

Yale *Environmental Health & Safety*

Japanese Encephalitis Virus

JEV

JEV is a risk group 3 virus. It is considered a **reproductive pathogen** as it can cause severe disease in the mother and potentially lead to miscarriage, fetal infection, or stillbirth. Infants and elderly are more likely to develop severe cases of disease.

How can I be exposed to JEV?

- Exposure occurs via mosquito vectors (primarily via *Culex* and *Aedes* species)
- Laboratory workers may be exposed by direct contact with broken skin or mucous membranes, parenteral inoculation, and exposure to infectious aerosols.

How can I protect myself from exposure?

- Avoid direct skin contact by wearing protective clothing and gloves.
- Avoid mucous membrane exposure by using eye/face protection for procedures that may produce splashes.
- Avoid respiratory exposure by using a biosafety cabinet or other primary containment device and wearing a respirator for procedures that may produce aerosols.
- The use of needles, syringes, and other sharp objects should be strictly limited, and additional precautions should be taken when working with animals and mosquitoes.

What should I do if I think I've been exposed to JEV?

Wash the affected area immediately for 15 minutes with soap and water and seek medical attention.

What symptoms should I look for after a potential exposure?

JEV may cause acute inflammatory disease affecting parts of the brain, spinal cord, and meninges, ranging from febrile headache syndrome to acute encephalitis. Severe infections include acute onset of headache, high fever, chills, nausea, and vomiting. This is followed by nuchal rigidity (inability to flex neck

forward), sensitivity to light, and neurological symptoms. Severe cases develop neuropsychiatric sequelae, parkinsonism, convulsive disorder, paralysis, and mental retardation.

How long does it take for symptoms to develop?

Symptoms develop between 5-15 days.

Is there a treatment or vaccine?

Treatment usually involves supportive care. The vaccine, IXIARO is given as a 2-dose series and is approved for ages 2 months and older.

Can I transmit it to other people?

No, individuals are infected by mosquitoes, needlestick, and transmission from mother to fetus.

Can I transmit it to my pets?

No, JEV can only infect other animals and humans through the mosquito vector.

Can it survive on surfaces?

JEV does not survive well in the environment and is not typically transmitted through contact with surfaces.

See *Pathogen Safety Data Sheet* for More Information

