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TO: All Facilities

SUBJECT: Recommendations for Measles Case Identification, Measles Infection Control, and Measles Case and Contact Investigations

To date in 2014, 60 cases of measles have been reported to the California Department of Public Health (CDPH). This number compares with six cases reported at this time in 2013 and is the highest number of reported cases in any year since 1995.

Measles no longer circulates in North and South America, but is widespread in much of the rest of the world. Among the California cases, 15 patients had traveled outside of North and South America, with eight traveling to the Philippines, where there is a large ongoing measles outbreak. The proportion of measles cases associated with travel to the Philippines has increased nationally. Reported measles cases have been associated with travel to China, England, France, Germany, India, and Vietnam, among other destinations.

Prodromal symptoms of measles typically begin 8-12 days after exposure (day 0) and rash onset is typically 14 days (range 7-21 days) after exposure. Persons with measles are infectious during the 4 days prior to their rash onset through the 4 days after their rash onset.

The failure of facilities to promptly identify and isolate measles cases has led to the investigation of thousands of healthcare contacts this year by local health departments. Measles transmission has occurred in emergency departments, clinics, and other healthcare settings, including transmission to six healthcare workers.

In response to this increase in measles cases in California in 2014, CDPH recommends that healthcare professionals be vigilant about measles.

Recognize suspected measles patients

- Consider measles in patients of any age who have a fever and a rash regardless of their travel history. Measles rashes are red, blotchy, and maculopapular and typically start on the hairline and face and then spread downwards to the rest of the body.
- Obtain a thorough history on such patients, including:

- Travel outside of North or South America or contact with international travelers (including transiting through an international airport and visiting major tourist attractions) in the prior three weeks. However, since measles importations have occurred throughout California, undetected community transmission cannot be ruled out; and
- Prior immunization for measles or history of measles disease.
Although documentation of receipt of two doses of MMR vaccine or a prior positive measles IgG test result makes the diagnosis of measles less likely, measles can still occur in such persons.
- Isolate suspected measles patients immediately (see Guideline for Isolation Precautions link below) and **alert the local health department immediately by telephone**. The risk of measles transmission to others and large contact investigations can be reduced by implementing control measures immediately.
- Administer postexposure prophylaxis (MMR vaccine within 72 hours of exposure or immune globulin within 6 days of exposure) to susceptible contacts, if possible. Please consult the local health department regarding appropriate administration.
- Collect specimens from suspected measles patients for measles testing:
 - Draw 7-10 ml blood in a red-top or serum separator tube; spin down serum if possible. NOTE: capillary blood (approximately 3 capillary tubes to yield 100 µl of serum) may be collected in situations where venipuncture is not preferred, such as for children <1 year of age.
 - Obtain a throat or nasopharyngeal swab; use a viral culturette and place into viral transport media.
 - Collect 50-100 ml urine in a sterile urine specimen container or centrifuge tube.
 - Arrange for measles testing at a public health laboratory.
- Instruct discharged, suspected measles patients to isolate themselves at home until measles is ruled out or until four days have passed after rash onset (day of onset is day zero).

Use appropriate infection control measures for suspected measles patients

1. Mask suspected measles patients immediately. If a surgical mask cannot be tolerated, 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 when they are in the waiting room or other common areas) while transiting to an airborne isolation room or private room.
2. Do not allow suspected measles patients to remain in the waiting area or other

common areas; isolate them 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. For additional infection control information, please see the CDC "Guideline for Isolation Precautions" at:

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

3. If possible, allow only healthcare personnel with documentation of 2 doses of live measles vaccine or laboratory evidence of immunity (measles IgG positive) to enter the patient's room.
4. Regardless of immune status, all healthcare personnel entering the patient room should use respiratory protection at least as effective as an N95 respirator, per CalOSHA requirements.
5. If possible, do not allow susceptible visitors into the patient room.
6. Depending on the number of air changes per hour (see the link to Additional Guidance on Measles Infection Control below), do not use the examination room for up to one hour after the possibly infectious patient leaves.
7. If possible, schedule suspected measles patients at the end of the day.
8. 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 suspected measles patients to other locations unless those locations can implement appropriate infection control measures.
9. Instruct suspected 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.
10. Make note of the staff and other patients who were in the area during the time the suspected measles patient was in the facility and for one hour after the suspected measles patient left. If measles is confirmed in the suspected measles patient, assess exposed people for measles immunity.

Additional guidance on measles infection control can be found at:

<http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHHCFacilityICRecsforSuspectMeaslesPatients.pdf>

Assist local health departments with contact investigations for confirmed measles cases

If a patient who was seen in your facility is confirmed as a measles case, the local health department will follow-up with you regarding a contact investigation. Patients, visitors, and staff who were in the same 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. Facilities are expected to:

- Identify potentially exposed patients and staff (including reception and other non-clinical staff).
- Provide a line list of exposed patients who are not currently hospitalized to the local health jurisdiction.
 - Include: name, most recent contact information (phone number(s), home address, e-mail address), sex, date of birth, occupation (if known), and name of any primary care or OB/GYN provider on file.
 - Determine if there are high-risk persons (pregnant women, immunocompromised persons, infants <15 months of age, and anyone who may be a healthcare worker) among the exposed patients and notify the local health jurisdiction immediately if such patients are identified.
- Assess measles immunity in staff (see table below) and immunity and high-risk status in exposed patients who are still hospitalized. For additional information on follow-up of persons exposed to measles, including immunity assessment and post-exposure prophylaxis, please refer to the CDPH measles investigation quicksheet at:
<http://www.cdph.ca.gov/programs/immunize/Documents/CDPHMeaslesInvestigationQuicksheet.pdf>

Category	IgG testing	Post-exposure prophylaxis	Exclude from work
Two documented doses of MMR vaccine (~1% will be susceptible)	No	No	No
Measles IgG positive (<1% will be susceptible)	No	No	No
Have 1 documented dose of MMR vaccine (5% will be susceptible) <u>or</u> no documented doses of MMR	Yes	If found to be susceptible	Yes
Born before 1957 (5% will be susceptible)	Yes	If found to be susceptible	Yes
History of measles disease	Yes	If found to be susceptible	Yes
Unknown or no documentation of measles immunity status	Yes	If found to be susceptible	Yes
Measles IgG negative or known to be unvaccinated	-	Yes	Yes
Received MMR vaccine <72 hours of exposure	-	-	Yes
Received immune globulin ≤6 days of exposure	-	-	Yes

- Healthcare personnel in your facility should have measles immunity assessed and documented per the CalOSHA Aerosol-Transmissible Diseases standard. This information should be readily accessible in the event of an exposure. For more information, see: <http://www.cdph.ca.gov/PROGRAMS/OHB/Pages/ATDStd.aspx>
- Help local health departments contact exposed patients and their families to alert them of the exposure, assess measles immunity, and assure follow-up testing and post-exposure prophylaxis, as needed.
- Respond to requests from local health departments for additional information.

Additional measles resources can be found at:

<http://www.cdph.ca.gov/HealthInfo/discond/Pages/Measles.aspx>

Thank you for your efforts to protect the health of Californians.

Sincerely,

Original signed by Jean Iacino

Jean Iacino
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