



Clinical Update

For Telephone Triage Nurses

July 2014

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Measles Outbreak: How to “Spot”

We are in the middle of the largest measles outbreak in 20 years. In 1994, there were 764 reported cases of measles in the US. As of late June 2014, there have been 539 reported cases nationwide. There have been 16 outbreaks in 20 States. The current outbreak is in Amish communities in Ohio. Earlier in the year there was an outbreak in California. Most cases are in unvaccinated children and adults. Many initial cases are associated with international travel. Over 50% of cases come from Europe.

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 (see Figure 1) – Helpful to Early Diagnosis:

- * 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 early diagnosis.

Rash (see Figure 2):

- * The measles rash starts on day 4 or 5 of the illness.
- * 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.
- * Not having received the measles vaccine (MMR) is almost always present
- * Exposure to another child with measles 7 to 18 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 spread.

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Transmission

- * 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 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: 7-18 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.

Treatment of Measles

- * There is no specific antiviral drug for treating measles.
- * The treatment of measles is symptomatic care.
- * If an ear or sinus infection occurs, an antibiotic may be needed.

Preventing Measles in Close Contacts

- * Post-exposure Measles (MMR) vaccine can prevent or at least attenuate the disease if the exposed child hasn't had measles or received the vaccine.
- * Giving the vaccine 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). It needs to be given within 6 days of exposure.

Summary

- * Many triage nurses have never seen a case of measles. Go to Google Images and type in "measles rash" or to the CDC website.
- * If measles occurs in your community, use the two new 2014 pediatric triage guidelines: Measles Diagnosed or Suspected and Measles Exposure.
- * If measles is suspected, discuss transmission precautions before referring in. Wear a mask. Also call the medical facility so the patient can be placed in a closed room on arrival.
- * Finally, the measles vaccine is the only way to eliminate the risk of measles. Don't wait for an actual exposure. Tell your callers to vaccinate all family members now!



Figure 1: Koplik spots on buccal mucosa
(Photo courtesy of Larry Frenkel, MD)



Figure 2 Measles rash starts on face
(Photo courtesy of CDC)

References

www.cdc.gov/measles

Red Book 2012
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