

Asymptomatic (Nonparalytic) Polio Another Reason to Vaccinate

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The poliovirus is tricky. It doesn't always cause paralysis. One lesson learned during the polio epidemics is that there are hundreds of asymptomatic poliovirus infections for each paralytic case, meaning that many of those infected with polio were so mildly affected that they didn't even know they'd had the virus. (1) Just because someone had no symptoms or minor flu like symptoms, showing no obvious weakness or paralysis, doesn't mean that the poliovirus didn't do damage to neurons in the brain and spinal cord.

Why is this lesson important to remember today? There are currently 37 nations on the list of polio "[Outbreak Countries](#)," those that had stopped wild poliovirus but have been re-infected either by the importation of wild or vaccine-derived poliovirus from another country, or by detection and circulation of vaccine-derived poliovirus resulting from a country's use of the oral polio vaccine.* Four new additions to the list are Canada and the United Kingdom, both of which discovered poliovirus in wastewater, and the United States and Israel, each reporting one case of paralytic polio in 2022 and also finding poliovirus in wastewater. The CDC has identified the strains of poliovirus in these four countries as being genetically related. Poliovirus in wastewater is frightening evidence that the virus is circulating in the general population, setting the stage for more paralytic cases and an even a greater number of non-paralytic cases in those who are not vaccinated.

Since these reports, we've had an overwhelming number of questions about the danger of poliovirus circulating in under-vaccinated communities. Health departments in New York State (where the first case of paralytic polio since 1979 was reported) have been out front with their concerns about this circulating poliovirus:

"Dr Patricia Schnabel Ruppert, health commissioner for Rockland County (NY), said she was worried about polio circulating in her state undetected. 'There isn't just one case of polio if you see a paralytic case. The incidence of paralytic polio is less than 1%,' she said. 'Most cases are asymptomatic or mildly symptomatic, and those symptoms are often missed. So there are hundreds, perhaps even thousands of cases that have occurred in order for us to see a paralytic case' " (2)

"Based on earlier polio outbreaks, New Yorkers should know that for every one case of paralytic polio observed, there may be hundreds of other people infected,' Mary Bassett, MD, the state health commissioner, said in the statement." (3)

The concern about infections due to circulating poliovirus was underscored by Israel's report of four asymptomatic poliovirus - infected children in March, 2023. The Health Ministry cautioned that it "demonstrated extensive spread" of the poliovirus. (4)

Why is there so much concern about the community spread of poliovirus when most cases are non-paralytic or even asymptomatic? Pediatric vaccine expert Dr. Paul Offit reminds us it's because of the "lesson learned":

"Think about that man in NY. He represents the tip of a much, much bigger iceberg. Most people who had polio never had symptoms. That iceberg is people who had asymptomatic infection, or maybe a mild, summer gastroenteritis that gets better, but we know you can still develop post-polio syndrome even following a mild, initial infection because that virus reproduces itself in the spinal cord and although you may not see any symptoms initially, over time, when you are using muscles to compensate that had very mild symptoms initially, so much so that you may not have even noticed them, then a fail and you now have post-polio syndrome." (5)

The "lesson learned" needs to be taken seriously. Our network serves an untold number of survivors who had a "non-paralytic", "asymptomatic", "inapparent" or "mild" case of polio and now are living with Post-Polio Syndrome, the disabling "late effects" of this terrible disease. Public health experts worldwide are

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calling for universal polio vaccination, even in countries where polio previously had been eradicated. With the current community spread of the poliovirus, those who are unvaccinated are at risk, not only of polio paralysis, but also of "non-paralytic" polio causing hidden damage that reveals itself later as PPS.

The growing list of polio "Outbreak Countries" shows that, as a result of global travel, the spread of polio - and many other vaccine preventable diseases is easier than ever before. Polio anywhere is a threat to children everywhere. The *only* prevention is vaccination.

[Carol Ferguson](#)

*Note: Polio Eradication Dates: Israel 1988, UK 1982 and US 1979.

Thank you Richard L. Bruno, HD, PhD for your article edit(s) and review.

Sources:

- (1) [Richard L. Bruno, HD, PhD](#)
- (2) BBC News: [US doctor issues warning of many undiagnosed polio cases](#)
- (3) Medscape: [Polio in New York Linked to Potential Community Spread](#)
- (4) The Times of Israel: [Three more children diagnosed with polio virus .](#)
- (5) [Paul A. Offit, MD: Polio and COVID, Living with their Effects](#)



Vaccines and Preventable Diseases

“Unvaccinated or incompletely vaccinated adults who are at increased risk of exposure to poliovirus should receive and complete the polio vaccination series with IPV. Other adults who are unvaccinated or incompletely vaccinated should talk with their doctor to understand their risk for polio and need for polio vaccination. Adults who completed their polio vaccination but who are at increased risk of exposure to poliovirus may receive one lifetime IPV booster.

Situations that put adults at increased risk of exposure to poliovirus include:

- Travelers who are going to countries where polio is epidemic or endemic (For additional information, see [Polio: For Travelers](#)).
- Laboratory and healthcare workers who handle specimens that might contain polioviruses.
- Healthcare workers or other caregivers who have close contact with a person who could be infected with poliovirus.
- Unvaccinated or incompletely vaccinated adults whose children will be receiving oral poliovirus vaccine (for example, international adoptees or refugees).
- Unvaccinated or incompletely vaccinated adults living or working in a community where poliovirus is circulating.

Unvaccinated adults who are at increased risk of exposure to poliovirus should be given three doses of IPV at these recommended intervals:

- Two doses separated by 1 to 2 months
- A third dose 6 to 12 months after the second dose

Adults who are incompletely vaccinated (previously received one or two doses of either IPV or tOPV) and who are at increased risk of exposure to poliovirus should receive the remaining doses of IPV to complete the three-dose series at the recommended interval:

If the adult has received Dose 1, and

- It has been ≥ 4 weeks since Dose 1, then give Dose 2 today. Dose 3 (final) should be given at least 6 months after Dose 2.
- It has been < 4 weeks since Dose 1, then wait to give Dose 2 at least 4 weeks after Dose 1.

If the adult has received Dose 2 and

- It has been ≥ 6 months since Dose 2, then give Final Dose 3 today. This will complete the person's primary polio vaccination series.
- It has been < 6 months since Dose 2, then wait to give Final Dose 3 at least 6 months after Dose 2.

Adults who have had three or more doses of polio vaccine in the past and are at increased risk – of exposure to poliovirus may get one lifetime booster dose of IPV.”

For More Information: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations