

Dr Pierre Landry

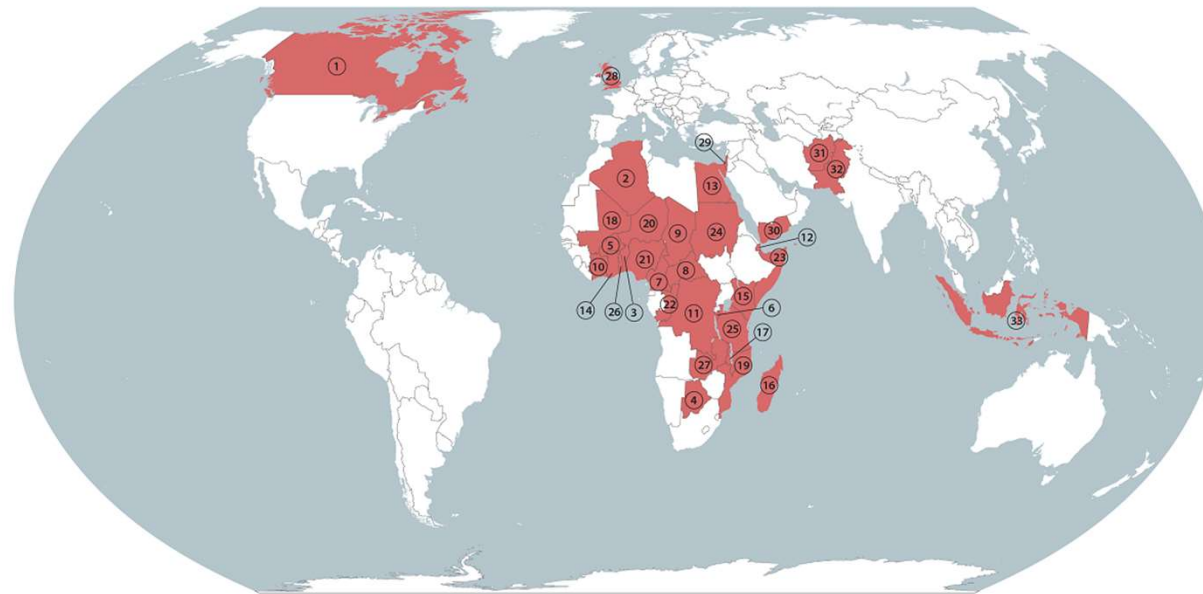
Private practice, Tropical Medicine, Neuchâtel


ECTM and EKIF member

# Polio booster recommendation 2023



# August 2023:WHO extends the status of Polio Emergency for 3 months



 Poliovirus detected within the last 12 months

**AMERICAS**

- 1. Canada

**AFRICA**

- 2. Algeria
- 3. Benin
- 4. Botswana
- 5. Burkina Faso
- 6. Burundi
- 7. Cameroon

- 8. Central African Republic
- 9. Chad
- 10. Côte d'Ivoire
- 11. Dem. Rep. of the Congo
- 12. Djibouti
- 13. Egypt
- 14. Ghana
- 15. Kenya
- 16. Madagascar
- 17. Malawi

- 18. Mali
- 19. Mozambique
- 20. Niger
- 21. Nigeria
- 22. Rep. of the Congo
- 23. Somalia
- 24. Sudan
- 25. Tanzania
- 26. Togo
- 27. Zambia

**EUROPE**

- 28. United Kingdom

**MIDDLE EAST**

- 29. Israel & occupied Palestinian territories
- 30. Yemen

**ASIA**

- 31. Afghanistan
- 32. Pakistan

**OCEANIA**

- 33. Indonesia

# The situation:

- Until complete eradication, a basic immunisation everywhere is necessary
- In endemic countries local exposure acts as booster
- **Question: need for a booster in international travelers from non-endemic countries later in life, when traveling to countries with circulating WPVs and VDPVs?**
  - Knowing that no case has been described in unboosted travelers !

# Statement of the thirty-fifth Polio IHR Emergency Committee, 12 May 2023

- **Wild poliovirus**
  - Globally there remain only three genetic clusters of WPV1, a major reduction in the genetic diversity of WPV1 which indicates that chains of transmission have been reduced to two in the remaining endemic countries Pakistan and Afghanistan, and one in Africa.
- **Circulating vaccine derived poliovirus (cVDPV)**
  - Despite the ongoing decline in the number of cVDPV2 cases and the number of lineages circulating, the risk of international spread of cVDPV2 remains high. Evidence of this includes the high transmission in DR Congo with spread of cVDPV2 to Burundi and Malawi

## Category 1: States infected with WPV1, cVDPV1 or cVDPV3 with potential risk of international spread

- Ensure that all residents and longterm visitors (> four weeks) of all ages receive a dose of bivalent oral poliovirus vaccine (bOPV) or inactivated poliovirus vaccine (IPV) between four weeks and 12 months prior to international travel.
- Ensure that those undertaking urgent travel (within four weeks), who have not received a dose of bOPV or IPV in the previous four weeks to 12 months, receive a dose of polio vaccine at least by the time of departure as this will still provide benefit, particularly for frequent travelers.
- Ensure that such travelers are provided with an International Certificate of Vaccination or Prophylaxis in the form specified in Annex 6 of the IHR to record their polio vaccination and serve as proof of vaccination.
- Restrict at the point of departure the international travel of any resident lacking documentation of appropriate polio vaccination. These recommendations apply to international travelers from all points of departure, irrespective of the means of conveyance (road, air and / or sea).

## Category 1: States infected with WPV1, cVDPV1 or cVDPV3 with potential risk of international spread ( + ECTM until now)

- Ensure that all residents and longterm visitors (> four weeks) of all ages receive a dose of bivalent oral poliovirus vaccine (bOPV) or inactivated poliovirus vaccine (IPV) between four weeks and 12 months prior to international travel.
- Ensure that those undertaking urgent travel (within four weeks), who have not received a dose of bOPV or IPV in the previous four weeks to 12 months, receive a dose of polio vaccine at least by the time of departure as this will still provide benefit, particularly for frequent travelers.
- Ensure that such travelers are provided with an International Certificate of Vaccination or Prophylaxis in the form specified in Annex 6 of the IHR to record their polio vaccination and serve as proof of vaccination.
- Restrict at the point of departure the international travel of any resident lacking documentation of appropriate polio vaccination. These recommendations apply to international travelers from all points of departure, irrespective of the means of conveyance (road, air and / or sea).
- **Stays < 4 weeks: (ECTM recommendation): basic immunisation and booster every 10 years.**

## Category 2: States infected with cVDPV2, with or without evidence of local transmission ( + ECTM until now ) :

- Encourage residents and long-term visitors to receive a dose of IPV four weeks to 12 months prior to international travel.
- Ensure that travelers who receive such vaccination have access to an appropriate document to record their polio vaccination status.
- Stays < 4 weeks: (ECTM recommendation): basic immunisation and booster every 10 years.

Category 3: States no longer infected by WPV1 or cVDPV, but which remain vulnerable to re-infection by WPV or cVDPV  
(+ ECTM until now)

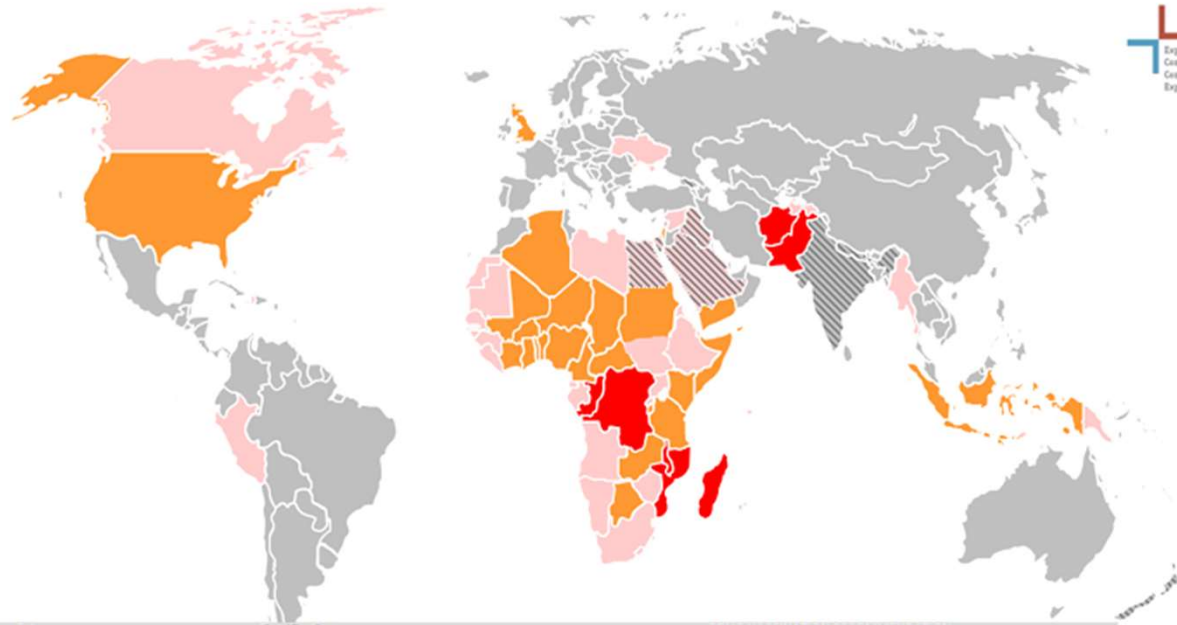
- Urgently strengthen routine immunization to boost population immunity.
- Intensify efforts to ensure vaccination of mobile and cross-border populations, Internally Displaced Persons, refugees and other vulnerable groups.
- Enhance regional cooperation and cross border coordination to ensure prompt detection of WPV1 and cVDPV, and vaccination of high-risk population groups.
- ECTM recommendation: basic immunisation and booster every 10 years.



# ECTM

- + booster /10 years for
  - All countries in Subsaharan Africa
  - Vulnerable countries
  - Peru (in 2023 cVDPV1)

## Poliomyelitis Vaccination – Recommendation of the Swiss ECTM as of AUGUST 2023



Cat.	Classification	POLIO VACCINATION RECOMMENDATION	
		≥ 4 weeks of stay	< 4 weeks of stay
1	States <b>infected</b> with WPV1, cVDPV1, cVDPV3, with potential risk of international spread	Basic immunization + On departure from a country belonging to category 1, persons <b>must</b> have received a polio booster vaccine (IPV) no longer than 12 months ago.*	Basic immunization and booster every 10 years
2	States <b>infected</b> with cVDPV2, with or without evidence of local transmission	Basic immunization + On departure from a country belonging to category 2, persons are <b>strongly recommended</b> to have received a polio booster vaccine (IPV) no longer than 12 months ago.*	Basic immunization and booster every 10 years
3	States no longer infected by WPV1 or cVDPV but which <b>remain vulnerable</b> to re-infection by WPV or cVDPV (according to WHO) <b>OR</b> that are classified as vulnerable to polio outbreaks by the <a href="#">Independent Monitoring Board</a> and the <a href="#">Global Polio Eradication Initiative</a> , and ECTM. Countries not visible but also included: Cape Verde, Comoros, Haiti, Kiribati, São Tomé and Príncipe, Seychelles, Timor Leste, Vanuatu. For Saudi Arabia: only recommended for pilgrims.	Basic immunization and booster every 10 years.	Basic immunization and booster every 10 years
	Countries <b>not infected</b> with WPV or cVDPV		Basic immunization
	Countries with entry requirements for polio		See country page

\*According to [WHO IHR temporary polio vaccination recommendation as of 12 May 2023](#)

© ECTM  
Map created by Olivia Veit, ECTM, August, 2023.  
Sources: WHO, Polioeradication, Independent Monitoring Board 2019

# Procedure until now for travelers at risk of acquiring WPV or VPDV

- Reco WHO (compulsory, recommended)  
+ either booster/10ans or booster once, depending on their home country policy
- How to decide ?
  - Limited data, mainly serological and difficult to interpret as various studies were done on different vaccines (OPV or IPV)
  - BUT Swedish and Italian data show more than 18 years of protective Ab levels in vaccinees...)

# References

- [Böttiger M, Gustavsson O, Svensson A. Immunity to tetanus, diphtheria and poliomyelitis in the adult population of Sweden in 1991. *Int J Epidemiol* 1998;27(5):916-25]
  - Serological study in 1991, post IPV since 1957, long standing seroprotective Ab levels
- [Böttiger M. Polio immunity to killed vaccine: a 18-year follow-up. *Vaccine* 1990;8:443-5]
  - A cohort of 250 children who received childhood basic immunization (4 doses of IPV) serologically followed-up:all showed neutralizing Ab 18 years after basic immunization
- [Larocca AMV, Bianchi FP, Bozzi A, Tafuri S, Stefanizzi P, Germinario CA. Long-Term Immunogenicity of Inactivated and Oral Polio Vaccines: An Italian Retrospective Cohort Study. *Vaccines* 2022;10(8):1329].
  - Students study comparing OPV and IPV, high seroprevalence still after 18 years. Higher GMT's post IPV
- [Gao H, Lau EHY, Cowling BJ. Waning Immunity After Receipt of Pertussis, Diphtheria, Tetanus, and Polio-Related Vaccines: A Systematic Review and Meta-analysis. *JID* 2022;225(4):557-66].
  - Decline of GMT soon after booster, and then stabilisation over prebooster titers > 10 years

# ECTM recommendation

For stays over 4 weeks in category 1 and 2, follow WHO recommendations

# ECTM recommendation

- As a proxy to tetanus boosters, and as a typical swiss compromise (be on the safe side...)

For stays less than 4 weeks in category 1 and 2 (WHO), and in category 3

- After a basic polio immunization: give 1 dose/20 years (if exposure expected), starting at 18 (25) years of age, until 65
- After 65 years and in any case of immune deficiency, stick to /10 years booster

## Some practice...

- Traveller 36 years old to DRC (cat 1) for 2 months, last polio booster age 30: WHO recommendation (obligation) is polio booster ideally > 1 month before travel
- Traveller 52 years old, last polio 7 years ago, going to Nigeria (cat 2) for 2 weeks: no polio booster (had a dose <20 years ago)
  - Same traveler, same destination, for 3 months: booster as per WHO, ideally > 1 month before travel
- Traveller 50 years old, last polio in 2005, going to Mauritania (cat 3) for 1 week: 1 booster dose (valid for 20 years, except if later he goes for > 1 month in cat 1 or 2)
  - Same traveller but last polio in 2010: no booster (for less than 20 yrs since booster)
- Traveller 23 years old, no booster since age 7...(less than 20 years), going to cat 2 for 2 weeks. Theoretically booster only at age 25 ... I would give it now

## Practically (for GP's but not only...)

- When thinking of giving a tetanus booster to a patient (updating his vaccines or post trauma), ask if any travelling plans in the future, and if yes give a combination with polio (whichever you have at your disposal, DTpol or DTPa-IPV). Would be true too for pertussis given in pregnancy if the future Mum wants to travel, give DTPa-IPV!
  - But insurance issues ! Warn the person !
- In TM consultation give IPV (if you have it) when the travellers has received a tetanus booster recently, otherwise , as above !



Hoping you are not  
more confused than  
before...

Thank you for your  
attention !

