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Measles Update For New York State Providers

Division of Epidemiology and Division of Vaccine Excellence

September 3, 2026

AGENDA

- Measles cases in the U.S. and in New York State
- Clinical overview
- Vaccination
- Laboratory testing
- Post-exposure prophylaxis
- Infection control
- Finale

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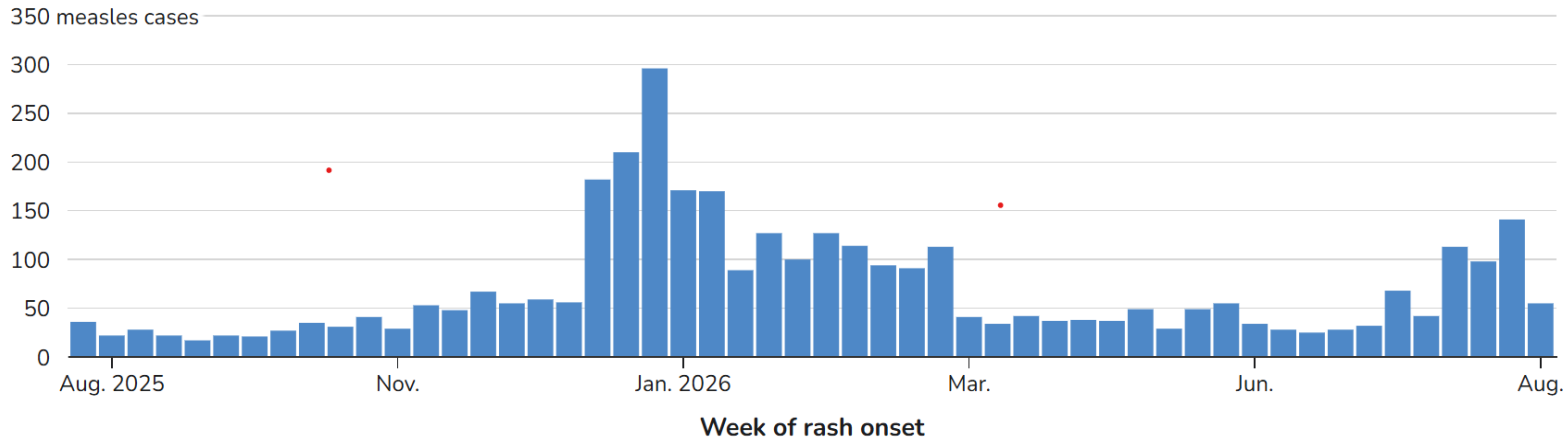
Measles Case Counts

Source: Centers for Disease Control and Prevention

Weekly measles cases by rash onset date

(as of August 23, 2026)

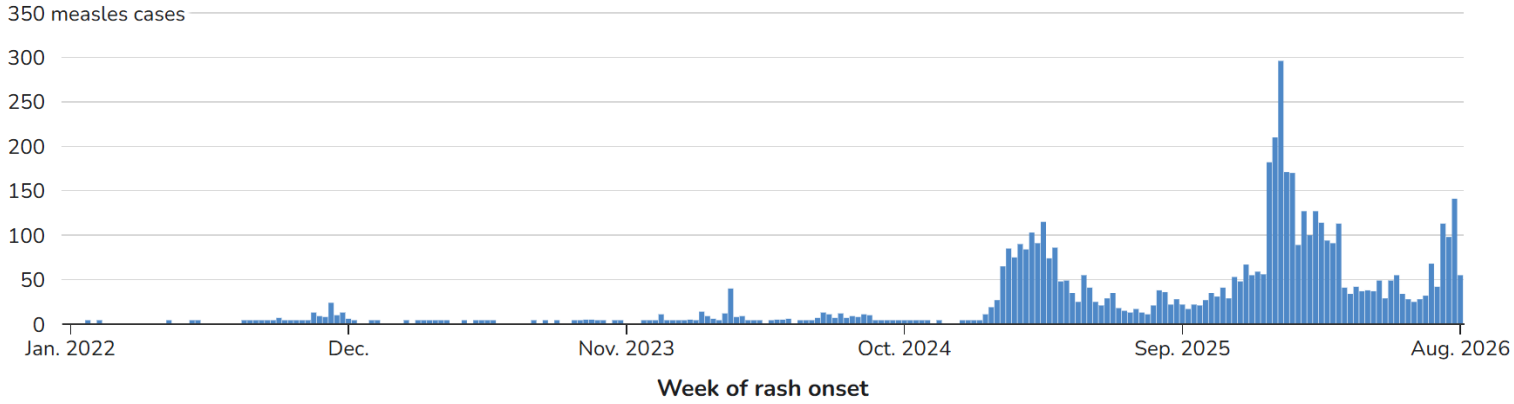
U.S. – the last 12 months



Weekly measles cases by rash onset date

(as of August 23, 2026)

U.S. – 2022-present



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MEASLES CASE COUNTS: NEW YORK

- January 1, 2026 through September 1, 2026:
  - 6 cases from New York City (typically <10/year)
  - 37 cases outside New York City (typically 0-7/year)
- 2025
  - 20 cases in New York City
  - 28 cases outside New York City
- Last large outbreak of measles in New York State was from 2018-19
  - Over 400 cases in New York State outside of New York City
  - Over 600 cases in New York City.

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Source: CDC, www.cdc.gov/measles

Clinical features of measles

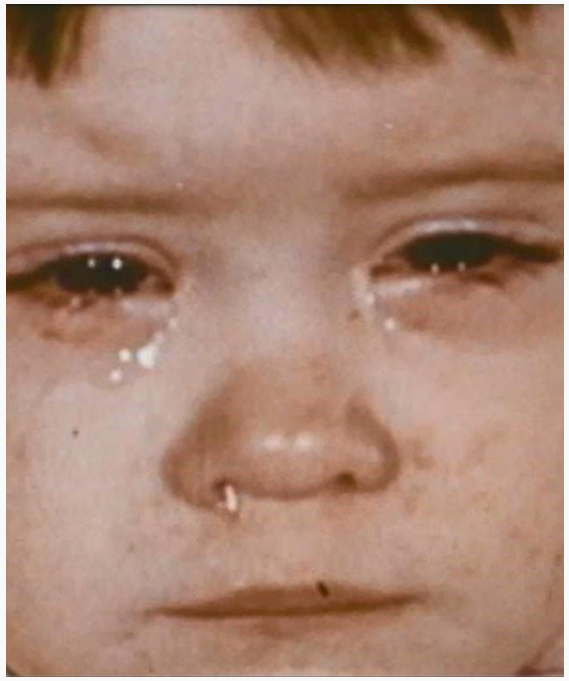
MEASLES SYMPTOMS TYPICALLY INCLUDE

- High fever (may spike to more than 104° F)
- Cough
- Runny nose
- Red, watery eyes
- Rash breaks out 3-5 days after symptoms begin

Source: CDC, www.cdc.gov/measles

CLINICAL FEATURES: PRODROME

- Prodromal symptoms
  - Begin 7-14 days after infection (up to 21 days)
  - Duration 2-4 days, with a range of 1-7 days
  - Fever increases gradually up to 103° to 105º F
  - Symptoms include **cough, coryza, conjunctivitis** (the three “C”s), malaise, diarrhea, anorexia, and lymphadenopathy
  - Koplik spots (scattered blue-white tiny spots on a bright red background) may appear inside the mouth before rash
  - Patients appear quite sick and miserable



Source: CDC, www.cdc.gov/measles

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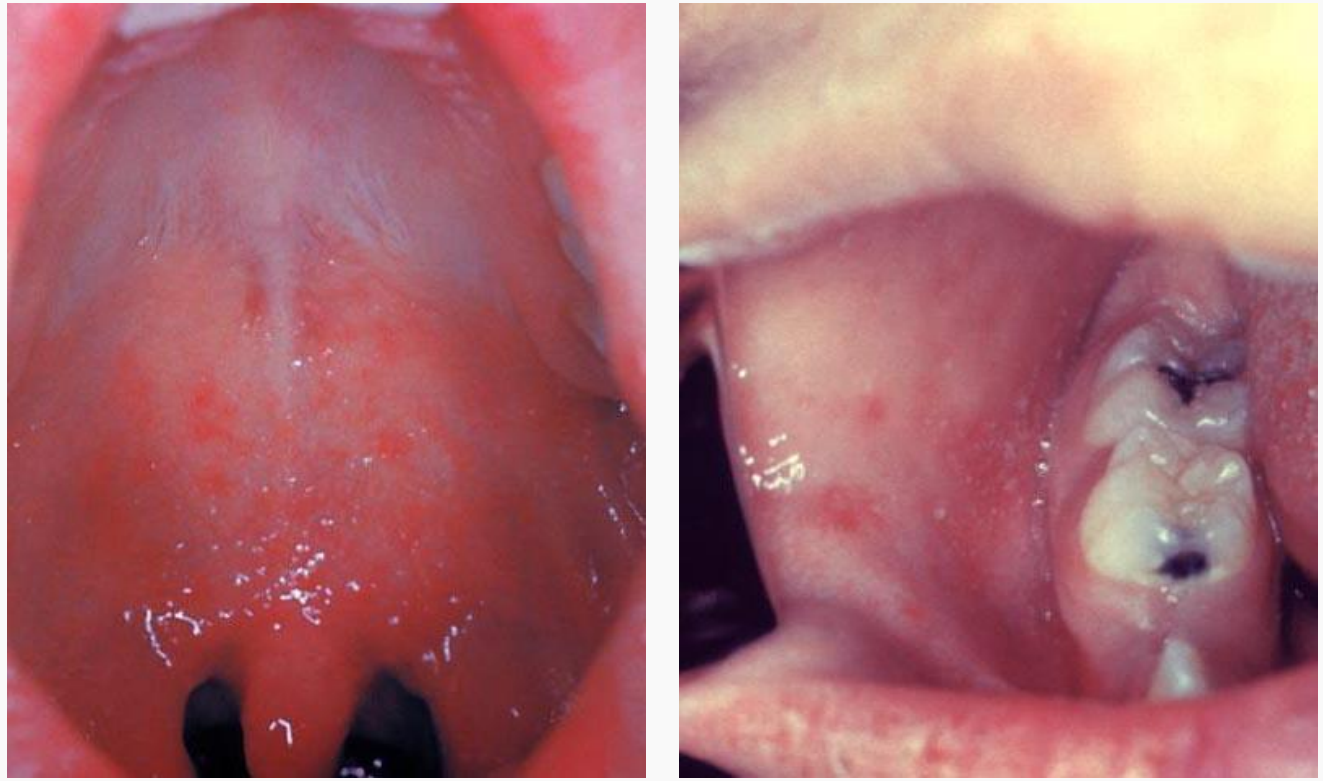
CLINICAL FEATURES: KOPLIK SPOTS

- Pathognomonic for measles
- Not always seen
- May appear inside the mouth two to three days after symptoms begin (before the rash)



Source: Centers for Disease Control and Prevention

CLINICAL FEATURES: RASH

- Maculopapular rash
  - Begins 3-5 days after prodromal symptoms start
  - Typically starts at the hairline and spreads downward
  - Flat spots, can become raised, can become confluent
  - Can be difficult to see on darker-skinned individuals
  - Fades after several days in the same order it appeared, may leave skin peeling

Source: CDC, www.cdc.gov/measles

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DIFFERENTIAL DIAGNOSIS

- Broad
- A variety of febrile viral rash illnesses:
  - Parvovirus B19 (Fifth disease), human herpesvirus 6 (roseola), enteroviruses (e.g., hand, foot, and mouth disease), adenovirus, Epstein-Barr virus (infectious mononucleosis), influenza ("fleasles"), dengue
- Bacterial infection, e.g., Streptococcal infection (scarlet fever)
- Non-infectious
  - Kawasaki disease
  - Drug eruptions
- And many more

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CLINICAL FEATURES: ADDITIONAL INFO

- Atypical presentations:
  - May occur in individuals with partial immunity
  - Less intense symptoms and a milder rash
    - Young infants with waning immunity from maternal antibodies
    - Patients who have received one or two MMRs
- Measles vaccine reaction:
  - Fever and rash may occur 6 to 12 days after vaccination
  - Not contagious
  - Viral specimens are needed to distinguish wild-type virus from vaccine strain virus

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TRANSMISSION

- Measles is one of the most contagious infections known
- The virus **can live for up to 2 hours in the airspace** where an infected person was and can infect others during those 2 hours after the infected person is gone
- If one person has it, 90% of the susceptible people close to that person will become infected
- Infected people can spread measles from **4 days before through 4 days after** the rash appears

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TRANSMISSION: PREVENTION AND REPORTING

If you suspect your patient has measles:

- Immediately call the local health department where the patient resides
  - Reporting is mandated under the NYS Sanitary Code
  - **Do not wait for laboratory confirmation to call; call immediately when you suspect measles**

- Test

- Recommend that the patient:
  - Stay home
  - Restrict visitors to those with known immunity to measles
  - Alert any healthcare provider's office of the measles concern **before** a visit (including emergency medical services if needed)
  - Be aware that the local health department will likely contact them

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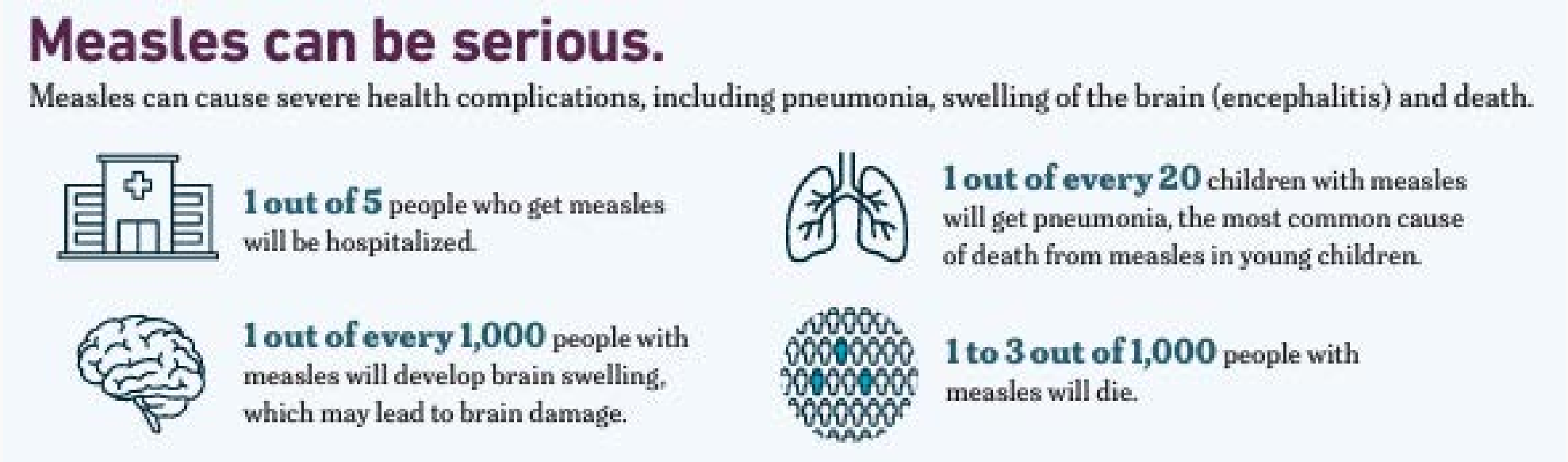
Local health department contact information:
https://www.health.ny.gov/contact/contact_information/

COMPLICATIONS



Source: Centers for Disease Control and Prevention

- Complications: diarrhea, otitis media, pneumonia, encephalitis, subacute sclerosing panencephalitis, death, adverse pregnancy outcomes
- Those < 5 years of age, > 20 years of age, pregnant, or immunocompromised are most at risk
- Causes “immune amnesia"

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MEASLES AND PREGNANCY

- Persons who are pregnant and have measles are more likely to be
  - Hospitalized
  - Develop pneumonia
  - Die
- Measles and adverse outcomes of pregnancy
  - Pregnancy loss - in some studies
  - Preterm birth
  - Low birth weight
- Neonates with congenital measles are at increased risk of future subacute sclerosing panencephalitis

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MEASLES AND PREGNANCY

- MMR vaccine, a live virus vaccine, cannot be given during pregnancy.
- For post-exposure prophylaxis, pregnant women must be given immune globulin via the intravenous route (IGIV).
- Please ensure that susceptible pregnant women in your community know that there is an option to protect themselves if they're exposed!
- Pregnant women can be around someone who has received the MMR vaccine. Transmission of measles from the MMR vaccine has never been documented.

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Measles Vaccination

Measles-Mumps-Rubella (MMR) Vaccine

RECOMMENDATIONS SUMMARY

TALK TO YOUR DOCTOR IMMEDIATELY IF YOU THINK YOU OR A FAMILY MEMBER HAS BEEN EXPOSED TO MEASLES.

AGE / STATUS	RECOMMENDATIONS
6–11 MONTHS OLD	**While MMR vaccination is not routinely recommended for children under age 12 months, MMR vaccination can be safely given to children as young as six months if they are at higher risk.** For example, if travelling internationally* or living in an area with an outbreak and the health department recommends an MMR dose at age 6–11 months. Children who receive an MMR vaccine dose before their 1st birthday should still receive 2 MMR vaccine doses according to the routine schedule.
1–6 YEARS OLD	**The 1st MMR dose is recommended at 12–15 months of age. The 2nd MMR dose is recommended at 4–6 years of age.** The 1st MMR vaccine dose is routinely recommended at age 12–15 months. The 2nd dose is recommended at age 4–6 years. Children may receive their 2nd dose of MMR vaccine earlier than age 4–6 years (at least 28 days after the 1st dose)*.

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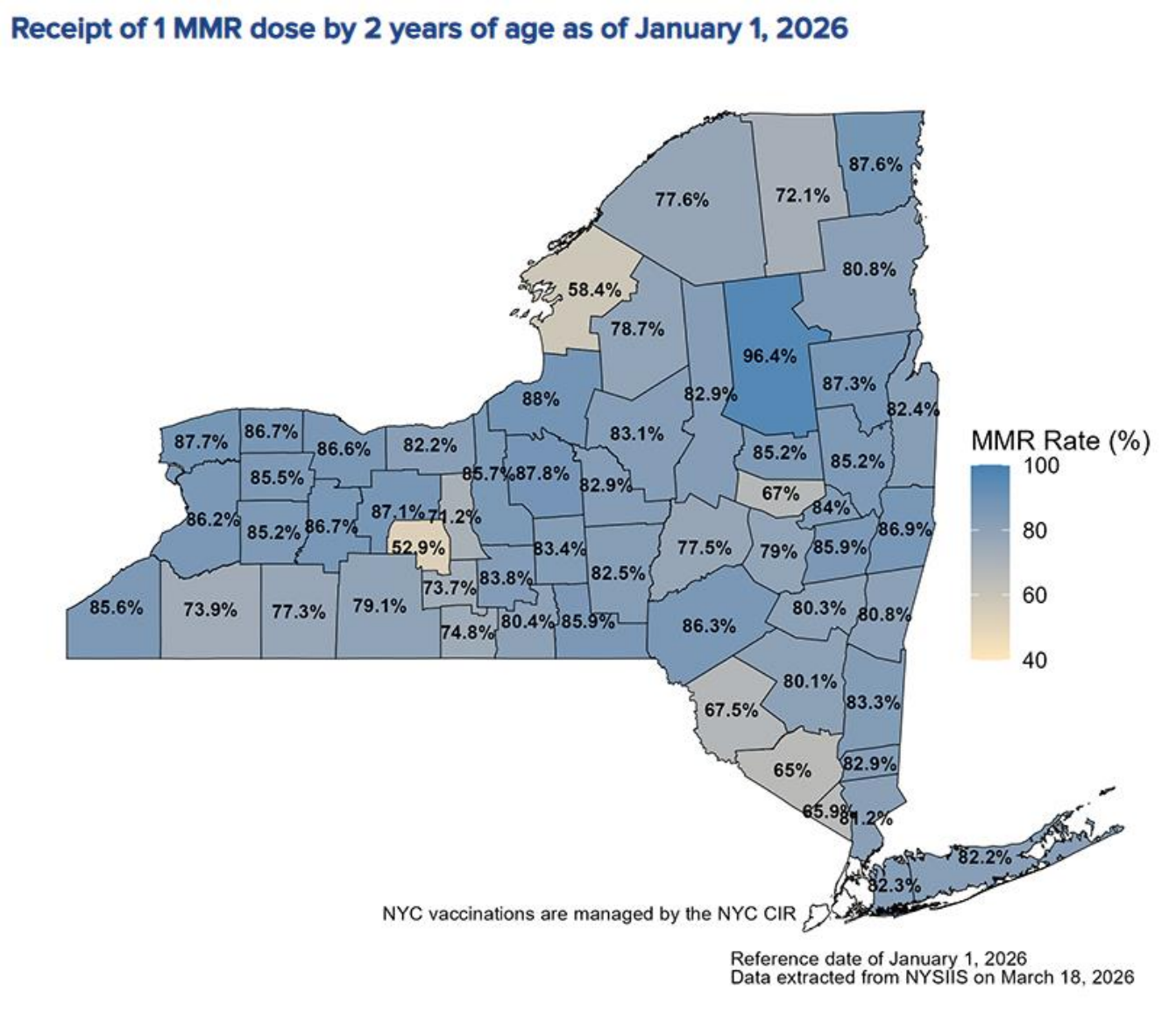
Source: CDC, www.cdc.gov/measles

MEASLES VACCINATION



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MEASLES VACCINATION

- Regular schedule: 2 dose series of measles, mumps, and rubella (MMR) vaccine at age 12-15 months and at age 4-6 years.
  - Two doses are about 97% effective at preventing measles; one dose is about 93% effective.
  - There is a 95% threshold for community immunity to measles and there are concerns that vaccination coverage is decreasing in the United States.

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MEASLES VACCINATION

- Outbreak schedule
  - For children who belong to a community in which at least one measles case has occurred or where there are credible reports that measles is circulating
  - Give MMR as soon as child is eligible:
    - Infants 6-11 months of age should receive one dose (this dose does not count toward the routine two-dose schedule)
    - Children aged 1 year and older should receive two MMR vaccine doses as early as possible, 28 days apart (school requirements will be fulfilled by 2 doses given after 1 year of age, 28 days or more apart)

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MEASLES VACCINATION AND TRAVEL

Source: Centers for Disease Control and Prevention

- Individuals should plan to be fully vaccinated **2 weeks before departure.**
- **Infants under 12 months old** who are traveling should get an early dose at 6-11 months and then follow the recommended schedule and get another dose at 12-15 months and a final dose at 4-6 years for a total of 3 doses.
- **Everyone 12 months and older** (including adults) should get 2 total doses before travel.
- **If a trip is less than two weeks away, an individual should still get a dose of MMR.**
- After returning, an individual should watch for symptoms for 3 weeks.

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Laboratory testing

- Testing is extremely important for both confirmatory diagnosis and for public health response.
- Discuss testing at the time of your immediate call to the local health department where your patient resides.

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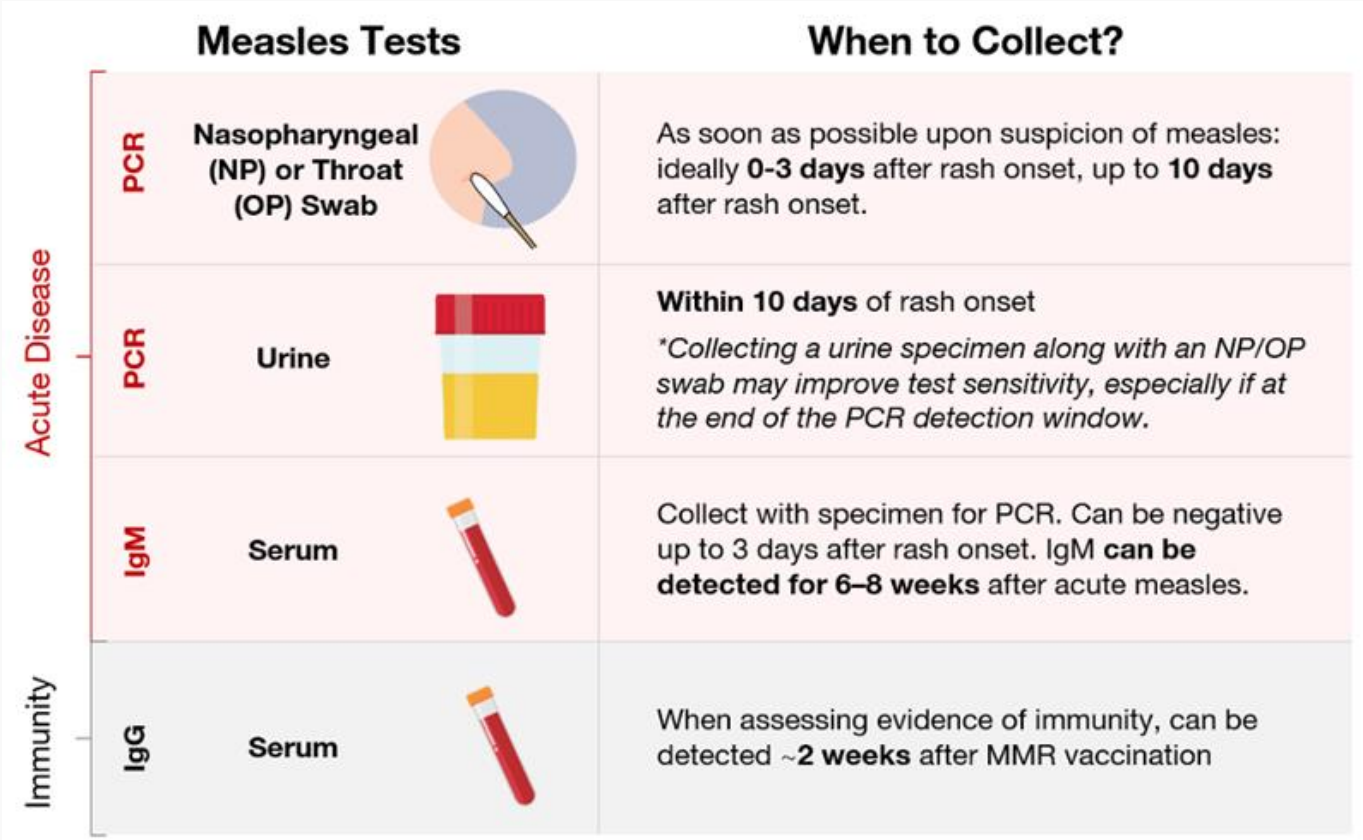
LABORATORY TESTING

- **Both viral and serology specimens should be collected at the first contact with a suspected measles case.**
- Clinical specimens for detecting measles virus include:
  - Nasopharyngeal swab or throat swab
  - Urine sample
  - A serum specimen for measles IgM and IgG should also be collected.
  - Collection of both respiratory and urine samples can increase the likelihood of detecting virus.



		Measles Tests	When to Collect?
Acute Disease	PCR	Nasopharyngeal (NP) or Throat (OP) Swab	As soon as possible upon suspicion of measles: ideally **0-3 days** after rash onset, up to **10 days** after rash onset.
Acute Disease	PCR	Urine	**Within 10 days** of rash onset **Collecting a urine specimen along with an NP/OP swab may improve test sensitivity, especially if at the end of the PCR detection window.*
Acute Disease	IgM	Serum	Collect with specimen for PCR. Can be negative up to 3 days after rash onset. IgM **can be detected for 6–8 weeks** after acute measles.
Immunity	IgG	Serum	When assessing evidence of immunity, can be detected ~**2 weeks** after MMR vaccination

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LABORATORY TESTING: SEROLOGY

- **IgM**
  - Antibodies appear within 1-4 days of rash onset in unvaccinated persons
  - IgM response may be transient and not detected in a previously vaccinated person
  - Known large rate of false positives/cross-reactivity
  - Please do not order IgM alone; order it along with the appropriate PCR testing

- **IgG**
  - Antibodies should be detectable by 7-10 days after the rash onset; levels peak ~2 weeks post rash onset and persist for life

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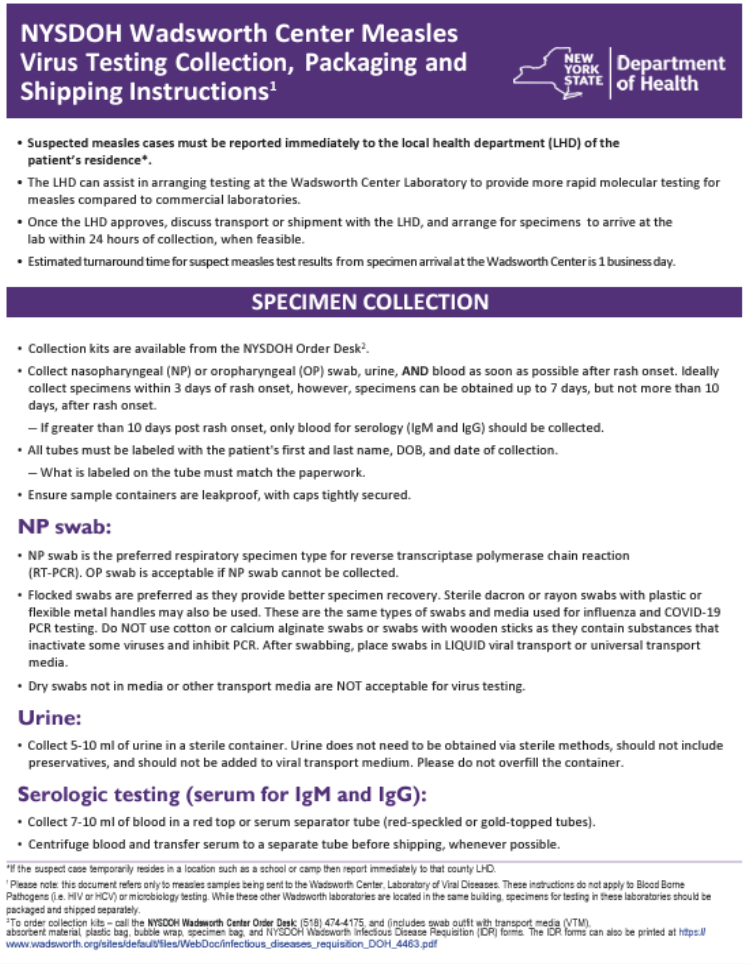
LABORATORY TESTING: WADSWORTH CENTER

- Expedited testing
- IgM more sensitive/specific than commercially available tests
- Consult with NYSDOH, who will alert Wadsworth staff of an expected shipment
- Refer to the Wadsworth Center Measles Virus Testing Collection, Packaging and Shipping Instructions.
- Consult with your local health department before shipping specimens. **DO NOT SEND TO A COMMERCIAL LAB!**
- Ship packages Monday – Thursday for delivery Tuesday – Friday.
    - Weekend specimen receipt on an as needed basis; it is especially important to make sure the samples are packaged and shipped appropriately
    - Call and discuss any shipments to Wadsworth but especially weekend shipments



NYSDOH Wadsworth Center Measles Virus Testing Collection, Packaging and Shipping Instructions[1]

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- **Suspected measles cases must be reported immediately to the local health department (LHD) of the patient's residence*.**
- The LHD can assist in arranging testing at the Wadsworth Center Laboratory to provide more rapid molecular testing for measles compared to commercial laboratories.
- Once the LHD approves, discuss transport or shipment with the LHD, and arrange for specimens to arrive at the lab within 24 hours of collection, when feasible.
- Estimated turnaround time for suspect measles test results from specimen arrival at the Wadsworth Center is 1 business day.

SPECIMEN COLLECTION

- Collection kits are available from the NYSDOH Order Desk[2].
- Collect nasopharyngeal (NP) or oropharyngeal (OP) swab, urine, **AND** blood as soon as possible after rash onset. Ideally collect specimens within 3 days of rash onset, however, specimens can be obtained up to 7 days, but not more than 10 days, after rash onset.
  – If greater than 10 days post rash onset, only blood for serology (IgM and IgG) should be collected.
- All tubes must be labeled with the patient's first and last name, DOB, and date of collection.
  – What is labeled on the tube must match the paperwork.
- Ensure sample containers are leakproof, with caps tightly secured.

NP swab:

- NP swab is the preferred respiratory specimen type for reverse transcriptase polymerase chain reaction (RT-PCR). OP swab is acceptable if NP swab cannot be collected.
- Flocked swabs are preferred as they provide better specimen recovery. Sterile dacron or rayon swabs with plastic or flexible metal handles may also be used. These are the same types of swabs and media used for influenza and COVID-19 PCR testing. Do NOT use cotton or calcium alginate swabs or swabs with wooden sticks as they contain substances that inactivate some viruses and inhibit PCR. After swabbing, place swabs in LIQUID viral transport or universal transport media.
- Dry swabs not in media or other transport media are NOT acceptable for virus testing.

Urine:

- Collect 5-10 ml of urine in a sterile container. Urine does not need to be obtained via sterile methods, should not include preservatives, and should not be added to viral transport medium. Please do not overfill the container.

Serologic testing (serum for IgM and IgG):

- Collect 7-10 ml of blood in a red top or serum separator tube (red-speckled or gold-topped tubes).
- Centrifuge blood and transfer serum to a separate tube before shipping, whenever possible.

*If the suspect case temporarily resides in a location such as a school or camp then report immediately to that county LHD.

[1] Please note: this document refers only to measles samples being sent to the Wadsworth Center, Laboratory of Viral Diseases. These instructions do not apply to Blood Borne Pathogens (i.e. HIV or HCV) or microbiology testing. While these other Wadsworth laboratories are located in the same building, specimens for testing in these laboratories should be packaged and shipped separately.

[2] To order collection kits – call the **NYSDOH Wadsworth Center Order Desk**: (518) 474-4175, and (includes swab outfit with transport media (VTM), absorbent material, plastic bag, bubble wrap, specimen bag, and NYSDOH Wadsworth Infectious Disease Requisition (IDR) forms. The IDR forms can also be printed at https://www.wadsworth.org/sites/default/files/WebDoc/infectious_diseases_requisition_DOH_4463.pdf

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Source: https://www.health.ny.gov/prevention/immunization/providers/measles/docs/testing_collection.pdf

Post-Exposure Prophylaxis

- For exposed individuals without evidence of immunity
- May prevent or modify disease
- Priority:
  - pregnant individuals
  - infants <12 months of age
  - severely immunocompromised individuals

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POST-EXPOSURE PROPHYLAXIS

- **MMR vaccine**
  - **Within 72 hours of first exposure**
  - Age ≥ 6 months
    - If 6-11 months, will not count as one of the 2 doses required for school

- **Immunoglobulin**
  - **Within 6 days of first exposure**
  - Individuals at risk for severe disease and complications
  - IGIV
    - Pregnant women, severely immunocompromised
  - IGIM
    - Infants <6 months of age; <12 months of age if too late for MMR

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POST-EXPOSURE PROPHYLAXIS

- If not giving immunoglobulin and eligible for MMR, MMR vaccination should be offered at any interval following exposure to protect from future exposures
- **MMR vaccine and IG cannot be given at the same time!**
- Post-exposure prophylaxis details at: https://www.health.ny.gov/diseases/communicable/measles/providers/docs/pep_table.pdf

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Infection Control

During 2001-2014, 6% of non-imported measles cases in the United States resulted from transmission in healthcare facilities.

If you suspect measles:

- Immediately mask and place patient in an airborne infection isolation room (AIIR); if no AIIR available, place them in a private room with the door closed
- Call the local health department immediately (do not wait for laboratory confirmation)
- If you need to send your patient elsewhere, such as to the Emergency Department, call ahead so they can prepare and avoid exposures

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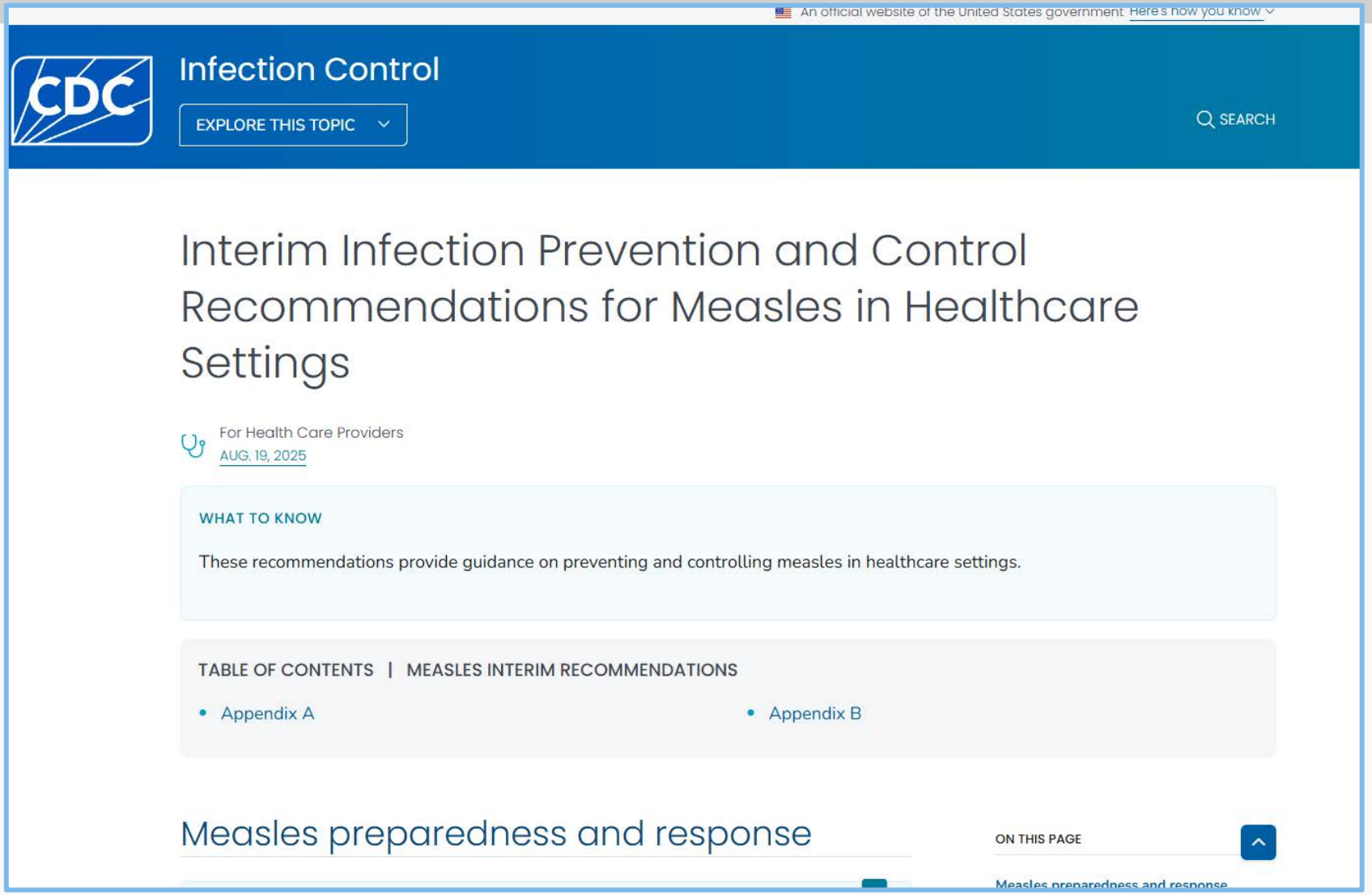
INFECTION CONTROL: CDC RESOURCES



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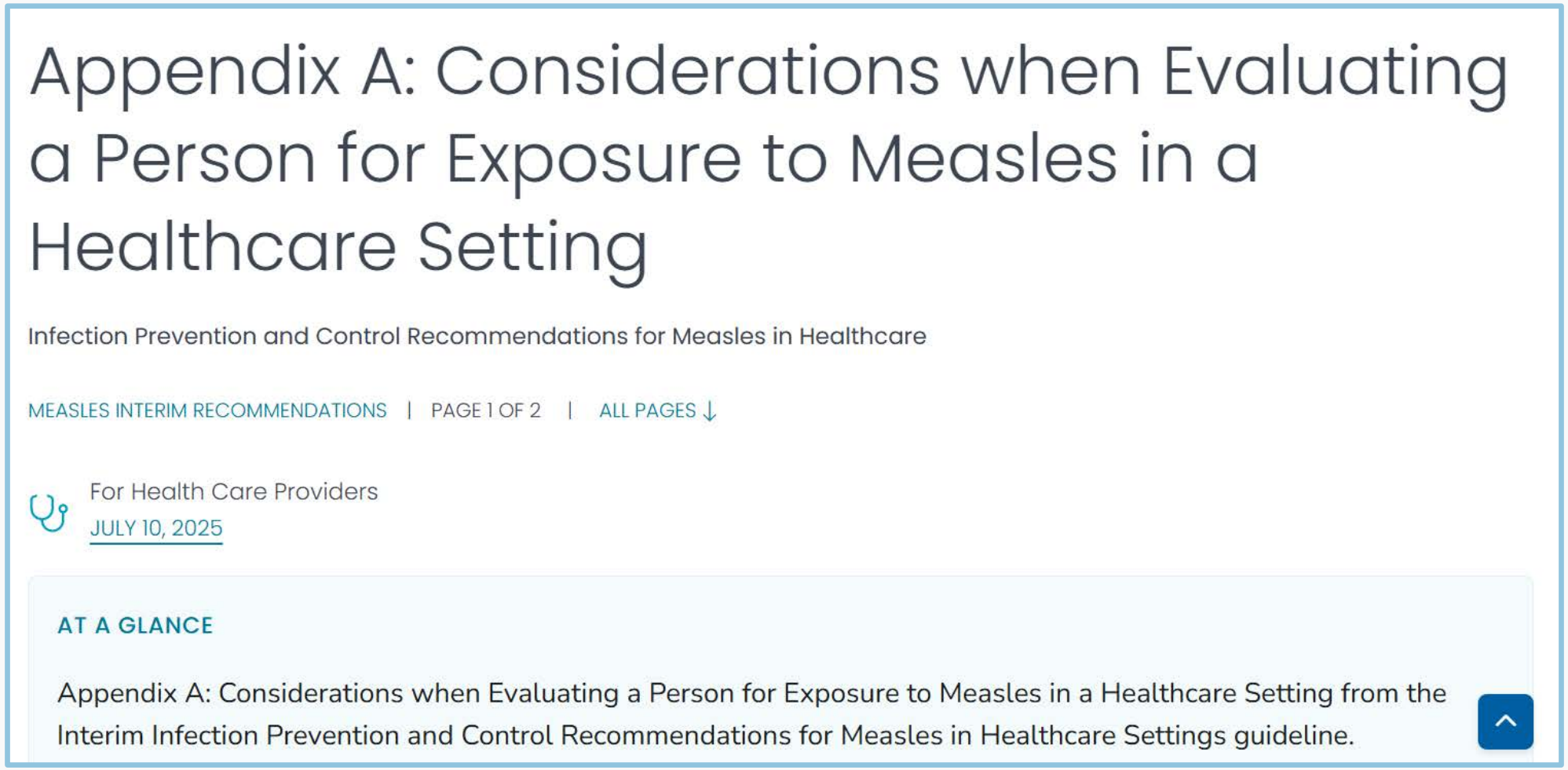
Source: https://www.cdc.gov/infection-control/hcp/measles/index.html

INFECTION CONTROL: CDC RESOURCES



Appendix A: Considerations when Evaluating a Person for Exposure to Measles in a Healthcare Setting

Infection Prevention and Control Recommendations for Measles in Healthcare

MEASLES INTERIM RECOMMENDATIONS | PAGE 1 OF 2 | ALL PAGES ↓

For Health Care Providers

JULY 10, 2025

AT A GLANCE

Appendix A: Considerations when Evaluating a Person for Exposure to Measles in a Healthcare Setting from the Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings guideline.

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Source: https://www.cdc.gov/infection-control/hcp/measles/appendix-a.html

INFECTION CONTROL: EXPOSURE CRITERIA

Criteria for potential exposure to measles in a healthcare setting include:

- Patients, visitors, and healthcare personnel who are not wearing recommended respiratory protection (regardless of presumptive evidence of measles immunity status) who are:
  - In a shared air space with an infectious measles patient at the same time, or
  - In a shared air space vacated by an infectious measles patient within the prior 2 hours

- Examples of higher risk exposures to measles include, but are not limited to:
  - Susceptible healthcare personnel who are unprotected (i.e., not wearing recommended respiratory protection) and are providing face-to-face care to an unmasked patient
  - Persons in the waiting room with an unmasked measles patient for an extended period of time

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INFECTION CONTROL: MANAGING EXPOSURES

- Define the time and areas of exposure, evaluate air changes and where air recirculates
- Identify and contact all exposed patients, visitors, and staff who were in the affected airspace from the time the patient entered the facility through to 2 hours after the patient left (or was placed on Airborne Precautions).
- Assess for immunity of exposed contacts. Plan for logistics of serologic testing (measles IgG testing) and administering intramuscular (IM) and intravenous (IV) immune globulin (IG) or MMR vaccine as post-exposure prophylaxis (PEP) according to recommendations.
- Isolate susceptible, exposed inpatients
- All exposed people regardless of presumptive immunity should monitor for symptoms for 21 days after most recent exposure (28 days if recipient of IG)

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Finale

Source: Centers for Disease Control and Prevention

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PROVIDERS' ROLE IN MEASLES CONTROL

- **Identify suspect cases and report to the local health department immediately**
- Work with the local health department to conduct testing
- Implement infection control practices to prevent transmission
- Ensure staff are immune
- Provide post-exposure prophylaxis for exposed individuals
- Provide primary community prevention through MMR vaccination
- Assist in patient and community education

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QUESTIONS AND RESOURCES

- Questions?
  - Email us at bcdc@health.ny.gov

- Resources
  - https://www.health.ny.gov/diseases/communicable/measles/providers/

Thank you!

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