

# JAPANESE ENCEPHALITIS (JE) VACCINE DECISION AID

This decision aid helps you choose whether or not to get the Japanese encephalitis (JE) vaccine.

## WHAT ARE THE OPTIONS?



Get the JE vaccine (Imojev or JEspect)



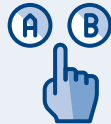
Don't get the JE vaccine

This PDF is a short summary. For all the details, go to [monash.edu/vaccinedecisionaids-je](https://monash.edu/vaccinedecisionaids-je)

## WHY USE THIS DECISION AID



You are unsure whether or not to get the JE vaccine.



You are unsure about which JE vaccine to get.



You want to learn more about the disease and vaccines

## WHAT IS JAPANESE ENCEPHALITIS?



Japanese **encephalitis** (JE) is a disease caused by the JE **virus**



Most people who get JE don't get sick, but if you do get sick JE can be very serious, even if you're young and healthy



JE is spread by mosquito bites; you can't catch it from another person<sup>1</sup>



There are no treatments that can help your body fight JE, but there are ways to prevent it

## WHO IS AT RISK?

JE is a risk in 24 countries, mainly in **Asia**

- Anyone who **travels** to or **lives in** risk areas can get JE
- Around 100,000 people get sick and 25,000 people die from JE each year worldwide<sup>2</sup>
- Most travellers to JE risk areas don't get JE
- The risk is higher for travellers who:



Visit rural areas



Travel in the wet season



Take part in outdoor activities



Stay in basic types of accommodation



Legend for risk levels:

- Lowest risk (lightest shade)
- Low risk (light shade)
- Medium risk (medium shade)
- Highest risk (darkest shade)

# HOW CAN I PREVENT JAPANESE ENCEPHALITIS?



## AVOIDING MOSQUITO BITES

Whether or not you decide to get vaccinated, you should try to avoid mosquito bites



**Wear long-sleeved shirts and long pants outdoors**



**Apply insect repellent (cream, lotion or spray) to any exposed skin**



**Stay in screened rooms or under a permethrin-treated bed net**

## USING INSECT REPELLENT

- Apply a thin, even layer to exposed skin
- Check the label to see when to reapply
- Repellents that contain **DEET** or **picaridin** offer the best protection
- **Oil of lemon eucalyptus (OLE)** repellents also work but you need to apply them more often
- Wrist bands, patches and stickers aren't a reliable way to prevent mosquito bites



## GET VACCINATED

Two safe and effective JE vaccines are available in Australia: Imojev and JEspect.<sup>3</sup> Look at the table below to see how they compare

	<b>Imojev®</b>	<b>JEspect®</b>
<b>Type of vaccine</b>	<b>Live vaccine</b>	<b>Inactivated (not live)</b>
<b>Number of doses needed</b>	One dose	Two doses, 7-28 days apart*
<b>Booster doses (if ongoing risk)</b>	At 1 year for children Not required for adults (18+)	At 1 year
<b>Estimated total cost**</b>	\$250-300 (one dose)	\$200-300 (about \$100 per dose)
<b>When does protection start?</b>	Around 2 weeks after first dose	Around 2 weeks after second dose
<b>How long does protection last?</b>	After 1 dose (adults): 5+ years After 2 doses (children): 5+ years	After 2 doses (all ages): 1-2 years After booster dose: 5+ years
<b>Not recommended for</b>	Children less than 9 months of age Pregnant women People with weakened immune systems	Children less than 2 months of age

\*Giving the vaccine doses 7 days apart has been studied in adults but not children

\*\*Costs can change due to supply and other factors. People living in some parts of Australia and certain workers can get the JE vaccine for free. Visit <https://www.health.gov.au/diseases/Japanese-encephalitis#jev-local-information> for more details.

## WHAT ARE THE BENEFITS OF EACH OPTION?

### AVOIDING MOSQUITO BITES



Repellents with at least 20% DEET, 20% picaridin or 30% OLE protect for 4 hours

- When used correctly, repellents with **DEET**, **picaridin** or **OLE** can prevent bites by mosquitoes carrying the JE virus<sup>4</sup>
- Avoiding mosquito bites lowers your risk of JE and other diseases that may be a risk on your trip like dengue and malaria
- Sleeping under a treated bed net has been shown to lower JE risk by about 67% among people who live in India (no data in travellers)<sup>5</sup>

### GETTING THE VACCINE



Most people have a protective immune response to JE vaccines<sup>6,7</sup>

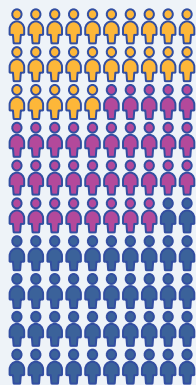
- Getting vaccinated lowers your risk of getting JE
- There are no reports of JE illness among travellers who have had the JE vaccine<sup>1</sup>
- Imojev and JEspect offer similar levels of protection<sup>6,7</sup>
- Protection from JE vaccines last for years<sup>3</sup>

## WHAT ARE THE RISKS OF EACH OPTION?

### RISKS OF DISEASE

- The chance of getting sick from JE is very low
- On average, about **one person per million** trips to risk areas will get sick with JE<sup>9</sup>
- Your risk may be higher or lower based on where you go, what you do, and your age
- Signs of sickness can include fever, headache, seizures (fits) and coma
- Some people who get JE will die, and some who survive will have long-term health issues

It is estimated, of 100 people who get sick from JE<sup>8</sup>



25 out of 100 people will die

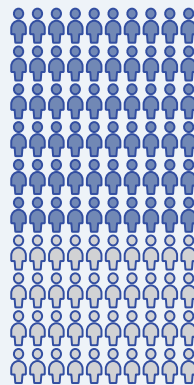
33 out of 100 people will have long-term issues with memory, speech or movement

42 out of 100 people will be sick for days to weeks and then fully recover

### RISKS OF VACCINATION

- JE vaccines are very safe; **side effects** are **usually mild** and **last 3 days or less**
- Common side effects include pain, redness, or swelling where it is given, headache, muscle aches and fever
- The **risk of getting side effects** is similar whether you receive Imojev or JEspect<sup>10</sup>
- The risk of having side effects is similar to other common vaccines, like hepatitis A<sup>6</sup>

It is estimated, of 100 people who receive JE vaccination<sup>6,7</sup>



0 out of 100 people will die

0 out of 100 people will have long-term health issues

60 out of 100 people will have common side effects lasting one to three days

40 out of 100 people will have no effects

## CONSIDER YOUR OWN SITUATION

Every person and every trip is unique. When making your decision, consider:



### YOUR TRAVEL PLANS

Your risk of getting JE may be higher if you:

- Travel for longer periods, or make more than one trip to risk areas
- Travel during times when transmission is more likely
- Visit rural, farming or rice-growing areas
- Do outdoor activities like camping, hiking, trekking, biking or rafting
- Spend a lot of time outdoors, especially in the evening or night
- Stay in basic accommodation without air conditioning, window screens or bed nets



### YOUR AGE AND HEALTH STATUS

- The risk of getting sick from the JE virus increases with age
- If you've had a JE vaccine before, speak to your healthcare provider about the best option for you
- If you're pregnant or have a weakened immune system, you should not get Imojev because it's a live vaccine
- If you have a weakened immune system you can safely receive Jespect, but it might not work as well as in someone with a healthy immune system
- Children under 5 are more likely to get side effects from a JE vaccine than adults, but these are usually mild and last 3 days or less<sup>10</sup>

Your healthcare provider can help you understand your risk based on your situation and travel plans. You can also assess your risk using the JE risk tool at [www.vaxical.com](http://www.vaxical.com).

## WHAT MATTERS MOST TO YOU?

Choosing whether to get the JE vaccine is personal. This part can help you understand your beliefs and values. Please rate how much you agree with the statements below.

	Strongly Disagree	Disagree	Unsure	Agree	Strongly agree
I'm worried about my risk of getting JE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm worried that there's no treatment for JE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to lower my risk of JE any way I can	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm sure I can avoid mosquito bites all the time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm worried about the side effects of the JE vaccine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust that the JE vaccine will protect me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm able to pay the cost of the JE vaccine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The online version of this tool can show you which way you might be leaning based on your answers. You can also save your answers to discuss with your healthcare provider if you wish.



## REFERENCES

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10. Islam N, Lau C, Leeb A, Mills D, Furuya-Kanamori L. Safety profile comparison of chimeric live attenuated and Vero cell-derived inactivated Japanese encephalitis vaccines through an active surveillance system in Australia. *Hum Vaccin Immunother* 2022; 18: 2020573. <https://doi.org/10.1080/21645515.2021.2020573>

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