



Frequently Asked Questions about

# The (Inactivated) Polio Vaccine (IPV)

## **Does the polio vaccine cause polio?**

- No. The polio vaccine now recommended for use in the United States, the Inactivated Polio Vaccine (IPV), is incapable of causing paralytic polio because it contains a virus that has been inactivated (killed).
- Until relatively recently, American children received the oral polio vaccine (OPV), which is still used in many other countries because it is easier to administer, is less expensive, and protects people in the community somewhat more effectively than IPV. OPV is a liquid vaccine given to children by mouth rather than by injection. It contains live, weakened virus that, in extremely rare cases, can mutate and lead to paralysis in the person who receives the vaccine or a close contact. OPV is associated with about 1 case of paralytic polio for every 2.4 million doses given.<sup>1</sup> In rare cases, vaccine-associated paralytic polio can also occur in susceptible individuals (those who have not been immunized or who have a weakened immune system from chemotherapy or other causes) who are exposed to people recently immunized with OPV.<sup>2</sup>
- OPV was used in the past in the United States because it protected people in the community at large somewhat more effectively than IPV when wild polio was still present here. Now that wild polio virus has been eliminated from North and South America, IPV has been recommended instead of OPV. Because IPV contains killed virus, it cannot mutate or cause any disease. There is zero risk of vaccine-associated polio with the IPV vaccine.

## **Do American children really need to be given the polio vaccine if there are no cases of wild polio in the United States?**

- Although the polio virus has been eliminated from the United States and other countries in the Western Hemisphere, it is still very common in other parts of the world. Outbreaks of polio continue to occur in Asia and Africa. This disease is only a plane ride away, so we must continue to vaccinate.
- The World Health Organization is working toward the worldwide eradication of the polio virus by the year 2005. If that goal is met, and it can be assured that polio has been eradicated, the polio vaccine (like the smallpox vaccine) no longer will be needed.

## **Is it true that polio vaccines are contaminated with a virus from monkeys?**

- No. Polio vaccine is made by growing polio virus in monkey kidney cells. Some early batches of polio vaccine (used between 1955 and 1963) were subsequently found to be contaminated with a virus that infects monkeys, called simian virus 40 (SV40).<sup>3,4</sup> Studies to date have shown that those who received polio vaccines that were contaminated with SV40 are not at any additional risk of any disease, but scientific research is continuing.<sup>5</sup> The current polio vaccine is not contaminated.

*Frequently Asked Questions about*

## **The (Inactivated) Polio Vaccine (IPV)** (continued)

### **Sources:**

- <sup>1</sup> Zimmerman RK, Spann SJ. Poliovirus vaccine options. *Am Fam Physician* 1999;59:113-118.
- <sup>2</sup> Committee on Infectious Diseases. Prevention of poliomyelitis: Recommendations for use of only inactivated poliovirus vaccine for routine immunization (RE9949). *Pediatrics* 1999;104:1404-1406.
- <sup>3</sup> Rizzo P, Di Resta I, Powers A, Ratner H, Carbone M. Unique strains of SV40 in commercial polio vaccines from 1955 readily identifiable with current testing for SV40 infection. *Cancer Res* 1999;59:6103-6108.
- <sup>4</sup> Fisher SG, Weber L, Carbone M. Cancer risk associated with simian virus 40 contaminated polio vaccine. *Anticancer Res* 1999;19(3B):2173-2180.
- <sup>5</sup> Butel J.S.. Simian virus 40, polio virus vaccines, and human cancer: research progress versus media and public interests. *Bulletin of World Health Organization* 2000; 78(2): 195-198.