

Health Update:

Measles Prevention and Testing Recommendations for Areas Not Affected by Measles Outbreaks, Including Missouri

May 6, 2019

This document will be updated as new information becomes available. The current version can always be viewed at <http://www.health.mo.gov>.

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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Health Update
May 6, 2019

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SUBJECT: Update: Measles Prevention and Testing Recommendations for Areas Not Affected by Measles Outbreaks, Including Missouri

Background

From January 1 to April 26, 2019, 704 confirmed cases of measles have been reported in 22 states. This is the greatest number of cases reported in the U.S. since 1994 and since measles was declared eliminated in 2000. These cases occurred primarily among unvaccinated communities and are linked to travelers exposed to measles in countries with ongoing outbreaks, such as Israel, Ukraine, and the Philippines. Since January 1, 2019, one measles case has been reported in Missouri.

Given that ongoing measles transmission has not been identified in Missouri, the MMR vaccine schedule recommendations have not changed at this time. There is no recommendation from the Centers for Disease Control and Prevention (CDC) for vaccination campaigns among adults or individuals in non-affected areas to prevent measles outbreaks. One dose of measles, mumps, rubella (MMR) vaccine, or other presumptive immunity, is sufficient for most U.S. adults born on or after 1957.

Measles Epidemiology

Measles is one of the most contagious of all infectious diseases; approximately 9 out of 10 susceptible persons with close contact to a measles patient will develop measles. The virus is transmitted by direct contact with infectious droplets or by airborne spread when an infected person breathes, coughs, or sneezes. Measles virus can remain infectious in the air for up to two hours after an infected person leaves an area. Patients are considered to be contagious from 4 days before until 4 days after the rash appears.

Healthcare providers should maintain a high index of suspicion for measles among febrile patients with a rash consistent with measles. A typical measles rash appears on the forehead or the back of the head, then spreads downward to the trunk and extremities over the next three days. Patients of all ages with clinical signs/symptoms compatible with measles (febrile rash plus cough, coryza, and/or conjunctivitis) should be asked about recent travel and contact with returning travelers, or contact with someone with a febrile rash illness. It is also important to verify the patient's vaccination status. Individuals who have been previously exposed to measles antigen may have a modified disease presentation. All persons exposed to measles regardless of vaccination status should monitor for symptoms of measles for the 21 days after the last exposure.

Measles Prevention

Persons who have been exposed to measles should contact their health care provider if they develop cold-like symptoms with a fever and/or rash consistent with measles. They should NOT go to any health care facility without calling first. Health care facilities referring a patient should also contact the receiving facility in advance of the patient's arrival to avoid additional exposures. The suspect case should be kept separated from others to prevent further spread. Isolate suspect measles case-patients and immediately report suspected cases to the local public health agency, or to DHSS at 573-751-6113 or 800-392-0272 (24/7). To ensure prompt public health response, do not wait for laboratory confirmation.

The best way to stop the spread of measles is to be vaccinated. Two doses of MMR vaccine provides 97% protection against the disease. One dose provides 93% protection.

The current general recommendations for MMR vaccination in areas not affected by measles outbreaks are:

- Children should have their first dose of MMR between 12 and 15 months of age and their second dose between 4 and 6 years of age.
- Adults who do not have evidence of immunity (written documentation, laboratory evidence of immunity such as titers, laboratory confirmed measles infection, or birth after 1957) should receive at least one dose of MMR vaccine.
- Individuals who are considered high risk, such as healthcare workers and students attending colleges or vocational schools, should receive two doses of MMR vaccine separated by at least 28 days.
- International travelers should receive the following MMR vaccinations:
 - Infants 6-11 months of age should receive one dose of MMR vaccine.
 - Children 12 months and older should receive two doses of MMR vaccine separated by 28 days.
 - Adults with documentation of one dose of MMR vaccine should receive a second dose.
 - Adults with no documentation should receive two doses of MMR vaccine separated by 28 days.

For more detailed recommendations and contraindications for MMR vaccination, please see the **References** section.

Measles Testing

The Missouri State Public Health Laboratory (MSPHL) provides laboratory support for the diagnosis of measles infections occurring in Missouri. The MSPHL will only test specimens that are approved by state public health officials. For questions regarding storage and shipping of all samples, please contact the MSPHL Virology Unit at 573-751-3334.

Healthcare providers should obtain **both** a serum sample for IgM serology **and** a throat swab, nasopharyngeal swab, or urine sample for RT-PCR molecular detection. Molecular samples should be collected along with serum from patients suspected of having measles at first contact with them. See instructions for collection in the **References** section.

Detection of measles RNA and measles virus isolation are most successful when samples are collected on the first day of rash through the 3 days following onset of rash. Some patient samples may have detectable virus up to 10 days post-rash onset. A negative RT-PCR result does not rule out measles because the test can be affected by the timing of specimen collection and the quality and handling of the clinical specimens.

If the acute-phase serum sample is collected ≤ 3 days after rash onset and is negative, and the case has a negative (or not done) result for RT-PCR, a second serum sample collected 3-10 days after symptom onset is recommended because in some cases the IgM response is not detectable until 3 days after symptom onset.

Questions should be directed to DHSS' Bureau of Communicable Disease Control and Prevention at 573-751-6113 or 800-392-0272 (24/7).

References

Measles cases reported in the US:

<https://www.cdc.gov/measles/cases-outbreaks.html>

CDC webpage for healthcare professionals:

<https://www.cdc.gov/measles/hcp/index.html>

Measles Outbreak Toolkit for Healthcare Providers:

<https://www.cdc.gov/measles/toolkit/healthcare-providers.html>

Measles Vaccination: Information for Healthcare Professionals:

<https://www.cdc.gov/vaccines/vpd/mmr/hcp/index.html>

Frequently Asked Questions about Measles in the U.S.:

<https://www.cdc.gov/measles/about/faqs.html>

MSPHL Measles serology instructions:

<http://health.mo.gov/lab/measlesrubella.php>

CDC measles RT-PCR instructions (do NOT ship specimens directly to CDC):

<https://www.cdc.gov/measles/lab-tools/rt-pcr.html>

Categories of Health Alert Network (HAN) messages:

Health Alert – Requires immediate action or attention; highest level of importance

Health Advisory – May not require immediate action; provides important information for a specific incident or situation

Health Update – Unlikely to require immediate action; provides updated information regarding an incident or situation

HAN Info Service – Does not require immediate action; provides general public health information

##This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, epidemiologists, HAN coordinators, and clinician organizations##