



Messenger

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MUMPS VIRUS ACTIVITY

Public Health authorities in several states are challenged by large outbreaks of mumps virus infection. In Washington State, an outbreak characterized as the worst in a decade has spread to fraternities and sororities at the University of Washington. In late March, 664 cases had been reported. Symptoms of mumps virus infection can include fever, headache, swelling of the cheeks and jaw, muscle aches and testicular pain and swelling. In rare cases, mumps can lead to more serious complications such as sterility. Most people recover from mumps in a few weeks. It is an extremely contagious virus, spreading in crowded environments, through coughing, sneezing, kissing and other close contact, such as sharing food, drinks and cigarettes.

In February, five students were diagnosed with mumps at the University of Indiana on two campuses. An outbreak that began in Arkansas last August has spread to 33 counties and totaled over 3000 cases.

Vaccination with two doses of Measles–Mumps-Rubella (MMR) vaccine is very effective in preventing transmission of the virus, although surveys of Arkansas cases indicated that up to 70% of the infected individuals reported having two doses. However, public health investigators are highly skeptical of the self-reporting and, based on published studies, believe that the actual vaccination rate is half or less of that reported.

Mumps transmission also is going on in many foreign nations, so visits to those countries by travelling U.S. university students is likely to remain an ever-present trigger for outbreaks here.

YELLOW FEVER VIRUS CASES- BRAZIL 2017

Brazil, still reeling from the effects of Zika virus and Chikungunya virus on top of numerous cases of endemic Dengue virus in the past three years, has a new challenge: Yellow Fever virus.

The country's outbreak began in the land-locked state of Minas Gerais in January. As of March 31, 1023 cases have been reported from this state of the 1589 total cases reported for the country. Cases are now appearing in neighboring states, with large unvaccinated populations, especially in coastal areas. An earlier report in March cited 255 deaths (134 confirmed, 112 under investigation, and 9 discarded)

Following a large outbreak in Africa in 2016, this outbreak serves to remind us the Yellow Fever virus is not to be forgotten, or the very effective vaccine ignored by travelers.

The initial symptoms include sudden onset of fever, chills, severe headache, back pain, general body aches, nausea, and vomiting, fatigue,

and weakness. Most persons improve after the initial presentation. After a brief remission of hours to a day, roughly 15% of cases progress to develop a more severe form of the disease. The severe form is characterized by high fever, jaundice, bleeding, and eventually shock and failure of multiple organs.

Transmission of the virus to date has involved the forest cycle mosquito vector, *Hemagogus* and not the urban cycle vector, *Aedes aegyptii*. While the absence of urban transmission may provide some relief, the challenge is daunting with 3 million doses of vaccine administered already, and 8 to 9 million additional doses are planned. Brazil has not seen urban yellow fever for over four decades and the final magnitude of this outbreak is difficult to judge.

A number of countries including Panama, Nicaragua, Venezuela, Costa Rica, Ecuador and Cuba are requiring that people arriving from Brazil present proof of vaccination. A strategy of fractionating doses that was used successfully to stem an outbreak in Africa in 2016 is being considered.
