

Poliomyelitis

(Also known as Polio, Polioviral Fever,
and Infantile Paralysis)

IMMEDIATELY REPORTABLE DISEASE

Per NJAC 8:57, healthcare providers and administrators shall immediately report **by telephone** confirmed and suspected cases of poliomyelitis to the health officer of the jurisdiction where the ill or infected person lives, or if unknown, wherein the diagnosis is made. The health officer (or designee) **must immediately institute the control measures listed below in section 6, “Controlling Further Spread,”** regardless of weekend, holiday, or evening schedules. A directory of local health departments in New Jersey is available at <http://www.state.nj.us/health/lh/directory/lhdselectcounty.shtml>.

If the health officer is unavailable, the healthcare provider or administrator shall make the report to the Department by telephone to 609.826.5964, between 8:00 A.M. and 5:00 P.M. on non-holiday weekdays or to 609.392.2020 during all other days and hours.



1 THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Polio is caused by poliovirus (genus *Enterovirus*), which has three serotypes. Type 1 virus most frequently causes epidemics and is most often isolated from paralytic cases of poliomyelitis. Type 3 and, to a lesser degree, type 2 viruses can also cause paralysis. Types 2 and 3 viruses are more likely to be associated with vaccine-associated paralytic poliomyelitis (VAPP) than are type 1 viruses.

B. Clinical Description

Infection with poliovirus results in a spectrum of manifestations. The overwhelming majority of infections (95%) are asymptomatic. Some 4% to 8% of infected individuals will experience nonspecific viral symptoms, such as a low-grade fever, headache, sore throat, nausea, abdominal pain, constipation, diarrhea, and/or vomiting (abortive disease). Some 1% to 5% of infections will result in aseptic meningitis, involving stiffness of the back, neck, and/or legs, at times with paresthesias, a few days after the minor illness has resolved. Only about 0.1% to 2.0% of infections will progress to asymmetric flaccid paralysis (AFP) with loss of reflexes in the involved limbs, usually with fever present (paralytic poliomyelitis). Currently, in the United States, the most common cause of AFP is Guillain-Barré syndrome.

Progression to paralytic poliomyelitis usually occurs within three or four days and rarely continues after the fever subsides. Spinal paralysis is typically asymmetric, more severe proximally than distally. Paralysis may compromise respiration and swallowing. After the acute episode, many patients recover at least some muscle function and prognosis for recovery can usually be established within six months after onset of paralytic disease. Between 2% and 10% of paralytic infections are fatal. Risk factors for paralytic disease include larger inoculum of poliovirus, increasing age, pregnancy, strenuous exercise, tonsillectomy, and intramuscular injections administered while the patient is infected with poliovirus.

Infection with poliovirus results in lifelong, serotype-specific immunity. Long-term carrier states are rare and have been reported only in immunodeficient persons.

Up to 25% of persons who contracted paralytic poliomyelitis in childhood may develop post-polio syndrome 30 to 40 years later. This syndrome is characterized by muscle pain, exacerbation of existing weakness, and/or development of new paralysis or weakness. Risk factors for developing this syndrome include (a) increasing time since acute polio infection, (b) the presence of permanent residual impairment after recovery from the acute illness, and (c) being female.

C. Reservoirs

Humans are the only host.

D. Modes of Transmission

The principal mode of transmission is person-to-person by the fecal-oral or oral-oral route, with the fecal-oral route predominating. Transmission via oral secretions, such as saliva, is possible and may account for some cases. In rare instances, the virus may be transmitted by contaminated sewage or water. Asymptomatic individuals, especially children, comprise a significant source of infections. No reliable evidence of spread by insects exists. No long-term carrier state is known. In temperate climates, poliovirus infections are most common in the summer and fall.

E. Incubation Period

- **Abortive (nonparalytic) polio:** The incubation period is usually three to six days.
- **Paralytic polio:** The incubation period is usually seven to 21 days, with a range of three to 35 days.

F. Period of Communicability or Infectious Period

The period of communicability is greatest shortly before and after onset of clinical illness when the virus is present in the throat and excreted in the highest quantities in the feces. The virus persists in the throat for approximately one week after onset of illness and is excreted in the feces for several weeks. Patients are contagious for as long as fecal excretion persists. Rarely, excretion of poliovirus more than six months after infection has been found in asymptomatic, immunodeficient persons. Poliovirus can be found in throat secretions as early as 36 hours and in the feces 72 hours after exposure to infection in both symptomatic and asymptomatic cases.

In recipients of oral polio vaccine (OPV), the virus persists in the throat for one to two weeks and is excreted in feces for several weeks, although in rare cases, excretion for more than two months can occur. Immunodeficient patients have excreted vaccine virus for periods of more than ten years.

G. Epidemiology

Prior to the widespread use of polio vaccine, poliomyelitis occurred worldwide. Polio was epidemic in the United States for the first half of the 20th century with over 20,000 cases of paralytic disease in 1952. The first inactivated poliovirus vaccine (IPV) was introduced in 1955, monovalent OPV in 1961, trivalent in 1963, and enhanced inactivated poliovirus vaccine in 1987. After the introduction of vaccination, the reported number of cases of poliomyelitis in the United States dropped to fewer than 100 in 1965 and fewer than ten cases in 1973. The last reported cases of indigenously acquired wild-type poliovirus in the United States were in 1979. Since 1979, all other cases have been VAPP. The only identified imported case of paralytic poliomyelitis since 1986 occurred in 1993 in a child transported to the United States for medical care. The last case of wild-type polio disease in the Western Hemisphere was detected in Peru in 1991. The Western Hemisphere was declared free from indigenous wild-type poliovirus transmission in 1994.

Approximately half of the world's population now resides in areas considered polio-free. Worldwide efforts to eradicate polio in countries where the disease is still endemic are under way. Strategies include (a) achieving and maintaining high vaccination coverage among infants under one year of age; (b) developing sensitive surveillance systems for AFP and a laboratory network; (c) conducting National Immunization Days; and (d) conducting "mopping-up" campaigns to directly target geographic areas known to be high risk for polio transmission. Only six countries in Africa and Asia remained endemic at the end of 2004, and scattered foci of infection still occur in these areas.

As a result of the success of global efforts toward eradication and the elimination of indigenously transmitted disease in the Western Hemisphere, cases of paralytic poliomyelitis in the industrialized countries have become exceedingly rare. From 1980 to 1996, an average of eight cases of paralytic polio were reported annually in the United States. Most of these cases were VAPP, which can occur after receipt of OPV. The risk for VAPP is highest after receipt of the first dose of poliovirus vaccine, occurring at one case per 750,000 doses distributed. Since 1986, the only cases of paralytic poliomyelitis occurring in the United States have been vaccine-associated.

In January 1997, in an effort to reduce the risk of VAPP, a sequential polio vaccination schedule (IPV for doses one and two, OPV for doses three and four) was recommended in the United States. With the continued success of worldwide efforts to eradicate poliovirus and in the interest of eliminating completely the occurrence of VAPP, an all-IPV immunization schedule was initiated on January 1, 2000, in the United States. In 2005, the first identified vaccine-derived poliovirus in the United States and the first transmission in a community since OPV immunizations were discontinued in 2000 were reported. This raises concerns about transmission in communities with low levels of immunization.

Despite the great achievement in polio eradication in the United States, vigilance is needed in light of the possibility of importation of wild poliovirus from areas of the world where it is endemic. The importation of wild poliovirus from polio-endemic regions of the world may occur among underimmunized (a) tourists, (b) immigrants revisiting their countries of origin, or (c) members of religious groups, regardless of travel history. In 1992–1993 an outbreak occurred in the Netherlands among members of a religious group that refused immunization.

Poliovirus has also been isolated from members of a similar religious group in Canada, although no cases of disease occurred.

2 CASE DEFINITION

A. New Jersey Department of Health and Senior Services (NJDHSS) Case Definitions

1. Clinical Case Definition for Paralytic Poliomyelitis

Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause and without sensory or cognitive loss.

2. Case Classification

PROBABLE

A case that meets the clinical case definition.

CONFIRMED

A case that meets the clinical case definition and in which the patient has a neurologic deficit 60 days after onset of initial symptoms, has died, or has unknown follow-up status.

INDIGENOUS CASE

Any case that cannot be proved to be imported.

IMPORTED CASE

Any case that has its source outside the United States. A person with poliomyelitis (U.S. resident or other) who has entered the United States and had onset of illness within 30 days before or after entry.

NOTE: All suspected cases of paralytic poliomyelitis are reviewed by a panel of expert consultants before final classification occurs. Confirmed cases are then further classified based on epidemiologic and laboratory criteria.

3. Clinical Case Definition for Nonparalytic Poliomyelitis

Most poliovirus infections are asymptomatic or cause mild febrile disease. Poliovirus infections occasionally cause aseptic meningitis and one out of 200 infections from poliovirus type 1 results in paralytic poliomyelitis, characterized by acute onset of flaccid paralysis that is typically asymmetric and associated with prodromal fever. Poliovirus is spread through fecal material, oral secretions, some aerosols, and fomites. This case definition applies only to poliovirus infections found in asymptomatic persons or those with

mild, nonparalytic disease (e.g., those with a nonspecific febrile illness, diarrhea, or aseptic meningitis). Isolation of poliovirus from persons with acute paralytic poliomyelitis should continue to be reported as “paralytic poliomyelitis.”

CONFIRMED

Poliovirus isolate identified in an appropriate clinical specimen (e.g., stool, cerebrospinal fluid, oropharyngeal secretions), with confirmatory typing and sequencing performed by the Centers for Disease Control and Prevention Poliovirus Laboratory, as needed.

PROBABLE

None

SUSPECTED

None

3 LABORATORY TESTING SERVICES AVAILABLE

NOTE: Prior to drawing or sending any specimens for diagnostic/confirmation testing to the New Jersey Public Health and Environmental Laboratories (PHEL) if polio is suspected, call the NJDHSS Vaccine Preventable Disease Program (VPDP) at 609.826.4860 for consultation and guidance.

For diagnostic purposes, PHEL will test stool, throat, and cerebrospinal fluid (CSF) specimens for poliovirus. Stool, throat, and CSF clinical specimens should be collected. A stool specimen is the most likely source from which to isolate poliovirus, although isolation of virus from stool alone does not constitute proof that poliovirus is the causative agent. A throat specimen, followed by CSF, is the next likeliest source for virus. Isolation of poliovirus from CSF is diagnostic, although it is rarely accomplished. PHEL can perform techniques to isolate enteroviruses, including poliovirus (serotypes 1, 2, and 3), echovirus, coxsackievirus (A and B), and enteroviruses (70 and 71) from all of these clinical specimens. If poliovirus is isolated, testing can be performed at CDC to determine if it is a vaccine or wild-type strain.

A. Specimen Collection for Culture Isolation

To maximize the likelihood of isolating poliovirus, at least two stool and two throat swab specimens should be collected 24 hours apart as early in the course of the illness as possible. **Stool** should be collected in a sterile clinical cup (transport medium is not needed). **Throat swabs** should be collected and transported in viral transport medium. Ideally, specimens should be collected as soon as possible, but no later than 15 days after the onset of symptoms. Stool specimens collected two months or more after onset of paralytic manifestations are unlikely to yield poliovirus. Sterile **CSF** (≥ 1 mL) should also be collected, if possible.

Clinical specimens should be sent to PHEL within 24 hours of collection. If specimens cannot be sent immediately after collection, they may be stored at 4°C but should NOT be frozen. NJDHSS may contact the CDC Enterovirus Laboratory at 404.639.2749 for consultation regarding submission of specimens for confirmatory testing.

Serology: Serologic testing may be helpful in supporting or ruling out the diagnosis of poliomyelitis. Acute and convalescent specimens are tested for evidence of a rise in neutralizing antibodies to each of the three poliovirus serotypes. A fourfold rise in neutralizing antibody between the acute and convalescent specimens is suggestive of acute poliovirus infection. **Serologic testing cannot distinguish between infection by vaccine or wild-type strains.** False-negative results may occur in immunocompromised persons who are at highest risk for paralytic disease. False-negative results may also occur because neutralizing antibodies appear early in the course of infection and may already be at high levels by the time sera are collected, and titers may not change.

B. Specimen Collection for Serology

Three specimens should be collected serially. An acute-phase serum specimen should be obtained as early as possible in the course of illness. A convalescent-phase specimen should be obtained three to four weeks after the acute specimen and, if possible, a third specimen should be obtained three to four weeks after the second specimen is obtained. All specimens should be collected in red-capped tubes and serum separated, if possible. Specimens may be sent at room temperature or on ice to PHEL as a pair or separately. Specimens may be stored at 4°C once they have been serum separated. Although serologic testing for poliovirus is not available at PHEL, appropriate specimens will be forwarded to CDC for testing.

4 PURPOSE OF SURVEILLANCE AND REPORTING REQUIREMENTS

A. Purpose of Surveillance and Reporting

- To distinguish between wild-type and vaccine-associated polio and to identify susceptible people exposed to wild-type polio
- To maintain indigenous transmission of wild-type poliovirus at zero
- To identify cases of VAPP that might occur secondary to immunization with OPV given in another country

B. Laboratory Reporting Requirements

The New Jersey Administrative Code (NJAC 8:57-1) stipulates that a positive test of polio must be **immediately reported** by telephone to the local health department (LHD) where the patient resides. If the laboratory director or his/her designee is unable to reach the LHD

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where the patient resides, call NJDHSS VPDP at 609.826.4860 (nonholiday weekdays between 8 A.M. and 5 P.M.) or 609.392.2020 (nights/weekends/holidays). Telephone reports shall be followed by a report via confidential fax, over the Internet using the Communicable Disease Reporting and Surveillance System (CDRSS), or in writing to the health officer of the jurisdiction in which the patient lives or, if unknown, to the health officer in whose jurisdiction the healthcare provider requesting the laboratory examination is located. Please refer to the list of reportable diseases at http://www.state.nj.us/health/cd/documents/reportable_diseases.pdf for information.

C. Healthcare Provider Reporting Requirements

NJAC 8:57-1 stipulates that poliomyelitis must be **immediately reported** by telephone to the health officer of the jurisdiction where the patient resides or, if unknown, wherein the diagnosis was made. If the health officer is unavailable the report shall be made to NJDHSS VPDP at 609.826.4860 (nonholiday weekdays between 8 A.M. and 5 P.M.) or 609.392.2020 (nights/weekends/holidays).

LHDs should also be alert to report any of the following to NJDHSS:

- A suspect or confirmed case of polio, as diagnosed by a healthcare professional
- Acute onset of AFP, especially in an unvaccinated individual or in a member of a community that refuses immunizations (please see clinical case definition in Section 2)
- Neurologic symptoms suggestive of polio infection in a recipient or contact of a recipient of OPV OR
- Isolation of poliovirus from an individual, whether or not that individual is believed to have been exposed to poliovirus or to have received OPV
- Significant rise in antipoliovirus antibody titers comparing acute and convalescent serum specimens.

D. Health Officer Reporting and Follow-up Responsibilities

As specified at NJAC 8:57-1, each local health officer notified of poliomyelitis must **immediately report** the occurrence of any case of polio to NJDHSS VPDP by telephone. The health officer shall within 24 hours of receipt of a report initiate or update the information on CDRSS. If the initial report is incomplete, a health officer shall seek complete information and provide all available information to NJDHSS VPDP within five days of receiving the initial report. If the health officer is unavailable, the report shall be made to NJDHSS VPDP at 609.826.4860 (nonholiday weekdays between 8 A.M. and 5 P.M.) or 609.392.2020 (nights/weekends/holidays).

NJAC 8:57-1 stipulates that each local health officer investigate the facts contained within the report and follow such direction regarding the investigation as may be given by NJDHSS VPDP. Refer to NJAC 8:57-1 at <http://www.state.nj.us/health/cd/reporting.shtml> for information on prioritization and timeliness requirements of reporting and case investigation.

E. Entry Into CDRSS

The mandatory fields in CDRSS include disease, last name, county, municipality, gender, race, ethnicity, case status, and report status.

The following table can be used as a quick reference guide to determine which CDRSS fields need to be completed for accurate and complete reporting of poliomyelitis cases. The “CDRSS Screen” column includes the tabs that appear along the top of the CDRSS screen. The “Required Information” column provides detailed explanations of what data should be entered.

CDRSS Screen	Required Information
Patient Info	Enter the disease name (“POLIOMYELITIS”), patient demographic information, illness onset date, and the date the case was reported to the LHD. There are no subgroups for poliomyelitis.
Addresses	Enter any alternate address (e.g., a daycare or school address). Use the Comments section in this screen to record any pertinent information about the alternate address (e.g., the times per week the case-patient attends daycare or school). Entering an alternate address will allow other disease investigators access to the case if the alternate address falls within their jurisdiction.
Clinical Status	Enter any treatment that the patient received and record the names of the medical facilities and physician(s) involved in the patient’s care. If the patient received care from two or more hospitals, be sure that all are entered so the case can be accessed by all infection control professionals (ICPs) covering these facilities. Indicate pregnancy status under Clinical Status section. If immunization status is known, it should also be entered under Immunizations section.
Signs/Symptoms	Check appropriate boxes for signs and symptoms and indicate their onset date. Make every effort to get complete information by interviewing the physician, family members, ICP, or others who might have knowledge of the patient’s illness. Also, enter any information regarding the resolution of signs and symptoms.
Risk Factors	Enter complete information about risk factors to facilitate study of poliomyelitis disease in New Jersey. If the patient has not received immunizations due to a medical or religious exemption, please check risk factor in Risk factor(s) section. Please document travel history of patient or any visitors to patient (e.g., domestic/international within past 42 days) in the Comments section.

CDRSS Screen	Required Information
Laboratory Eval	Indicate appropriate test, specimen collection date, and test result, and, if applicable, also record the test value. Select “VIRUS IDENTIFIED” if culture of stool or throat was performed. Polio virus antibody serology results should be entered in this section. NOTE: Suspected cases of polio should be IMMEDIATELY reported to NJDHSS VPDP for further guidance.
Contact Tracing	Information regarding contacts is required for this disease including information on any household and other close contacts. Identify susceptible high-risk contacts (e.g., pregnant women, immunocompromised, or unvaccinated or undervaccinated persons). Document any vaccine or travel history of contacts in the Comments section.
Case Comments	Enter general comments (i.e., information that is not discretely captured by a specific topic screen or drop-down menu) in the Comments section. NOTE: Select pieces of information entered in the Comments section CANNOT be automatically exported when generating reports. Therefore, whenever possible, record information about the case in the fields that have been designated to capture this information; information included in these fields CAN be automatically exported when generating reports.
Epidemiology	Indicate method of import in the Epidemiology section. Under the Other Control Measures section, indicate if the patient falls into any of the categories listed under Patient Role(s)/Function(s) (e.g., “DAYCARE ATTENDEE,” “DAYCARE PROVIDER,” “HEALTHCARE WORKER”). Record name of and contact information for case investigators from other agencies (e.g., CDC, out-of-state health departments). Document communication between investigators in the Comments section.
Case Classification Report Status	<p>Case status options are “REPORT UNDER INVESTIGATION (RUI),” “CONFIRMED,” “PROBABLE,” “POSSIBLE,” and “NOT A CASE.”</p> <ul style="list-style-type: none"> • All cases entered by laboratories (including LabCorp electronic submissions) should be assigned a case status of “REPORT UNDER INVESTIGATION (RUI).” • Cases still under investigation by the LHD should be assigned a case status of “REPORT UNDER INVESTIGATION (RUI).”

CDRSS Screen	Required Information
	<ul style="list-style-type: none"> • Upon completion of the investigation, the LHD should assign a case status on the basis of the case definition. “CONFIRMED,” “PROBABLE,” and “NOT A CASE” are the only appropriate options for classifying a case of poliomyelitis (see Section 2A). <p>Report status options are “PENDING,” “LHD OPEN,” “LHD REVIEW,” “LHD CLOSED,” “DELETE,” “REOPENED,” “DHSS OPEN,” “DHSS REVIEW,” and “DHSS APPROVED.”</p> <ul style="list-style-type: none"> • Cases reported by laboratories (including LabCorp electronic submissions) should be assigned a report status of “PENDING.” • Once the LHD begins investigating a case, the report status should be changed to “LHD OPEN.” • The “LHD REVIEW” option can be used if the LHD has a person who reviews the case before it is closed (e.g., health officer or director of nursing). • Once the LHD investigation is complete and all the data are entered into CDRSS, the LHD should change the report status to “LHD CLOSED.” • “LHD CLOSED” cases will be reviewed by DHSS and be assigned one of the DHSS-specific report status categories. If additional information is needed on a particular case, the report status will be changed to “REOPENED” and the LHD will be notified by e-mail. Cases that are “DHSS APPROVED” cannot be edited by LHD staff. <p>If a case is inappropriately entered (e.g., a case of pertussis was erroneously entered as a case of poliomyelitis) the case should be assigned a report status of “DELETE.” A report status of “DELETE” should NOT be used if a reported case of poliomyelitis simply does not meet case definition. Rather, it should be assigned the appropriate case status, as described above.</p>

5 CASE INVESTIGATION

- It is the health officer’s responsibility to investigate the case by interviewing the patient and others who may be able to provide pertinent information.
- Investigation should provide information about (a) clinical information, (b) laboratory results, (c) polio immunization history of case and close contacts, (d) pertinent medical history including underlying illness/immunosuppression, (e) membership in religious/social group that might refuse immunization, (f) country of origin and length of

residence in the United States, (g) recent history of travel (where and dates), (h) whether there were any recent out-of-town visitors (from where and dates), (i) whether occupation entails handling of specimens that might contain poliovirus (e.g., lab work), (j) risk factors for the disease, (k) exposure and transmission settings (e.g., healthcare; school institutes; residential including correctional, group home, military, college), and (l) laboratory information, including specimens for viral isolation and serologic testing.

- Institution of disease control measures is an integral part of case investigation. It is the local health officer's responsibility to understand and, if necessary and as directed by NJDHSS, institute the control guidelines listed below in Section 6.

6 CONTROLLING FURTHER SPREAD

Suspect cases of polio require an immediate investigation with collection of laboratory specimens as appropriate (please see Section 3 above). Control measures, including the orchestration of a polio vaccination campaign, will be initiated as quickly as possible to contain further transmission. If circulation of poliovirus is suspected, an active search for other cases that might have been misdiagnosed (e.g., Guillain-Barré syndrome, polyneuritis, transverse myelitis) will be initiated. If evidence suggests that disease is related to receipt of OPV, no control measures are necessary because live, attenuated poliovirus vaccine strains have not been documented to cause outbreaks. Inactivated poliovirus is now the only poliovirus vaccine available in the United States. If, however, evidence indicates wild virus (e.g., two cases in a community), all unvaccinated persons in the epidemic area who are six weeks of age and older and whose vaccine histories are uncertain should be vaccinated.

A. Isolation and Quarantine Requirements (NJAC 8:57-1)

The current recommendations of CDC and NJDHSS (as of 2000) are as follows:

1. Minimum Period of Isolation of a Suspect or Confirmed Case

Standard and contact precautions for six weeks after onset of symptoms or until poliovirus can no longer be recovered from feces (the number of negative specimens needed will be determined by NJDHSS VPDP on a case-by-case basis).

2. Minimum Period of Quarantine of Contacts

Please refer to Section 6B directly below.

B. Protection of Contacts of a Case

1. Implement control measures as described below BEFORE laboratory confirmation. While indigenous transmission of wild-type poliovirus in the United States (and the Western Hemisphere as a whole) has not occurred since 1991, the importation of poliovirus from polio-endemic regions may occur among underimmunized (a) tourists, (b) immigrants revisiting their countries of origin, or (c) members of religious groups

who might refuse immunization, regardless of travel history. Polio-endemic regions include some countries in Africa and Asia.

OPV is still being used outside of the United States. VAPP should be considered as a cause of paralysis, especially if a patient has onset of paralysis after receipt of a first dose of OPV. No control measures are indicated if the case is determined to likely be VAPP. It is also possible that the case of paralysis is due to an infectious agent other than poliovirus, such as enterovirus, or due to some other noninfectious cause, and therefore not contagious. Therefore, it is **crucial that laboratory testing be initiated** to determine if the causative agent of paralysis is poliovirus and to differentiate wild-type from vaccine-strain poliovirus.

2. Identify individuals or groups who may have been exposed to the case. Also, attempt to identify the route of introduction of poliovirus into the community. To identify these groups, think in terms of “zones of exposure” and consider members of the following groups:
 - Household members
 - School/daycare associates (students/attendees and staff)
 - Staff and patients at medical facility where patient was cared for, especially if there was the potential for direct contact with feces or oral secretions
 - Religious/social groups
 - Sports teams and other extracurricular groups
 - Bus mates
 - Close friends
 - Travelers from polio-endemic regions such as Africa, Asia, the Middle East, and eastern Europe
 - Any other persons who may have come in direct contact with the case’s feces or oral secretions
3. Identify high-risk susceptibles who had contact with the case during infectious period.
 - Pregnant women should be referred to their obstetricians. (In daycare or school settings remember to determine whether teachers, student-teachers, staff, or students are pregnant.)
 - Immunocompromised individuals should be referred to their healthcare providers.
 - Infants younger than six weeks of age (who are too young to have been vaccinated) should be referred to their pediatricians.
 - Members of communities who tend to refuse immunization.
4. Identify and vaccinate all other susceptibles six weeks of age and older with IPV (if not contraindicated). These are individuals without proof of immunity, including those with medical or religious exemptions to immunization. Proof of immunity to poliovirus is defined as follows:

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- For children (< 18 years of age): documentation of receipt of four doses or more of polio vaccine with a minimum interval of four weeks between doses; only three doses are needed when the third dose is given on or after the fourth birthday.
- For adults (\geq 18 years of age): documentation of receipt of three doses or more of polio vaccine with a minimum interval of four weeks between doses with documentation of one or more booster doses.
- Anyone with an incomplete series should receive one dose of polio vaccine (and should be scheduled to receive additional doses, if necessary).

Remember, an individual who has received a primary series consisting of three or more doses of vaccine AND has received one or more booster dose does NOT need to receive another dose.

NOTE: Vaccinating an exposed individual who may be incubating poliovirus is NOT harmful. Immune globulin has been found to be of no value as postexposure prophylaxis and is NOT recommended. (If the use of OPV for a mass vaccination campaign to control a polio outbreak in the United States is indicated, CDC will advise NJDHSS on how to obtain an emergency supply of OPV, who should receive OPV, and any other pertinent control measures.)

5. Apply precautions and isolate/exclude as follows:

- Case-patient: Place on standard and contact precautions and exclude for six weeks after onset or until virus can no longer be recovered from feces (the number of negative specimens needed will be determined by NJDHSS VPDP on a case-by-case basis).
- Contacts: Administer IPV; do not exclude.

6. Surveillance

Active surveillance for acute flaccid paralysis and other symptoms of polio infection should continue for at least two incubation periods (i.e., up to 70 days) beyond the onset of the last case in an area.

C. Managing Special Situations

See Section 6B above.

D. Preventive Measures

Vaccination, including routine childhood vaccination, catch-up vaccination of adolescents, and targeted vaccination of high-risk adult groups, is the best preventive measure against polio. Good personal hygiene (particularly proper hand-washing) is also very important.

1. Routine Polio Childhood Immunization Recommendations

An all-IPV polio immunization schedule is now the recommended schedule. OPV is NO LONGER RECOMMENDED and is NOT available for routine immunization in the United States. Four doses of IPV are usually needed to complete the primary series: doses are recommended at ages two months, four months, six to 18 months, and four to six years. At least 28 days are needed between doses, although a six- to eight-week interval is preferred between doses two and three and a six-month interval is preferred between doses three and four. Only three doses are needed when the third dose is given on or after the fourth birthday. Polio vaccine is not routinely recommended for those 18 years and older unless there is potential for exposure.

2. Polio Vaccine and Adults

Routine vaccination of persons 18 years of age and older residing in the United States is NOT necessary. However, polio vaccination is indicated for the following groups:

- Laboratory workers who handle poliovirus
- Healthcare workers caring for polio patients
- Persons traveling to regions of the world where polio is endemic or epidemic

3. Polio Vaccination and Travel

In assessing the risk to a traveler for polio transmission, healthcare providers are urged to determine first if their patients will truly be traveling to a polio-endemic or epidemic area. If Internet access is available, please go to www.cdc.gov/travel to obtain information on the risk of transmission of poliovirus in specific countries. You can contact CDC’s Traveler’s Health Office at 877.394.8747 or call NJDHSS VPDP at 609.826.4860.

If travel to a polio-endemic or epidemic region is anticipated, please review the patient’s history of polio immunization. Ninety percent or more of vaccine recipients develop protective immunity to all three poliovirus types after two doses, and at least 99% are immune following three doses.

- If the patient has received a complete primary series of three doses or more of polio vaccine, administer a booster dose of IPV. Remember, a single booster dose is all that is needed.
- If the patient is unimmunized or partially immunized, follow an accelerated schedule to complete as much of the series as possible before departure, as outlined in the table below:

Weeks Available	Accelerated IPV Schedule*
≥ 8 weeks	3 doses, given 4 weeks apart
4–7 weeks	2 doses, given 4 weeks apart
< 4 weeks	1 dose

*First dose may be given as early as six weeks of age.

Additional Information

Additional information on polio can be obtained at the NJDHSS Web site at <http://www.state.nj.us/health/>. Click on “Health Topics A-Z” and scroll down to subject “Polio.”

References

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