



## LAC DPH Health Update: Measles Situation Update and Revised Clinical Guidance

May 24, 2019



*This message is intended for primary care, urgent care, emergency, pediatric, family medicine, obstetrics/gynecology, internal medicine, infectious disease, dermatology providers, and laboratorians.  
Please distribute as appropriate.*

### Key Messages

- There have been no new measles cases in the county since May 2, 2019, but the threat of measles persists, primarily due to importation from travel.
- Based on the current local situation, we have refined our guidance to provide more information on how to evaluate a patient with a febrile rash illness for possible measles based on clinical presentation and risk factors.
- Providers should continue to assure that their patients are up-to-date with their measles-mumps-rubella (MMR) immunization, should immunize all international travelers age 6 months or older for whom there is no documentation of immunity, and should immediately report suspect measles to Public Health.

### Situation

The Los Angeles County Department of Public Health (DPH) has confirmed 8 cases of measles in 2019 to date and has investigated thousands of exposures in both adults and children related to these cases. Four of the cases were linked to a single case who had traveled internationally and the other 3 cases were unlinked and in residents who had recently returned from travel outside the United States. The majority of cases were unvaccinated, and the remainder were only partially vaccinated. While the immediate threat of measles from local cases is waning (the surveillance of exposed contacts ends May 27, 2019), the possibility of new measles cases persists due to global outbreaks.

There are widespread [outbreaks of measles](#) in the U.S. and internationally. The Centers for Disease Control and Prevention (CDC) reported that this year, as of May 20, 2019, there have already been 880 confirmed cases of measles in 24 states, more than any year since measles was declared eliminated from the U.S. in 2000. Outbreaks within the U.S. have been linked to travelers returning from countries or domestic locations with measles outbreaks.

Assuring immunity across LA County is critical to curb the spread of measles. Clinicians are asked to follow the action steps outlined in the April 26 LAHAN, "[Measles Prevention in LA County](#)", including immunizing all international travelers age 6 months or older for whom there is no documentation of immunity to measles and making sure that all (child and adult) patients are up-to-date with their MMR vaccine.

This notification is to provide updated guidance to clinicians when evaluating a patient for possible measles and includes key provider actions, measles clinical presentations, specimen collection and testing, and common scenarios. Providers are encouraged to view and follow the recently updated DPH *Checklist for Measles for Clinicians* for step-by-step guidance, as well as the updated *Measles Fact Sheet for Clinicians*, both found in our [Measles Toolkit](#).

### Actions Requested of Providers

- **Immediately isolate patients with an acute febrile rash** and institute airborne precautions to prevent possible healthcare-associated exposures.
- **Assess if the patient has measles-like symptoms.** A suspect measles case will have both a fever and rash. Presentations may vary based on vaccination status and immunocompetence, but all cases should have both a fever and a rash. See Measles Clinical Presentation below.
- **Ask about exposure risk-factors for measles.** In LA County and California, there are certain epidemiologic risk factors that significantly increase the probability that a patient with an acute febrile rash has measles. Determine if the patient had in the past 4 weeks:
  - contact with a known measles case
  - contact with an international visitor who was ill
  - traveled outside the U.S., Canada, or Mexico
  - traveled through an international airport (even if they traveled domestically)
  - lived in or visited a U.S. community where there is an [outbreak](#).

See CDC's [Global Measles Outbreaks](#) to learn more about locations of domestic and international measles outbreaks.

- **Review measles immunization status and/or serology.** Patients with 2 documented MMR doses administered in the U.S. at  $\geq 12$  months of age are probably immune to measles. Immunocompetent patients with a documented positive IgG are usually considered immune to measles.
- **Report by phone immediately all patients with rash and fever plus an exposure risk-factor for measles, regardless of immunization history.** DPH will work with the reporting clinician to determine the likelihood of measles, review any specimen collection recommendations, ensure appropriate isolation precautions are in place for four days after rash onset, and determine if any additional disease control actions are warranted.  
Note: patients without both fever and rash and without an exposure risk-factor for measles are unlikely to have measles.

See Reporting and Consultation below for specific contact information.

## **Measles Clinical Presentation**

Unvaccinated, immunocompetent patients usually have a classic presentation of measles. Symptoms typically begin with a mild to moderate fever with the 3 C's of cough, coryza, and conjunctivitis. Two to three days later, Koplik's spots, an uncommon but characteristic sign of measles, may appear in the mouth. The fever then spikes, often to >104°F and a red, blotchy, maculopapular rash appears, usually first on the face, along the hairline, and behind the ears. This rash then spreads downward to the trunk, and then to the arms and legs. In approximately one week, the rash fades in the same sequence that it appeared.

It is useful to note that measles in unvaccinated children follows the typical clinical presentation and that these children are very ill. Consider other etiologies if the unvaccinated child appears well or lacks the classic rash progression accompanied by a high fever.

Symptoms of fever and rash can vary in presentation and timing if the patient has been immunized or is immunocompromised. Measles in immunocompromised patients can be severe with a prolonged course and may lack the typical rash.

Measles in vaccinated patients with partial immunity has a wide variety of presentations including classic disease as well as milder disease and modified symptoms. The fever may be milder and the rash may present differently (such as starting on trunk and arms). "Atypical measles" is associated with killed vaccine used from 1963-1967. The illness is characterized by fever, pneumonia, pleural effusions, and edema. The rash is usually maculopapular or petechial, but may have urticarial, purpuric, or vesicular components. It appears first on the wrists or ankles. See CDC's Pink Book – [measles chapter](#) for more information on these presentations.

## **Measles Specimen Collection and Testing**

When contacted about a possible measles case, DPH will make recommendations regarding specimen collection and will advise whether Public Health Laboratory (PHL) testing is indicated.

If DPH considers the case suspicious for measles, DPH will ask that the following three specimens be collected and stored for measles testing by PHL:

- Throat for PCR: Use sterile synthetic swab and place into liquid viral/universal transport media
- Urine for PCR: 10 – 50 ml midstream, clean-catch
- Serum for IgM/IgG: 7 - 10 ml in gold top serum separator tube. (For pediatric patients, capillary blood, finger or heel stick, can be used. At least 3-5 capillary tubes are needed.)

For laboratory forms and details on specimen labeling, storage and transport, visit the specimen collection website: [http://publichealth.lacounty.gov/ip/VPDspecimen\\_collection.htm](http://publichealth.lacounty.gov/ip/VPDspecimen_collection.htm).



As a general reminder, specimen vials must be labeled with at least 2 patient identifiers: Last and First Name, Date of Birth or Medical Record Number. These patient identifiers must match the information completed on the accompanying lab forms. Due to the similarity of the lab forms, please carefully select the correct form for the specific disease and specimen source.

Specimens approved by DPH will be collected by PHL courier and processed based on the index of suspicion of the case. Specimens that arrive at PHL without prior DPH approval may experience significant delays in testing.

Download the *Specimen Collection for Common Vaccine Preventable Diseases* poster:

<http://publichealth.lacounty.gov/media/docs/SpecimenCollectionPoster.pdf>

## Common Scenarios

- Patients with a rash and fever within 1-2 weeks of MMR administration.** In this scenario, measles serology will not be useful as the immunization will elicit an IgM and IgG response. A detailed history of the timing of immunization and measles risk factors will help discriminate between wild-type and vaccine-induced measles rash and symptoms. If there is no known measles exposure, then the patient is likely to be having a vaccine-related reaction. If there is still uncertainty, PCR and genotyping arranged by DPH will differentiate the two.
- Patients with fever and rash but no exposure risk-factors for measles.** Many patients will present with fever and rash, but as they do not have any risk factors for measles exposure, they have a lower likelihood of measles. Providers should order serum IgM/IgG through their regular laboratory. Note: false negative IgM results can occur if serum is collected within 72 hours of rash onset. In addition, providers should collect and store serology, urine, and throat specimens in a refrigerator for subsequent measles testing at PHL if IgG negative or IgM positive or if the clinical course progresses.
- Patients without rash and with a possible measles prodrome.** Immunocompetent patients without a rash can be observed. There are no useful diagnostic tests for measles prior to the presentation of a rash. If patients report a risk factor for measles, they should be advised to self-isolate until symptoms resolve. Patients should be instructed to call if rash develops during that time. Consider IgG testing with regular laboratory to determine presumptive immunity.

**If a measles consultation is needed, call DPH.**

## Reporting and Consultation

### Los Angeles County DPH Morbidity Central Reporting Unit:

- Weekdays 8:30 AM – 5 PM: call 888-397-3993.
- After-hours: call 213-974-1234 and ask for the physician on call.

### Long Beach Health and Human Services:

- Weekdays 8 AM – 5 PM: call 562-570-4302.
- After-hours: call the Duty Officer at 562-500-5537.

### Pasadena Public Health Department:

- Weekdays 8 AM – 5 PM (closed every other Friday): call 626-744-6089.
- After-hours: call 626-744-6043.

## Resources

- **Poster on specimen collection for common vaccine preventable diseases**  
**New!**  
<http://publichealth.lacounty.gov/media/docs/SpecimenCollectionPoster.pdf>
- **Measles posters, FAQs, and other resources**  
<http://publichealth.lacounty.gov/media/measles/>
- **Technical assistance:** LAC DPH Vaccine Preventable Disease Control Program Surveillance Unit 213-351-7800
- **Measles in LA County: [Communicating with Parents and Patients about Immunizations](#).** This *Rx for Prevention* brief shares messages that providers can use to promote the measles, mumps, and rubella vaccine as well as vaccine communication tips and other resources.
- **Disease Management Toolkits for Providers:**  
[http://publichealth.lacounty.gov/ip/providers\\_resources.htm](http://publichealth.lacounty.gov/ip/providers_resources.htm)

This Health Update was sent by Dr. Franklin Pratt, Medical Director, Vaccine Preventable Disease Control Program, Los Angeles County Department of Public Health

To view this and other communications or to sign-up to receive LAHANs, please visit <http://publichealth.lacounty.gov/lahan>