

To report a suspect case of measles or request measles testing for patients, contact the Los Angeles County Department of Public Health Immunization Program. During this consultation, the medical epidemiologist will complete a case history form, provide guidance regarding appropriate testing, approve testing, and provide the forms required for submitting specimens for measles PCR (link to measles PCR info sheet) and/or measles serology (link to measles serology info sheet).

**All testing must first be approved by either the Immunization Program medical epidemiologist or the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.**

**Immunization Program Contact Information**

Program Service Hours	Phone Number	Comment
M-F 8:00 AM - 5:00 PM	213-351-7800	Indicate suspect measles case
County Operator After 5:00 PM M-F, weekends & holidays	213-974-1234	Ask for the AOD

Measles testing is categorized as either high priority or low priority.

**High priority specimens for PCR testing include those from suspect measles cases who meet these criteria:**

- 1) A patient with classic measles illness (cough, coryza, conjunctivitis, fever over 101°F and descending maculopapular rash)
- 2) A patient with rash and fever who has high risk contacts (infants, pregnant women, immunocompromised persons)
- 3) A pregnant woman or immunocompromised person with fever and rash or
- 4) A patient with rash and fever who is a contact to a known case.

**High priority contacts of measles cases for measles IgG testing include those who meet these criteria:**

- 1) A patient who is at high risk of complications (pregnant, immunocompromised) and may require post-exposure prophylaxis.

**To arrange for courier service to the Public Health Laboratory:**

- 1) Obtain prior testing approval from the Immunization Program and receive test request forms
- 2) Label specimens with patient name (Last, First), date of birth, medical record number, and date collected
- 3) Place each specimen in its own biohazard bag with specific test request form in the outer pouch
- 4) Refrigerate specimens or place on cold pack for courier pick-up
- 5) Contact Public Health Laboratory for courier service
- 6) Allow a minimum of 3 hours for courier pick-up following dispatch confirmation
- 7) If pick-up is scheduled for a time that is after close of business hours, assure facility access with clear description of specimen location and storage conditions
- 8) If after-hours facility access is not available, assure that refrigerated conditions are available for overnight storage. The courier will be scheduled for the following business day.

**Public Health Laboratory Contact Information**

Program Service Hours	Phone Number	Comment
Public Health Laboratory Courier M-F 8:00 AM - 5:00 PM	562-658-1460	Indicate courier transport approved by Immunization Program
County Operator After 5:00 PM M-F, weekends & holidays	213-974-1234	Ask for Public Health Laboratory Director

### Laboratory Testing

Laboratory confirmation of measles cases by molecular testing and/or serology is recommended due to the highly infectious nature of the virus. During the acute phase of illness from rash onset to 4 days later, it is strongly recommended to collect nasopharyngeal swab, urine, and serum. Determination of the viral genotype is important for public health surveillance to discriminate vaccine strains from wild type or outbreak strains, especially in recently vaccinated patients. To determine the immune status of individuals suspected of exposure to an active measles case, collect serum for measles IgG antibody testing.

### PCR and Serology Results Interpretation

Assay/Test	Result	Interpretation	Comments
<b>Measles PCR</b>	Positive	Measles virus detected	Patient should be considered infectious <b>Note:</b> Patients receiving measles vaccine in the past 14 days could test positive
	Negative	Measles virus not detected	Patient not infectious
<b>Measles IFA Serology</b>	IgM Positive & IgG Negative	Suggestive of acute infection	IgM antibody may be detected 3 days after rash onset and can persist for 4 to 6 weeks. Infrequently, a positive IgM result alone may be a false positive
	IgM Positive & IgG Positive	Suggestive of acute infection	Measles IgG antibody is detectable shortly after IgM antibody becomes positive <b>Note:</b> Patients receiving measles vaccine can have a similar result
	IgM Negative & IgG Positive	Patient likely immune due to vaccination or natural infection	Patients with a single dose of the vaccine can produce a detectable IgG response but may be susceptible to infection
<b>Measles IgG EIA Serology</b>	Negative	Measles IgG antibody not detected	Patient is not immune
	Equivocal	Measles immune status inconclusive	The antibody determination of a single specimen cannot be used to determine recent infection. Paired samples (acute and convalescent) should be collected and tested concurrently to demonstrate a four-fold rise in titer.
	Positive	Measles IgG antibody detected	Suggests patient is immune due to vaccination or prior natural infection

### Additional Resources:

California State Department of Public Health Measles Webpage  
<http://www.cdph.ca.gov/HealthInfo/discond/Pages/Measles.aspx>

Centers for Disease Control and Prevention Measles Webpage

<http://www.cdc.gov/measles/index.html>