

Outbreaks of Measles in the United States Associated with Overseas Travel

Overview

Measles is a highly contagious disease that is transmitted by respiratory droplets and airborne spread. The disease can result in severe complications, including encephalitis, pneumonia, and death. Although measles is no longer a common disease in the United States due to successful implementation of measles vaccination programs, it remains widespread in most countries around the world, including Europe. Eurosurveillance, Europe's leading journal on infectious disease epidemiology, reports large recent or ongoing outbreaks in Switzerland, Germany, Spain, Israel, the UK and Norway. Based on preliminary data from 31 European countries for 2007, a total of 3,826 cases were reported, the majority of which were unvaccinated (87%). (*Eurosurveillance*. Volume 13, Issue 16, 17 April 2008)

Since January 2008, several measles clusters and/or outbreaks have occurred in the United States linked to importations from European countries, resulting in 64 cases (AZ, CA, VA, MI and New York City). Many of the secondary US cases were infected in healthcare settings and most were unvaccinated at the time of exposure. Further, a measles cluster has recently been reported in Southern Ontario, Canada. Most cases were unvaccinated and one case was likely imported. (*ProMED*, 18 April 2008 <http://www.promedmail.org>) These outbreaks highlight the importance of vaccination to prevent imported measles cases and to prevent the spread of such cases in susceptible populations.

Diagnosis and Control

The incubation period for measles ranges from 7 to 18 days. Measles should be considered in any person with a generalized maculopapular rash lasting ≥ 3 days, a temperature $\geq 101^{\circ}\text{F}$ (38.3°C), and cough, coryza, and conjunctivitis (the "3-C's"). The Vermont Department of Health (VDH) asks providers to heighten suspicion of measles (especially among those who recently traveled overseas) and to report any suspect cases **immediately** by calling Infectious Diseases at (802)863-7240 (24/7).

Once a case is suspected, timely and aggressive application of public health measures is needed. Such measures include vaccinating or providing immune globulin to close contacts; isolating the case; excluding the case from daycare, school or work; quarantining close contacts; and using appropriate infection control practices, especially within healthcare settings. **All healthcare personnel should have documented evidence of measles immunity on file at their work location.**

Laboratory Testing at the VDH Laboratory (VDHL)

Laboratory diagnosis is based on detection of measles-specific IgM antibody in serum. Please contact Infectious Diseases to arrange measles IgG and IgM antibody testing at VDHL. Testing can be completed in one day. Obtain 2 mL of serum upon evaluation. If the specimen is collected < 3 days after rash onset, repeat testing may be requested if the IgM is negative. Specimens (urine, nasal wash, nose/throat swabs) for virus isolation should also be obtained upon initial evaluation, since a delay in collection reduces the chance of isolating the virus. VDHL will arrange for virus isolation and genetic characterization through the CDC if a measles diagnosis is confirmed.

CDC Health Advisory: To view the recent CDC Health Advisory on measles, including recommendations for prevention, control and vaccination please see:

<http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00273>

To view the measles MMWR (May 1, 2008), please see:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm57e501a1.htm>

May is Viral Hepatitis Awareness Month. Please call (800)244-7639 for more information. For information on hepatitis C testing recommendations see: <http://www.cdc.gov/ncidod/diseases/hepatitis/c/faq.htm#7a>

The *Infectious Disease Bulletin* can be viewed at:

<http://healthvermont.gov/pubs/IDB/index.aspx>

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