week prior to potential exposure to JE. Use of this accelerated schedule can also be considered off-license for travellers 2 months-17 years of age and those over 65 years of age when time is short.

Following a single dose of IXIARO®, 54 percent of adults had developed antibodies by day 28 in a clinical study. IXIARO® is available in a small number of Asian countries. Therefore, travellers may not be able to complete their vaccination course overseas with this vaccine. It is recommended that vaccinees who received the first dose of IXIARO® complete the primary two-dose vaccination course with IXIARO®.

Resources

- More detailed information can be found in our [Japanese encephalitis factsheet](#)
- [UKHSA: Immunisation against infectious disease. Japanese encephalitis.](#)
- Further details on the vaccines can be found on the [Summary of Product Characteristics \(SPC\) on the electronic medicines compendium](#)