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# Travel Health Update



**B**usiness Traveler recently spoke to travel medicine specialist Bradley A. Connor, M.D., about Japanese encephalitis, the Ixiaro vaccine, and Ixiaro vaccination recommendations for travelers to Asia. Dr. Connor is a clinical associate professor of medicine at the Weill Medical College of Cornell University and founder and medical director of Travel Health Services, New York's first private travel medicine clinic. He is also the director of the New York Center for Travel and Tropical Medicine, a facility devoted to teaching and research in travel and tropical medicine.

## WHAT IS JAPANESE ENCEPHALITIS, AND WHAT ARE ITS SYMPTOMS? HOW LONG DOES IT TAKE FOR SYMPTOMS TO APPEAR?

Japanese encephalitis (JE) is an inflammatory disease of the central nervous system (including the brain and spinal cord), caused by infection with the JE virus. The great majority of JE virus infections are not apparent. JE is an important disease, resulting in a fatal outcome in 30 percent of cases and long-lasting, irreversible neuropsychiatric damage in almost half of the recovered cases.

Most infections result in mild symptoms or no symptoms at all. An estimated 1 in 25 to 1 in 1,000 Japanese encephalitis infections result in symptomatic disease cases. In cases that become clinically apparent, the incubation period is 5–15 days. The symptoms usually start with a flu-like illness, including fever, chills, tiredness, headache, nausea, and vomiting. When infection of the central nervous system occurs, patients

may experience a number of different signs and symptoms, like seizures, paralysis, loss of speech, and coma. 'Parkinsonian' symptoms, like tremor, cogwheel rigidity, and mask-like faces, have also been described in JE.

## WHAT PARTS OF THE WORLD IS JE MOST COMMON IN?

Japanese encephalitis mainly occurs in parts of Asia and the Indian subcontinent, but has recently spread to regions where it had not been seen historically, outside the above mentioned areas.

JE is the most common and severe viral encephalitis (a severe infection and inflammation of the brain) in Asia. Close to three billion people live in regions at risk of infection by the JE virus. Foreign (non-immune) travelers are also affected while moving into these areas.

## WHICH COUNTRIES AND REGIONS WOULD YOU ADVISE BUSINESS TRAVELERS TO GET VACCINATED FOR JE BEFORE VISITING?

On June 24, the Advisory Committee on Immunization Practices (ACIP) of the U.S. Centers for Disease Control and Prevention voted to broaden the current Japanese encephalitis vaccination recommendations in light of the recent Ixiaro vaccine approval by the FDA on March 30, 2009. The new guidelines ensure that travelers to regions where JE is endemic are made aware of the risk of JE and the availability of a safe vaccine (Ixiaro), and can make an informed decision about immunization.

According to the new ACIP guidelines,

immunization should be considered for all travelers to Asia, regardless of the length of visit, except individuals who will be staying solely in urban areas or who will be there at times outside of a well-defined JE season.

These new broader guidelines from ACIP permit Ixiaro vaccine to be recommended in the U.S. for travelers to Asia, military personnel, and others considered high-risk, regardless of the length of visit.

## HOW FAR IN ADVANCE OF THEIR TRIPS SHOULD TRAVELERS GET VACCINATED?

Two immunizations of the vaccine given four weeks apart are required to achieve optimal protection against Japanese encephalitis. Protective levels of JE virus-neutralizing antibodies are achieved one week after the second standard dose of Ixiaro is administered, which is given 28 days after the first dose administration.

## HOW IS JE SPREAD?

Japanese encephalitis virus is transmitted by certain types of mosquitoes. These mosquitoes are usually found in areas of dead water in rural rice-growing and pig-farming regions of Asia, but can also be found at the outskirts of cities.

The mosquitoes become infected by feeding on domestic pigs and wild aquatic birds infected with the JE virus. Infected mosquitoes then transmit the JE virus to humans and animals during the feeding process. Humans are accidental hosts and are not required for virus transmission.

## IS IXIARO THE ONLY EFFECTIVE PREVENTATIVE TREATMENT FOR JE?

Prevention is the best strategy in controlling the burden of JE, and vaccination is the only protective and effective measure to control it.

There is no specific treatment for JE. Therapy consists of supportive care and management of complications. However, supportive care of patients, focusing on treating symptoms and preventing complications is important to reduce/avoid severe symptoms, the risk of death and long-term disability.

## HOW DOES IXIARO WORK?

Studies in animals have shown that Ixiaro triggers the immune system to produce antibodies against the Japanese encephalitis virus that are most often protective in nature.

## DO MOST TRAVEL DOCTORS KNOW ABOUT IXIARO, AND IS IT READILY AVAILABLE IN THE U.S.?

Yes, most travel doctors are aware of Ixiaro and the benefits conferred by it, particularly in light of the recently-expanded ACIP recommendations. Both Intercell and Novartis Vaccines anticipate having adequate production capacity to meet demand for Ixiaro in the U.S. ■