

# ED Preparedness for Measles

---

**David Greenky, MD FAAP**

November 20, 2025



# Objectives

---

- Case Presentation
- Review Identify; Isolate; Inform with a focus on Measles in the Emergency Department

# Case – History

---

**11-month unvaccinated child has had cough, fevers, red eyes. Recently developed maculopapular rash.**

- **Barely drinking, voided x2 in past 24 H**
- **Recent family travel to NYC, sick contact there diagnosed with measles**



# Case - Exam

---

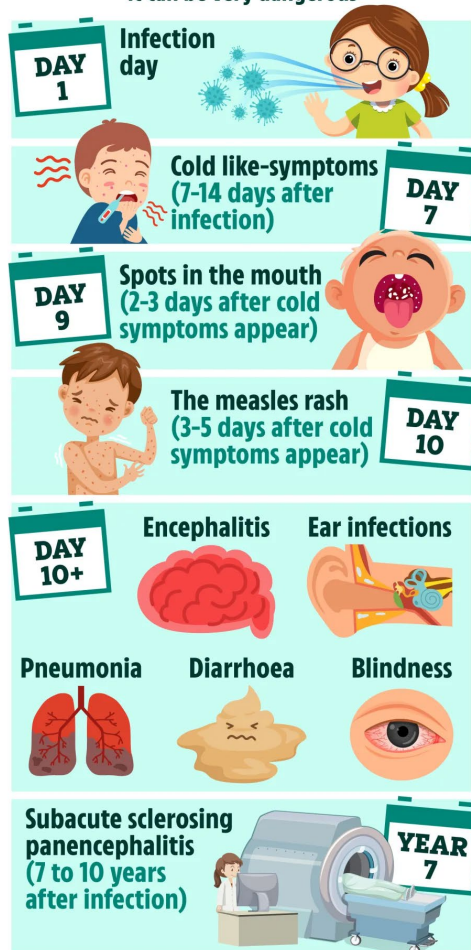
- **Gen:** ill but non-toxic, awake, occasional cough
- **HEENT:** Small, bluish-white spots with a red base on the inner mucosa of the cheeks opposite the molars (Koplik spots), bilateral conjunctivitis, nasal congestion
- **Cardiac/Pulm:** tachycardic, regular rhythm
- **Abd:** Soft
- **Skin:** warm, maculopapular rash across body, cap-refill 3 sec
- **Neuro:** Fussy, moving all extremities



# WHY MEASLES MATTERS

## MEASLES SYMPTOMS TIMELINE

Measles isn't just a little rash,  
it can be very dangerous



- 20-40% of children < 5 years old with measles require hospitalization
- 1 /1,000 children with measles will develop acute encephalitis, which often results in permanent neurological impairment
- 1 - 3 out of every 1,000 children who become infected with measles will die from respiratory and neurologic complications

# MANAGEMENT OF CHILDREN WITH MEASLES

---

## Acute complications and management: supportive care

- otitis media: analgesia
- bronchopneumonia: oxygen and steroids, antibiotics unlikely to be beneficial
- diarrhea and dehydration: oral and intravenous fluids
- encephalitis: steroids, IVIG, ribavirin or interferon-alpha

## Longer term complications: supportive care

- immune suppression for up to 3 years after infection
- subacute sclerosing panencephalitis (SSPE): develops 7-10 years after initial measles infection; rare, degenerative fatal disease of the central nervous system: management with IVIG, steroids, anti-epileptics; no treatment

# IDENTIFY: Clinical

---

## Acute viral respiratory illness

- High fevers (104-105 F)
- Cough, coryza, and conjunctivitis
- Often appear miserable
- Small, bluish-white spots with a red base on the inner mucosa of the cheeks opposite the molars (Koplik spots)
- Followed by a maculopapular rash appearing 14 days after exposure
  - spreads from the head to the trunk to the lower extremities.



# IDENTIFY: ED Triage


---

## Universal Symptom Screen Universal Travel Screen



Travel Screening ✕

### Communicable Disease Screening

Have you been in contact with someone who was sick?




Do you have any of the following new or worsening symptoms?

None of these     Unable to assess     Bruising or bleeding  

Cough     Diarrhea     Fever

Rash     Severe headache     Vomiting

Mask placed on patient and accompanying visitors?



Document patient/visitor masking if positive symptoms/illness screen at greet.



Cover head with a light sheet or blanket if unable to wear a mask.

# IDENTIFY: ED Triage


## Universal Symptom Screen Universal Travel Screen

### Exposures


Has your child recently been exposed to any contagious diseases (Measles, Meningitis, Hepatitis, Chicken Pox, TB, Pertussis or anything else)?

Yes  No  No parent or guardian present  


### SARS-CoV-2 (COVID) Exposure

Yes  No  Unknown 


### Measles Exposure

Yes  No  Unknown 


### Meningitis Exposure

Yes  No  Unknown 


### Hepatitis Exposure

Yes  No  Unknown 


### Tuberculosis Exposure

Yes  No  Unknown 

### Chicken Pox Exposure

Yes  No  Unknown 

### Pertussis Exposure

Yes  No  Unknown 

### Other Exposure

### Multiple Resistant Organisms

MRSA  VRE  Cepacia  Unknown  None 

### Exposure Precautions

Mask placed  Placed on isolation  Occlusive dressing applied (MRSA only)  


# IDENTIFY: ED Triage


---

## Universal Symptom Screen Universal Travel Screen

**Travel History**

Have you traveled internationally or domestically in the last month?



 No Documented Travel

You can use the box to the upper left to add a trip to the list

No more travel to load

# IDENTIFY: Risk factors

---

1. **Vaccination status**: specifically, receipt of MMR vaccine
  - 1 dose for children 12 months - 4 years old (93% protection)
  - 2 doses for people 4 years of age and older (97% protection)
2. **Exposure**:
  - contact with someone known or suspected to have measles or with fever, rash, cough, conjunctivitis, and coryza
3. **Travel**: domestic and international
4. **Medical condition**:
  - immunocompromised patients may not develop a rash

# ISOLATE:



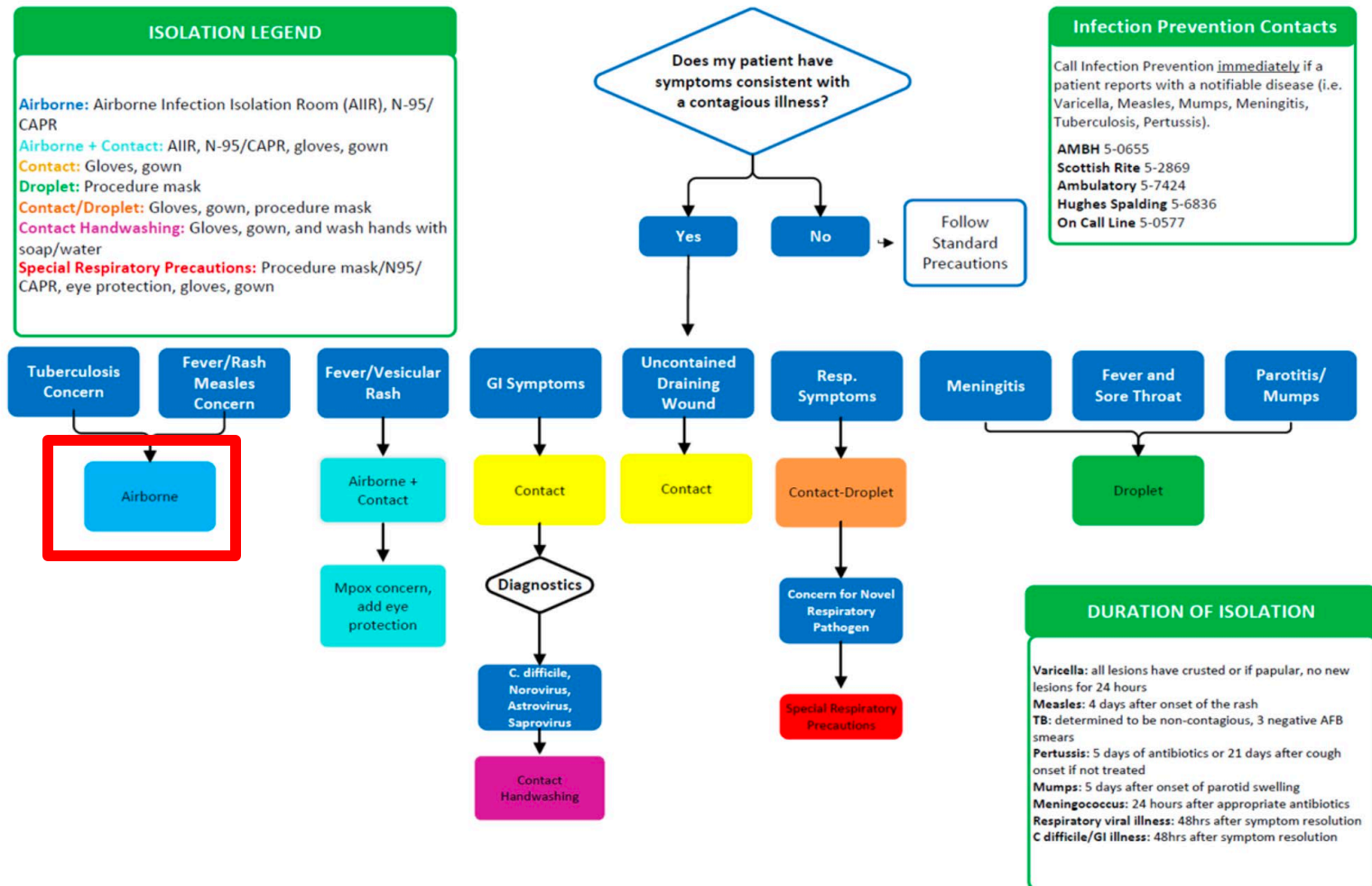
## Symptom-Based Isolation Guidance

### ISOLATION LEGEND

**Airborne:** Airborne Infection Isolation Room (AIIR), N-95/CAPR  
**Airborne + Contact:** AIIR, N-95/CAPR, gloves, gown  
**Contact:** Gloves, gown  
**Droplet:** Procedure mask  
**Contact/Droplet:** Gloves, gown, procedure mask  
**Contact Handwashing:** Gloves, gown, and wash hands with soap/water  
**Special Respiratory Precautions:** Procedure mask/N95/CAPR, eye protection, gloves, gown

### Infection Prevention Contacts

Call Infection Prevention immediately if a patient reports with a notifiable disease (i.e. Varicella, Measles, Mumps, Meningitis, Tuberculosis, Pertussis).  
**AMBH** 5-0655  
**Scottish Rite** 5-2869  
**Ambulatory** 5-7424  
**Hughes Spalding** 5-6836  
**On Call Line** 5-0577



### DURATION OF ISOLATION

**Varicella:** all lesions have crusted or if papular, no new lesions for 24 hours  
**Measles:** 4 days after onset of the rash  
**TB:** determined to be non-contagious, 3 negative AFB smears  
**Pertussis:** 5 days of antibiotics or 21 days after cough onset if not treated  
**Mumps:** 5 days after onset of parotid swelling  
**Meningococcus:** 24 hours after appropriate antibiotics  
**Respiratory viral illness:** 48hrs after symptom resolution  
**C difficile/GI illness:** 48hrs after symptom resolution

# ISOLATE:

---

- **Airborne + Standard Precautions (as appropriate)**
- **Airborne:**
  - **Negative Pressure/Airborne Infection Isolation Room (AIIR)**
  - **N-95 Respirator**

# ISOLATE:

---

- Provide a **surgical mask** to patients and accompanying family members
  - If unable to mask, place a light, loosely fitting sheet over the child's head until they can be isolated
- Immediately place patient and their accompanying family members into an Airborne Infection Isolation Room (AIIR) if available, or a single room if an AIIR is not available
  - Triage and other assessments should be conducted **after** the child and family are isolated in an AIIR or single room
- Measles immune healthcare workers should preferentially provide care
- A person is infectious from 4 days before to 4 days after appearance of the rash

# INFORM

---

- **Notify:**
  - **Clinical leaders in the patient-care area**
  - **Infection Prevention / Infectious Disease experts in your system**
- **Clinicians caring for a patient not receiving care in a Children's facility should call 1.866.PUB-HLTH (Georgia Department of Public Health) and request to speak to the medical epidemiologist on call**

Research Letter

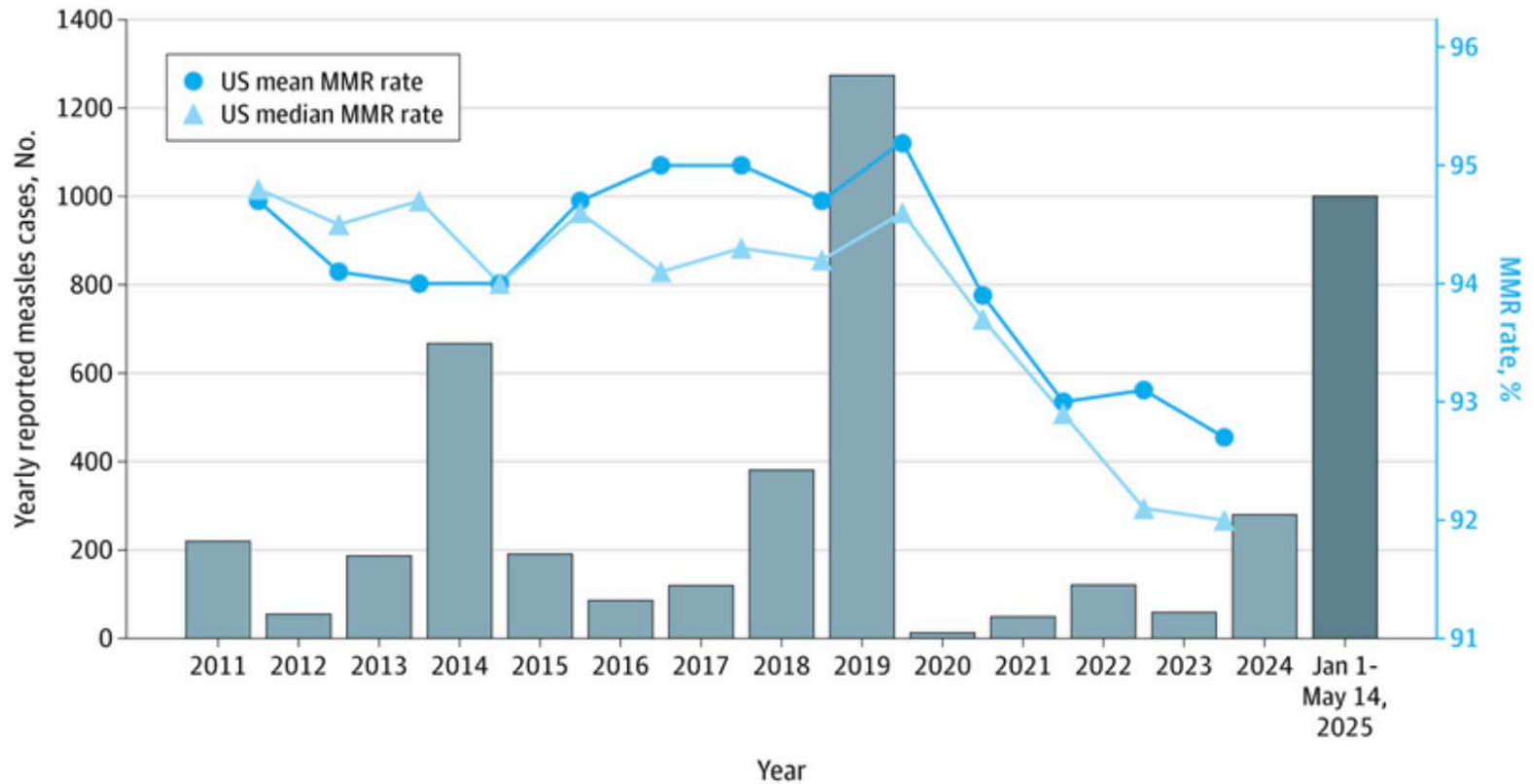
**Trends in County-Level MMR Vaccination Coverage in Children in the United States**

Ensheng Dong, PhD<sup>1,2,3</sup>; Samee Saiyed, MSE<sup>1,2</sup>; Andreas Nearchou, MSE<sup>1,2</sup> ; [et al](#)

- **78% US Counties in study (2066) reported drops in vaccinations**
- **Average county vaccination rate fell from 93.92% pre-pandemic to 91.26% post-pandemic**
- **95% assumes herd immunity**

# US MMR Vaccination Rates & Measles Cases

Figure 1. Reported Measles Cases and Measles-Mumps-Rubella (MMR) Vaccination Rates in the US



# HOW DO WE PREPARE?



## Inpatient and Outpatient

1. ask questions about exposure, travel, and vaccination to every patient/family, THEN isolate and inform
2. offer MMR to eligible patients at every healthcare opportunity
3. screen for post-infectious measles complications including SSPE in MMR unvaccinated children with cognitive decline, myoclonus, new onset epilepsy

**Staff Recognition: fever + cough + travel/exposure = MASK + ISOLATION**



**Call Infectious Disease on call 24/7**

# END

---

Thank you to Dr. Andi Shane for some of the content in this lecture