City and County of San Francisco

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HEALTH ALERT

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MEASLES CASE in SAN FRANCISCO

The Public Health Laboratory system has confirmed the diagnosis of measles in a San Francisco resident recently returned from India. Rash onset was April 20. Exposures occurred in San Francisco and Santa Clara Counties from April 16-23. Contacts to the SF index case have been identified and exposure notices distributed. Additional measles cases may occur-- from exposures to this index case or, in the future, to measles contracted overseas. Because measles is extremely contagious and can be life threatening to susceptible individuals we are alerting clinicians and Infection Control Professionals and requesting they follow these recommendations.

This Health Alert is posted on the San Francisco Department of Public Health (SFDPH) website at http://www.sfcdcp.org/healthalerts.

ACTIONS REQUESTED OF ALL CLINICIANS:

1. **Be alert** for cases of measles. Consider measles in any patient with fever and rash, especially in people with known exposure to the San Francisco index case, with recent international travel or with exposure to a visitor from abroad or a US resident who has recently returned from international travel.
2. Implement **airborne precautions** immediately for all patients with **fever and morbilliform and/or vesicular rash: identify**, **isolate** and provide a face mask for the patient to wear.
3. **Report** suspect cases to the Communicable Disease Control Unit (CDCU) at 415-554-2830 [or your Local Health Department if you are in a County other than San Francisco]; in addition, if the case is or was in the hospital, report to your hospital Infection Control Professional (ICP).
4. Coordinate **diagnostic testing** with the **CDCU**.
5. Work with your ICP (if in a hospital) or the CDCU (if in other settings) to **identify exposed susceptible contacts** and assess them for **post-exposure prophylaxis** and the need for **exclusion from work** or **quarantine**.

Description of measles:
Due to a successful vaccination program, measles is rare in the US. However in recent months there has been a significant rise in cases due to outbreaks in several states. Imported international cases initiated outbreaks that subsequently involved mostly unvaccinated persons. The imported cases originated from many countries. Most were from Europe. Clinicians should suspect measles in patients presenting with fever and rash and should ask patients about recent travel and other possible exposures.

Measles is a highly infectious, acute viral disease characterized by a prodrome of fever (which can be as high as 103-105 ºF), malaise, cough, coryza and conjunctivitis, which usually occurs 10-12 (range 7 to 18) days after exposure. After 1-4 days of prodrome an erythematous maculopapular rash develops that usually begins on the face and upper neck and then progresses downward and outward. Pathognomonic enanthem (Koplik spots) may occur. People who have received vaccinations against measles can have a more mild clinical presentation (modified measles) and people who have received antibodies (e.g. newborns receiving maternal Ab and people who have received Ig) can have an atypical presentation (rash progresses in opposite fashion). Complications of measles include bronchitis, pneumonia, encephalitis and death.

Categories of urgency levels
Health Alert: conveys the highest level of importance; warrants immediate action or attention
Health Advisory: provides important information for a specific incident or situation; may not require immediate action
Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action

Infection Control:
Measles is transmitted person-to-person via large respiratory droplets and via aerosolized droplet nuclei. People with measles are infectious from 4 days before rash onset to 4 days after rash onset. Airborne precautions should be used immediately with all suspect cases. Patients should be given a surgical mask to wear at all times. Patients should be placed into a private negative air pressure room. If an airborne isolation room is not available, the patient should be placed in a private room with the door closed. Anybody entering the patient's room should wear respiratory protection (N95 respirator). Patient movement should be minimized. Patients should not go to other areas of the facility for blood draws or other tests. These airborne precautions should be used for any patient with fever and a morbilliform and/or vesicular rash. Contact the CDCU for guidance on re-use of the isolation room. Please strongly consider educating triage staff to identify and request assistance for patients with fever and a rash.

Notifications and responsibilities:
Report **all suspect cases** to the SFDPH Communicable Disease Control Unit (CDCU) at 415-554-2830 [or your Local Health Department if you are in a county other than San Francisco]. In addition, if the case is or was in the hospital, report to your hospital Infection Control Professional (ICP). Do not wait for laboratory results before notifications. The CDCU will arrange for testing by the Public Health Laboratory system, which will provide more rapid results than most commercial labs. In the hospital setting, the Infection Control Professional will coordinate implementation of infection control measures, identification of exposed susceptible contacts, provision of post-exposure prophylaxis, symptom surveillance and, if necessary, restriction from work or quarantine of exposed susceptible health care workers. In other medical settings, the CDCU will work with the designated manager of the facility. In non-medical settings, the CDCU will manage these disease control interventions.

Before having contact with patients suspected to have measles, health care workers should be protected by vaccination or documented to have immunity. To protect healthcare workers from future exposures, please ensure now that they are vaccinated or have immunity to measles.

Diagnosis:
Testing via the Public Health Laboratory system should be pursued as soon as possible for all suspect cases. The CDCU will facilitate testing. Do not delay diagnosis by sending specimens to commercial laboratories. Measles can be diagnosed by serology (a positive IgM [collected 2-28 days after rash] or a significant rise in IgG), and by isolation from nasopharyngeal or urine specimens. Please obtain all specimens (serum in a red top tube, a nasopharyngeal swab on a Dacron tip swab placed in viral transport media and a urine sample in a sterile cup). Specimens should be sent after consultation with CDCU to the SFDPH Public Health Lab. See the attached laboratory form or go to our website http://www.sfcdcp.org/UserFiles/File/Lab_Reporting_Form.pdf.

Identification of exposed persons (contacts):
All contacts of suspect measles cases should be identified, their susceptibility determined and reported to CDCU.
A person is considered a contact if during the infectious period they:

a) lived with the case,
b) have shared air space during the time or for up to two hours after the case was present and were not masked.

Identification of susceptibility or immunity:
A person is considered susceptible if they answer "No" to ALL the questions below. A person is considered immune if they answer "Yes" to any of these questions.

a) Were you born before 1957?
b) Do you have documentation of 2 doses of measles vaccine?
c) Do you have a history of measles with a physician's documentation of the infection?
d) Do you have laboratory evidence of measles immunity?

Restriction of Exposed, Susceptible Health Care Workers:
Exposed, susceptible health care workers should be removed from all patient contact and excluded from the facility from the 5th day after first exposure until 21 days after the last exposure (28 days if immune globulin was given).

Post-exposure prophylaxis:
Delayed diagnosis of the above case prevented the use of post-exposure prophylaxis (PEP).

If additional cases occur and are promptly recognized, PEP should be pursued for exposed susceptible contacts:
a. Immune globulin (IG) can prevent or modify measles in a non-immune person if given within 6 days of exposure. IG is indicated for susceptible contacts at high risk for developing severe measles, including some infants < 12 months old, pregnant women, immunocompromised persons and others for whom the vaccine is contra-indicated. Severely immunocompromised patients and other symptomatic HIV-infected patients exposed to measles should receive IG, regardless of vaccination status because they may not be protected by the vaccine. Infants < 6 months old are usually immune because of passively acquired maternal antibodies. However, if measles is diagnosed in a mother, unvaccinated children in the household who lack evidence of measles immunity should receive IG.
b. Measles containing vaccine (MCV) is recommended as PEP for most susceptible persons aged ≥ 12 months. Administration of MCV is preferable to using IG, except as noted above. If administered within 72 hours of initial exposure, MCV may provide some protection. MCV is available in monovalent (measles only) formulation and in combination formulations, such as measles-rubella (MR) and measles-mumps-rubella (MMR) vaccines.