POLIOMYELITIS

Based on the Ministry of Health's Communicable Disease Control Manual 2012[1], the updated National Poliomyelitis Response Plan 2014[2] and the Immunisation Handbook 2017[3]

Associated Documents

Case Report Form:
Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\Polio\FormsStdLettersQuest\Generic_Dec2013.pdf

Fact sheet:
https://www.tewhatuora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/poliomyelitis/

Glossary[2] and Abbreviations

NPRP	National Poliomyelitis Response Plan
Acute Flaccid Paralysis (AFP)	A clinical manifestation characterised by sudden onset of weakness or paralysis and reduced muscle tone.
Inactivated Polio Vaccine (IPV)	A vaccine that is injected and works by producing protective antibodies in the blood, thus preventing the spread of poliovirus to the central nervous system. However, it induces only very low levels of immunity to poliovirus locally, inside the gut. IPV provides individual protection against polio paralysis but, unlike OPV, has unknown efficacy against asymptomatic infection and the subsequent spread of poliovirus.
Oral Polio Vaccine (OPV)	A polio vaccine with a two-pronged action. OPV produces antibodies in the blood to all three types of poliovirus. In the event of infection, this will protect the individual against polio paralysis by preventing the spread of poliovirus to the nervous system. OPV also produces a local immune response in the lining (mucous membrane) of the intestines, the primary site for poliovirus multiplication. The antibodies limit the multiplication of 'wild' (naturally occurring) virus inside the gut, preventing effective infection. This intestinal immune response to OPV is probably the main reason why mass campaigns with OPV can rapidly stop person-to-person transmission of wild poliovirus.
Vaccine-Associated Paralytic Poliomyelitis (VAPP)	VAPP is a rare event, where neurological damage is caused by a virus ingested from the OPV. A mutation of the vaccine virus, known as a *reversion*, causes previously attenuated poliovirus to revert to a more neuro-virulent form (VDPV). The paralysis that results is identical to that caused by wild poliovirus.
Vaccine-Derived PolioVirus (VDPV)	Vaccine-derived poliovirus is the live, attenuated strain of the poliovirus contained in the OPV that has changed and reverted to a form that can cause paralysis in humans and has the capacity for sustained circulation. Vaccine-derived polioviruses differ from the parental (original) Sabin strains found in the vaccine by 1% to 15% of VP1 nucleotides. This is a measure of genetic change that scientists use to monitor the circulation of viruses.
Wild Poliovirus	The naturally occurring poliovirus. Polioviruses with greater than 15% sequence difference in the VP1 coding region are defined as wild polioviruses.

Key Points[2]

- Poliovirus is still endemic in a number of countries. Afghanistan, Nigeria and Pakistan have never been declared free of polio, and between January 2013 and May 2014 wild poliovirus was re-introduced into a number of countries, including Cameroon, Egypt, Ethiopia, Equatorial Africa, Iraq, Israel, Kenya, Syrian Arab Republic and Somalia.
- From January to May 2014, there was international spread of wild poliovirus in central Asia (from Pakistan to Afghanistan), in the Middle East (Syrian Arab Republic to Iraq) and in Central Africa (Cameroon to Equatorial Guinea). As part of the declaration of polio as a Public Health Emergency of International Concern by the World Health Organization (WHO) in May 2014, Cameroon, Pakistan and the Syrian Arab Republic were identified as being at the greatest risk of exporting cases.
- New Zealand has been declared polio free, with the last case occurring in 1977.
- In New Zealand, 93 percent of children under one year of age are fully immunised.
- As part of the WHO initiative to eradicate polio, NZ has a programme of surveillance and investigation of all cases of acute flaccid paralysis in children under the age of 15.
- Polio is caused by wild poliovirus types 1, 2 and 3, or by live vaccine-derived poliovirus.
- The polio virus is passed person to person, with a usual incubation period of 7–14 days.
- All people suspected of suffering from polio should be notified immediately to the local medical officer of health and appropriately investigated.
- Laboratory investigations should be discussed with the local virologist/microbiologist, who will liaise with the WHO-accredited National Poliovirus Reference Laboratory at ESR.
- The risk level of contacts should be considered and appropriate investigations undertaken.
- A single case of polio will not necessarily require extensive community vaccination.

Introduction[2]

1.1 Purpose of the NPRP

This plan sets out the response required in New Zealand to a case of probable and/or confirmed poliomyelitis (polio) caused by a wild-type poliovirus or by a vaccine-derived poliovirus (VDPV). It complements the chapter on poliomyelitis in the Ministry of Health's *Communicable Diseases Manual 2012* by providing more detail. Note that a 'probable' case is a clinically compatible illness with an epidemiological link to a case of polio.

1.2 Current situation

Worldwide, 406 cases of polio were reported to the WHO in 2013, an increase from 223 in 2012. In 2013, polio remained endemic in Afghanistan (14 cases), Nigeria (53 cases) and Pakistan (93 cases), and new cases were reported from Somalia (194), Syria (25), Ethiopia (9), Cameroon (4) and Kenya (14).

In 2014, up to mid-May, cases continued to be reported in Afghanistan (4), Nigeria (3) and Pakistan (66), and also in Equatorial Guinea (3), Iraq (1), Cameroon (3), Syria (1) and Ethiopia (1).2 More information on polio and the polio situation is available on the Polio Global Eradication Initiative website: http://polioeradication.org/

All countries remain at risk of importing polio, especially in the 'poliovirus importation belt' of countries stretching from West Africa to the Horn of Africa.

The last case of wild poliovirus in New Zealand was in 1977, and the WHO Western Pacific Region has been declared polio free since 2000. Although vaccine-associated paralytic polio (VAPP) was documented in New Zealand after 1977, none have occurred since the inactivated polio vaccine (IPV) was introduced in 2002.

Nevertheless, there is a risk of imported cases, as happened in Australia in 2007, when an Australian citizen with family in Pakistan returned from there with the virus and developed

paralytic polio.[4] New Zealand needs to be ready with a prompt, effective and evidence-based response if a case is imported.

In New Zealand, in the 12-month period to the end of December 2013, 93 percent of children were fully immunised (including three doses of IPV) by one year of age. Vaccine coverage at one year of age has been over 85 percent since 2009, so if poliovirus was introduced into New Zealand it is unlikely to spread significantly among young children, but it could spread among other age groups or poorly immunised communities.

1.3 Likely paralytic polio case scenario
The most likely scenario for a local polio case is similar to that experienced by Australia, where a person is infected by wild poliovirus in an endemic country and then enters New Zealand.

Refer to page 2 of the NPRP for less likely scenarios[2]. www.health.govt.nz/publication/national-poliomyelitis-response-plan-new-zealand

If a polio case is detected in New Zealand, the Ministry of Health will carry out a risk assessment and will seek expert advice from the National Certification Committee for the Eradication of Polio about potential additional public health measures to ensure no further transmission occurs.

The Illness[1,2,5,6]

Acute poliomyelitis is a disease of the anterior horn motor neurons of the spinal cord and brain stem caused by poliovirus. Flaccid asymmetric weakness and muscle atrophy are the hallmarks of its clinical manifestations, due to loss of motor neurons and denervation of their associated skeletal muscles. Poliomyelitis is caused by poliovirus types 1, 2 or 3. Infection is established in the gastrointestinal tract. In a minority of cases it spreads to the central nervous system. Less than 1 percent of infections result in acute flaccid paralysis (AFP). A minor illness (fever, malaise, headache, vomiting) occurs in about 10% of infections. Over 90% of infections are asymptomatic or involve non-specific fever.

During the 19th and 20th centuries, epidemic poliomyelitis was more frequently observed, reaching its peak in the mid 1950s. The worldwide prevalence of this infection has decreased significantly since then because of aggressive immunization programs. Eradication of this disease during the present decade is a top priority for the WHO. In 1988 when the WHO initiated the Global Polio Eradication Initiative it was endemic in 125 countries and by 2013 this number had been reduced to three (Nigeria, Afghanistan and Pakistan). However in 2013 due to war, violence and civil unrest resulting in disruption of infrastructure and childhood vaccination schedules, polio was diagnosed in another 13 countries. Despite these problems, in March 2014 India and the south east Asian region were declared polio-free.

New Zealand Epidemiology[1]

- Wild poliovirus has been eliminated from New Zealand and this country was declared to be polio free in 2000 with the last case occurring in 1977.
- No cases of vaccine-associated paralytic poliomyelitis (VAPP) have occurred here since the introduction of the inactivated polio vaccine (IPV) in 2002.
- A case of wild-type poliomyelitis was imported into Australia in 2007[4].
- Unimmunised New Zealanders who travel to endemic areas are at risk of infection.

2.1 CASE DEFINITION[1,2]
Clinical description
Poliomyelitis is caused by wild poliovirus types 1, 2 or 3 or by live vaccine derived poliovirus. Infection is established in the gastrointestinal tract. A minor illness (fever, malaise, headache, vomiting) occurs in about 10% of infections. Over 90% of infections are asymptomatic or involve non-specific fever. In a minority of cases (less than 1 percent), infection spreads to the central nervous system and is characterised by:

- having no other apparent cause
- acute flaccid paralysis (AFP) of one or more limbs with decreased or absent deep tendon reflexes in affected limbs
- no sensory or cognitive loss
- a possible effect on bulbar muscles.

In children who develop paralysis, the illness may be biphasic, with the initial phase of a mild febrile illness of one to three days' duration indistinguishable from that of many other viral infections. The child appears to recover, only to be struck down abruptly two to five days later with meningism, followed by paralysis. In adults and adolescents, the illness usually presents with a gradual onset of paralysis and muscular pain without the early symptoms.[2]

2.2 The spread of poliovirus

Incubation: 3–35 days, commonly 7–14 days for paralytic cases.

Transmission: Direct close contact, principally via the faecal-oral route but potentially also via respiratory droplets. There have been rare reports of milk, foodstuffs and other faecally contaminated materials being vehicles of transmission.

Communicability: Not known accurately but transmission is possible as long as the virus is excreted. The virus has been detected in the throat as early as 36 hours and in faeces within 72 hours of exposure. However, it may be shed in the faeces of immunocompromised people for several years. Cases are most infectious during the few days before and after onset of symptoms. Poliovirus persists in the throat for 1 week and in the faeces for 3–6 weeks or longer. Typically, in immunocompetent persons who have been vaccinated, the oral poliovirus is cleared within 6 weeks after vaccination and the wild-type poliovirus is cleared within 8 weeks.[7]

Prevention: Strict sanitation measures and hand washing are always important but the mainstay of global prevention is routine childhood vaccination.

2.3 Polio vaccines currently in use in New Zealand

The New Zealand immunisation schedule involves a course of four doses of polio vaccine given at six weeks, three months, five months and four years using INFANRIX®-hexa (a hexavalent vaccine containing DTaP-IPV-HepB/Hib) for the first three doses, and INFANRIX™-IPV (a tetravalent vaccine containing DTaP-IPV) for the fourth dose.[3] Further information is available in the *Immunisation Handbook 2017*.[3]

Notification Procedure[1,2]

3.1 Notification

- Notification should not await confirmation.
- All people suspected of suffering from polio must be notified to the medical officer of health by the clinician caring for the patient, and they must be appropriately investigated. Laboratories must immediately notify the local medical officer of health of any polio-positive VP1-based sequencing, and the medical officer of health must then immediately inform the Director of Public Health at the Ministry of Health.
- There should be a higher index of suspicion if there is clinically compatible illness with an epidemiological link.[α] The medical officer of health should ensure that the New Zealand Paediatric Surveillance Unit has also been notified (see below). The local medical officer of health is responsible for ensuring adequate isolation of the case after hospital discharge, and identification and management of the case contacts.
- Under the WHO's International Health Regulations 2005 (IHR), assessment of any suspected case of poliomyelitis must occur within 48 hours of initial identification, and any isolation of wild poliovirus must then be notified to the WHO via the National Focal Point within 24 hours of confirmation. This confirmation must have been undertaken by the WHO-accredited National Poliovirus Reference Laboratory at ESR. In New Zealand, the National Focal Point is the Office of the Director of Public Health.

[α] Refer to footnote a of the CASE CLASSIFICATION on the next page for a definition of an epidemiological link

Notifying cases of acute flaccid paralysis as part of the WHO global eradication programme

- As part of the WHO initiative to eradicate polio, New Zealand has a programme of surveillance and investigation of all cases of AFP in children under the age of 15. Such cases are required to be reported by telephone to the New Zealand Paediatric Surveillance Unit at the Department of Women's and Children's Health, University of Otago, Dunedin, (The first point of contact should be Ms Amanda Phillips, Unit Administrator: Tel 64 3 470 9688) and to have a full clinical

and epidemiological assessment and virological investigation of stool specimens. All cases are discussed by the National Certification Committee for the Eradication of Polio, and records of its deliberations are reported to the WHO.

- The National Certification Committee for the Eradication of Poliomyelitis reviews the NZPSU information. For more detailed information on AFP surveillance, see the NZPSU website at http://www.otago.ac.nz/nzpsu/current-studies/index.html

CASE CLASSIFICATION

Under investigation: A case that has been notified, but information is not yet available to classify it as probable or confirmed.

Probable: A clinically compatible illness with an epidemiological link.[a]

Confirmed: A clinically compatible illness that is laboratory confirmed.[b]

Not a case: A case that has been investigated and subsequently found not to meet the case definition, including cases under the age of 15 years who have been deemed to have a non-polio paralytic illness by the National Certification Committee for the Eradication of Polio.

[a] An epidemiological link for polio is defined in the National Poliomyelitis Response Plan as 'a history within the past 35 days of one of more of:

- having received an oral polio vaccine (OPV)
- travel to a high-risk country (wild poliovirus endemic countries, (see http://www.polioeradication.org/casecount.asp for an up to date list);
- exposure to poliovirus in a laboratory
- exposure to high-risk individuals, ie:
  - a person with polio infection
  - a person immunised with OPV within the last two months
  - a person with a history of travel to a high risk country within the last three months
  - a person working with poliovirus in a laboratory.'

[b] Cases can be further classified as follows.

- **Vaccine-associated paralytic poliomyelitis:** VAPP is a rare event where neurological damage is caused by a virus ingested from the oral polio vaccine (OPV). A mutation of the vaccine virus known as a reversion causes previously attenuated poliovirus to revert to a more neurovirulent form. The paralysis that results is identical to that caused by wild poliovirus.
- **Wild virus-associated poliomyelitis:** Any case not meeting the criteria for being vaccine associated. Such cases would need to be imported.
- **Imported:** A case occurring in a person who has travelled or resided in a polio endemic area within 30 days of disease onset or who is epidemiologically linked to a person who has done so. Surveillance should be intensified at both local and national levels to detect any additional cases without delay.
- **Vaccine derived poliomyelitis infection (VDPV):** Vaccine-derived poliovirus is the live, attenuated strain of the poliovirus contained in the OPV that has changed and reverted to a form that can cause paralysis in humans and has the capacity for sustained circulation. Vaccine-derived polioviruses differ from the parental (original) Sabin strains found in the vaccine by 1-15% of VP1 nucleotides. This is a measurement of genetic change that scientists use to monitor the circulation of viruses.

Laboratory Testing[1,2]

3.2 Laboratory investigation

Laboratory confirmation requires isolation of poliovirus or detection of poliovirus nucleic acid from a clinical specimen. Discuss with the CDHB virologist.

- Different types of poliovirus will need to be tested for depending on the type of polio suspected (for example, wild poliomyelitis or vaccine-associated strains).
- The following specimens should be collected and transported to the local laboratory as soon as possible:
  - two stool samples collected 24 hours apart within 14 days' onset of paralysis (or rectal swab with faecal material if stool is not immediately available) (for PCR and poliovirus isolation)
  - cerebrospinal fluid (for PCR)
  - a nasopharyngeal swab or throat swab (for PCR)
  - EDTA blood (for PCR)
  - Serum (for polio-neutralising antibodies)

- See NPRP Appendix 2 for instructions on sending specimens to the National Poliovirus Reference Laboratory ESR: http://www.health.govt.nz/system/files/documents/publications/national-poliomyelitis-response-plan-new-zealand-v3.pdf

Time delay for test result and ESR details

- ESR tests for poliovirus by polymerase chain reaction (PCR) with a turnaround time of 48 hours and by viral culture with a turnaround time of 10 days.
- Generic enterovirus PCR done at Christchurch Hospital has a turn-around time of one working day for urgent samples.[NPRP 3.3.1]
- For advice contact ESR Ph: (04) 529 0600, After Hours: 027 216 7833 (Kaye Croft, Judy Bocacao, or Sue Huang at the:
  WHO-accredited National Poliovirus Reference Laboratory[NPRP Appendix 1]
  National Centre for Biosecurity and Infectious Disease
  Wallaceville Science Centre
  66 Ward Street, Wallaceville, Upper Hutt 5018, New Zealand
  PO Box 40158, Upper Hutt 5140

3.3 Methods of laboratory testing for poliovirus[2]

3.3.1 Generic enterovirus PCR
- Figure 1. Laboratory flow diagram for a suspected case.

3.3.2 VP_1-based enterovirus sequence typing

3.3.3 Cell culture-based method followed by confirmation using poliovirus neutralisation, ITD PCR and sequencing

3.3.4 Serology-based methods

Case Response[1,2]

3.4 Management of cases

The occurrence of a single non-vaccine-associated paralytic case in a community warrants immediate investigation.

3.4.1 Investigation[2]

- Complete the ESR Case Report Form: Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\Polio\FormsStdLettersQuest\Generic_Dec2013.pdf
- Details to be included are demographic details, vaccination history, history of recent travel and contact with recently returned travellers, immune competency, onset and range of symptoms, and type and results of laboratory tests.
- Collect acute and convalescent specimens for poliomyelitis serology.
- Ensure laboratory confirmation has been attempted.

3.4.2 Treatment[2]

Supportive care should be given to address symptoms. Cases of polio should be referred to an infectious diseases paediatrician or physician.

3.4.3 Restriction[2]

- Apply contact/enteric precautions (and droplet if in pre-paralytic phase with pharyngeal symptoms) for cases of polio for the duration of an acute hospital stay and thereafter according to expert advice.
- When the person with polio is discharged home they should remain there for six weeks since the onset of symptoms or until two consecutive stool specimens taken at least seven days apart are negative for poliovirus.
- At home, a high standard of hygiene will be necessary, until two clear stool specimens are obtained although it is recognised that other household members may already be infected. The usual bathroom and wash facilities may be used and the surfaces disinfected with dilute bleach.

- Hand hygiene is the single most important means of preventing the spread of infection. After going to the toilet, all cases should wash their hands well with soap and warm water for 15–20 seconds and then dry them thoroughly, preferably with a disposable hand towel. An antiseptic hand gel, rubbed in for 15–20 seconds, is a good alternative when hands are not visibly soiled.
- Within the home, contact with others should be limited but strict isolation is not necessary

Counselling
Advise the case and their caregivers of the nature of the infection and its mode of transmission. A fact sheet is available:
https://www.tewhatuora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/poliomyelitis/

3.5 Community Response[2]

3.5.1 Enhanced surveillance
After the diagnosis of a single case of polio, all cases of AFP should be considered as possible cases of polio and notified to the local medical officer of health, and then investigated appropriately. In addition, the Ministry of Health will act as a liaison between the New Zealand Paediatric Surveillance Unit and the public health units, communicating the content of daily briefings from the Surveillance Unit to the wider public health sector.

3.5.2 Communication
After the diagnosis of a single case of polio, the relevant district health board and/or the Ministry of Health will communicate with the health sector and the public to raise awareness and provide appropriate advice.

Contact Response[1,2]

4.1 Definition of a Contact[2]
A contact is defined as any individual potentially exposed through (a) infectious faecal material, either from close physical contact or shared toilet facilities, or (b) droplet spread, with a probable or confirmed case of polio during his/her potentially infectious period.

4.1.1 High-risk contacts[2]
Those at high risk of acquiring and/or transmitting poliovirus include:
- household members who live with the index case
- close social contacts – family and friends who have spent a lot of time with the index case while he/she has been infectious
- children in shared day care with the index case while he/she has been infectious
- food handlers and childcare workers who may have had contact with the index case while he/she has been infectious

4.1.2 Low-risk contacts[2]
Those at low risk of acquiring and/or transmitting poliovirus include:
- individuals who may have had other contact with, or shared a toilet with, the index case while he/she has been infectious
- individuals who have been consumers of food prepared by the index case while he/she has been infectious.
- High-risk contacts should be sought, and ways of communicating with low-risk contacts should be determined.

4.1.3 General advice for all contacts[2]
- All contacts should be informed about the infection, encouraged to use good hygiene practices, and asked to report any symptoms to their medical practitioner.
- The local public health unit will ensure appropriate general information is given to the local primary care practitioners.
- Hand hygiene (see section 3.4.3) should be advised.
- Contacts who are vaccinated against polio need to be informed they are not necessarily protected against infection (three doses of IPV is 99-100% effective[8]) and need to see a medical practitioner if they suffer from any illness.

- If a contact suffers from an illness with neck, back or leg stiffness, severe muscle pain or neurological symptoms, he/she should seek medical advice. The medical practitioner is advised to:
  - refer the patient to hospital as a suspected case of polio
  - notify the local medical officer of health of a suspected case of polio.
- If a contact suffers from a minor non-specific illness (eg, fever, malaise, headache, nausea, or vomiting) or an influenza-like illness, the medical practitioner is advised to:
  - test the contact for poliovirus (discuss with the local laboratory: see NPRP Appendix 2 for instructions on sending specimens to ESR: http://www.health.govt.nz/system/files/documents/publications/national-poliomyelitis-response-plan-new-zealand-v3.pdf and follow the advice given there)
  - reinforce messages about hand hygiene and disinfection practices
  - emphasise the importance of seeking medical attention if symptoms worsen or neurological symptoms occur, and
  - notify the local medical officer of health of a possible case of polio.

4.1.4 Additional advice for high-risk contacts[2]

As well as the above, high-risk contacts should:

- have two stool specimens taken 24 hours apart tested for poliovirus, and a throat swab or nasopharyngeal swab if respiratory symptoms are present
- be excluded from early childhood services, school or work for six weeks after contact with a case, or until two stool specimens, at least 24 hours apart, are negative for poliovirus
- wipe down surfaces in toilet and bathroom facilities with a disinfecting solution of dilute bleach (1 teaspoon of bleach in ½ litre water)
- avoid strenuous physical activity, intramuscular injections and potential causes of injury, and not undergo a tonsillectomy (as any of these might increase their risk of infection and paralysis)
- have a primary course or booster polio vaccination (see below).

The local public health unit should regularly monitor high-risk contacts to check for the development of symptoms and provide information as needed, and inform the medical practitioner they are doing so.

4.1.5 Vaccination of high-risk contacts[2]

- Although there is no known post-exposure protection from polio infection, vaccination of high-risk contacts is recommended even though some contacts may already be infected at the time of vaccination.
- If there is a certain history of a completed course of polio vaccination (three doses using any combination of OPV – which is no longer used in New Zealand – and IPV given at least four weeks apart), a booster dose of IPV should be offered. If in any doubt, a full primary course of IPV should be offered.
- A full primary course of IPV, with at least four weeks between doses, should be offered if the person has:
  - no history of polio vaccination
  - an uncertain history of polio vaccination
  - a history of an incomplete primary course.
- OPV will not be used as part of the vaccination protocol for contacts during a polio outbreak response because (a) it is not currently available in New Zealand, (b) of the already high immunisation coverage in New Zealand, and (c) of the risk of VAPP.
- For young, high-risk contacts, vaccination should be aligned with the National Immunisation Schedule,[3] if possible, after the initial dose.
- Although there are no known adverse effects on the foetus following polio vaccination during pregnancy, as a general precaution vaccination is not advised for pregnant women in the first and second trimester in a low-risk setting. However, pregnant high-risk contacts susceptible to paralytic polio should be immunised as per the vaccination protocol during a polio outbreak.

- Because there is an absence of evidence on the protective role of IPV vaccination after possible exposure, contacts vaccinated need to be informed that they are not necessarily protected by vaccination, and that they should still contact a health provider if they develop any of the symptoms suggestive of polio.

Restriction summary[1]

- Contacts requiring laboratory investigation should be excluded from early childhood services, school or work for 6 weeks after contact with a case, or until two stool specimens, at least 24 hours apart, are negative for poliovirus.
- Other contacts will be advised of the importance of hand hygiene and advised to see a medical practitioner for any illness but will not be restricted.

Prophylaxis[1]

- While post-exposure immunisation is not protective, it is recommended that unimmunised contacts be vaccinated with IPV. In case the contact is already infected, IPV should be given subcutaneously rather than IM to prevent provocation poliomyelitis.[7,9]
- More general immunisation in the community will be implemented if required. See the Immunisation Handbook[3] for further information.

Counselling

- Advise contacts of the nature of the infection and its mode of transmission.
- A fact sheet is available: https://www.tewhatuora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/poliomyelitis/

Community Measures[2]

5 Community

A single case of polio in New Zealand will not necessarily require extensive community vaccination, except if it happens in an under-immunised community. However, if there are secondary cases, then the scenario changes markedly. In this situation, health authorities[§] will assess the need for any vaccination programme that may be required, and any other measures, such as the closure of schools and restriction of community gatherings, and maintain contact with the WHO.

[§] This includes the Ministry of Health, PHARMAC and relevant DHBs. These agencies will also seek expert technical advice from groups such as the National Certification Committee for the Eradication of Polio as required.

Other Control Measures

Identification of source

Early identification of other cases will help to control spread. A review of possible recent cases may provide evidence of the source of an indigenous case.

Hygiene

Hand hygiene is the single most important means of preventing spread of infection. People should wash their hands well with soap and warm water for 15–20 seconds, then dry them thoroughly, preferably with a disposable hand towel. An antiseptic hand gel, rubbed in for 15–20 seconds, is a good alternative when hands are not visibly soiled.

Disinfection

- A disinfecting solution should be used to wipe down surfaces used by people who are ill.
- In areas with modern and adequate disposal systems, faeces and other body fluids or secretions can be discharged into sewers.

Health education

In early childhood services or other institutional situations, ensure that satisfactory facilities and practices are in place for hand cleaning, nappy changing, toilet use and training, food preparation and handling, and cleaning of sleeping areas, toys and other surfaces.

Reporting

- Ensure complete case information is entered into EpiSurv.
- On receiving a notification, the medical officer of health should immediately notify the Ministry of Health, including the Director of Public Health, and check that the paediatrician has notified the case to the NZPSU.
- File.

References and further information

Appendices to the National Poliomyelitis Response Plan
Appendix 1. Virus laboratory contact details
Appendix 2. Instructions for sending samples to ESR
www.health.govt.nz/publication/national-poliomyelitis-response-plan-new-zealand

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Further information

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