

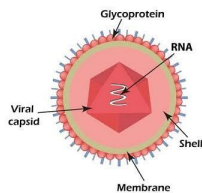
Polio

What is Polio?

Polio, or poliomyelitis, is a highly infectious viral disease caused by the poliovirus.

According to WHO, "Poliomyelitis is an acute communicable disease of humans caused by a human enterovirus of the Picornaviridae family. The virus is composed of a single-stranded, positive-sense RNA genome and a protein capsid. The 3 serotypes of poliovirus carry are antigenically distinct".

CDC defines polio as, "Polio, or poliomyelitis, is a disabling and life-threatening disease caused by the poliovirus. The virus spreads from person to person and can infect a person's spinal cord, causing paralysis (can't move parts of the body)."



Polio mainly affects children under 5 years of age. However, anyone of any age who is unvaccinated can contract the disease.

Symptoms of Polio:

Abortive polio

About 5% of people with the poliovirus get a mild version of the disease called abortive poliomyelitis.

As CDC stated, most people who get infected with abortive poliovirus will not have any visible symptoms.

About **1 out of 4** people (or 25 out of 100) with poliovirus infection will have flu-like symptoms that can include:

- Sore throat
- Fever
- Tiredness
- Nausea
- Headache
- Stomach pain

These symptoms usually last 2 to 5 days, then go away on their own.

Nonparalytic polio

A more severe form of the disease, called nonparalytic polio, affects about 1% of those infected. While the illness lasts longer than a few days, it doesn't cause paralysis. Besides having more-severe flu-like symptoms, nonparalytic polio symptoms may include:

- Neck pain or stiffness
- Aches or stiffness in the arms or legs
- Severe headache

The second phase of symptoms include:

- Stiffness of the spine and neck
- Decreased reflexes
- Muscle weakness

Paralytic Polio

A smaller proportion of people with poliovirus infection will develop other, more serious symptoms that affect the brain and spinal cord:

Meningitis (infection of the covering of the spinal cord and/or brain) occurs in about **1–5 out of 100 people** with poliovirus infection, depending on virus type.

Paralysis (can't move parts of the body) or weakness in the arms, legs, or both occurs in about **1 out of 200 people to 1 in 2000** people, depending on virus type.

One in 200 infections leads to irreversible paralysis (usually in the legs). Among those paralyzed, 5–10% die when their breathing muscles become immobilized.

Post-polio syndrome

Even children who seem to fully recover can develop new muscle pain, weakness, or paralysis as adults, **15 to 40 years later**. This is called post-polio syndrome.

Causes of Polio:

Through Poliovirus

Poliovirus is the main cause of polio.

The virus is transmitted by person-to-person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (for example, contaminated water or food) and multiplies in the intestine. -**WHO**

An infected person can spread the virus to others immediately before and up to 2 weeks after symptoms appear.

- The virus can live in an infected person's intestines for many weeks. It can contaminate food and water in unsanitary conditions.

- People who don't have symptoms can still pass the virus to others and make them sick. -**CDC**

There is also evidence that flies can passively transfer poliovirus from faeces to food. -**PGEI**

For example, the virus can spread if people haven't washed their hands after coughing, using the toilet or before eating. -**Mayo Clinic**

Through stereotypical thinking

As at 2022, endemic wild poliovirus type 1 remains in two countries: Pakistan and Afghanistan.-**WHO**

Polio remains a challenge in Pakistan and Afghanistan, partly due to lingering stereotypes that hinder vaccination efforts. Some communities hold misconceptions about the vaccine, fueled by mistrust and misinformation. Cultural beliefs and suspicions surrounding foreign interventions further complicate the situation.

Treatment of Polio

There is no cure for polio, only treatment to alleviate the symptoms.

- Heat and physical therapy is used to stimulate the muscles and antispasmodic drugs are given to relax the muscles. While this can improve mobility, it cannot reverse permanent polio paralysis.
- Healthcare providers should consider consulting neurology and infectious disease experts to discuss possible treatments and recommend certain interventions on a case-by-case basis.

Preventions of Polio

The most effective way to prevent polio is vaccination.

The CDC recommends four doses of inactivated poliovirus vaccine (IPV) at the following ages:

- 2 months
- 4 months
- Between 6 and 18 months
- Between ages 4 and 6 when children are just entering school.

Types of vaccine

There are two types of vaccine that can prevent polio:

- Inactivated poliovirus vaccine (IPV) given as an injection in the leg or arm, depending on the patient's age. Only IPV has been used in the United States since 2000.
- Oral poliovirus vaccine (OPV) is still used throughout much of the world.

Preventive Measures

- Provision of clean water, improved hygienic practices and sanitation are important for reducing the risk of transmission in endemic countries.
- The *Polio Eradication Strategy 2022–2026* lays out the roadmap to securing a lasting and sustained world, free of all polioviruses, and transition and polio post-certification efforts are ongoing to assure that the infrastructure built up to eradicate polio will continue to benefit broader public health efforts, long after the disease is gone.-**WHO**
- Implementing widespread vaccination campaigns to ensure that all eligible individuals receive the polio vaccine.

- Securing strong political commitment and support at all levels to prioritize and sustain efforts toward polio eradication.
- Collaborating with international organizations, such as the World Health Organization (WHO) and UNICEF, to benefit from their expertise and resources.

