Measles 2015: What We Need to Know

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Video Communications and Distance Learning Division

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Myth About Measles
• Myth #1: Measles isn’t that serious
  – Severe complications from measles can lead to hospitalization, permanent disability, or even death
  – Measles is a leading cause of vaccine-preventable death among children worldwide

What is Measles?
• Acute, highly contagious viral respiratory disease
• Caused by RNA virus
• Transmitted by direct contact respiratory droplets and can also be airborne

Measles Elimination Was a Success
• 99% decrease in measles in the United States since the introduction of inactivated vaccine in 1963 and subsequent use of the live vaccine in 1967

Measles Elimination Was a Success
• Resurgence of measles in 1989 - 1991 due to low vaccine rates among preschool children
• Up to 5% of recipients did not respond to one dose
Measles Elimination Was a Success
• Implementation of two dose MMR schedule resulted in measles no longer being endemic in the United States by the year 2000

And Now Measles is a Public Health Concern
• Increase in imported cases of measles in 2014
• Increase in imported cases of measles in 2015
• Reduction in vaccine rates among susceptible children

Measles Cases and Outbreaks
January 1 to February 9, 2015
121 Cases 1 Outbreak
• representing 95% of reported cases this year
• U.S. Measles Cases by Year

Myth About Measles
• Myth #2: Measles is a disease of the past, and isn’t relevant today
  – The US experienced a record number of cases during 2014 (644 cases from 27 states reported to CDC)
  – Measles is highly contagious and can spread rapidly among unvaccinated people

Measles is Highly Contagious and Easily Spread
• Incubation period 7 - 21 days with average of about 14 days
• Attack rate if susceptible and exposed = 90% or greater
• Contagious from 4 days prior to rash until 4 days after onset of rash

How Contagious is Ebola?
• Each Ebola patient infects 1 - 2 people
How Contagious is Influenza?
Each influenza patient infects 1 - 4 people

How Contagious is Measles?
Each measles patient infects 12 - 18 people

Clinical Presentation of Measles
- Fever of 101°F – can be as high as 105°F
- Erythematous, maculopapular rash starting on forehead and spreading over entire body

Clinical Presentation of Measles
- The “Three C’s” and (sometimes) a “K”
  - Cough
  - Coryza
  - Conjunctivitis
  - Koplik spots

Courtesy of http://www.vaccineinformation.org/photos/measiac001.jpg

Courtesy of http://www.vaccineinformation.org/photos/measiac004.jpg
Special Considerations in View of Resurgence in US

- Is the patient old enough to be vaccinated with MMR or MMRV?
- Has the patient been vaccinated with MMR or MMRV?

Evidence of Measles Immunity

- Documentation of age appropriate MMR vaccine
- Laboratory evidence of immunity to measles
- Laboratory confirmation of measles disease
- Born prior to 1957

Special Considerations in View of Resurgence in US

- Has the patient traveled internationally or domestically to an area frequented by international travelers?
- Has the patient been in an area where there is a community or ongoing measles outbreak?

It is Not Just Measles

- Measles can lead to medical complications
  - Otitis media
  - Pneumonia
  - Croup
  - Diarrhea
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<thead>
<tr>
<th>It is Not Just Measles</th>
<th>High Risk Patients Are Especially at Risk</th>
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<tbody>
<tr>
<td>- Acute encephalitis</td>
<td>• Children less than 5 years of age</td>
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<tr>
<td>• 1 / 1,000 patients</td>
<td>• Immunocompromised patients</td>
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<tr>
<td>- Death from respiratory or neurologic complication</td>
<td>- Leukemia</td>
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<td>• 1 to 3 / 1,000 patients</td>
<td>- Human Immunodeficiency Virus</td>
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<tr>
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<td>- Other immune deficiencies</td>
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<tr>
<th>Measles in Non Immune Pregnant Women</th>
<th>A Very Severe Complication of Measles: Sub-acute Sclerosing Panencephalitis</th>
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<tr>
<td>• Spontaneous abortion</td>
<td>• Rare degenerative CNS disease</td>
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<tr>
<td>• Premature birth</td>
<td>• Behavioral and intellectual difficulties</td>
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<td>• Low birth weight</td>
<td>• Seizures</td>
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<td></td>
<td>• Occurs 7 - 10 years after measles disease</td>
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<td>• Risk of 4 - 11 cases of SSPE / 100,000</td>
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<th>Measles Infection Control</th>
<th>Reporting Measles in Alabama</th>
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<td>• Immediately isolate a suspected measles patient</td>
<td>• Report to the Alabama Department of Public Health within 24 hours</td>
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<td>• Standard and airborne precautions</td>
<td>• Call local health department</td>
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<tr>
<td>• Measles is a notifiable disease</td>
<td>• After hours, call 1 - 800 - 338 - 8374</td>
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What are Clinical Features for Testing for Measles?

- Generalized, maculopapular rash lasting three days or longer
- Temperature of 101°F or greater
- Cough, coryza and conjunctivitis

Measles Laboratory Testing

- Serum Specimen for measles IgM
- Throat or Nasopharyngeal Swab for RT-PCR
- Transport to Alabama Department of Public Health Bureau of Clinical Laboratories
  - [www.adph.org/bcl](http://www.adph.org/bcl)

Myth About Measles

- Myth #3: MMR vaccine causes autism
  - Concerns about links between vaccines and autism are baseless
  - Many expert groups including the IOM, the AAP, and the CDC agree that there is no link between the measles vaccine and autism

Measles Vaccine

- Safe
- Effective
- Can be implemented as a preventive measure in measles outbreaks in unvaccinated patients as young as 6 months of age

A Final Thought

- Measles is a highly preventable disease
- Vaccinate and spare children this significant and sometimes deadly disease

References

- Red Book (Early Release of Measles Chapter), 2015 Report of the Committee on Infectious Diseases, American Academy of Pediatrics
- [www.cdc.gov/measles/hcp.index.html](http://www.cdc.gov/measles/hcp.index.html)
- [www.vaccineinformation.org/photos](http://www.vaccineinformation.org/photos)
- [www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm)