

## Poliomyelitis (Paralytic)

*Poliomyelitis is a Class A Disease. Recognized and suspected cases must be reported to the Office of Public Health within twenty-four hours.*

In the early 1900's, poliomyelitis became epidemic in the United States. In 1952, over 20,000 cases were reported. Following the introduction of effective vaccines, the reported incidence of poliomyelitis declined drastically in the U.S. to less than one hundred cases in 1965 and less than ten cases in 1973.

With the introduction and widespread use of oral poliovirus vaccine, which contains live-attenuated poliovirus strains, vaccine associated paralytic poliomyelitis (VAPP) was first recognized. By 1973, more cases of VAPP were reported than paralytic disease caused by wild poliovirus. The last cases of indigenously transmitted wild poliovirus were reported in 1979. Since then, apart from six cases of imported poliomyelitis, all reported cases of paralytic poliomyelitis have been vaccine-associated. VAPP is a very rare disease with an average of eight reported cases annually. In order to eliminate VAPP from the United States, the Advisory Committee on Immunization Practices recommended in 2000 that only inactivated poliovirus vaccine be used in the United States. The last case of VAPP acquired in the United States occurred in 1999.

In 1998, the World Health Assembly, (composed of the ministers of health of all Member States of the World Health Organization), voted to launch a global goal to eradicate polio. As a result of the 'Global Polio Eradication Initiative' - the largest public health effort to date - at the end of 2015, indigenous polio had been eliminated from all but two countries in the world (Afghanistan and Pakistan), (Figure 1).

Figure 1: World-wide distribution of poliomyelitis, 1988 and 2015.



Source: World Health Organisation/Global Polio Eradication Initiative



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Polio cases have decreased (by over 99%) since 1988, from an estimated 350,000 cases then, to 1,997 reported cases in 2006. The reduction is the result of the global effort to eradicate the disease; 94% of these cases occurred in endemic countries. When the Global Polio Eradication Initiative was launched, wild poliovirus was endemic in more than 125 countries on four continents, paralyzing more than 1,000 children every day. Since 1988, some two billion children around the world have been immunized against polio thanks to the unprecedented cooperation of more than 200 countries and twenty million volunteers, backed by an international investment of three billion dollars. In 2015, only two countries in the world remain polio-endemic, down from more than 125 in 1988. The remaining countries are Afghanistan and Pakistan.

Persistent pockets of polio transmission in Afghanistan and Pakistan is the current focus of the polio eradication initiative. As long as a single child remains infected, children in all countries are at risk of contracting polio. Between 2003 and 2005, twenty-five previously polio-free countries were re-infected due to imports of the virus.

While the Western Hemisphere was certified as free of indigenous wild poliovirus in 1994, the potential for importation of wild poliovirus into the United States remains, until world-wide poliomyelitis eradication is achieved. Because unapparent infection with wild virus strains no longer contributes to establishing or maintaining poliovirus immunity in the United States, universal vaccination of infants and children is the only means of maintaining population immunity against poliovirus to prevent poliomyelitis cases and epidemics caused by importation of wild virus into the United States.