



# Measles

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Additional information available at [www.michigan.gov/cdinfo](http://www.michigan.gov/cdinfo)

## Background:

The US has seen a resurgence of measles in 2011. As of September 30<sup>th</sup>, 2011, 196 confirmed cases have been reported, more than any year since 1996. As a point of reference 63 were reported in 2010, 70 in 2009, 140 in 2008, 43 in 2007, and 55 in 2006.

The increase in US cases is likely due to increases in other areas of the globe. Europe is reporting large outbreaks in several countries and despite notable progress in reducing measles mortality over the past decade, parts of Asia and Africa began seeing large increases in 2009, as well.

According to the CDC, most of the US cases have been associated with travel to highly endemic countries, or to countries experiencing outbreak levels of transmission. Most of the cases were unvaccinated or lacked appropriate vaccination records.

In 2000, measles was certified as Eliminated in the US, meaning there is no evidence of indigenous transmission. This status will be at risk if population immunity levels are not maintained at 95% or above.

## Tip 1: Clinical Description

An acute, highly communicable viral disease with prodromal fever, conjunctivitis, coryza, cough and small spots with white or bluish-white centers on an erythematous base on the buccal mucosa (Koplik spots). Fever increases in stepwise fashion to 101F (38.3C) or higher. A characteristic red blotchy rash appears on the 3<sup>rd</sup> – 7<sup>th</sup> day; the rash begins on the face, then becomes generalized, lasts 4-7 days and sometimes ends in brawny desquamation.

Heymann DL. *Control of Communicable Disease Manual*, 19<sup>th</sup> Edition



Images courtesy of Public Health Image Library and Department of Pediatrics and Adolescent Medicine, Princess Margaret Hospital, Hong Kong

## Tip 2: Diagnostic Testing

Obtain clinical specimens as follows:

### (1) Serum

For measles IgM and/or paired IgG assays

If an IgM is negative on serum collected less than 3 days after rash onset, obtain more serum and repeat the IgM

### (2) Throat, nasopharyngeal, and/or nasal swab

Submit in viral transport media and make arrangements for testing at MDCH BOL

### (3) Urine

50 ml, clean catch mid-stream, sterile container

## Tip 3: Case Definition, 2010 CSTE

### Suspected:

Any febrile illness that is accompanied by rash and that does not meet the criteria for probable or confirmed measles or any other illness

### Probable:

In the absence of a more likely diagnosis, an illness characterized by:

Generalized rash lasting  $\geq 3$  days; **and**

Temperature  $\geq 101^\circ\text{F}$  or  $38.3^\circ\text{C}$ ; **and**

Cough, coryza, or conjunctivitis; **and**

No epidemiologic linkage to a confirmed case of measles; **and**

Non-contributory or no serologic or virologic testing.

### Confirmed:

Laboratory confirmation by any of the following:

Positive serologic test for measles immunoglobulin M antibody; **or**

Significant rise in measles antibody level by any standard serologic assay; **or**

Isolation of measles virus from a clinical specimen; **or**

Detection of measles-virus specific nucleic acid by polymerase chain reaction

Note: A laboratory-confirmed case does not have to have generalized rash lasting  $\geq 3$  days; temperature  $\geq 101^\circ\text{F}$  or  $38.3^\circ\text{C}$ ; cough, coryza, or conjunctivitis.

### OR

An illness characterized by:

Generalized rash lasting  $\geq 3$  days; **and**

Temperature  $\geq 101^\circ\text{F}$  or  $38.3^\circ\text{C}$ ; **and**

Cough, coryza, or conjunctivitis; **and**

Epidemiologic linkage to a confirmed case of measles.

## Tip 4: Initial Steps to take if you get a Report

1. Ascertain exact clinical description and vaccination history
2. Ensure the proper collection and shipment of specimens to MDCH BOL
3. Contact the MDCH Bureau of Vaccine Preventable Diseases by phone. Please, be sure to speak with a live person.
4. Ascertain travel history
5. Collect a list of possible contacts (including those potentially exposed at a healthcare provider and/or Emergency Department)
6. Assess immunity of contacts (immunization history, physician-certified disease history, or serologic of immunity).

## Tip 5: Promote immunization

1. Measles vaccine is universally recommended in childhood
2. Adults lacking evidence of immunity also should be immunized
3. Include assessment of need for measles for international travelers, including infants as young as 6 months.