PROCEDURE

Polio vaccine - what you need to know

The polio vaccine protects against poliovirus through an injection or, in some countries, oral drops.

PURPOSE
Prevent poliovirus infection and paralysis

PROCEDURE TYPE
Therapeutic, minimally invasive injection or oral administration

WHERE IT IS DONE
Outpatient clinic or community vaccination site

ANAESTHESIA
None

HOW LONG IT TAKES
Less than five minutes

PREPARATION
No fasting; bring your vaccination record

RECOVERY
Same day with no routine driving restriction

MAIN RISKS
Soreness, fever, fainting, severe allergic reaction

RESULTS
Protection builds after each scheduled dose

Overview

The polio vaccine protects you from poliomyelitis, usually called polio. Polio is caused by poliovirus. Most infections cause mild or no illness, but the virus can sometimes damage the nervous system and cause permanent weakness or paralysis.

There are two main types of polio vaccine:

Only IPV has been used routinely in the United States since 2000. Other countries may use IPV, OPV, or both, based on their polio vaccination programs.

The vaccine may be given by itself or as part of a combination vaccine that protects against several diseases in one injection.

- Inactivated polio vaccine (IPV) contains killed virus and is given by injection. It cannot cause polio.
- Oral polio vaccine (OPV) contains weakened live virus and is given as drops by mouth. It is used in some countries because it produces strong immunity in the intestines and can help stop community spread.

Why the procedure is performed

Polio vaccination is performed to prevent poliovirus infection and its serious complications, including paralysis.

Children usually receive several doses because protection develops across the vaccine series. The timing differs by country. In the United States, the routine childhood schedule includes four IPV doses given from infancy through early school age.

Adults may be offered vaccination if they were never vaccinated, did not complete the series, or do not have reliable vaccination records. An additional booster may be considered for some fully vaccinated adults with an increased chance of exposure, such as certain international travellers, laboratory workers, or healthcare workers caring for someone who may have polio.

Vaccination also helps reduce the chance that poliovirus will spread to people who are not fully protected.

Who should and should not have it

Polio vaccination is routinely offered to children. It may also be appropriate for adults who are unvaccinated or incompletely vaccinated, and for certain adults at increased risk of exposure.

You should not receive another dose of a particular polio vaccine if you had a severe allergic reaction, called anaphylaxis, after a previous dose or to one of that product's ingredients. Some IPV products may contain tiny residual amounts of antibiotics like amoxicillin or doxycycline used during manufacturing. Your vaccination team can check the exact product if you have a relevant allergy.

Vaccination may be delayed if you have a moderate or severe acute illness, especially with a fever. A minor illness, such as a mild cold, does not usually require delay.

Tell the vaccination team if you:

IPV is not a live vaccine, so it can be given to many people with weakened immune systems, although their immune response may be reduced. During pregnancy, IPV may be given when

protection is needed because of increased exposure risk. If there is no immediate risk, the timing may be discussed with your healthcare team.

OPV has different safety considerations because it contains weakened live virus. It may not be suitable for some people with weakened immune systems or their close household contacts.

- Are pregnant or may be pregnant
- Have a weakened immune system
- Take medicines that suppress your immune system
- Have fainted after injections
- Have had a serious reaction to any vaccine

How to prepare

Follow the treating facility's own instructions first, because local vaccine products and procedures may differ.

You do not need to fast. Eat and drink normally unless you have been told otherwise for another medical reason.

Bring your vaccination record if you have one. Also bring details of previous vaccine reactions and a current list of medicines. Tell the vaccination team if your records are missing or if you are unsure which doses you received. They can advise how to complete the series without assuming you are fully protected.

Wear clothing that allows easy access to your upper arm. For babies and young children, the injection may be given in the thigh.

If needles make you feel faint, say so before the injection. You may be vaccinated while sitting securely or lying down.

What happens during the procedure

Before vaccination, a healthcare professional will confirm the vaccine being given, review relevant allergies and check whether the dose is appropriate for your vaccination history.

For IPV, the skin may be cleaned before a small needle is inserted into a muscle, usually in the upper arm or thigh. Some IPV products can be given under the skin. The injection itself takes only a few seconds. Anaesthesia is not needed.

If IPV is part of a combination vaccine, one injection can provide protection against polio and

other diseases.

Where OPV is used, drops are placed directly into the mouth and swallowed. No needle is needed.

You may be asked to remain at the vaccination site for about 15 minutes afterward. This allows staff to help if you faint or have an immediate allergic reaction. Your dose should then be added to your vaccination record.

Recovery and what to expect afterward

Pain: Your arm may feel sore, tender, or slightly swollen where IPV was injected. A cool compress may help. Ask your healthcare team or pharmacist which pain medicine is suitable for you if discomfort is troublesome.

Eating: You can eat and drink normally after IPV or OPV.

Activity: Most people can continue their normal activities the same day. If you feel faint or unwell, sit or lie down and avoid strenuous activity until you feel steady.

Driving: There is no routine driving restriction. Do not drive if you feel dizzy, faint, or otherwise unwell.

Work or school: Most people can return immediately. You may prefer to rest if you develop a fever or feel unwell.

Risks and possible complications

IPV has a well-established safety record. The most common problems are temporary reactions around the injection site, such as soreness, redness, or swelling. Some people develop a fever or feel tired.

Fainting can happen after injections, particularly in adolescents and young adults. The main concern is injury from falling, which is why you may be asked to sit or lie down and remain for observation.

A severe allergic reaction is possible after any vaccine. It requires immediate treatment but is uncommon.

IPV contains killed virus and cannot cause polio. OPV contains weakened live virus. In very unusual circumstances, the weakened virus can change and cause paralysis or circulate in under-vaccinated communities. This is why the choice between IPV and OPV is made through national vaccination and outbreak-control programs.

Results and follow up

There is no immediate result to see after polio vaccination. Your immune system begins responding to the vaccine, and protection improves as you complete the recommended series.

Routine blood testing is not usually used to confirm that the vaccine worked. Your vaccination record is the main evidence of the doses you received.

Check when your next dose is due before leaving the clinic. If you miss a scheduled dose, contact your healthcare team or vaccination service. A delayed series can usually be continued rather than restarted, but the correct timing depends on your age, previous doses, local schedule, and vaccine product.

No vaccine provides complete protection for every person. If you may have been exposed to poliovirus, seek medical advice even if you have been vaccinated.

Alternatives

There is no medicine or screening test that provides the same protection as vaccination.

Possible choices include:

During an outbreak or before certain international travel, the available options may be limited by public health requirements and local vaccine supply.

- IPV instead of OPV: IPV cannot cause polio and is suitable for many people who should avoid live vaccines. However, it produces less intestinal immunity than OPV, so it may be less effective at stopping spread during some outbreaks.
- OPV instead of IPV: OPV is easy to give and can be especially useful for stopping community transmission. It carries a small risk linked to the weakened live virus and is not routinely available in every country.
- A combination vaccine instead of separate IPV: This can reduce the number of injections, but it also gives other vaccine components and may follow a different schedule.
- Delaying or declining vaccination: This avoids the injection or immediate vaccine reactions, but it leaves you less protected against polio. Hygiene and avoiding travel cannot reliably replace vaccination.

When to call your healthcare team

Contact your healthcare team during routine hours if:

Seek emergency help immediately for signs of a severe allergic reaction, such as trouble breathing, swelling of the face or throat, widespread hives, severe dizziness, collapse, or difficulty waking. These symptoms usually begin soon after vaccination but can occur after you leave the clinic.

- Injection-site pain, redness, or swelling is worsening rather than improving
- A fever persists or you feel increasingly unwell
- You think you received the wrong vaccine or dose
- You need help arranging the next dose
- You had an unexpected reaction that concerns you

Common questions

Will I be asleep for the polio vaccine?

No. Anaesthesia and sedation are not needed. An IPV injection takes only a few seconds. OPV is given as drops by mouth.

Can I drive myself home?

Usually, yes. There is no standard driving restriction. Wait until you feel steady, and do not drive if you feel faint or unwell.

How painful is the injection?

You may feel a brief pinch or sting. The area can remain sore for a day or two. OPV does not involve a needle.

When will I know it worked?

There is usually no test or immediate sign. Protection develops through your immune response and improves after the recommended doses are completed.

Can I receive other vaccines at the same appointment?

Often, yes. IPV may be given at the same visit as other vaccines, using separate injection sites, or as part of a combination vaccine. The vaccination team will check the appropriate schedule.

Can the polio shot give me polio?

No. IPV contains killed virus and cannot cause polio. OPV contains weakened live virus and has different risks, which is why its use is controlled through national vaccination programs.

Sources

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