



# Japanese Encephalitis Virus Vaccination Program Frequently Asked Questions (FAQs)

Updated 9 February 2023

## What is Japanese encephalitis virus?

Japanese encephalitis Virus (JEV) is a mosquito-borne virus which can infect humans. Pigs and waterbirds can also be infected.

Infection in humans can cause Japanese encephalitis (JE), which is a **vaccine-preventable disease**. JE is usually mild with no obvious symptoms. However, a small proportion of people (<1%) develop severe disease with acute encephalitis (swelling of the brain) which can result in death or long-term damage to the nervous system. Infection during pregnancy can result in an increased risk of miscarriage and other complications.

Signs and symptoms of JE include headache, fever, convulsions, decreased consciousness (becoming drowsy or unresponsive), and disorders of the muscles, including paralysis.

Children under the age of 5 years and older people who are infected with JEV are at a higher risk of developing more severe illness, such as encephalitis.

## Where is JEV found?

Japanese Encephalitis Virus (JEV) is usually found in parts of Asia and the Western Pacific and has been found in the Torres Strait and the far north of Queensland. In February 2022, JE cases were reported for the first time in pigs and humans in the south eastern regions of Australia, and further JEV detections have since occurred in South Australia, Victoria, New South Wales, Queensland, and the Northern Territory.

## Who is at higher risk?

Following recent reports of JE, the below groups have been identified as being at risk in Australia:

- People who work with pigs or live on piggeries, including those with high-level occupational exposures, such as vets or abattoir and laboratory workers.
- People who work with or have high level exposure to mosquitoes, such as those involved with surveillance, control, and management of mosquitoes.
- People who live or work on the outer islands of the Torres Strait.
- People who engage in outdoor activities (e.g. camping, fishing and hiking) in regions where JEV has been detected.
- Laboratory workers who work with potentially infected samples.

## Who should receive the JE vaccine?

In Australia, the JE vaccine is recommended for people who are planning to travel to countries where JEV is endemic. Following the detection of JEV across several states and territories, JE vaccine is now being recommended to the following groups who have been identified nationally as a [priority for vaccination](#):

- In piggeries where the presence of JE has been confirmed: People who work at, live at, or have a planned, non-deferrable visit to a piggery, including farm workers and their families (including children aged 2 months and older) living at the piggery, transport workers, veterinarians and others involved in the care of pigs, and those who work at a pork abattoir or pork rendering plant.
- In areas where JE is suspected to be circulating: Personnel who work directly with mosquitoes through their surveillance (field or laboratory based) or control and management, and indirectly through management of vertebrate mosquito-borne disease surveillance systems (e.g. sentinel animals) including environmental health officers and workers (urban and remote) and entomologists.
- All diagnostic and research laboratory workers who may be exposed to the virus, including persons working with JE virus cultures or mosquitoes with the potential to transmit JE virus.

## Who is eligible for a free vaccine?

People who are included in the groups identified as a [priority for vaccination](#) can receive a free vaccine. People who request JE vaccine for travel purposes are not eligible for a free vaccine under this program, and instead should visit their GP, travel doctor or other immunisation provider.

## Which vaccines are used?

There are two JE vaccines available in Australia – Imojev and JEspect (also known as Ixiaro). These vaccines are safe and effective. Imojev is the primary vaccine available for the 2022 JE vaccination program.

**Imojev** is a 'live' attenuated vaccine, which means it contains a weakened version of the live JE virus. Imojev is a single dose vaccine. Imojev can be given to people from 9 months of age; however, cannot be given to pregnant or breastfeeding women, or people who are immunocompromised. People should avoid getting pregnant for 4 weeks after getting the Imojev vaccine. People also cannot receive Imojev if they have had a product containing immunoglobulin in the preceding 6 weeks, and preferably not for 3 months.

**JEspect** is an inactivated vaccine, which means it can be given to those who cannot have Imojev (the 'live' vaccine). This includes infants from 2 months to less than 9 months of age, people who are immunocompromised and women who are pregnant or breastfeeding.

The JEspect vaccine schedule requires 2 doses given 28 days apart. For persons at risk of immediate exposure, the 2 doses of the vaccine can be given 7 days apart for those aged  $\geq 18$  years. JEspect will only be offered to those who are not able to have Imojev, as assessed by their immunisation provider.

Children from 2 months to less than 3 years of age will only get a lower dose (0.25 mL), which is half the dose for those given to people from 3 years of age (0.5 mL). Children less than 3 years of age requiring a JEspect vaccine will be referred to their GP.

## How long will these vaccines take to work?

A protective immune response to JEV will usually occur between 14 to 28 days after vaccination.

## Can JE vaccines be given at the same time as other vaccines?

Yes, both the JE vaccines can be given at the same time as other vaccines, including COVID-19 vaccines.

If not given at the same time, the Imojev vaccine requires a 28-day (4 week) interval before and after another 'live' vaccine is given.

## Are these vaccines safe?

Yes. The two JE vaccines being offered in WA are registered with the Therapeutic Goods Administration. They are very safe and have been used extensively overseas as part of vaccination programs.

## Are there any side effects of the vaccine?

Common, mild side effects of JE vaccines include:

- Pain, tenderness, redness, or swelling where the vaccine was given.
- Fever, more often in children.
- Headache or muscle aches, mainly in adults.

These side effects usually occur within 5-7 days after a 'live' vaccine (Imojev) and 3 days of the inactivated vaccine (JEspect), and only last a few days.

The following serious side effects should be reported to your immunisation provider as soon as possible:

Imojev	JEspect
<ul style="list-style-type: none"><li>• Throat pain</li><li>• Viral infections</li><li>• Shortness of breath</li></ul>	<ul style="list-style-type: none"><li>• Abnormal sensations including tingling or numbness</li><li>• Painful swelling of arms and legs</li><li>• Fainting</li></ul>

As with any medicine, there is a very small chance of a vaccine causing a severe allergic reaction. Severe reactions to JE vaccine are very rare. Anaphylaxis is a severe allergic reaction which occurs suddenly. Early signs of anaphylaxis include redness and/or itching of the skin, swelling (hives), breathing difficulties, persistent cough, hoarse voice and a sense of distress. Anaphylaxis is very rare and usually occurs within 15 minutes of vaccination.

People who experience any serious or rare side effects, should consult their GP or go to their nearest emergency department immediately.

## How long does immunity to JEV last following vaccination?

Studies have found that most adults continue to be protected against JEV at 5 years after receiving the vaccine.

A booster dose is recommended for people with ongoing risk of JEV infection (as advised by public health) and if more than 1 year has passed since their primary JE vaccine course in childhood or as an adult. People who have evidence of having received a dose of Imojev when they were aged 18 years or older, do **not** require a booster dose. People should consult with their GP or other immunisation provider about whether they need a booster dose.

## What else can be done to protect against JEV?

Even if people are vaccinated, they should still use precautions to protect against mosquito bites, which will also protect them against other mosquito-borne diseases. No vaccine is 100% effective and the JE vaccine takes a few weeks to provide protection.

Protection from mosquito bites includes:

- apply and regularly reapply an effective insect repellent on exposed skin
- wear long, loose fitting clothing when outside
- make sure accommodation, including tents, are properly fitted with mosquito nets or screens
- use insecticide sprays, vapour dispensing units (indoors) and mosquito coils (outdoors) to clear rooms and repel mosquitoes from an area

- cover all windows, doors, vents and other entrances with insect screens; and
- remove any water-holding containers where mosquitoes may breed.

The best mosquito repellents contain diethyltoluamide (DEET), picaridin, or oil of lemon eucalyptus.

The [Fight the Bite campaign](#) explains how people can protect themselves and others from mosquito-borne disease.

## Where can more information be found?

- More information on JEV is available at <https://www.health.gov.au/health-topics/japanese-encephalitis> and <https://www.health.gov.au/health-alerts/japanese-encephalitis-virus-jev/about>
- More information on JE vaccination is available at <https://www.health.gov.au/health-alerts/japanese-encephalitis-virus-jev/vaccines>
- For answers to specific questions, consult with your immunisation provider or HealthDirect on 1800 022 222 (available 24 hours)
- To report an adverse event following immunisation (AEFI), contact the Western Australian Vaccine Safety Surveillance (WAVSS) System via <https://www.safevac.org.au/home/info/WA> or email [wavss@health.wa.gov.au](mailto:wavss@health.wa.gov.au) or phone (08) 6456 0208

## References

Australian Government Department of Health Japanese encephalitis virus (JEV) vaccines

<https://www.health.gov.au/health-alerts/japanese-encephalitis-virus-jev/vaccines>

Australian Immunisation Handbook <https://immunisationhandbook.health.gov.au/>

Centres for Disease Control and Prevention <https://www.cdc.gov/japaneseencephalitis/qa/index.html>

Version 3- 9 February 2023

**This document can be made available in alternative formats on request for a person with disability.**

© Department of Health 2023

Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the *Copyright Act 1968*, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia. Acknowledgments: the information in this document have been adapted from SA Health

[health.wa.gov.au](https://health.wa.gov.au)