

## **Measles 2015: What We Need to Know**

Produced by the Alabama Department of Public Health  
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

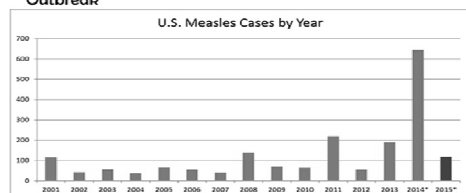
January 1 to February 6, 2015\*

**121**  
Cases

**1**  
Outbreak

reported in 17 states and Washington DC: Arizona, California, Colorado, Delaware, Illinois, Michigan, Minnesota, Nebraska, Nevada, New Jersey, New York, Oregon, Pennsylvania, South Dakota, Texas, Utah, Washington

representing 85% of reported cases this year



\*Provisional data reported to CDC's National Center for Immunization and Respiratory Diseases



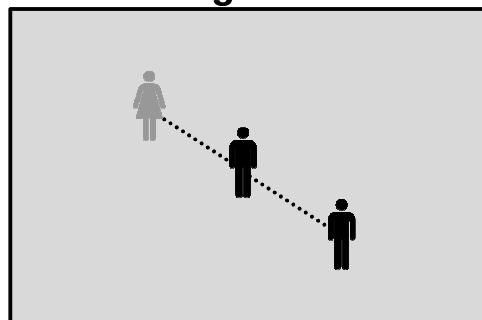
## Myth About Measles

- 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

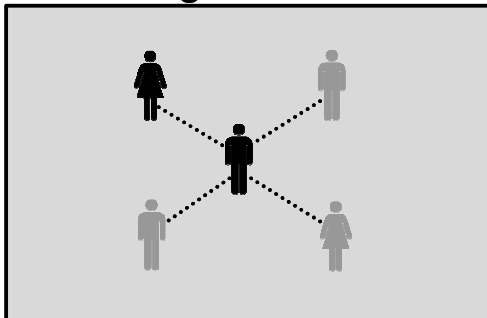
- Incubation period 7 - 21 days with average of about 14 days
- Attack rate if susceptible and exposed = 90% or greater
- Contagious from 4 days prior to rash until 4 days after onset of rash

## How Contagious is Ebola?



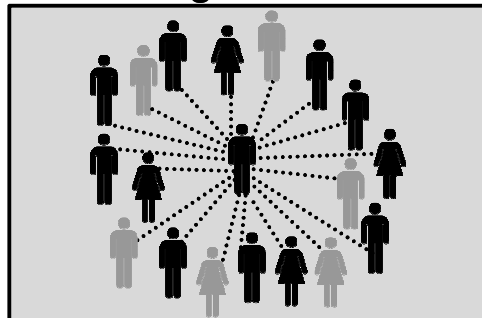
Each Ebola patient infects 1 - 2 people

### How Contagious is Influenza?



Each influenza patient infects 1 - 4 people

### How Contagious is Measles?



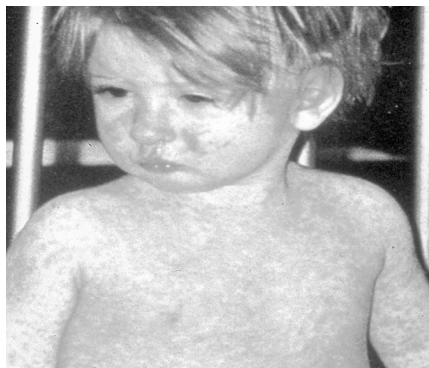
Each measles patient infects 12 - 18 people

### Clinical Presentation of Measles

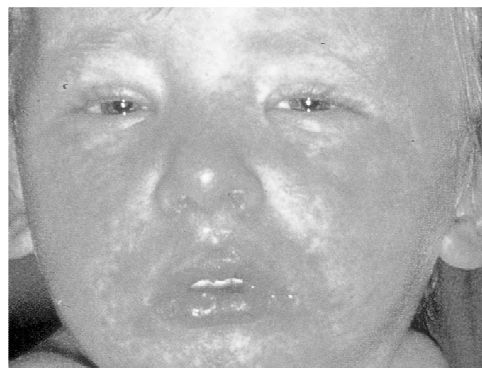
- Fever of 101° F
  - can be as high as 105° F
- Erythematous, maculopapular rash starting on forehead and spreading over entire body

### Clinical Presentation of Measles

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



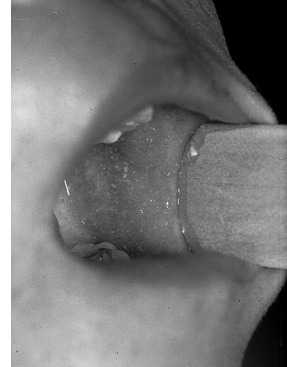
Courtesy of <http://www.vaccineinformation.org/photos/measiac004.jpg>



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



Courtesy of <http://www.vaccineinformation.org/photos/measiac002.jpg>



Courtesy of <http://www.vaccineinformation.org/photos/measiac005.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?

### **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?

### **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

### **It is Not Just Measles**

- Measles can lead to medical complications
  - Otitis media
  - Pneumonia
  - Croup
  - Diarrhea

### **It is Not Just Measles**

- Acute encephalitis
  - 1 / 1,000 patients
- Death from respiratory or neurologic complication
  - 1 to 3 / 1,000 patients

### **High Risk Patients Are Especially at Risk**

- Children less than 5 years of age
- Immunocompromised patients
  - Leukemia
  - Human Immunodeficiency Virus
  - Other immune deficiencies

### **Measles in Non Immune Pregnant Women**

- Spontaneous abortion
- Premature birth
- Low birth weight

### **A Very Severe Complication of Measles: Sub-acute Sclerosing Panencephalitis**

- Rare degenerative CNS disease
- Behavioral and intellectual difficulties
- Seizures
- Occurs 7 - 10 years after measles disease
- Risk of 4 - 11 cases of SSPE / 100,000

### **Measles Infection Control**

- Immediately isolate a suspected measles patient
- Standard and airborne precautions
- Measles is a notifiable disease

### **Reporting Measles in Alabama**

- Report to the Alabama Department of Public Health within 24 hours
- Call local health department
- After hours, call 1 - 800 - 338 - 8374

### **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, 2012 Report of the Committee on Infectious Diseases, American Academy of Pediatrics, Measles, pages 489 - 499
- 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)