

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

What is measles?

Measles is caused by the measles virus and is highly contagious. Measles is not a harmless disease because serious complications are possible. One and two-year old children are especially at risk. About half of the diseases occur in adults. In theory, it is possible to eradicate measles worldwide through vaccinations. In order to significantly reduce transmission (elimination) as a first step of eradication, almost all people in Germany must be protected against measles.

How is measles transmitted?

Person-to-person

Measles viruses can be transmitted through contact with nasal or pharyngeal secretions. The infection is usually spread through small droplets, which are carried through the air when an affected person coughs, sneezes or speaks and are inhaled by others. Transmission is also possible without direct contact, for example in rooms where sufferers have previously been.

What symptoms do the sufferers show?

Measles begins with non-specific symptoms such as a fever, cough and cold, inflammation of the conjunctiva and whitish, chalk-like spots on the oral mucosa. The typical rash with brownish-pink spots only forms a few days later. The rash first appears on the face and behind the ears, then spreads throughout the body and usually persists for 4 to 7 days. Skin also flakes off as the symptoms subside.

The most common **complications** of measles are middle ear infections, diarrhea and pneumonia. A particularly serious complication of measles is encephalitis. It occurs in about one in 1,000 measles cases about 4 to 7 days after the start of the rash. 10 to 20 percent of those affected die from this. 20 to 30 percent suffer severe after-effects such as mental disabilities or paralysis.

Very rarely, a condition known as subacute sclerosing panencephalitis (SSPE) can occur several years after recovering from measles. SSPE is a progressive disease affecting the brain and nervous system and is always fatal. Children who have had measles in the first five years of their life are at a higher risk of contracting SSPE compared to all other age groups.

The immune system may be weakened for up to a year or longer after suffering from measles so there is an increased risk of other infections.

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

The first symptoms occur about 7 to 21 days after being infected. It takes an average of 14 to 17 days before the typical rash appears. Sufferers are contagious 4 days before the rash appears until 4 days afterwards. The risk of infection is greatest immediately before the rash appears. Anyone who has recovered from measles is protected against reinfection for the rest of their life.

Who is particularly at risk?

Anyone who is not protected by a full vaccination or has not previously had the disease can contract measles. Young infants and other groups of people who are not (yet) able to be vaccinated are particularly dependent on people in their environment being vaccinated and on community protection in the population. In children under five years of age and adults over 20 years of age, serious complications are more common than in other age groups. In addition, complications are observed more frequently in people with congenital or acquired immunodeficiency. Pregnant women also have an increased risk of complications if they contract measles compared to non-pregnant women.

What should I do if I fall ill?

- ▶ Before visiting your doctor's practice, inform them by telephone that you suspect that you have measles, so that the practice team can take appropriate protective measures.
- ▶ There is no causal treatment for measles, only the symptoms can be alleviated, such as the fever.
- ▶ Antibiotics do not help against measles as they are ineffective against viruses. Antibiotics may be used if additional complications occur that are caused by bacteria.
- ▶ Sufferers should stay at home and avoid contact with people who are not safely protected against measles (for example by a full vaccination or having had the disease) until a doctor determines that a further spread of the measles virus should no longer be feared.

- ▶ People suspected of having measles should also remain at home until the suspicion has been unequivocally ruled out by the local health authority or by a medical judgment.
- ▶ The regulations set out in the German Protection against Infection Act apply in the case of measles. Children and adults who have been found to have measles or are suspected of having measles are temporarily prohibited from attending or working at community facilities such as schools or nurseries. This also applies to anyone living in shared accommodation in which there is an actual or suspected case. The health authority will inform you about exceptions. Affected people must inform the community facility about the disease.
- ▶ The doctor treating them or the responsible health authority will decide when they can start working or attending the community facility again. The affected person may usually resume attendance or work no earlier than the 5th day after the rash appears.

How can I protect myself?

Vaccination

The German Standing Committee on Vaccination (STIKO) recommends vaccination against measles. MMR vaccines are available for this purpose, which also protect against mumps and rubella, as well as MMRV vaccines, which additionally contain a component to protect against chickenpox (varicella).

- ▶ A two-stage vaccination is recommended **for children**: The first vaccination should be given at the age of 11 months and the second vaccination at the age of 15 months, but no earlier than 4 weeks after the first vaccination. It is practical for the first MMR vaccination to be given as part of the early screening of children (U6). The first MMR vaccination can already be given when the child is 9 months old if the child is to be admitted to a community facility before it is 11 months old.
- ▶ **For children and adolescents who have not been vaccinated**, vaccination should be completed as quickly as possible with two doses of the vaccine at a minimum gap of 4 weeks.
- ▶ **Adults born after 1970** are recommended to have a one-off vaccination as a standard vaccination if they were not vaccinated or only had one vaccination against measles in their childhood. This also applies if they are not aware of their vaccination status. People born after 1970 employed in certain fields of work are recommended to have two doses of the vaccine that protects against measles. This includes staff in community facilities, in medical institutions, in nursing care, in shared accommodation facilities for refugees, for example, as well as staff in technical, vocational and university institutions.

Anyone who has had contact with a person with measles and is not protected should get a so-called **stop-gap vaccination** preferably within 3 days. This may prevent the onset of the disease or weaken the course of the disease. For contacts who cannot be given the MMR vaccine (for example, infants under 6 months of age and pregnant women), the administration of antibodies (immunoglobulins) may be considered.

According to the **German Measles Protection Act**, parents must prove that their dependent child has adequate vaccination protection against measles from the age of one before attending a community facility such as a nursery or school or provide a medical certificate stating that the child has immunity against measles. A person is deemed to have adequate vaccination protection against measles if they have had at least one vaccination against measles from the age of one and at least two vaccinations against measles from the age of two. Immunity can be determined by a blood test (so-called titer determination). These requirements also apply to people who have been cared for in a children's home for four weeks or who live in accommodation for refugees. Employees born after 1970 in community facilities and shared accommodation in the medical sector must prove they have received two vaccinations or have immunity against measles.

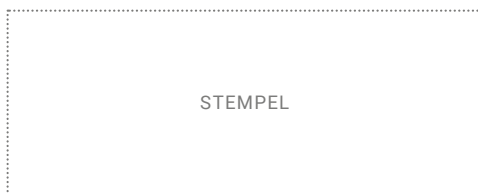
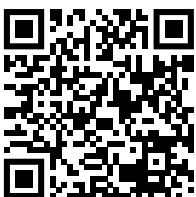
MEASLES

Where can I get more information?

Your local health authority can provide you with further advice. Since measles infections must be reported, it has information on the latest situation and a wealth of experience in dealing with the disease.

For more information on infection control through vaccination, please visit the Federal Centre for Health Education website (www.impfen-info.de).

Information on the German Measles Protection Act can be found on the website (www.masernschutz.de).



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