NEW YORK STATE OF OPPORTUNITY. Department of Health

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DATE: July 31, 2023

TO: Healthcare Providers, Hospitals, Clinical Laboratories, and Local Health Departments (LHDs)

FROM: New York State Department of Health (NYSDOH), Division of Epidemiology

HEALTH ADVISORY: Poliomyelitis Updates and Reminders, New York State

For clinical staff in Epidemiology/Infection Control, Emergency Department, Infectious Disease, Neurology, Nursing, Internal Medicine, Pediatrics, Family Medicine, Intensive Care, Pharmacy, and Laboratory Services

The purpose of this advisory is to remind health care providers and local health departments to continue to be vigilant for suspected paralytic and non-paralytic polio (i.e., non-specific viral symptoms or meningitis), to remind clinicians to consider polio as a diagnosis when acute flaccid myelitis (AFM) is suspected, and to provide immunization updates from the Advisory Committee on Immunization Practices (ACIP).

Background

A confirmed case of paralytic poliomyelitis caused by Sabin type 2 poliovirus that reverted to become capable of causing paralysis was identified in July of 2022 in Rockland County, New York in an unvaccinated adult. No new cases have been detected since that time.

Wastewater surveillance in Rockland, Orange, Nassau, and Sullivan Counties and New York City showed genetically related poliovirus circulating between April 2022 and February 2023, indicating other asymptomatic or non-paralytic polio cases in these counties. Poliovirus genetically related to the New York outbreak strain continues to circulate in Israel, with recent paralytic and non-paralytic cases. Poliovirus can spread where vaccination rates are low. Circulation in New York may also increase during summer 2023 due to seasonality of the virus.

A single case of polio is considered an outbreak and, in conjunction with the ongoing detections of poliovirus in wastewater, constitutes a public health emergency. When one paralytic case is identified, it typically means that there are many other unidentified, non-paralytic cases.

Poliovirus is most likely to be detected in stool specimens, though it may also be detected in pharyngeal swab specimens; identification is less likely in blood or cerebrospinal fluid (CSF). To increase the probability of detecting poliovirus, clinicians should collect **stool specimens** from patients with illness compatible with poliomyelitis (see below) and as early in the course of disease as possible, ideally within 14 days of symptom onset. See below and page 6, “Summary Suspect Polio Surveillance and Specimen Collection Guidance.”

Diagnosis and Surveillance

Paralytic polio and AFM can have similar clinical presentations and can occur with similar seasonality. Information about the clinical presentation of polio is available at https://www.health.ny.gov/diseases/communicable/polio/.

- **Paralytic poliomyelitis** should be considered in the differential diagnosis for patients with acute flaccid weakness, acute onset of flaccid paralysis, or AFM, particularly if they are unvaccinated or under-vaccinated for polio, if their vaccine history is unknown, if immunocompromised, or if they have a positive enterovirus-specific polymerase chain reaction (PCR) result.
  - Clinicians should **collect stool and other specimens (see below) from patients with acute flaccid weakness, acute onset of flaccid paralysis, or AFM for enterovirus testing** and request the laboratory hold all specimens for submission to the NYSDOH Wadsworth Center as described in the UPDATED LABORATORY ADVISORY: Submission of Positive Specimens and Isolates from Enterovirus Specific PCR Assays.
  - **Immediately** upon suspicion of paralytic polio, AFM, acute onset of flaccid paralysis or acute flaccid weakness without other known etiology **notify the local health department where the patient resides[1] and the NYSDOH at 518-473-4439 during business hours or evenings, weekends, and holidays at AFM@health.ny.gov / 1-866-881-2809.** For patients who are residents of New York City, report the case to the New York City Department of Health and Mental Hygiene healthcare provider access line at 1-866-692-3641.
  - NYSDOH will contact the clinical laboratory and request that they send specimens to the Wadsworth Center for poliovirus testing.

NYSDOH is continuing enhanced surveillance activities to detect **nonparalytic polio cases** and is requesting immediate assistance with monitoring for additional suspected cases:

- **Surveillance for non-paralytic polio – meningitis**
  - Clinicians should **collect stool** and other specimens (see below) from patients with meningitis for enterovirus PCR testing and send to the clinical laboratory routinely used if the patient is:
    1. Known or suspected to be unimmunized or under-immunized for polio), and
    2. Resides, works, attends school, or has frequent social interactions with communities in Rockland, Orange, Sullivan, or Nassau counties, and
    3. Has no other apparent cause for the meningitis. Enterovirus testing of CSF may be positive, negative, or not done.
  - Patients meeting the criteria above should have a diagnostic **stool specimen collected for enterovirus PCR** and **sent to the clinical laboratory** routinely used.
    - If a stool specimen cannot be obtained, then an OP swab is acceptable, although stool is preferred (see below).
    - **The Rockland, Orange, Sullivan, or Nassau County connection should be included on the lab requisition.**
    - An enterovirus-specific PCR test should be ordered; that is, point-of-care or other tests that return a "rhino/enterovirus" result are not acceptable.
  - Positive specimens from enterovirus specific PCR assays should be held for submission to the NYSDOH Wadsworth Center as described in the UPDATED LABORATORY ADVISORY: Submission of Positive Specimens and Isolates from Enterovirus Specific PCR Assays. NYSDOH will contact clinical laboratories and request that they send specimens positive for enterovirus to the NYSDOH Wadsworth Center for poliovirus testing.

[1] https://www.health.ny.gov/contact/contact_information/ or https://www.nysacho.org/directory/

- **Surveillance for non-paralytic polio – non-specific viral symptoms**
  - Clinicians should **collect stool** and other specimens (see below) from patients with **non-specific viral symptoms** for enterovirus PCR testing and send to the clinical laboratory routinely used if the patient is:
    1. Known or suspected to be unimmunized or under-immunized for polio and
    2. Resides, works, attends school, or has frequent social interactions with communities in Rockland, Orange, Sullivan, or Nassau counties, and
    3. Has symptoms consistent with non-paralytic polio:
       - Sore throat and fever

       OR
       - Sore throat or fever AND at least one of the following symptoms: tiredness, headache, nausea, stomach pain.

    and
    4. If tested, negative results for COVID-19, influenza, streptococcal infection, and other respiratory pathogens (with the exception of enterovirus or "rhino/enterovirus," for which positive results might indicate poliovirus).
  - Patients meeting the criteria above should have a diagnostic **stool specimen collected for enterovirus PCR** and **sent to the clinical laboratory** routinely used.
    - If a stool specimen cannot be obtained, then an OP swab is acceptable, although stool is preferred (see below).
    - **The Rockland, Orange, Sullivan, or Nassau County connection should be included on the lab requisition.**
    - An enterovirus-specific PCR test should be ordered; that is, point-of-care or other tests that return a "rhino/enterovirus" result are not acceptable.
  - Positive specimens from enterovirus specific PCR assays should be held for submission to the NYSDOH Wadsworth Center as described in the UPDATED LABORATORY ADVISORY: Submission of Positive Specimens and Isolates from Enterovirus Specific PCR Assays. NYSDOH will contact clinical laboratories and request that they send specimens positive for enterovirus to the NYSDOH Wadsworth Center for poliovirus testing.

Specimen Submission Information

Poliovirus testing is available at NYSDOH Wadsworth Center. Patients with suspected paralytic or non-paralytic polio, AFM, acute onset of flaccid paralysis, or acute flaccid weakness without other known etiology should have a **diagnostic stool specimen collected for enterovirus PCR** (see above and below). If a stool specimen cannot be obtained, other specimens are acceptable. Specimens should be collected as follows:

- **Two stool specimens** (quarter-sized amounts each in a sterile wide-mouth container with no additives) ideally collected separately 24 hours apart. **Stool specimens should be kept cold (i.e., refrigerated or frozen).** Stool is the highest-sensitivity specimen type for poliovirus and should be a priority for collection.
- **Oropharyngeal (OP) swab** in viral transport media
- **Nasopharyngeal (NP) swab** in viral transport media
- **Cerebrospinal fluid (CSF)** (2-3 cc, if available, in sterile collection tube without additives, frozen promptly to -70/80°C and shipped on dry ice)
- **Serum** (acute and convalescent), collected **prior to** treatment with IVIG, (2-3 cc in red or tiger-top tube)

Laboratories performing enterovirus-specific PCR assays should forward **positive** specimens from unvaccinated or under-vaccinated persons from affected counties (per the requisition form) to the

Wadsworth Center as outlined above and in the UPDATED LABORATORY ADVISORY: Submission of Positive Specimens and Isolates from Enterovirus Specific PCR Assays.

A shipping manifest from an electronically submitted Remote Order OR an Infectious Disease Requisition form requesting enterovirus sequencing should accompany all specimens sent to Wadsworth, noting:

- symptoms
- polio immunization history
- whether the individual resides, works, or attends school in southeastern New York (i.e., Rockland, Orange, Sullivan, or Nassau counties).

Specimens should be stored refrigerated and shipped on frozen gel packs. Other routine pathogen-specific testing should continue at hospital and clinical laboratories as indicated. Laboratories should send these specimens immediately and not hold specimens for batched shipments.

Immunization

All individuals – children *and* adults – who are unvaccinated or incompletely vaccinated against polio should be vaccinated according to the ACIP routine and catch-up schedules. The revised recommendations reflect a June 2023 recommendation that adults who are unvaccinated or have not received all recommended polio vaccine doses should receive additional doses to complete their primary series using inactivated polio vaccine (IPV). Previously, the adult recommendation was risk-based. Language regarding a booster dose, if the primary series has been completed, was clarified to state that those adults at increased risk of poliovirus infection may receive a single lifetime booster. ACIP did not define increased risk, but high risk includes those who have had contact with a confirmed or suspected case of polio or those who are living in or traveling to an area where polio virus is circulating. Further details will be published in a forthcoming CDC Morbidity and Mortality Weekly Report (MMWR).

ACIP recommends:

- Children who have not started their polio vaccine series or who are delayed in getting all recommended IPV doses should start as soon as possible or finish their series by following the recommended catch-up schedule.
- Adults who are known or suspected to be unvaccinated or incompletely vaccinated against polio should complete a primary vaccination series with IPV.
- Adults who have received a primary series of trivalent oral polio vaccine (tOPV) or IPV in any combination and who are at increased risk of poliovirus exposure may receive another dose of IPV. Available data do not indicate the need for more than a single lifetime booster dose with IPV for adults.

Wastewater Surveillance

Wastewater surveillance is an important public health tool, providing early and ongoing detection of polio in communities. Testing wastewater for the presence or absence of poliovirus has been used for decades by public health professionals to complement traditional surveillance activities. Information from wastewater testing can be extremely helpful for understanding the geographic and temporal patterns of poliovirus transmission. This monitoring helps identify where the virus may be circulating and when, though it does not provide quantitative information about who or how many people or households may be infected.

NYSDOH works with a network of partners to collect wastewater samples for poliovirus testing. The Wadsworth Center conducts PCR testing for poliovirus and coordinates with the Centers for Disease

Control and Prevention (CDC) to perform sequence analysis to confirm whether identified poliovirus is genetically linked to the case of paralytic polio identified in Rockland County in 2022. All wastewater poliovirus detections reported are of concern, meaning they are a type of poliovirus that can cause paralysis in humans.

Details of the wastewater sampling results in 2022 and earlier in 2023 are available on the NYSDOH website (see resource links below). Sampling continues weekly at the same wastewater treatment plants. In general, consecutive detections of poliovirus linked to the paralytic case were reported in several wastewater sampling sites in Rockland, Orange, and Sullivan counties, and in New York City, from June 2022 through October 2022. Gradually after October 2022 the number of poliovirus detections in wastewater decreased, and detections have been rare through the present, as expected given the seasonal nature of poliovirus transmission. Ongoing and diligent surveillance is essential given the possibility of recurrent poliovirus transmission this summer.

Resources and Previous Advisories

- NYS Polio: https://www.health.ny.gov/diseases/communicable/polio/
- NYS Wastewater Surveillance: https://www.health.ny.gov/diseases/communicable/polio/wastewater.htm
- NYC Polio: https://www.nyc.gov/site/doh/health/health-topics/poliomyelitis.page
- CDC Polio Vaccination Recommendations: https://www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
- ACIP Recommendations for Polio Vaccination: https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/polio.html

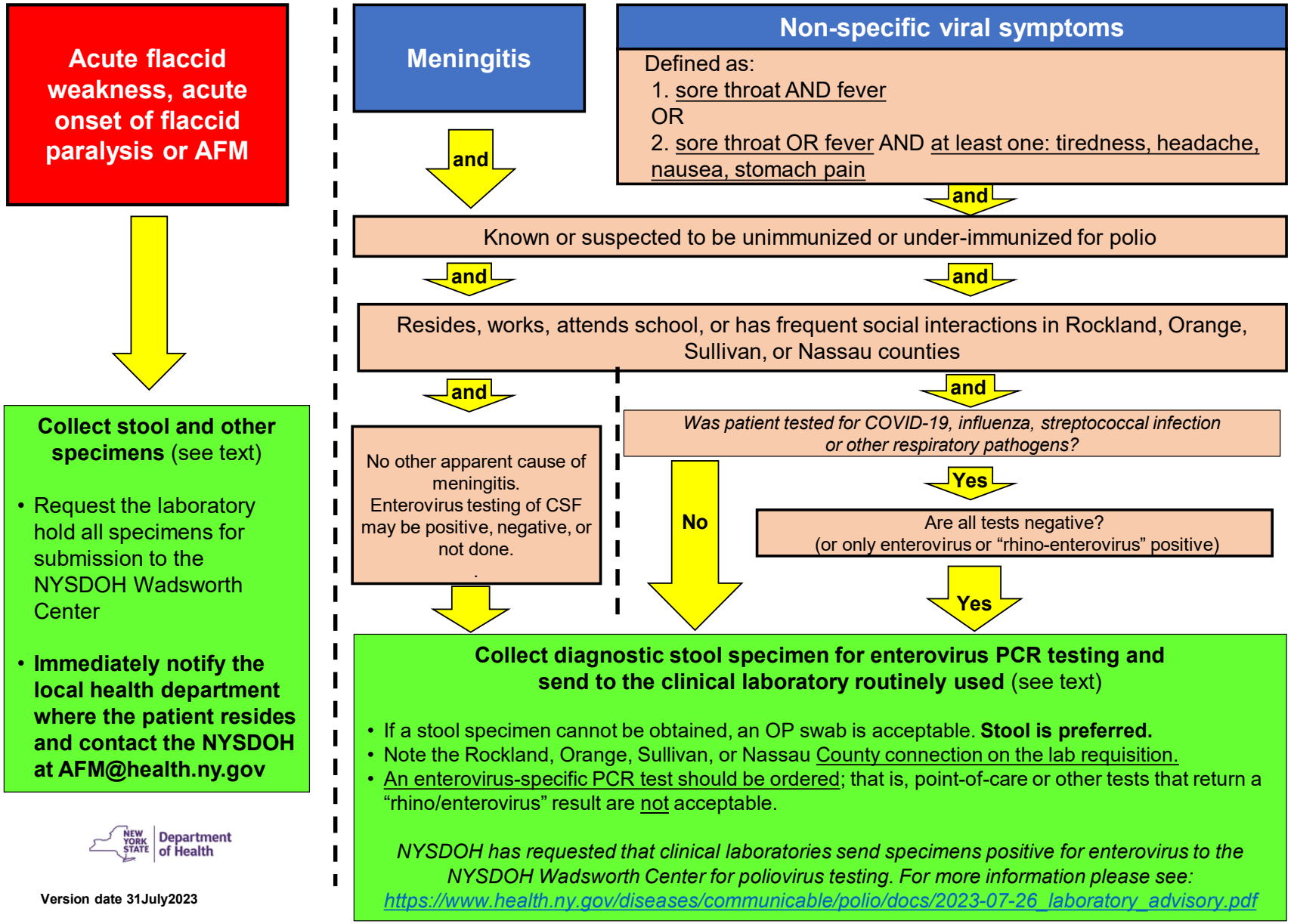
Previous NYSDOH advisories on polio can be found at:

- August 19, 2022 Health Advisory: Update #2 Regarding Poliomyelitis in New York State https://health.ny.gov/diseases/communicable/polio/docs/health_advisory_8-19-22.pdf
- August 4, 2022 Health Advisory: Update Regarding Poliomyelitis in Rockland County, New York State https://www.health.ny.gov/diseases/communicable/polio/docs/health_advisory_8-4-22.pdf
- July 22, 2022 Health Advisory: Poliomyelitis Case in Rockland County, New York State https://www.health.ny.gov/diseases/communicable/polio/docs/2022-07-29_han.pdf
- New York City's advisory "2022 Health Alert #20: Update on Poliovirus in New York City" can be found at https://www1.nyc.gov/assets/doh/downloads/pdf/han/alert/2022/polio-in-nyc.pdf

Questions

- Clinicians can contact the NYSDOH during business hours at 518-473-4439 or AFM@health.ny.gov or 1-866-881-2809 evenings, weekends, and holidays.
- Clinicians located in New York City can contact the NYCDOHMH Healthcare provider access line at 1-866-692-3641.
- Questions regarding submission of specimens to Wadsworth Center can be directed to wcid@health.ny.gov.
- Questions pertaining to enrollment in the Clinical Laboratory Information Management (CLIMS) for access to remote ordering and access to electronic test reports can be directed to climsoutreach@health.ny.gov.
- For questions regarding immunization, clinicians can call the NYSDOH Bureau of Immunization at 518-473-4437 or email immunize@health.ny.gov.

Summary Suspect Polio Surveillance and Specimen Collection Guidance



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