

Poliovirus containment

GUIDANCE TO MINIMIZE RISKS FOR FACILITIES
COLLECTING, HANDLING OR STORING MATERIALS
POTENTIALLY INFECTIOUS FOR POLIOVIRUSES,
SECOND EDITION

WEB ANNEX B

STANDARD OPERATING PROCEDURE FOR THE
IDENTIFICATION, DESTRUCTION OR PREPARATION
FOR CONTAINMENT OF POLIOVIRUS INFECTIOUS OR
POTENTIALLY INFECTIOUS MATERIALS

Poliovirus containment: guidance to minimize risk for facilities collecting, handling or storing materials potentially infectious for polioviruses, second edition. Web Annex B. Standard operating procedure for the identification, destruction or preparation for containment of poliovirus infectious or potentially infectious materials

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ABBREVIATIONS AND ACRONYMS

cDNA	complementary DNA
GAPIII	Global Action Plan III for Poliovirus Containment
nOPV	Novel oral polio vaccine
nOPV2	Novel oral polio vaccine type 2
OPV	Oral polio vaccine
OPV2	Oral polio vaccine type 2
VDPV	Vaccine-derived poliovirus
WHO	World Health Organization
WPV	Wild poliovirus

BACKGROUND AND INTRODUCTION

Poliovirus transmission levels are currently low and the feasibility of the pathogen's eradication in the short term is realistic. Efforts globally have been intensified to reduce the risk of the virus being released from facilities into the environment where it could again cause paralysis and death in susceptible populations. Countries have been asked to either destroy their poliovirus materials or implement rigorous guidance in places where they are still needed for critical national and international functions, such as vaccine production and research, to ensure their safe handling and storage. Facilities wishing to retain poliovirus for critical functions must formally engage in a containment certification scheme after being registered by their national authorities for containment as designated poliovirus-essential facilities. Provided that they implement the guidance specified in *WHO Global Action Plan to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use (GAPIII)* within given time frames, they can become certified poliovirus-essential facilities allowed to retain poliovirus materials.

This is for facilities knowingly working with poliovirus. But what actions are required from facilities that could be/do not know if they are working with poliovirus?

In addition to GAPIII, WHO has released guidance for facilities working with samples potentially infectious for poliovirus. Poliovirus potentially infectious materials include faecal, respiratory or sewage samples collected in a time and place where wild poliovirus/vaccine-derived poliovirus or oral polio vaccine (OPV)-derived viruses were circulating, or OPVs were in use. Research facilities with a high probability of storing such materials include those working with rotavirus or other enteric agents, hepatitis viruses, influenza/respiratory viruses and measles virus. Other facilities could include those conducting nutrition research or environmental facilities.

Poliovirus nucleic acid extracted from poliovirus infectious or potentially infectious material, or synthesized RNA, or complementary DNA (cDNA) can be used to recreate viral particles and is considered poliovirus potentially infectious material. Poliovirus nucleic acid can be handled outside of poliovirus containment under the condition that these materials will not be introduced into poliovirus-permissive cells or animals with or without a transfection reagent, except under appropriate containment conditions as described in GAPIII.

The guidance aims to help these facilities identify poliovirus potentially infectious material and eliminate or minimize the risks of handling and storing such materials, so that laboratory workers and their communities are protected against poliovirus infection, and so that poliovirus is not accidentally or deliberately released into the environment.

Identified focal persons at facilities are kindly requested to **complete FORM 1: Facility reporting form** and **return it to the national focal point** (e.g. National Poliovirus Containment Coordinator, National Task Force for containment Chair or other focal person, as indicated in FORM 1) for associated data collection, as follows.

- (1) Access¹ and read the first 20 pages of GAPIII and the *Poliovirus containment: guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses, second edition*.

¹ Facilities that do not have access to the internet should request a hard copy from the National Poliovirus Containment Coordinator, National Task Force for containment Chair or other focal person.

- (2) Follow instructions and clarifications provided in GAPIII and the *Poliovirus containment: guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses, second edition*, confirm whether your facility retains poliovirus infectious material, then refer to the country/territory specific poliovirus data provided in Table A2.1 of Annex 2 (available in Web Annex A: *Country- and area-specific poliovirus data*) and determine whether your facility stores and/or handles poliovirus infectious or potentially infectious materials.

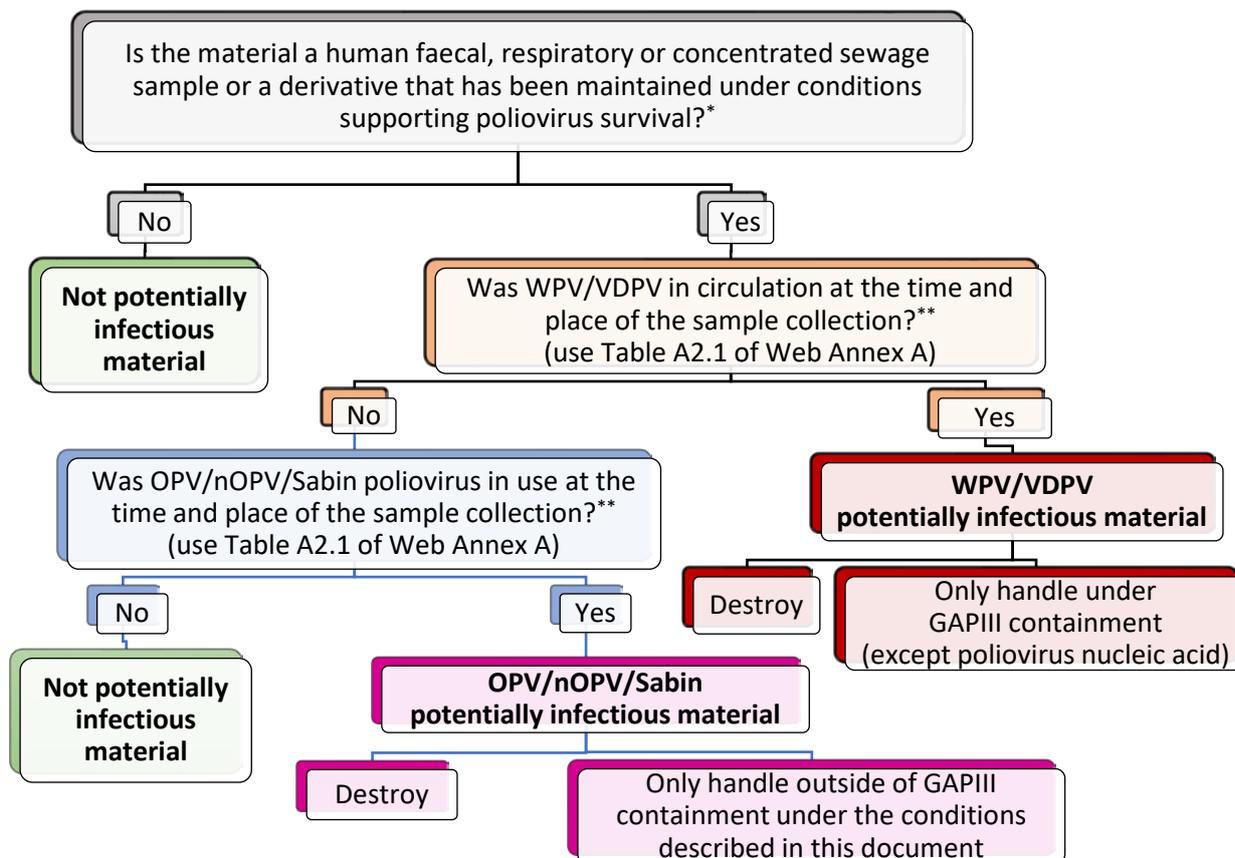
NOTE: poliovirus potentially infectious materials pose risks to individuals and communities and are classified as follows:

1. **WPV/VPV potentially infectious materials** pose the highest risks in case of inadvertent or deliberate release from facilities into communities and should be destroyed. Their retention requires certified containment measures as described in GAPIII. The retention of WPV/VPV potentially infectious material (except for poliovirus nucleic acid that must only be declared) is subject to the approval of responsible national authorities.
 2. **OPV/nOPV/Sabin potentially infectious materials** pose moderate to low risks in case of inadvertent or deliberate release from facilities into communities and may be retained under specific conditions that limit their use as described in the *Poliovirus containment: guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses, second edition*. Currently, only the retention of OPV2/nOPV2/Sabin2 potentially infectious material is subject to declaration to the responsible national authorities.
- (3) Submit the completed FORM 1 (available in Web Annex C: *FORM 1: Facility reporting form*) to the National Poliovirus Containment Coordinator, National Task Force for containment Chair or other focal person within agreed channels and time frames.

COULD YOU BE HANDLING OR STORING POLIOVIRUS?

Poliovirus potentially infectious material determination process

The *Poliovirus containment: guidance to minimize risks for facilities collecting, handling or storing materials potentially infectious for polioviruses, second edition* and the following algorithm will help you determine the presence of poliovirus potentially infectious materials in your facility and fill out FORM 1.



* Conditions supporting poliovirus survival include long-term storage at temperatures below -20 °C.

** If a sample has a missing or damaged label or the type, country of origin or date of collection is unknown, the sample should be destroyed or inactivated using a method known to inactivate poliovirus.