

## COUNTY OF ORANGE HEALTH CARE AGENCY

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PUBLIC HEALTH EPIDEMIOLOGY & ASSESSMENT

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## Measles (Rubeola) Reminder

We recently received a report of an acute measles case in Orange County. Although this patient most likely acquired infection from travel abroad, this incident serves as a reminder that measles does occur in Orange County residents. In the U.S., sporadic cases and small outbreaks of measles occasionally occur in conjunction with the importation of measles by a visitor to the U.S. or a U.S. traveler returning from other countries. **Physicians and other health care providers should consider measles in patients with appropriate symptoms (see attached fact sheet), especially in those who are not immune (see attached fact sheet), travelers from other countries, and contacts to other persons with febrile rash illness.** 

If you have a patient with febrile rash illness in whom you suspect measles:

- 1. Report case to Orange County Public Health at 714-834-8180.
- 2. Send serum for measles IgM and IgG <u>and</u> nasopharyngeal, throat, or urine specimens for measles virus culture. Orange County Public Health can assist with testing for measles on suspect cases.
- 3. Recommend that all suspect measles cases stay home during prodrome and until four (4) days after onset of rash. Suspect measles cases should be instructed to call ahead prior to coming to the office so they can be appropriately masked upon entering the building and taken directly into the examination room. Health care providers should use airborne infection isolation precautions to prevent transmission in healthcare settings.
- 4. **Provide post-exposure prophylaxis for susceptible contacts. MMR vaccine** given within 72 hours of exposure to non-pregnant, immunocompetent, susceptible contacts ≥12 months of age may modify or prevent illness. MMR vaccine given after 72 hours will not prevent or modify illness from this exposure, but is recommended in susceptible persons to prevent infections from future exposures. **Immune globulin (IG)** given within 6 days to susceptible contacts at high risk for developing severe measles (infants <12 months of age, pregnant women, immunocompromised persons) may modify or prevent illness.
- 5. **Assess immunity status of staff.** All staff working in a healthcare facility (HCW) should have evidence of immunity to measles, which includes:
  - 1. Positive serum IgG to measles, OR
  - 2. History of measles based on health care provider diagnosis, OR
  - 3. Birth before 1957, OR
  - 4. Two doses of measles-containing vaccine (usually given as MMR) since HCW are at higher risk of measles exposure.
- 6. Exclude exposed staff without evidence of measles immunity from direct patient contact from the  $5^{th}$  to  $21^{st}$  days after exposure.

For more information, see the attached Measles (Rubeola) Fact Sheet for Health Care Providers, also available at <u>http://ochealthinfo.com/epi/for-phys.htm</u>, or the CDC website at <u>http://www.cdc.gov/vaccines/vpd-vac/measles/default.htm</u>.

A fact sheet for patients is available at <u>http://www.ochealthinfo.com/epi</u>.

## Measles (Rubeola) Fact Sheet for Health Care Providers

**Description of measles infection:** Measles is an acute viral infection characterized by a prodrome (fever, malaise, coryza, cough, conjunctivitis) for 2-4 days, followed by an erythematous rash starting on the face and neck and descending to the trunk then extremities. The rash usually persists several days and fades in the same order of appearance. It initially may be maculopapular but may become confluent, particularly on the upper body. Complications of measles include otitis media (in 10% of infected children), diarrhea, pneumonia, encephalitis, hearing loss, and seizures. Even in previously healthy children, measles can be a serious illness requiring hospitalization. For about 1-2 per 1,000 children infected with measles, the disease is fatal. A rare complication which occurs several years after measles infection is subacute sclerosing panencephalitis (SSPE), a fatal degenerative disease of the central nervous system. Miscarriage, premature birth, or low birth weight can result from measles infection during pregnancy.

**Transmission:** Measles is highly contagious. 90% of susceptible close contacts of an infected person will also become infected. Measles virus is mainly spread through direct contact with respiratory droplets. However, airborne transmission via aerosolized droplet nuclei is also possible. The average incubation period from exposure to prodrome is 10-12 days; from exposure to rash onset averages 14 days. Infected persons are infectious from four days before rash onset until four days after rash onset. For immunocompromised hosts, the infectious period is the entire duration of illness.

**Diagnosis:** Laboratory confirmation of measles is by demonstration of a positive measles IgM antibody in serum or a significant rise in measles IgG in paired acute and convalescent sera, or by isolation of measles virus from urine, throat, or nasopharyngeal specimens. If the IgM is negative and the specimen was collected during the first 72 hours after rash onset, repeat serum testing is indicated if the patient has a generalized rash lasting more than 72 hours.

**Treatment:** No specific FDA-approved antiviral therapy for measles is available. Ribavirin has been used anecdotally in severely affected and immunocompromised measles patients but is not FDA-approved for measles treatment. Vitamin A supplementation should be considered in children >6 months of age with specific risk factors. See the 2006 Red Book from the American Academy of Pediatrics for more information (p. 443).

**Prevention:** Measles vaccine (usually given as MMR – measles, mumps, rubella vaccine) is available and is highly effective in preventing measles infection. See <u>www.cdc.gov/vaccines/vpd-vac/measles/default.htm</u>. Two doses of MMR vaccine are recommended for all children (usually given at 12-15 months and 4-6 years of age) and adolescents. MMR vaccine should also be given to all adults without evidence of immunity (see below) to measles or contraindications to vaccination.

## **Evidence of immunity to measles:**

- 1. Positive serum IgG to measles, OR
- 2. History of measles based on health care provider diagnosis, OR
- 3. Birth before 1957, OR
- 4. At least one dose of measles-containing vaccine (usually given as MMR)\*

\*Adults who should receive two doses of measles vaccine if no other evidence of immunity are persons (1) recently exposed to measles or in an outbreak setting; (2) previously vaccinated with killed measles vaccine; (3) previously vaccinated with an unknown type of measles vaccine between 1963-1967; (4) who are students in postsecondary educational institutions; (5) work in a health care facility; or (6) who plan to travel internationally.