

POLIOMYELITIS (POLIO)

Information sheet about pathogens in humans – vaccinations and hygiene keep you safe!

What is poliomyelitis?

Poliomyelitis (commonly shortened to 'polio', also known as infantile paralysis) is an easily transmissible viral disease. A poliovirus infection can lead to permanent paralysis and even death. Before the introduction of vaccines, wild poliovirus was widespread around the world. Exposure to this virus would usually already have occurred in childhood. This led to it being called infantile paralysis.

There are safe and effective vaccines against this illness. Since 1998, only inactivated polio vaccines have been administered in Germany. In some countries, attenuated live-virus vaccines (oral polio vaccine) are still used. After receiving an oral polio vaccine, that person may excrete the vaccine virus in their stool for several weeks. That vaccine virus usually does not lead to illness. It can, however, genetically mutate and trigger the same illness in nerve tissue as the wild poliovirus. This is referred to as a vaccine-derived poliovirus.

These days, wild poliovirus only still exists in Afghanistan and Pakistan. However, vaccine-derived poliovirus is detected time and again around the world.

How is poliomyelitis transmitted?

Person-to-person

The pathogens are excreted in the stool and spread through contact infection (faeces - hands - mouth). This virus can pass to the mouth via the hands.

After infection, it can spread through sneezing and coughing for a short period of time.

By water

Drinking water or bathing water contaminated with faeces can be a possible source of infection. Waste water generally does not constitute a source of infection for the general population in Germany.

What symptoms do the sufferers show?

- ▶ A large proportion of people who have been infected (over 70 percent) do not experience any symptoms at all.
- ▶ Around 4 to 8 percent of those infected temporarily experience fever, nausea, a sore throat, abdominal pains, sore muscles or headaches between 6 to 9 days after the infection.

In rare cases, the **central nervous system** may also be affected:

- ▶ In around 2 to 4 percent of those infected, the infection leads to meningitis without symptoms of paralysis. Typical symptoms include fever, a stiff neck, back pains and muscle cramping.
- ▶ Very rarely (in between 0.1 to 1 percent of those infected) in addition to severe back pain, neck ache and muscular pain, paralysis and/or weakness in the arms, legs or other muscles occur, often only on one side. Sometimes such paralysis is permanent.
- ▶ Late effects (post-polio syndrome): Years after a polio infection, muscle weakness and muscle loss can emerge or accelerate.

What's the incubation period – and how long are you contagious?

For infections without symptoms of paralysis, it takes on average between 3 to 6 days from the infection to the onset of symptoms (incubation period). Symptoms of paralysis usually appear between 7 to 14 days following infection.

Infected people can infect others even if they do not show any symptoms themselves. The virus can be detected in throat secretions at the earliest 36 hours after an infection, where it can remain for a week. Virus excretion in the stool commences after 2 to 3 days and can last up to 6 weeks. In individual cases, for instance in case of an immunodeficiency, this may even last for months or years.

Who is particularly at risk?

Anyone who is not vaccinated or not fully vaccinated can become infected with polio. The full vaccination provides protection from infection by wild poliovirus as well as vaccine-derived poliovirus.

What should I do if I fall ill?

- ▶ There is no specific treatment for polio. Only the symptoms can be treated.
- ▶ Patients suspected of having polio are immediately hospitalised, taking isolation precautions to prevent further transmission.
- ▶ Regardless of vaccination status, the contact persons of infected people should receive a vaccine dose as quickly as possible.
- ▶ Contact persons who are not vaccinated or not fully vaccinated may enter community facilities no earlier than 1 week after their last contact with the infected person. Furthermore, two stool samples taken within an interval of 24 to 48 hours must be shown to contain no detectable trace of the virus.

How can I protect myself?

Vaccination

The Standing Committee on Vaccination (STIKO) recommends full vaccine protection against polio with an inactivated polio vaccine (IPV):

- ▶ **For infants:** Basic vaccination with three vaccine doses in the first year of life (aged 2, 4 and 11 months). Premature babies receive four vaccine doses (aged 2, 3, 4 and 11 months).
- ▶ **For children and adolescents:** One booster vaccination when aged 9 to 16 years.
- ▶ **Catch-up vaccinations:** Missed vaccine doses should be administered **to all age groups** in a timely manner (**including adults**).
- ▶ **For people travelling** to countries where wild poliovirus or oral vaccine-derived poliovirus circulate: Depending on the country, differing [vaccine recommendations](#) apply, sometimes with the obligation to provide proof.
- ▶ **For people working in certain fields** (e.g. personnel at refugee accommodation centres, medical personnel who may be in contact with people who have been infected, and personnel working at laboratories with a risk of infection): One booster vaccination every 10 years in case of sustained occupational risk.

If you are unsure whether you or any family members have full vaccine protection, please contact your doctor.

Hygiene

Since poliovirus is excreted in the stool and primarily transmitted via contact infection, good hand hygiene is of utmost importance. Thoroughly washing your hands after using the toilet, before preparing food and before eating significantly reduces the risk of infection.

Where can I get more information?

Your local health authority can provide you with further advice and information.

More (specialist) information is also available online from the Robert Koch Institute (www.rki.de/polio). The recommendations of the Standing Committee on Vaccination (STIKO) and DTG e.V. regarding travel vaccinations can be found here (www.rki.de/DE/Content/Kommissionen/STIKO/Reiseimpfung/reiseimpfung_node.html).

For more information about infection prevention through vaccination and hygiene, please visit the website of the Federal Centre for Health Education (www.impfen-info.de/polio, www.infektionsschutz.de).



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