



KENTUCKY HEALTH ALERT

Measles Exposures in Jessamine County Recommendations for Identification and Prevention

February 24, 2023

The Kentucky Department for Public Health (KDPH) has identified a confirmed case of measles in an individual who attended a large gathering in the Hughes Auditorium on February 18th at Asbury University in Jessamine County, Kentucky while contagious. Large numbers of people attended the gathering from across Kentucky and from other states and countries and may have been exposed.

Summary and Action Items

- **Be alert for signs and symptoms of measles**, particularly among people who have not received two doses of measles-containing vaccine. Healthcare providers should also consider outreach to patients who are eligible for MMR to encourage routine immunization.
- **Measles is a reportable disease requiring urgent notification.** If measles is suspected, healthcare facilities should implement appropriate infection prevention and control measures and report any case, suspected case, or positive laboratory result immediately via telephone to the [local public health department](#) in which the patient resides within 24 hours. Do not wait for a positive result to initiate contact with public health.
- **Measles virus testing is available at the KDPH Division of Laboratory Services (DLS)** for eligible clinical specimens upon approval.

Background

Measles is a highly contagious viral respiratory illness. The virus is transmitted through airborne spread of droplet nuclei or direct contact with nasal or throat secretions of infected persons; droplet nuclei can remain suspended in the air for up to two hours. The average incubation period for measles is 14 days, with a range of 7-21 days.

[Recent estimates](#) show that MMR vaccine uptake among children in Kentucky is among the lowest in the nation and that fewer than 87% of Kentucky kindergarteners are fully vaccinated for measles. Cases and outbreaks of measles continue to be identified in multiple countries, and the risk of measles importations into the U.S. is ongoing. Under vaccinated populations are often grouped geographically or socially, which can facilitate rapid spread through frequent contact with other under vaccinated individuals.

Recently, a large measles outbreak occurred in Ohio and [85 cases of measles were reported](#). Of these, at least 36 required hospitalization and nearly all were unvaccinated against measles. The current case is unrelated to the Ohio measles outbreak.



Clinical Recognition

Measles is characterized by an initial prodrome that typically includes high fever, cough, coryza, and conjunctivitis, followed by the appearance of a maculopapular rash 3 – 5 days after symptoms begin. Communicability is greatest from four days *before* the onset of rash until four days *after* the onset of rash. The day of rash onset is considered day 0 when determining the infectious period.

Given known community exposures, suspicion for measles should be heightened among patients with clinically compatible measles symptoms who have not yet received measles-containing vaccine, including those who may have postponed or missed doses. For additional clinical information for healthcare providers, please visit the CDC website.

Diagnostic Testing

The preferred confirmatory testing for measles is detection of RNA by real-time PCR (RT-PCR) in a respiratory specimen (throat or nasopharyngeal swabs). Clinical specimens for RT-PCR and virus isolation should be collected at the same time as samples for serologic testing. Detection of measles RNA by RT-PCR is most successful when samples are collected on the first day of rash through the 3 days following onset of rash but may be successful as late as 10–14 days post rash onset. If a patient is highly suspicious for measles, contact the local health department or KDPH to submit specimens to [KDPH DLS](#) for testing.

Serologic testing for presence of measles IgM antibodies is available at many commercial laboratories and is also an acceptable mode of testing, however turnaround times for result may be delayed. Measles IgM tests are often positive on the day of rash onset. However, up to 20% of tests for IgM may give false-negative results in the first 72 hours of rash onset. Therefore, IgM tests that are negative in the first 72 hours after rash onset should be repeated when there is a high clinical index of suspicion for measles. IgM is detectable for at least 28 days after rash onset. Measles IgM testing should not be performed in persons who do not have clinical suspicion for measles due to the possibility of a false-positive result. **Healthcare providers should report suspected cases of measles to their local health department at the time of seeing the patient.**

Infection Prevention and Control

Measles is a vaccine preventable disease. The measles vaccine is highly protective; one dose of measles-mumps-rubella (MMR) vaccine provides 93% protection against measles and two doses provide 97% protection. Children are eligible for routine MMR vaccination beginning at 12 months of age or as early as 6 months of age if earlier protection is desired (i.e., during a community-wide outbreak or if traveling internationally). A second dose of MMR is recommended at least 28 days after the first dose (or 90 days for MMRV) and usually is administered at 4-6 years of age.

Persons with suspected or confirmed measles infection should be isolated, including exclusion from school or childcare center, for four days following the day of rash onset. Contacts who might be susceptible should be immunized with measles vaccine as soon as possible after exposure. Measles vaccine given within 72 hours after exposure may prevent or reduce the severity of disease. Immune globulin administered intramuscularly (IGIM) or intravenously (IGIV) can prevent or modify measles in a susceptible person if given within six days of exposure. IG may be especially indicated for susceptible



household contacts <1 year of age, pregnant women, or immunocompromised persons, for whom the risk of complications is increased. The most common complications of measles include vomiting and diarrhea that lead to dehydration and sometimes necessitate hospitalization. The most serious complications include pneumonia, encephalitis/brain disfunction and pregnancy complications. Some serious complications of measles can occur over 10 years after recovery from acute illness.

Transmission prevention in healthcare settings guidance

To minimize the risk of measles transmission in the current outbreak setting, healthcare personnel should do the following:

1. **Query patients with a febrile rash illness** about vaccination status, presence on the Asbury campus during the exposure date of February 18, international travel, contact with foreign visitors, transit through an international airport, or possible exposure to a person with measles or a similar rash illness in the 3 weeks prior to symptom onset. Possibility of measles should be considered for patients with such a history and [symptoms consistent with measles](#), particularly in un- or under-immunized persons.
2. **Immediately isolate and provide a mask to patients with suspected measles.** Do not allow patients with suspected measles to remain in the waiting room or other common areas; isolate patients with suspected measles immediately in an airborne infection isolation room if one is available. If such a room is not available, place the patient in a private room with the door closed. Follow [CDC recommendations for infection control measures for measles](#). If possible, allow only healthcare personnel with documentation of two doses of MMR vaccine or laboratory evidence of immunity to measles (i.e., measles IgG positive) to enter the patient's room.
3. **Wear an N95** or higher-level respirator regardless of presumptive evidence of immunity. (A user seal check should be performed each time the respirator is donned.)
4. **Do not use the examination room for at least two hours** after the possibly infectious patient leaves.
5. If possible, **schedule patients with suspected measles at the end of the day.**
6. **Notify the [local health department](#)** in whose jurisdiction the patient resides immediately by telephone about any patients with suspected measles. If the local health department cannot be reached, contact 888-9-REPORT to reach the epidemiologist on-call at KDPH.
7. **Notify any location where the patient is being referred** for additional clinical evaluation or laboratory testing about the patient's suspected measles status, and do not refer patients with suspected measles to other locations unless appropriate infection control measures can be implemented at those locations. The patient must wear a mask, if feasible.
8. **Instruct patients with suspected measles to inform all healthcare providers of the possibility of measles** prior to entering a healthcare facility so appropriate infection control precautions can be implemented.
9. **Make note of the staff and other patients who were in the area during the time the patient with suspected measles was in the facility** and for two hours after they left. If measles is confirmed, exposed people will need to be assessed for measles immunity.