Editorials

Practice Alert: ACIP Recommends IPV for Unvaccinated or Incompletely Vaccinated Adults

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Before introduction of the polio vaccine, thousands of paralytic polio cases occurred each year in the United States.[1] The first polio vaccine (the Salk inactivated polio vaccine [IPV]) was introduced in 1955. The Sabin oral polio vaccine (OPV) was first used in 1961. The IPV contains inactivated virus and does not cause vaccine-associated paralytic polio. However, gastrointestinal infection and transmission of the virus are possible with IPV. The OPV, which contains modified live virus, protects against gastrointestinal infection and reduces community transmission but carries a very small risk of causing vaccine-associated paralytic polio (one case per 2.4 million doses).[2]

The trivalent OPV was administered routinely to U.S. children starting in the 1960s and led to the eradication of wild poliovirus in the country by 1979. Because of the small risk of vaccine-associated paralytic polio, the Centers for Disease Control and Prevention (CDC) switched its recommendation to IPV in 1999. The current version of IPV has been used for more than 20 years and is proven safe and effective.

Of the three types of poliovirus, wild types 2 and 3 have been eliminated worldwide, but wild type 1 and vaccine-derived polio viruses still circulate in many countries.[3] Vaccine-derived poliovirus type 2 was the cause of a paralytic case in an unvaccinated adult in New York in 2022.[4] Testing of wastewater demonstrated that this particular strain of poliovirus circulated for at least 7 months in several New York communities.[5] This case was a stark reminder that as long as poliovirus is not eradicated globally, it can easily reemerge in the United States, especially in undervaccinated communities. This caused the CDC to reevaluate the recommendations for use of IPV in adults.

Until recently, the CDC recommended routine polio vaccination in children and only in adults with increased risk of exposure to poliovirus. The following are new recommendations for adults (18 years and older), published in late 2023.[6]

Adults known or suspected to be unvaccinated or incompletely vaccinated should receive a primary series of IPV.

Vaccinated adults who are at risk of exposure can receive a booster dose of IPV. Only one lifetime booster is needed.

For practical purposes, adults who were born and grew up in the United States can be presumed to be vaccinated, even if no childhood vaccine records are available. A complete vaccine series is defined as three or more doses of OPV, IPV, or a combination, with the last dose administered after the patient turns 4 years of age. Adults who were born and raised outside of the United States who do not have documentation of polio vaccine should be offered IPV.

A primary series of IPV for adults comprises two doses 4 to 8 weeks apart and a third dose 6 to 12 months after the second dose. Longer intervals between doses are acceptable and do not necessitate restarting the series. The number of doses and the dosing intervals can also be shortened if protection is needed before the primary series can be completed.[6]

Travelers to countries where polio is still endemic and laboratory and health care professionals who could be exposed to poliovirus are at increased risk and should consider a booster dose of IPV. The categories of those at risk might be expanded to include residents of a community with documented circulation of poliovirus, as in the New York case.

Contraindications to IPV include a previous severe reaction to the vaccine or any of three antibiotics (streptomycin, polymyxin, and neomycin) that exist in trace amounts in the vaccine. Although IPV is considered safe to use during pregnancy, it is recommended that pregnant patients not receive the vaccine unless there is a high risk of exposure to poliovirus.

These new recommendations to use IPV in some adults are the result of continued circulation of wild and vaccine-derived poliovirus worldwide, vaccine hesitancy leading to suboptimal vaccination rates in some communities, and concern that a reemergence of paralytic polio in the United States is a real possibility and would be a significant public health setback.

Editor's Note: Dr. Campos-Outcalt published an ongoing series of Practice Alerts on screening, counseling, and immunization recommendations in *The Journal of Family Practice* from 2003 to 2023. We are pleased that he will continue his timely column in *AFP*.—Kenny Lin, MD, MPH, Deputy Editor

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