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Polio Disease and Poliovirus Containment

AT A GLANCE

Poliovirus containment is focused on eradicated polioviruses. Wild poliovirus type 2 (WPV2) and wild poliovirus type 3 (WPV3) were declared eradicated in 2015 and 2019, respectively. Containment measures are in place for laboratories and other facilities that handle or store eradicated polioviruses.



Poliovirus containment

Polio, or poliomyelitis, is a crippling and potentially deadly infectious disease.

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[What is Polio?](#)

CDC and its national and international partners have made significant progress towards polio eradication. The [Global Polio Eradication Initiative](#) outlines some of CDC's key international partnerships involved in polio eradication efforts.

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[About Polio in the United States](#)

Types of Polio

There are three types of wild poliovirus (WPV): type 1, type 2, and type 3. People must protect themselves against all three types of the virus to prevent polio disease.

Type 2 wild poliovirus was declared eradicated in September 2015. The last detection was in India, 1999.

Type 3 wild poliovirus was declared eradicated in October 2019. It was last detected in November 2012.

Only type 1 wild poliovirus remains.

Polio vaccine provides the best protection against polio disease.

Two types of vaccines are used to prevent polio disease— [inactivated polio vaccine \(IPV\)](#) and [oral polio vaccine \(OPV\)](#).

For more information see [OPV Cessation – GPEI \(polioeradication.org\)](#).

Oral polio vaccine

The oral poliovirus vaccine (OPV) is used in many countries to protect against polio disease. WHO recommends continued use of OPV, where indicated, as OPV elicits substantial mucosal immunity. Oral poliovirus vaccine contains attenuated or weakened version of one of the following:

- One poliovirus type (monovalent OPV)
- Two poliovirus types (bivalent OPV)

- All three poliovirus types (trivalent OPV)

Switch to bivalent OPV

After wild poliovirus type 2 was declared eradicated in 2015, the world switched from trivalent OPV to bivalent OPV. Bivalent OPV contains poliovirus type 1 and 3. This switch means that the bOPV used globally no longer protects against WPV2. Countries that use bOPV for routine immunization have added a single dose of IPV to protect against WPV2.

Poliovirus variants

In rare instances, the vaccine-virus may be able to circulate over time and mutate in communities with insufficient immunity or immunocompromised individuals. These mutated OPV strains can cause polio disease. They are called [poliovirus variants](#) or vaccine-derived polioviruses (VDPVs).

Keep Reading:

[Global Polio Eradication](#)

Inactivated poliovirus vaccine

IPV protects people against all three types of poliovirus. IPV does not contain live virus and cannot cause disease. It protects people from polio disease but does not stop transmission of the virus.

OPV can be used to contain a polio outbreak. Use of all OPV will stop when polio is eradicated globally. This will prevent re-establishment of transmission from VDPVs.

Keep Reading:

[Polio Vaccination](#)

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