

California Department of Public Health Healthcare Facility Infection Control Recommendations for Suspect Measles Patients, April 2019

Suspect measles in patients with: febrile rash illness consistent with measles* and a history in the prior three weeks of contact with known or possible exposure to a measles case in the community, travel outside of North America, domestic travel via international airports, visiting US tourist attractions, or travel to areas in US with current measles transmission. **If measles is suspected, please use the infection control measures below.**

- 1. If patient calls facility before arrival + measles is suspected + an airborne infection isolation (negative pressure) room is not available:**
 - a. Refer patient to facility with airborne infection isolation room, if possible.
 - b. If referral elsewhere is not possible and medical evaluation is necessary, but not urgent, try to schedule the patient at the end of the day.
 - c. If [measles testing](#) is indicated, but patient does not require urgent medical evaluation, collection of a throat swab for PCR testing may be obtained while the patient is in their car or otherwise outside of the facility. A sterile collection cup should be given to the patient for collection of urine, also for PCR testing. A family member can return with the specimen on ice.
 - d. Ask patient to alert you before entering the facility and provide a surgical mask to the patient before entry. If patient cannot wear a surgical mask, other practical means of source containment should be implemented (e.g., place a blanket loosely over the heads of infants and young children suspected to have measles as they transit through common areas).
 - e. Bypass the waiting area if possible, and do not allow patient to remain in the waiting area or other common areas
 - f. Immediately place patient in a private room and keep the door closed.
 - g. Evaluate patient as quickly as possible and discharge patient home or transfer the patient to a facility with an airborne infection isolation room as soon as feasible.
 - h. Do not keep the patient longer just to collect a urine specimen for PCR testing. A sterile collection cup can be given to the patient for collection of urine at home, and a family member can return with the specimen on ice.
 - i. Depending on the number of air changes per hour (see information in the link below), do not use the examination room for up to one hour after the possibly infectious patient leaves.

- 2. If patient does not call ahead before entering facility + measles is suspected + an airborne infection isolation room is not available:**
 - a. Mask the patient immediately. If patient cannot wear a surgical mask, other practical means of source containment should be implemented (e.g., place a blanket loosely over the heads of infants and young children suspected to have measles while they are transiting through common areas).
 - b. Bypass the waiting room if possible, and do not allow patient to remain in the waiting area or other common areas
 - c. Immediately place patient in a private room and keep the door closed.
 - d. Evaluate patient as quickly as possible and discharge patient home or transfer the patient to a facility with an airborne infection isolation room as soon as feasible.
 - e. Do not keep the patient longer just to collect a urine specimen for PCR testing. A sterile collection cup can be given to the patient for collection of urine at home, and a family member can return with the specimen on ice.
 - f. Depending on the number of air changes per hour (see information in the link below), do not use the examination room for up to one hour after the possibly infectious patient leaves.

3. If measles is suspected + the facility has an airborne infection isolation room:

- a. Mask the patient immediately prior to or upon entry to the facility. If patient cannot wear a surgical mask, other practical means of source containment should be implemented, e.g., place a blanket loosely over the heads of infants and young children suspected to have measles while they are transiting through common areas.
- b. Bypass the waiting area if possible, and do not allow patient to remain in the waiting area or other common areas.
- c. Immediately place patient in airborne infection isolation room.
- d. Patient may remove mask when in the airborne infection isolation room, but should do it again prior to leaving the room when exiting the facility or during transit to another part of the facility.

4. For all suspect measles cases:

- a. Allow only healthcare personnel with documentation of two doses of live measles vaccine or laboratory evidence of immunity (measles IgG positive) to enter the patient's room, if possible.
- b. Regardless of measles immune status, all healthcare personnel entering the patient room should use respiratory protection at least as effective as an N95 respirator per CalOSHA requirements.
- c. Do not allow susceptible people into the patient room, if possible.
- d. Notify any location where the patient is being referred or transferred for additional clinical evaluation or laboratory testing about the patient's suspect measles status and do not refer suspect measles patients to other locations unless appropriate infection control measures can be implemented at those locations.
- e. Instruct suspect measles patients and exposed persons to inform all healthcare providers of the possibility of measles prior to entering a healthcare facility so that appropriate infection control precautions can be implemented.
- f. If patient was not immediately placed in an airborne infection isolation room, patients, visitors, and staff who were in the same air space area as the measles patient during the time the patient was in your facility and for up to one hour after the patient left the area are considered possibly exposed even if the measles patient was masked.
- g. Make note of potentially exposed staff and patients. If measles is confirmed in the suspect measles patient, potentially exposed people will need to be assessed for measles immunity.

For [more information on measles and measles testing](#), please see:

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/measles.aspx>

For additional infection control information, please see the CDC "[Guideline for Isolation Precautions](#)"

<http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html>

*Measles typically begins with a mild to moderate fever accompanied by cough, coryza, and conjunctivitis. Two to three days later, Koplik's spots (tiny red spots with bluish-white centers inside mouth on the lining of the cheek), which are a characteristic sign of measles, may appear. At this time the fever spikes, often as high as 104-105°F. At the same time, a red blotchy maculopapular rash appears that may become confluent, first on the head or face – usually along the hairline and behind the ears. This slightly itchy rash rapidly spreads downward to the chest and back and, finally, to the thighs and feet. In approximately one week, the rash fades in the same sequence that it appeared.

TABLE 1. Air changes per hour (ACH) and time required for removal efficiencies of 99% and 99.9% of airborne contaminants*

ACH	Minutes required for removal efficiency†	
	99%	99.9%
2	138	207
4	69	104
6	46	69
12	23	35
15	18	28
20	7	14
50	3	6
400	<1	1

* This table can be used to estimate the time necessary to clear the air of airborne *Mycobacterium tuberculosis* after the source patient leaves the area or when aerosol-producing procedures are complete.

† Time in minutes to reduce the airborne concentration by 99% or 99.9%.

From: [Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005](http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf) at: <http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf> (page 20)