



# Clinical Update

## For Telephone Triage Nurses

August 2019

### In this Issue

**Measles:**  
**Complications**  
**How to Recognize**  
**Diagnosis**  
**Transmission**  
**Prevention**  
**Your Triage Role**



Measles Rash  
(Source: CDC)

### Measles in 2019

In 2000, the United States went an entire year without a single case of measles. The celebration was short-lived. Measles has returned with a vengeance. Every year, measles outbreaks are occurring in greater numbers. As of August 1<sup>st</sup>, the CDC has reported 1,172 measles cases in the US so far this year. The last time we had more cases than that was 1992. Most cases are in unvaccinated children and adults. Vaccine misinformation remains a major and growing problem.

#### Measles is a Bad Disease (AAP and CDC data 2019)

Many people don't realize that measles has serious complications. These complications are more common in children younger than 5 years:

- Pneumonia: 6%
- Hospitalization rate: 10%
- Encephalitis: 2 cases per 1000
- Death: 2 cases per 1000

#### How to Recognize Measles

##### Prodrome:

- \* Measles starts with red eyes, a runny nose, a cough and fever.
- \* The eyes are very sensitive to light.
- \* Respiratory symptoms continue for 3-4 days before the onset of the measles rash.

##### Koplik Spots:

- \* Koplik spots are tiny white specks on the lining of the mouth, especially on the buccal mucosa. They appear 1 to 2 days before the onset of the rash.
- \* These are only seen with measles and are helpful to HCPs for early diagnosis.
- \* They are not helpful to telephone triage because patients and parents rarely notice them.

##### Rash:

- \* The measles rash starts on day 4 or 5 of the illness. This is when the patient/parent will usually call.
- \* It's a blotchy red rash that starts on the face and back of the neck.
- \* The rash spreads downward to involve the entire body over the next 3 days.
- \* The rash is deep red, and by 4 days, it often doesn't blanch with pressure.
- \* The rash disappears in the same order that it appears, starting on the face.
- \* The rash is usually gone by 7 days.

##### Diagnosis

- \* Measles can usually be diagnosed by how the rash looks.

# Clinical Update

## For Telephone Triage Nurses



- \* Not having received the measles vaccine (MMR) is almost always present.
- \* Exposure to another person with measles 7 to 21 days earlier OR the report of other cases of measles in the community (adds weight to the diagnosis).
- \* Blood tests or viral cultures are sometimes needed.
- \* This diagnosis must be confirmed by a physician. Reason: Measles is a reportable disease to the Public Health Department. Reporting triggers public health measures to prevent further spread.

### Transmission: Measles is Highly Contagious

- \* Spread: Measles is one of the most contagious of all viruses. Reason: Measles can be spread by tiny airborne particles that carry the virus and can float in the air. These can remain airborne in a closed area (such as an exam room) for up to 2 hours after the person with measles has left. Also, like other respiratory infections, droplets from coughing or sneezing are infectious. They can cause disease by getting in the eyes, nose or mouth.
- \* Attack rate: The attack rate in susceptible persons is over 90%.
- \* Incubation period: 10-12 days to onset of respiratory symptoms. Another 2-4 days to the measles rash. Average time from exposure to rash is 14 days (range: 7-21 days).
- \* Contagious period: 4 days before rash until 4 days after the rash onset
- \* Return to School: Children with measles must be isolated (kept out of school and child care) until the rash is gone.
- \* Immunity: Having the disease gives permanent immunity.

### Preventing Measles in Close Contacts

- \* Giving the measles vaccine (MMR) within 3 days of exposure prevents 90% of measles.
- \* Exceptions: The MMR live vaccine is not recommended in immune compromised patients, pregnant women or infants under 12 months of age.
- \* These patients need Immune Globulin (IG) within 6 days of exposure.

### Your Triage Role

- \* Most triage nurses have never seen a case of measles. Go to Google Images and type in "measles rash". You can also view measles rash photos on the CDC website.
- \* For calls about measles, use the Measles Exposure or the Measles Diagnosed or Suspected guidelines.
- \* If measles is suspected, refer the patient to a hospital ED. Do not send the patient to an office practice or Urgent Care site. Reason: Negative pressure rooms are needed to prevent the airborne spread of measles. In general, they are only available in an ED.
- \* Call the ED: Always warn the ED in advance and ask for special instructions. Instruct the patient to wear a mask or cover their face with a cloth.
- \* Encourage your callers to protect their children and all family members against measles. The measles vaccine is very effective and completely safe. Large studies have totally disproven any link to autism. Vaccines are a public health miracle.



Measles rash starts on face (Source: CDC)

### References:

[www.cdc.gov/measles](http://www.cdc.gov/measles)

Red Book 2018  
American Academy of  
Pediatrics

### Author:

Bart Schmitt, MD, FAAP  
Pediatric Call Center  
CH Colorado

Copyright 2019.  
Schmitt-Thompson Clinical  
Content