

Questions and Answers on Monovalent Oral Polio Vaccine Type 1 (mOPV1)

This sheet is meant to inform health authorities at National and Regional. It is not meant for general distribution to all health staff.

1. What is monovalent oral polio vaccine type 1 (mOPV1)?

Monovalent oral polio vaccine-1 is developed using only type 1 poliovirus and immunizes only against type 1.

There are 3 types of wild poliovirus: referred to as types 1, 2 and 3. Protection against one of these types of virus does not protect against the other types. Trivalent oral polio vaccine (tOPV) - used in most countries - is made using an attenuated strain of all 3 types of poliovirus.

Monovalent OPV1 is in all respects similar to tOPV, except that it does not contain types 2 and 3.

2. Why has the decision been made to use mOPV1?

In September of 2004, the Ad Hoc Advisory Committee for Polio Eradication (AACPE) - the independent global technical advisory body for the eradication effort - reviewed different options for enhancing the impact of eradication activities that were taking place, particularly in key endemic countries.

Since there was strong data showing the potential impact of mOPV1, the AACPE recommended: 1) increasing the numbers of children reached with vaccine; and 2) increasing the probability of children developing immunity to wild poliovirus type 1 by using mOPV1 in supplementary immunization campaigns for areas where only that type was circulating. The national advisory groups on polio eradication in both Egypt and India reviewed the data and recommended as the first countries that mOPV1 be used in supplementary immunization campaigns. Since then, mOPV has been used in numerous countries around the world, like Angola, Sudan, Yemen, Indonesia and others.

3. What advantages does mOPV1 have over trivalent oral polio vaccine (tOPV)?

A very important advantage is that the monovalent vaccine produces a much stronger response than tOPV in children being immunized for the first time, including very young babies; since nearly all cases of polio now are children under two years of age, this is very significant.

Monovalent OPV1 provides increased immunity to type 1 poliovirus compared to tOPV for the same number of doses. This is because there is no competition from type 2 and 3 viruses in the vaccine. Monovalent OPV1 offers important advantages in situations where wild poliovirus type 1 is still or again circulating because it increases the impact of each immunization contact with a child.

Additionally, if children immunized with mOPV1 are subsequently exposed to wild poliovirus type 1, they will excrete less wild virus and for a shorter period of time, limiting the possibility of further transmission.

4. Is mOPV1 a new vaccine?

No, monovalent oral polio vaccines for all the 3 types of polioviruses were used extensively in the early days of polio vaccination in the late 1950s and early 1960s, so there is a great deal of historical experience with these vaccines. Since no OPV manufacturer has recently produced monovalent vaccines, it is necessary to go through the process of licensing mOPV1 again.

5. Why is mOPV1 only being used in some areas and not others?

Although wild poliovirus type 2 has not been found circulating anywhere in the world since 1999, type 3 continues to circulate in west and central Africa, and in Pakistan/Afghanistan.

Monovalent OPV1 will have greatest impact in type 1 outbreaks or there where type 1 wild polio virus circulation has persisted in key reservoir areas such as in Egypt and India, where population density, climate, mobility and birth rates are very high, and transmission of type 3 is relatively intermittent.

All recent outbreaks (Angola, Indonesia, Yemen, Ethiopia) are caused by polio virus type 1 only.

6. Is it safe for my child to take mOPV1?

mOPV1 is as safe for a child as tOPV, and will give faster protection against wild poliovirus type 1.

7. Will we have fewer vaccination campaigns after using mOPV1?

The AACPE recommended that at least 3 large scale campaigns should be conducted after the detection of a case of polio in a previously polio free area and that there should be at least 2 rounds after the last case.

8. Who is making mOPV1?

Manufacturing and registration of mOPV1 was made possible through a very close partnership between vaccine manufacturers, WHO and UNICEF, overseen by the French, Egyptian and Indian regulatory agencies (Agence Française pour la Sécurité Sanitaire des Aliments et des Produits de Santé, National Organization for Drug Control and Research of Egypt and Central Drugs Standard Control Organization of India).

9. Is the use and administration of mOPV1 different from tOPV?

In all respects of storage, handling, and use, mOPV1 is the same as tOPV. The vials and instructions are exactly the same, although labels will distinguish mOPV1 from tOPV. The vaccine will be administered through immunization campaigns to all children below the age of 5 years.

10. Who is regulating the production and safety of mOPV1?

Manufacturing, licensing, and release of mOPV1 will be overseen by the French, Egyptian and Indian regulatory agencies: Agence Française pour la Sécurité Sanitaire des Aliments et des Produits de Santé; National Organization for Drug Control and Research of Egypt; and Central Drugs Standard Control Organization of India.