

Ministry of Health

# Recommendations for Children Previously Immunized with Oral Polio Vaccine: Qs & As for Immunizers

*This Qs & As sheet is intended for informational purposes only. It is not intended to provide medical or legal advice.*

## Contents

1. What is the polio vaccination recommendation in Ontario for children previously immunized with oral poliovirus vaccine (OPV)?.....	2
2. Why isn't immunization with bOPV considered adequate protection? What if my patient received monovalent OPV? .....	2
3. How do I know if an individual is up to date and adequately protected against polio and how do I re-immunize with IPV if needed? .....	2
4. If my newcomer patient has a record of 1 or 2 doses of OPV in their country of origin, how many more doses of IPV should be given? .....	5
5. What if a child received OPV or if the type of polio vaccine they received on or after April 1, 2016 is unclear (referred to as 'unspecified' doses), but they do not wish to be re-immunized as per the recommendation?.....	9
6. Should adult immunization records be reviewed to identify for OPV given on/after April 1, 2016?.....	9
7. What is the polio vaccination recommendation for adults? .....	9
8. Are doses of IPV and/or IPV-containing vaccines free of charge? Can I order more doses than I usually order if needed?.....	10
9. What is polio? Are we still at risk of polio in Canada?.....	10
10. (Specific for public health units) Are there any scenarios where OPV could be incorrectly flagged as invalid in Panorama? .....	10

## Questions

### 1. What is the polio vaccination recommendation in Ontario for children previously immunized with oral poliovirus vaccine (OPV)?

According to the [World Health Organization \(WHO\)](#), as of April 2016, trivalent oral polio vaccine (tOPV) was replaced with bivalent OPV (bOPV). To align with recently updated guidance from the National Advisory Committee on Immunization I the [Canadian Immunization Guide \(CIG\)](#), and to ensure protection against all 3 poliovirus types, **healthcare providers should presume that children with documented dose(s) of OPV received on or after April 1, 2016, are bOPV and these doses should be considered invalid. These children should complete an age-appropriate polio vaccine series, using an inactivated poliovirus vaccine (IPV)-containing vaccine product.**

### 2. Why isn't immunization with bOPV considered adequate protection? What if my patient received monovalent OPV?

Bivalent OPV (bOPV) contains only poliovirus serotypes 1 and 3, but not serotype 2. Monovalent OPVs (mOPV1, mOPV2, and mOPV3) and the novel OPV type 2 (nOPV2) provide protection for a single serotype.

Although wild poliovirus type 2 was eradicated in 2015, there is still a risk of infection due to circulating vaccine-derived poliovirus type 2. Therefore, it is important to have protection against all 3 poliovirus serotypes.

OPV is a live, attenuated vaccine and has not been used in Canada since 1995/1996. With OPV, there is a low risk of vaccine-derived disease. Only IPV is used in Canada. Therefore, impacted children are likely to be newcomers to Canada.

### 3. How do I know if an individual is up to date and adequately protected against polio and how do I re-immunize with IPV if needed?

Healthcare providers and public health unit staff providing immunizations to children who are new to or recently arrived in Canada should review the child's immunization history.

The Canadian Immunization Guide recommends that children who have not been vaccinated against all three poliovirus types (i.e., received mOPV, nOPV or bOPV only) should receive an IPV-containing vaccine series as appropriate for age (see **Table 1** below).

Immunization records may not explicitly document the type of OPV administered (e.g., tOPV, bOPV, mOPV, nOPV2). To ensure protection against all three poliovirus types, healthcare providers should consider the following:

- If OPV was administered on or after April 1, 2016, healthcare providers should presume that the child received bOPV. Any dose(s) of OPV receive on or after April 1, 2016, should be considered invalid.
- If OPV was administered prior to April 1, 2016, healthcare providers should presume that the child received tOPV and count the dose(s) as valid (unless the dose is documented as mOPV or nOPV).

Children who have received the recommended number of tOPV or IPV doses according to their age (see **Table 1**) are considered up-to-date. Documented doses of trivalent OPV (tOPV) or IPV in any combination are considered valid doses and count towards an adequate polio immunization series, if given on/after the minimum age of 6 weeks and were administered at appropriate intervals.

Children with inadequate immunization records and those lacking documented polio immunizations should be considered unimmunized and started on an age-appropriate immunization schedule with an IPV-containing vaccine.

If the immunization record does not contain sufficient information to determine the type of vaccine product administered, healthcare providers should use any additional information available such as country of immunization and date(s) of administration to assess the child's immunization record (i.e., up-to-date status). If uncertainty remains, an age-appropriate immunization schedule using IPV should be offered.

IPV can be given to incompletely immunized persons and those with inadequate records without concern about prior receipt of polio-containing vaccines. Adverse events associated with repeated immunization with OPV have not been demonstrated.

**Table 1. Catch-up Immunization Schedule for IPV Vaccine for Children and Adolescents Based on Age of Initiation\*<sup>§</sup>**

Age at start of catch-up immunization	Total number of IPV doses	Recommended interval between doses
6 weeks – 3 years	4 doses <sup>†</sup>	First 3 doses given at an interval of 8 weeks (minimum of 4 weeks) between doses; 4 <sup>th</sup> doses given 6-12 months after 3 <sup>rd</sup> dose and on/after the fourth birthday <sup>†,∞</sup>
4-17 years	3 doses	First 2 doses given at an interval of 8 weeks (minimum of 4 weeks) between doses; 3 <sup>rd</sup> dose given 6-12 months after 2 <sup>nd</sup> dose

\*This catch-up immunization schedule is specific to IPV vaccine and assumes that the child is up to date for other antigens. If the child requires immunization with additional antigens in combination vaccines, refer to the [Ontario catch-up immunization schedules](#).

† A 4<sup>th</sup> dose is not required if the 3<sup>rd</sup> dose was given on/after the fourth birthday (and at least 6 months following the 2<sup>nd</sup> dose).

∞ A dose of IPV-containing vaccine should be administered at 4-6 years of age, regardless of the number of polio vaccine doses administered prior to 4 years of age.

§ If the individual is attending childcare or school, the immunizer should advise the parent to report to their [local public health unit](#) each time their child receives an immunization.

**4. If my newcomer patient has a record of 1 or 2 doses of OPV in their country of origin, how many more doses of IPV should be given?**

Table 2 describes common scenarios of OPV doses received and the recommended action for catch-up.

**Table 2. Scenarios and Catch-up Immunization Schedules for Children and Adolescents Previously Immunized with OPV**

Scenario <sup>†</sup>	Recommended Action
<p>No prior doses of a polio-containing vaccine</p>	<p>Administer a complete age-appropriate catch-up schedule for IPV vaccine. Based on the age of catch-up initiation, 3 or 4 doses of an IPV-containing vaccine are required (<b>see Table 1</b> for recommended number of doses and intervals).</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>
<p>3 or more OPV doses received on or after April 1, 2016</p>	<p>OPV doses are considered invalid. Administer a complete age-appropriate catch-up schedule for IPV vaccine. Based on the age of catch-up initiation, 3 or 4 doses of an IPV-containing vaccine are required (<b>see Table 1</b> for recommended number of doses and intervals).</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>

<b>Scenario<sup>†</sup></b>	<b>Recommended Action</b>
3 or more OPV or tOPV doses received prior to April 1, 2016, with 1 dose received on or after the 4 <sup>th</sup> birthday and at least 6 months after the previous dose*	OPV doses administered prior to April 1, 2016 are assumed to be tOPV and are considered valid. Client is considered up to date.
3 or more OPV or tOPV doses received prior to April 1, 2016, however no doses have been administered on or after the 4 <sup>th</sup> birthday <sup>∞</sup>	<p>OPV doses administered prior to April 1, 2016 are assumed to be tOPV and are considered valid. Administer a single dose of an IPV-containing vaccine on or after the 4<sup>th</sup> birthday and 6-12 months after the last tOPV dose.</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>
Child 4-17 years of age with 1 OPV dose received prior to April 1, 2016 and 1 or more OPV doses received on or after April 1, 2016 <sup>∞</sup>	<p>OPV doses(s) administered on or after April 1, 2016 are considered invalid. Administer two doses of an IPV-containing vaccine, with the last dose administered 6-12 months after the last dose of an IPV-containing vaccine.</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>

<b>Scenario<sup>†</sup></b>	<b>Recommended Action</b>
<p>Child 4-17 years of age with 2 OPV doses received prior to April 1, 2016 and 1 or more of OPV received on or after April 1, 2016<sup>∞</sup></p>	<p>OPV doses administered on or after April 1, 2016 are considered invalid. Administer a single dose of an IPV-containing vaccine 6-12 months after the last dose of OPV vaccine.</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>
<p>OPV birth dose(s) (administered ≤ 6 weeks of age), followed by 3 or more OPV doses received on or after April 1, 2016, with the final dose received on or after the 4<sup>th</sup> birthday and at least 6 months after the previous dose*</p>	<p>OPV birth dose(s) are considered invalid. OPV doses administered on or after April 1, 2016 are considered invalid. Administer a complete age-appropriate catch-up schedule for IPV vaccine. Based on the age of catch-up initiation, 3 or 4 doses of an IPV-containing vaccine are required (<b>see Table 1</b> for recommended number of doses and intervals).</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>
<p>OPV birth dose(s) (administered ≤ 6 weeks of age), followed by 3 or more OPV doses received prior to April 1, 2016, with the final dose received on or after the 4<sup>th</sup> birthday and at least 6 months after the previous dose*</p>	<p>OPV birth dose(s) are considered invalid. OPV doses administered prior to April 1, 2016 are assumed to be tOPV and considered valid. Client is considered up to date.</p>

Scenario <sup>†</sup>	Recommended Action
<p>OPV birth dose(s) (administered ≤ 6 weeks of age), followed by 3 or more OPV doses received prior to April 1, 2016, however, no doses have been administered on or after the 4<sup>th</sup> birthday<sup>∞</sup></p>	<p>OPV birth dose(s) are considered invalid. OPV doses administered prior to April 1, 2016 are assumed to be tOPV and considered valid. Administer a single dose of an IPV-containing vaccine on or after the 4<sup>th</sup> birthday and 6-12 months after the last OPV dose.</p> <p>If the client requires immunization with additional antigens in combination vaccines, refer to <a href="#">Ontario's publicly funded immunization catch-up schedules</a>.</p>

\*Scenario assumes **first dose was administered at ≥ 6 weeks of age** with a **minimum interval of 4 weeks between doses in the series**, and with the final dose administered on or after the 4<sup>th</sup> birthday and at least 6 months after the previous dose. As doses of bOPV or tOPV given at birth (≤ 6 weeks of age) do not meet this requirement, OPV birth dose(s) regardless of the year of administration, would be considered invalid and the remainder of the schedule should be reviewed to determine if any additional doses are required.

<sup>∞</sup> Scenario assumes first dose was administered **at ≥ 6 weeks of age with a minimum interval of 4 weeks between doses in the series**. As doses of bOPV or tOPV given at birth (≤ 6 weeks of age) do not meet this requirement, OPV birth dose(s) regardless of the year of administration, would be considered invalid and the remainder of the schedule should be reviewed to determine if any additional doses are required.

<sup>†</sup> Individuals with more complex immunization schedules including those who have received novel OPV (nOPV2), fractional dose IPV (fIPV), or those who have receive both monovalent OPV (mOPV) and bivalent OPV (bOPV) should be assessed on a case-by-case basis.



**5. What if a child received OPV or if the type of polio vaccine they received on or after April 1, 2016 is unclear (referred to as 'unspecified' doses), but they do not wish to be re-immunized as per the recommendation?**

In Ontario, vaccination against polio is required by law, under the [Immunization of School Pupils Act](#) (ISPA), for all children attending elementary and secondary school (unless the student has obtained a valid exemption under the ISPA). According to the *Immunization of School Pupils Act*, students must be immunized with **valid** doses of polio vaccine or have a valid exemption. Since OPV or polio 'unspecified' doses received April 1, 2016 or later are considered invalid, re-immunization with IPV or a [valid exemption](#) on file at the local public health unit is required.

**6. Should adult immunization records be reviewed to identify for OPV given on/after April 1, 2016?**

As OPV vaccine campaigns tend to focus on younger children, the identification of adults who received bOPV or OPV on April 1, 2016 or later is not expected to be common. These adults, as well as unimmunized adults, or those with unknown polio immunization history may receive appropriate dose(s) of IPV or IPV-containing vaccine according to the current [Publicly Funded Immunization Schedules for Ontario](#).

**7. What is the polio vaccination recommendation for adults?**

The polio vaccine is not given routinely to adults who have been immunized previously in childhood. Adults who received polio vaccine as part of their routine childhood immunizations are generally protected and do not need re-vaccination.

The [Canadian Immunization Guide](#) provides a list of persons at increased risk of exposure to poliovirus, and who are recommended to receive a single lifetime booster dose of IPV-containing vaccine. While not all of these boosters are covered under the publicly funded program, [Ontario's Publicly Funded High Risk Program](#) offers a free IPV-containing booster dose for individuals who will be traveling to areas where polio is known or suspected to be circulating (<https://travel.gc.ca/travelling/health-safety/travel-health-notice/508>).

## **8. Are doses of IPV and/or IPV-containing vaccines free of charge? Can I order more doses than I usually order if needed?**

IPV and/or IPV-containing vaccines required as part of this recommendation are considered routine and are covered for individuals under the publicly funded program. The exception are doses given outside of the high-risk eligibility criteria as per [Table 3 in the Publicly Funded Immunization Schedules for Ontario, High Risk Vaccine Programs](#).

Doses should be ordered from your regular vaccine supply source (i.e., local public health unit or Ontario Government Pharmaceutical and Medical Supply Service).

After any immunization, ensure the personal immunization record (i.e., the “yellow card”) is updated. If the individual is attending childcare or school, the parent should inform their local public health unit each time their child receives an immunization. An immunization record is required for school and childcare attendance, and for certain types of travel and work, so records should be kept in a safe place.

## **9. What is polio? Are we still at risk of polio in Canada?**

Poliomyelitis (polio) infection is a highly infectious viral disease that attacks the central nervous system. Polio infections are more common in children less than 5 years of age. However, any person who is not immune to poliovirus, regardless of age, can become infected. There is no cure for polio, but it can be prevented through immunization. The [National Advisory Committee on Immunization \(NACI\)](#) recommends routine childhood immunization against polio and a single lifetime booster dose of IPV-containing vaccine for adults at risk of polio exposure.

The risk of importation of both wild-type and circulating vaccine-derived poliovirus and onward local transmission remains possible in North America. Particularly in communities with low vaccination coverage.

## **10.(Specific for public health units) Are there any scenarios where OPV could be incorrectly flagged as invalid in Panorama?**

Doses of polio that are flagged as invalid in Panorama should be manually assessed as per Q3 above, particularly when conducting assessments and record reviews as part of the ISPA.

While all OPV and unspecified doses given April 1, 2016, or later, will be presumed as bOPV and deemed invalid in Panorama, if details in the child’s record provide additional information, and the PHU/medical officer of health assesses the dose(s) as valid (for example, if tOPV was received), the invalid dose(s) may be overridden and considered valid.

Additional resources:

- [Polio \(Ontario.ca\)](#)
- [Summary of Immunization Recommendations for Children Previously Immunized with Oral Poliovirus Vaccine | Public Health Ontario](#)
- [Poliomyelitis | Public Health Ontario](#)
- [Poliomyelitis vaccine: Canadian Immunization Guide – Canada.ca](#)