VAX-ID® : an easy-to use device supporting the Global Polio Eradication Initiative

Idevax BV, Belgium July 2025

Poliomyelitis (polio) is a highly contagious acute disease caused by one of three poliovirus serotypes (poliovirus types 1, 2, or 3). Transmission can occur through fecal– oral and oral–oral routes. Polio mainly affects children aged <5 years.

Since the start of the Global Polio Eradication Initiative (GPEI) in 1988 there has been a >99% reduction in polio cases caused by Wild Polioviruses (WPVs) and 20 million paralysis cases prevented. Two out of the three WPV serotypes have been certified as eradicated namely WPV2 in 2015 and WPV3 in 2019. Afghanistan and Pakistan are the two only countries left with WPV1 transmission.

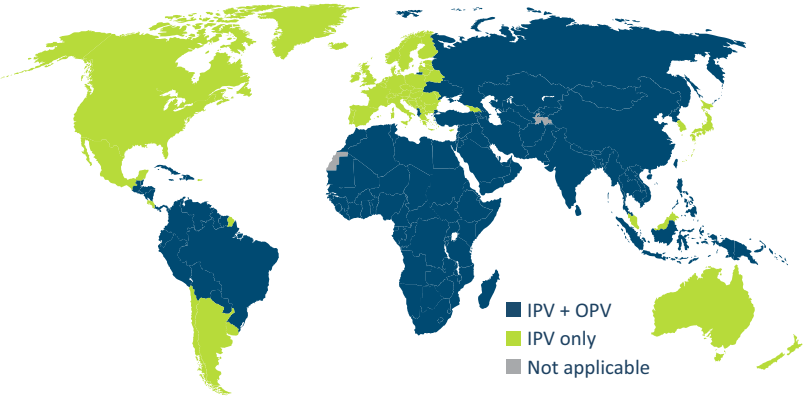
>99% reduction in polio cases

20M paralysis prevented

WPV2 & WPV3

eradicated

Depending on the local epidemiological and programmatic circumstances oral polio vaccine (OPV) and inactivated polio vaccine (IPV) given by injection are used in different combinations to ensure the best possible protection to populations. (PMID 38668278) Interestingly, studies have indicated that IPV may be more effective in boosting intestinal mucosal immunity than OPV. Both effectively stimulate humoral immunity. (PMID 31350192)

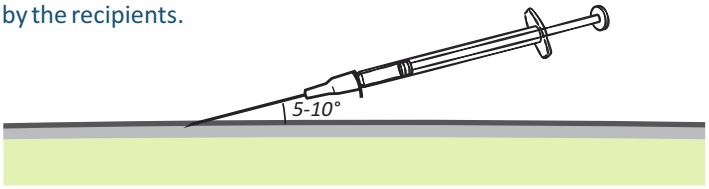


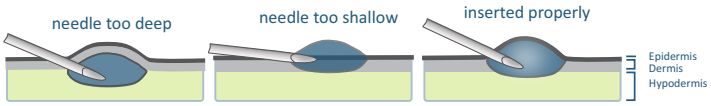
To overcome cost and availability challenges with the administration of IPV, countries can opt for a fractional dose (0.1 ml or 1/5 of a full dose) of non-adjuvanted IPV (fIPV).

Multiple studies have demonstrated that intradermal (ID) administration of fIPV showed non-inferiority and no substantial difference in seroconversion when comparing 2 to 3 doses of ID fIPV, to 2 and 3 doses of full-dose IPV. Moreover, the vaccine was shown safe and immunogenic. Importantly, proper training for healthcare workers is essential to ensure correct administration. (WHO position paper June 2022; PMIDs 33939958, 24634499, 33284114)

The current standard of care, the Mantoux technique uses a syringe and a needle whereby the needle needs to be inserted nearly parallel to the skin, at an angle of 5–15 degrees bevel up.

The technique is challenging, difficult to standardize, requires extensively trained healthcare workers, and is perceived as painful by the recipients.





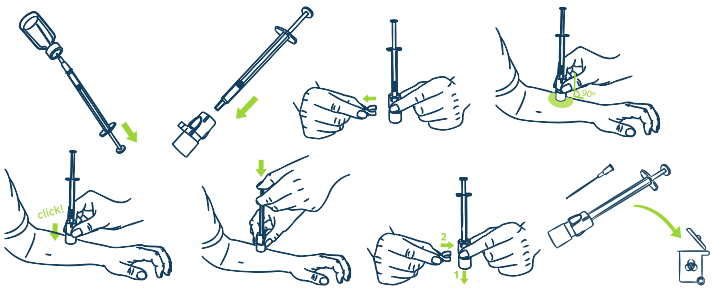
"As part of the response to the IPV shortage, PAHO/WHO recommended to implement the intradermal administration of one fraction of the complete IPV vaccine, specifically one fifth of the complete dose administered intramuscularly."

Arbo et al, 2019 (PMID: 31095207)

World Health Organization

VAX-ID®, an intradermal drug delivery device to overcome the challenges seen with the Mantoux technique.

VAX-ID® is a single-use intradermal injection adaptor for reliable and accurate injection into the dermal layer of the skin. The device contains a short and thin microneedle and is applied perpendicular to the skin to allow for its controlled penetration depth.



Multiple studies have demonstrated that intradermal (ID) administration of a fractional dose of IPV is safe and immunogenic (WHO Weekly epidemiological record, No 25, 2022, 97, 277-300)

LOW IN PAIN

Unlike jet injectors, which are not always perceived as more user-friendly than traditional needles and syringes (PMID: 29980387), healthcare professionals gave VAX-ID® high scores for acceptability and usability. (PMID: 37330370)

EASY TO USE

Acceptability studies show that healthy volunteers do not perceive intradermal injection using VAX-ID® as painful.

NO NEEDLE STICK

VAX-ID is configured with a safety pin which needs to be removed prior to use and placed back after use.
After injection, VAX-ID is to be placed in the sharps container.

TIME & COST SAVING

Performing an ID injection using VAX-ID® takes a maximum of 8 seconds compared to around 20 seconds for the Mantoux technique.