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| Japanese encephalitis (JE) vaccination |
| Information for immunisation providers – Version 12 |
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# Vaccination

## Who JE vaccine is recommended for?

**In Victoria, JE vaccine is available free-of-charge and recommended for people most at risk:**

**High-risk local government areas**

People aged 2 months or older who live or routinely work in any of the following local government areas of Campaspe, Gannawarra, Greater Shepparton, Indigo, Loddon, Mildura, Moira, Swan Hill, Wodonga, Towong, Benalla, Wangaratta, Strathbogie, Buloke, Greater Bendigo, Hindmarsh, Horsham, Northern Grampians, West Wimmera and Yarriambiack **AND**:

* regularly spend time engaging in outdoor activities that place them as risk of mosquito bites, **OR**
* are experiencing homelessness, **OR**
* are living in conditions with limited mosquito protection (e.g. tents, caravans, dwellings with no insect screens), **OR**
* are engaging in outdoor flood recovery (clean-up) efforts, including repeated professional or volunteer deployments.\*

*\* Vaccination can be administered before arrival in flood affected areas to those from other regions deployed for recovery efforts by arrangement.*

The risk of exposure to mosquitoes is low at an elevation of greater than 500 metres. Therefore, JE vaccination is only recommended for individuals who spend significant time outdoors below this elevation in these LGAs.

**No restriction to local government areas**

* People who work at, reside at, or have a planned non-deferable visit to a:
	+ piggery, including but not limited to 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
	+ property that has been confirmed to be infected with JE virus
	+ property suspected to be infected with JE virus
	+ pork abattoir or pork rendering plant.
* 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) such as:
* environmental health officers and workers (urban and remote)
* entomologists.
* All diagnostic and research laboratory workers who may be exposed to the virus, such as persons working with JE virus cultures or mosquitoes with the potential to transmit JE virus; as per the [Australian Immunisation Handbook](https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/japanese-encephalitis).

## [Vaccine information](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis#accordion-para-8691-184189)

There are two safe and effective vaccines for JE, Imojev® and JEspect®. Imojev® vaccine is prioritised in Victoria’s current public health response.

Imojev®, is available for people aged ≥9 months and requires only a single dose. Imojev® is contraindicated in some people because it is a live attenuated viral vaccine (Refer to Table 2). Women should avoid pregnancy for 28 days after vaccination.

Imojev® vaccine contains units of live attenuated recombinant JE virus, mannitol, lactose, glutamic acid, potassium hydroxide, histidine and human serum albumin. No adjuvants or antibiotics are added. For further information, visit the [Therapeutic Goods Administration (TGA) website.](https://www.ebs.tga.gov.au/ebs/picmi/picmirepository.nsf/PICMI?OpenForm&t=&q=Imojev)

If a person is eligible for a JE vaccine but cannot receive Imojev®, JEspect® can be used. JEspect® should only be used for people who meet the vaccination eligibility criteria AND are:

* immunocompromised\*, OR
* aged 2 months to < 9months, OR
* pregnant or breastfeeding OR
* within 6 weeks (preferably 3 months) of receiving immunoglobulins or immunoglobulin-containing products.

*\*Refer to* [*Vaccination for people who are immunocompromised - Australian Immunisation Handbook*](https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-people-who-are-immunocompromised) *for more information.*

JEspect® vaccine contains units of purified inactivated JE virus and aluminium hydroxide. No preservatives or antibiotics are added. For further product information visit the TGA website.

Most people will develop protection within 14 days of receiving Imojev® vaccine and 28 days following a full course of JEspect® vaccine. It is important that people continue to protect themselves from mosquito-borne disease following vaccination.

Booster doses following previous Imojev® vaccine are not routinely recommended. Eligible persons, who have had a previous course of JEspect® vaccine, should discuss vaccination requirements with their immunisation provider.

### Vaccine dose and route

The primary dose of the JEspect® vaccine depends on the age of the person. Refer to Table 1 and the for age related doses and schedule, and Table 2 for vaccine precautions and contraindications. Also see [Australian Immunisation Handbook – Japanese Encephalitis chapter](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis)[[1]](#endnote-2) for more information.

Table 1. JE vaccine primary schedule dose and route

| Age at vaccination | Vaccine | Notes |
| --- | --- | --- |
| ≥2 months to <18 years\* | JEspect®-IM injection | Infants and children aged ≥2 months to <3 years * 2 doses, 0.25 mL#, at least 28 days apart\*\*.

Children aged ≥3 years and people < 18 years * 2 doses, 0.5 mL, at least 28 days apart\*\*.
 |
| ≥9 months to <18 years | Imojev®-SC injection | **Live vaccine.** Check contraindications and precautions prior to administration.* Single dose
 |
| ≥18 years | Imojev®-SC injection | **Live vaccine.** Check contraindications and precautions prior to administration.* Single dose
 |
| JEspect®-IM injection | Adults * 2 doses, 0.5 mL, at least 28 days apart\*\*.
 |

\* The Australian Product Information for JEspect® currently states that this vaccine is for use in people aged ≥18 years [(TGA)[[2]](#endnote-3).](https://www.tga.gov.au/) The Australian Technical Group on Immunisation (ATAG)I recommends that children and adolescents aged ≥2 months to <18 years can receive this vaccine. Refer to the [Australian Immunisation Handbook – Japanese Encephalitis section](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis)[[3]](#endnote-4).

#Refer to [Japanese encephalitis | NCIRS](https://ncirs.org.au/ncirs-fact-sheets-faqs-and-other-resources/japanese-encephalitis) for information about how to prepare JEspect® vaccine for infants and children ≥2 months to <3 years.

### Precautions and contraindications

Always use the [pre immunisation checklist](https://www.health.vic.gov.au/publications/pre-immunisation-checklist)[[4]](#endnote-5) and the [Japanese Encephalitis (JE) vaccination consent form](https://www.health.vic.gov.au/infectious-diseases/information-for-health-professionals-japanese-encephalitis-in-victoria)[[5]](#endnote-6) prior to administering vaccines. Assess each client against the following contraindications and precautions before giving a JE vaccine.

Table 2: Vaccine specific contraindications

|  |  |
| --- | --- |
| Imojev® | JEspect® |
| **Imojev® is contraindicated in people:*** **with immunocompromise\***
* **pregnant women**
* women should avoid pregnancy for 28 days after vaccination
* within 6 weeks (preferably 3 months) of receiving **immunoglobulins or immunoglobulin-containing products.**
 | JEspect® is an inactivated vaccine and is not expected to cause any safety concerns in people with immunocompromise\*. **Women who are pregnant or breastfeeding\*\**** JE vaccine is not routinely recommended for pregnant or breastfeeding women
* However, pregnant or breastfeeding women at risk of acquiring JE are recommended to receive JEspect®.
 |

\*Refer to [Vaccination for people who are immunocompromised – Australian Immunisation Handbook](https://immunisationhandbook.health.gov.au/contents/vaccination-for-special-risk-groups/vaccination-for-people-who-are-immunocompromised).

\*\*Refer to the [Australian Immunisation Handbook – Japanese encephalitis](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis).

Table 3. Precautions and contraindications of JE vaccine

|  |  |
| --- | --- |
| Precautions | Contraindications\* |
| People with an acute febrile illness should not receive JE vaccines.  | JE vaccines are contraindicated in people who have had:* anaphylaxis after a previous dose of any JE vaccine
* anaphylaxis after any component of a JE vaccine.
 |

\*Refer to the [Australian Immunisation Handbook – Japanese encephalitis](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis).

### Co-administration of JE vaccine with other vaccines

Table 4. Co-administration of JE vaccine and other vaccines

|  |  |
| --- | --- |
| Imojev® | JEspect® |
| People can receive Imojev® at the same time as:* yellow fever vaccine
* MMR (measles-mumps-rubella) vaccine

Use separate syringes and inject in separate limbs. If a person does not receive Imojev® and yellow fever vaccine (or other live vaccines) at the same time, they should receive them at least 4 weeks apart. | People can receive JEspect® at the same time as:* hepatitis A vaccine
* quadrivalent (ACWY) meningococcal conjugate vaccine
* rabies vaccine

Use separate syringes and inject in separate limbs. |

### Can JE vaccines be co-administered with COVID-19 and influenza vaccines?

ATAGI have made recommendations for healthcare providers administering JE vaccines. ATAGI advises that either Imojev® or JEspect® can be co-administered with other vaccines if required. For more information see the [Australian Immunisation Handbook](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis)[[6]](#endnote-7).

### What are the JE vaccine side effects?

Adverse events following vaccination (AEFI) with JE vaccines are generally minor and short-lived, with most symptoms resolving within a few days. Report serious adverse reactions to Surveillance of Adverse Events Following Vaccination In the Community ([SAEFVIC](https://www.safevac.org.au/Home/Info/VIC)), the vaccine safety surveillance service in Victoria.

Table 5. Common reactions to JE vaccines

|  |  |
| --- | --- |
| Imojev® | JEspect® |
| In adults* injection site pain, headache, fatigue and malaise
* In children 12-24 months more commonly occurring:pain, redness, swelling of injection site
* fever, appetite loss, irritability and abnormal crying
 | In adults* injection site pain, tenderness and redness, headache and myalgia

In children aged 2 months to 17 years, * injection site pain, redness and swelling
* appetite loss, diarrhoea
* muscle aches and fatigue

All ages * fever after the first dose, (greater in infants and children)
 |

# Reporting JE vaccine to AIR

All JE vaccines **must be reported** to the Australian Immunisation Register (AIR).

Reporting JE vaccinations to the AIR means that the register contains a complete and reliable dataset and is able to monitor immunisation coverage and administration. It also means that individuals have a complete record of their vaccinations. Please ensure your report the **correct** JE vaccine brand to AIR, avoid using generic codes where possible.

|  |  |  |  |
| --- | --- | --- | --- |
| Vaccine Brand Name | Vaccine CODE | Antigen Name | Antigen Code |
| **Imojev** | IMOJEV | Japanese encephalitis | JEN |
| **JEspect®** | JESPCT | Japanese encephalitis | JEN |

# Vaccine transport, storage and handling

JE vaccine is to be stored and transported according to [National vaccine storage guidelines: Strive for 5](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5)[[7]](#endnote-8).

* Store JE vaccine at +2°C to +8°C.
* Do not freeze.
* Protect from light.

Imojev® **must be reconstituted**. Add the entire contents of the diluent container to the vial and shake until the powder completely dissolves. Use the reconstituted vaccine within 1 hour.

For cold chain breach information and action please visit [Cold chain breach reporting](https://www.health.vic.gov.au/immunisation/cold-chain-breach-reporting)[[8]](#endnote-9) or email the Immunisation Unit <immunisation@health.vic.gov.au>.

# Vaccine ordering and supply

Due to restricted stock, JE vaccine orders will be limited.

JE vaccine **cannot** be currently ordered through Onelink account online. Immunisation providers are required to send orders directly to the Immunisation Unit immunisation@health.vic.gov.au with the below information:

* + health service name, address and Onelink account number
	+ current JE vaccine brand stock on hand
	+ number and brand of JE vaccine required
	+ confirmation that the client meets the [JE vaccination program eligibility criteria](#_Vaccine_eligibility_criteria) and the clinical criteria.

# JE eLearning module

The Department of Health has developed an online [JE eLearning module](https://vic-immunisation-learning.com/)[[9]](#endnote-10) to educate pharmacist immunisers and nurse immunisers about JE immunisation before they can administer the vaccine in Victoria.

This online training supports pharmacist immunisers and nurse immunisers to:

* identify key facts about JE, including how the virus is spread, the signs and symptoms of infection, and strategies to reduce spread
* identify priority cohorts eligible to receive free (government-funded) JE vaccine in Victoria
* identify the different JE vaccine brands, dosing schedule and route of administration for JE vaccines.
* recognise precautions and contraindications for JE vaccines
* identify key resources available to support the safe use and delivery of JE vaccines

A certificate will be issued after successful completion of this training. This certificate must be provided to your employer prior to administering vaccines.

# Pharmacist Immunisers administering JE vaccines

In Victoria, [Pharmacist Immunisers](https://www.health.vic.gov.au/immunisation/pharmacist-immunisers) are authorised to administer JE vaccine subject to the following conditions:

* successful completion of the [JE eLearning module](https://vic-immunisation-learning.com/immunisation/) is required prior to administration of the JE vaccine.
* administration of JE vaccine **only** to people aged **five years and older** who are recommended for vaccination, as listed on the Victorian Department of Health’s [Japanese encephalitis](https://www.health.vic.gov.au/infectious-diseases/japanese-encephalitis-virus) web page.

# Nurse Immunisers administering JE vaccines

In Victoria, [Nurse Immunisers](https://www.health.vic.gov.au/immunisation/nurse-immunisers) are authorised to administer JE vaccine subject to the following conditions:

* successful completion of the [JE eLearning module](https://vic-immunisation-learning.com/immunisation/) is required prior to administration of the JE vaccine.
* administration of JE vaccine to people who are recommended for vaccination, as listed on the Victorian Department of Health’s [Japanese encephalitis](https://www.health.vic.gov.au/infectious-diseases/japanese-encephalitis-virus) web page.

# Adverse events following immunisation (AEFI)

Surveillance of Adverse Events Following Vaccination In the Community (SAEFVIC) is Victoria’s safety partner.

* All unexpected or medically attended AEFI are to be reported to SAEFVIC.
* Contact SAEFVIC for expert clinical advice following vaccine errors.
* Manage the AEFI by your usual clinical pathways.
* Immediately notify SAEFVIC via phone 1300 882 924 (Option 1) Mon-Fri 9am to 4.30pm).
* Submit an AEFI report online to [SAFEVAC.](https://www.safevac.org.au/Home/Info/VIC)

# Further information

* [Australian Immunisation Handbook – Japanese encephalitis chapter](https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis) <https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/japanese-encephalitis>
* [Australian Government Department of Health, Therapeutic Goods Administration - Australian Public Assessment Report for Japanese encephalitis vaccine (live, attenuated).](https://www.tga.gov.au/auspar/auspar-japanese-encephalitis-vaccine-live-attenuated) <https://www.tga.gov.au/auspar/auspar-japanese-encephalitis-vaccine-live-attenuated>
* [Communicable Diseases Network Australia (CDNA) advice regarding vaccination against Japanese encephalitis virus](https://www.health.gov.au/resources/publications/cdna-advice-regarding-vaccination-against-japanese-encephalitis-virus) <https://www.health.gov.au/resources/publications/cdna-advice-regarding-vaccination-against-japanese-encephalitis-virus>
* [SAEFVIC](https://www.safevac.org.au/Home/Info/VIC) <<https://www.safevac.org.au/Home/Info/VIC>>
* [Japanese encephalitis resources](https://www.health.gov.au/resources/collections/japanese-encephalitis-jev-resources) <<https://www.health.gov.au/resources/collections/japanese-encephalitis-jev-resources>>
* [Japanese encephalitis resources for Aboriginal and Torres Strait Islander people](https://www.health.gov.au/resources/collections/japanese-encephalitis-jev-resources-for-aboriginal-and-torres-strait-islander-people)<https://www.health.gov.au/resources/collections/japanese-encephalitis-jev-resources-for-aboriginal-and-torres-strait-islander-people>

# Contact information

For JE vaccine specific queries please contact the Immunisation Unit via email <immunisation@health.vic.gov.au>

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| To receive this document in another format, email the Immunisation Unit <immunisation@health.vic.gov.au>.Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne.© State of Victoria, Australia, Department of Health, September 2023.Available at [Japanese encephalitis virus](https://www.health.vic.gov.au/infectious-diseases/japanese-encephalitis-virus) <https://www.health.vic.gov.au/infectious-diseases/japanese-encephalitis-virus> |

1. <https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/japanese-encephalitis> [↑](#endnote-ref-2)
2. <https://www.tga.gov.au/> [↑](#endnote-ref-3)
3. <https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/japanese-encephalitis> [↑](#endnote-ref-4)
4. <https://www.health.vic.gov.au/publications/pre-immunisation-checklist> [↑](#endnote-ref-5)
5. https://www.health.vic.gov.au/infectious-diseases/information-for-health-professionals-japanese-encephalitis-in-victoria [↑](#endnote-ref-6)
6. <https://immunisationhandbook.health.gov.au/contents/vaccine-preventable-diseases/japanese-encephalitis> [↑](#endnote-ref-7)
7. <https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5> [↑](#endnote-ref-8)
8. <https://www.health.vic.gov.au/immunisation/cold-chain-breach-reporting> [↑](#endnote-ref-9)
9. <https://www.health.vic.gov.au/publications/pre-immunisation-checklist>

 <https://vic-immunisation-learning.com/> [↑](#endnote-ref-10)