

# The next phase of polio eradication and the vaccines used

A training module for health workers on  
the switch from trivalent OPV to bivalent OPV



**World Health  
Organization**

*Note: This training module may be updated in coming months and recirculated widely.*

# Learning objectives



- At the end of the module, the participant will:
  - Know the benefits of switching from trivalent to bivalent OPV
  - Understand the role of health workers in implementation of the switch
  - Be able to respond to parental concerns regarding vaccine safety and effectiveness



- Duration
  - 2 hours

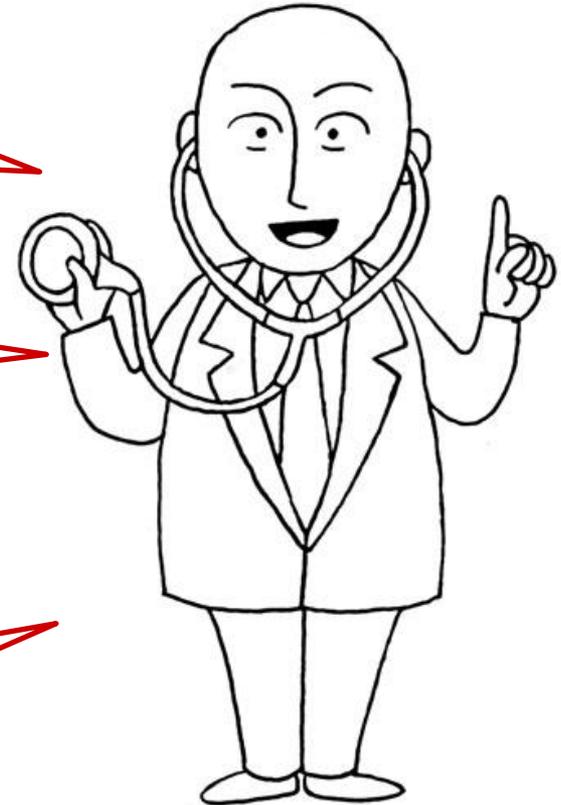


# This training module will answer the following questions:

**1** Why does the world need to switch from trivalent OPV to bivalent OPV?

**2** What is the role of health workers?

**3** What are the key messages related to this change?



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# **Polio eradication and the switch from trivalent OPV to bivalent OPV**



# We are close to the eradication of polio

- Immunization efforts have reduced the number of polio cases globally by more than 99% over the last two decades.
- The transition from trivalent OPV to bivalent OPV is part of the polio eradication strategy.
- *There are three types of polio viruses: 1, 2, and 3. The last type 2 wild poliovirus was detected in 1999*



# Both OPV and IPV are needed at this stage of polio eradication

## Oral Polio Vaccine (OPV)

Administered by **drops**

Contains live, weakened virus

Provides immunity through the gut  
and associated herd immunity

**Trivalent OPV (tOPV) protects against  
types 1, 2, and 3**

**Bivalent OPV (bOPV) protects against  
types 1 and 3**

## Inactivated Polio Vaccine (IPV)

Administered by **injection**

Contains killed virus

Provides immunity through the blood

Should be used in all routine immunization  
schedules worldwide by the end of 2015

IPV protects against types 1, 2, and 3



# Why will we eventually stop use of OPV?

OPV contains live but weakened virus, and **in very rare cases**, OPV can cause paralysis.:

- **Vaccine - Associated Paralytic Poliomyelitis (VAPP):** There are an estimated 250-500 VAPP cases globally per year.
- **Circulating Vaccine Derived Poliovirus (cVDPV):** Since 2005, there have been at least 671 cases of paralytic polio from type 2 cVDPV2s.



# An important step in the effort to eradicate polio

**To fully eradicate polio, we need to eliminate VAPP and cVDPV by:**

- Gradually phasing out OPV
- Starting with the removal of the type 2 component of tOPV

**The risks associated with the type 2 component of tOPV now outweigh the benefits:**

- Type 2 component of tOPV causes around 40% of VAPP and over 90% of cVDPV cases
- Type 2 component of tOPV interferes with immune response to types 1 and types 3

***Recall that the last type 2 wild poliovirus was detected in 1999.***

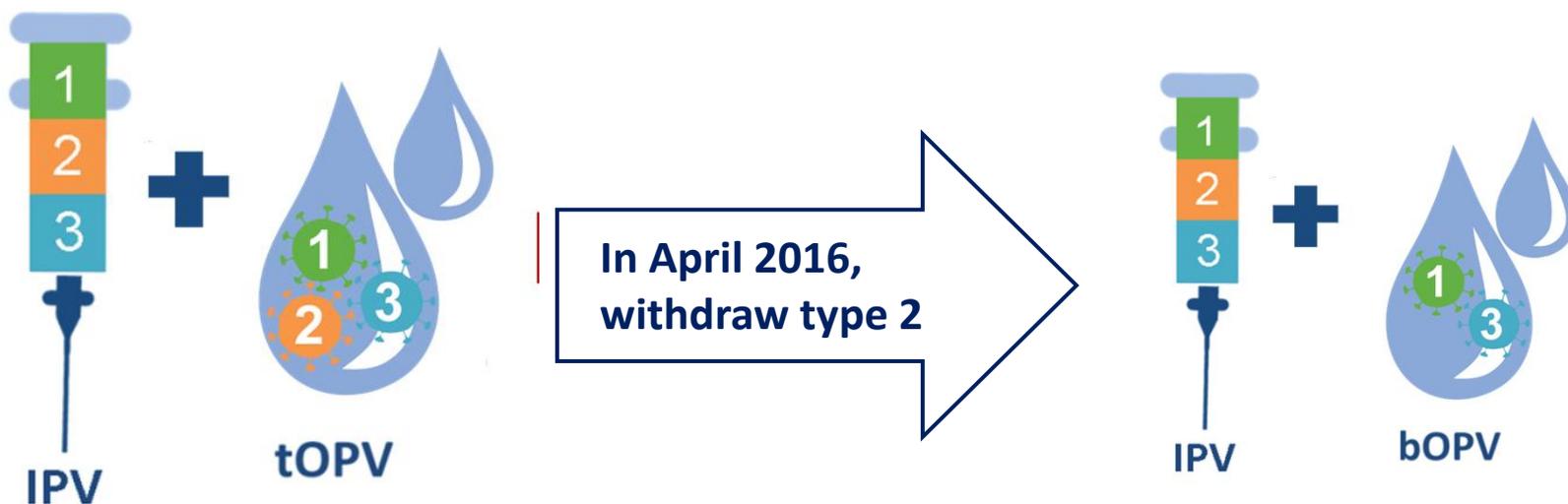


# Polio Eradication Endgame and Strategic Plan

In 2013, the World Health Organization (WHO) developed the **Polio Eradication Endgame and Strategic Plan 2013-2018**. This global plan recommends the:

- Withdrawal of all OPV worldwide, beginning with the type 2 component in April 2016 (“the switch” from tOPV to bOPV)
- Introduction of IPV into routine immunization before the switch from tOPV to bOPV to maintain protection against all 3 types of poliovirus, mainly against type 2.

# The switch from tOPV to bOPV

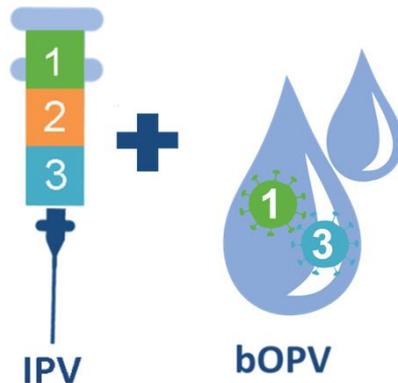


- tOPV and IPV protect against poliovirus types 1, 2 and 3.
- The type 2 component of tOPV causes the majority of cVDPV cases.

- bOPV + IPV protect against poliovirus types 1, 2 and 3.
- bOPV has a lower risk of cVDPVs and time limited.

# OPV and IPV

*After April 2016*



- IPV will provide protection against polio type 2 after the type 2 component of OPV is removed.
- IPV also provides additional protection against types 1 and 3.
- IPV is not a 'live' vaccine, therefore carries no risk of VAPP or cVDPV

***Used together, OPV and IPV provide the best form of protection in the final stages of polio eradication.***

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# **The role of health workers in the switch from trivalent OPV to bivalent OPV**



# Your role in the switch

Health workers will play a critical role in the switch:

- 1. Ensuring bOPV is available at vaccination points**
- 2. Using only bOPV after the switch day in April 2016**
- 3. Disposing of tOPV properly**
- 4. Answering any questions about the switch**



# National switch day

- The switch is a global event. It will take place in April 2016, in every health facility in every country that still uses tOPV
- Within a two-week predetermined period, it is essential for each country to switch from tOPV to bOPV on one selected day: the National Switch Day
- In **<insert country>**, our National Switch Day will be **xx April**. From this date, tOPV will no longer be used anywhere in the country, and not for any programme, private nor public

# The importance of our National Switch Day: **xx April**

Any place that continues to use tOPV after **xx April** is at risk of generating and exporting type 2 cVDPVs, potentially putting its neighbours at risk.

## **bOPV simply replaces tOPV:**

bOPV follows the same immunization schedule as tOPV, has the same attributes for administration as tOPV

**Note: If a child begins his or her vaccination schedule with tOPV, there is no problem to complete the schedule with bOPV**



# A globally synchronized event

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**In April 2016,**  
**every health worker,**  
**in every health facility,**  
**in every country using OPV,**  
*will contribute to a major milestone*  
*on the road to polio eradication*



# On switch day, health workers will:\*

- Stop using tOPV and instead use bOPV only
- Take all tOPV out of the cold chain (both opened and unopened vials)
- Place tOPV in a marked bag provided specifically for this vaccine
- Dispose of the tOPV vials as instructed by the vaccination programme



*\*Procedures may vary by country.*

# Switch monitoring

- People appointed as “Switch Monitors” will visit health facilities during the two weeks after the National Switch Day.
- Monitors will verify that no tOPV stocks remain at facilities and remove any remaining stocks of tOPV, if found.
- This is to make sure that tOPV with its type 2 component has been fully withdrawn



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# Key messages for parents and caregivers about the switch from trivalent to bivalent OPV



# Do health workers need to explain the switch to parents and caregivers?

***It will not be necessary for you to take the initiative to explain the switch*** from tOPV to bOPV to all caregivers because the:

- General public may not be aware that there are 3 types of polioviruses
- Change may not be noticeable to caregivers and the public
- Vaccine attributes, schedule, and potential side effects remain the same

**Given this level of general awareness, you may not receive any questions about the change.**

**You can reassure caregivers that this combination of IPV and OPV will keep their children and their community safe from polio.**



# Reassuring parents and caregivers

**If asked, health workers can say to parents:**

“We are using a different type of oral vaccine together with the injectable vaccine to protect children from the few remaining cases of polio.”

“These vaccines together will work to end polio in our community and the world.”





# Frequently Asked Questions

***Will children have protection from wild poliovirus type 2 or from type 2 VDPVs after the switch from tOPV to bOPV?***

***How will they be protected from type 2 polioviruses?***

IPV will help to protect children against poliovirus types 1, 2, and 3.

After the switch from tOPV to bOPV, IPV will help to boost protection against paralytic polio caused by the type 2 poliovirus, and offer additional protection against types 1 and 3.





# Frequently Asked Questions

*What if a child received one type of OPV before and is getting the new type of OPV now?*

*Is it ok to combine these vaccines?*

Both types of OPV are extremely safe vaccines, and can be given to the same child at different visits.

Thanks to the addition of the injectable polio vaccine in programmes, the infant will still be protected against paralytic polio from all 3 types of poliovirus





# Frequently Asked Questions

***If countries have unused supplies or inventories of tOPV after the switch date, can they first use those supplies before making the switch to bOPV?***

No. All countries, and all health facilities, must stop using tOPV on the switch day and any remaining tOPV stock must be destroyed.

Any area continuing to use tOPV after all others have switched to bOPV puts neighbouring communities at risk of a cVDPV2 outbreak.

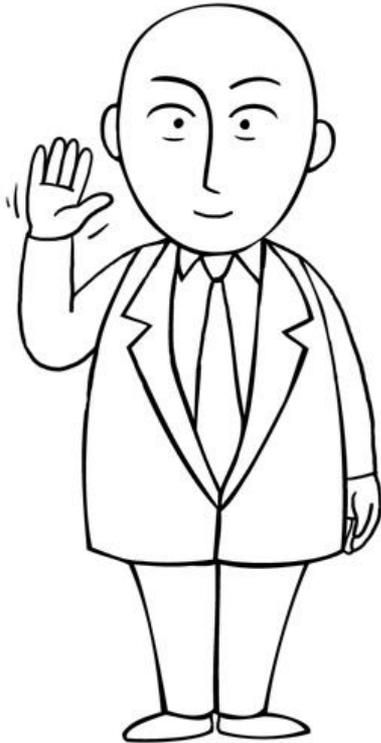


# In summary

- OPV will be phased out gradually, beginning with the type 2 component of trivalent OPV.
- tOPV will be replaced with bOPV everywhere in the world at in April 2016.
- **Health workers should not immunize children with tOPV on or after <insert date> in any circumstance.**
- This will take us one step closer to polio eradication.



# End of module



Thank you  
for your attention!

