



Human pathogen information sheet – vaccinations keep you safe!

What are chickenpox/shingles?

Chickenpox is highly contagious: it is caused by the varicella zoster virus and occurs worldwide. Infection usually happens in childhood. Symptoms include fever and an itching rash. Once the illness is over, the viruses remain dormant in the body. They may reactivate many years later and cause **shingles**. This illness causes a skin rash that can be extremely painful. Vaccinations have made **chickenpox** much rarer in Germany. Yet **chickenpox** is still one of the commonest childhood diseases. About every 5th adult in Germany develops **shingles** in the course of his life.

How are chickenpox/shingles transmitted?

Person-to-person

Indeed: The German name of “wind pox” emphasises just how far the airborne virus can travel. The virus is normally transmitted by people breathing in tiny drops of saliva, which patients spread through the air by breathing, coughing, sneezing or talking. Almost every contact between an unprotected person and someone with **chickenpox** leads to infection.

Fluid from broken blister scabs is especially infectious: The viruses can get to the hands when scratching at the rash or scabs and are then passed on from hand to hand. From the hands, the viruses are easily transferred to the mucous membranes of the mouth and nose. In contrast to chickenpox, **shingles** is not caused by contact with chickenpox or shingles patients but by the dormant virus in the body becoming reactivated. The viruses are not transferred by droplets that enter the air when breathing or coughing. Only the fluid of the shingles blisters is infectious. Therefore, the main transmission path is contact infection, mainly via the hands.

If you have not had chickenpox and are not vaccinated, you can be infected with the varicella zoster virus by contact with shingles blisters and may then develop chickenpox (not shingles).

Via contaminated objects

The viruses also stay infectious outside the body for several days. Infection is possible from touching door handles, hand rails or water taps that the pathogens adhere to.

In pregnant women and new-borns

Rarely, transmission via the blood during pregnancy is possible if the mother contracts chickenpox during the first 6 months of her pregnancy. There is a risk of malformation or organ impairment for the unborn child.

If the pregnant woman develops chickenpox just before or after giving birth, there is a high risk of infection and the risk of severe progression of chickenpox in the new-born.

However, there is no risk to an unborn child from a mother who develops shingles.

What symptoms do the patients show?

Chickenpox

Patients usually feel under the weather for 1 or 2 days and may also have a fever. The familiar skin rash then appears, and fever may in rare cases rise to over 39 °C. Intensely itchy papules then appear, spreading over the head and torso to the entire body. They rapidly produce fluid-filled pustules, which can also spread to mucous membranes, genitalia and the scalp. They dry into scabs later. Typically, all stages of the skin rash will occur at the same time. The pustules themselves usually heal over after 3–5 days. Repeated scratching or a secondary bacterial skin infection can result in scarring, however. New-borns or people with immune deficiencies are at most risk of serious complications, although these can affect even healthy children.

Possible complications:

- ▶ Additional bacterial skin infections.
- ▶ Pneumonia is particularly worrying. This occurs in approx. 1 of every 5 adults, it usually begins 3 to 5 days after the disease takes hold and can be a serious complication. Pregnant women are particularly at risk.
- ▶ Rarely, the central nervous system can be affected: complications include disruptions to equilibrium (vertigo) and encephalitis.

During pregnancy:

- ▶ Although rare, chickenpox in the first six months of pregnancy can lead to serious birth defects, eye damage, neurological complications or even the death of the child.
- ▶ If the woman falls ill around the birth date itself, chickenpox can be a life-threatening disease for the new-born. 30% of the children die.

Shingles

Typically, fluid-filled pustules will appear. These redden, swell up and are painful. Generally, they are limited to a region of the skin on one side of the body: usually belt-shaped on the torso, rarely on the head or neck. After 1 to 2 weeks, the pustules then heal over to form scabs. Generally, the pain disappears along with the skin rash. In individual cases, however, pain continues to be felt after the illness – for years, in some cases. Other potential but rare complications include neuritis and encephalitis.

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

After infection, **chickenpox** symptoms appear 8 days to 4 weeks later – generally after two weeks or so. Patients are already contagious 1 or 2 days before the skin rash appears. The risk of contagion ends once all pustules have scabbed over (generally 5–7 days after the skin rash first appears). With **shingles** patients, the danger of infection is also past once the last pustules have scabbed over.





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Who is most at risk?

Chickenpox usually occur in early childhood, usually from 2 years onwards. Nursery and school children up to 10 years of age are particularly affected. Unprotected young people or adults can also become infected, however. As an adult, the disease often takes a more serious course. Anyone who has recovered from chickenpox will usually have lifelong immunity. Anyone who has had chickenpox may also develop *shingles*. However, shingles mostly develops in people older than 50 or people with a weakened immune system.

What should I do if I fall ill?

- ▶ During the acute phase, patients should stay in bed and avoid contact with others.
- ▶ With *chickenpox*, only the symptoms of the disease can be treated. This includes a thorough skincare programme with baths and medications to soothe itching.
- ▶ Antibiotics have no effect on diseases that are caused by viruses. They are only ever prescribed if complications that are caused by bacteria occur.
- ▶ With *shingles*, antiviral drugs may be prescribed by the attending doctor in some circumstances.
- ▶ Inform your local GP's surgery before your visit that you suspect a case of chickenpox, so that the surgery team can take appropriate precautions.
- ▶ *Chickenpox* is subject to the rules of the German Prevention of Infection Act. Persons diagnosed with or suspected to have chickenpox are temporarily prohibited from attending or working at community facilities such as schools or nurseries. The same also applies to persons living in a household shared with a patient or someone suspected of being ill, if these persons do not have adequate immune protection. Affected persons must inform the community facility of the infection. Attendance and/or work at community facilities can resume once the patients are no longer infectious.
- ▶ Pregnant women or immune-compromised patients who have had contact with patients should seek medical advice from their local GP or attending doctor as soon as possible.

How can I protect myself?

Vaccination

The German Permanent Vaccination Commission (STIKO) recommends vaccination against *chickenpox*:

- ▶ A two-stage vaccination is recommended *for children*. The first vaccination should take place at the age of 11 to 14 months and the second one at the age of 15 to 23 months. A practical option is for the first vaccination to be performed during the U6 early diagnosis exam and together with the MMR vaccine against measles, mumps and rubella.
- ▶ *Unvaccinated children and teens* should be vaccinated in a two-step procedure as soon as possible.
- ▶ *For unvaccinated adults* who have not had chickenpox, vaccination in a two-step procedure is recommended in particular for
 - ▶ Women who want to become pregnant
 - ▶ Persons before treatment that will suppress their immune system
 - ▶ Before organ transplants
 - ▶ Persons with neurodermatitis

and the persons in contact with the last three.

- ▶ Healthcare workers and people newly employed in community facilities for children of pre-school age.

Additionally, a vaccination against shingles is available for persons older than 50 years. Talk to your GP about the risks and benefits of vaccination.

Stop-gap vaccination

If people have been exposed to *chickenpox* patients, a vaccine can sometimes be given shortly even after infection, so as to stop them developing the full-blown disease. This "stop-gap" vaccine is not an option for pregnant women, however. There must be at least a 1-month gap between immunisation and pregnancy. In general, avoid all contact with *chickenpox* patients if you do not have adequate protection.

Where can I find out more?

Your local health authority can provide you with further advice. Since *chickenpox* infections must be reported, they will also have the latest information and be very experienced in dealing with the disease. More (specialist) information is also available online from the Robert Koch Institute (www.rki.de/varizellen). For more information about how vaccinations stop infection, visit the website set up by the Federal Centre for Health Education (www.impfen-info.de).



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