



## Human pathogen information sheet – vaccination keeps you safe!

### What is meningococcal disease?

Meningococcal infection is a severe illness that may grow potentially fatal within just a few hours. The bacteria *Neisseria meningitidis*, also referred to as meningococcus, usually causes purulent meningitis, and, more rarely, blood poisoning. In Germany, meningococcal disease is rare, with less than 5 cases per 1 million people per year. Generally, these involve isolated cases or local outbreaks – especially in the winter months.

### How is meningococcal disease transmitted?

#### *Person-to-person*

Meningococci are most commonly transmitted as an airborne infection. The bacteria congregate in the human nasopharyngeal cavity. During speaking, coughing or sneezing, they are released into the air in small droplets from the throat and nasal cavity and can be breathed in over short distances. The pathogens can also be transmitted by intimate contact with someone suffering from the disease – by touching nasal secretions, for example. Outside the body, however, bacteria die off quickly.

### What symptoms do the patients show?

Meningococcal disease can progress in one of two ways, or both may occur simultaneously:

- ▶ In about two thirds of all cases, the disease expresses itself as meningitis.
- ▶ Blood poisoning occurs in about a third of all cases.

The disease usually begins very suddenly and progresses rapidly.

#### *Meningitis*

Fever, headache, sensitivity to light and a state of “foggy headedness” – such as feeling very sleepy or woozy – are the usual symptoms for meningococcal inflammation of the membranes of the brain (i.e. meningitis). One typical symptom is painful stiffness in the nape of the neck, often combined with morning sickness or symptoms of cardiovascular failure and occasional seizures. Patients usually feel very ill. In severe cases, blood clotting disorders produce spots or areas of haemorrhaging over the skin and mucous membranes.

Around 10–20% of all patients will ultimately suffer *complications* such as seizures or deafness, while children may also suffer developmental disorders. The illness is fatal in about 1% of cases.

#### *Blood poisoning*

With meningococcal blood poisoning, the bacteria enter the bloodstream and flood the patient’s entire body. Blood coagulation is also disrupted. This will lead to large bleeding in the skin. For 10–15% of patients, this life-threatening haemorrhaging may also occur in the cortex of the adrenal glands, which can result in circulatory shock. In some cases, *complications* may include gangrene in individual limbs, which in the worst case may then require amputation. Almost 1 in 10 patients will die from this blood poisoning; in serious cases, the figure is more like 1 in 3.

For *babies and infants*, the signs of illness from a meningococcal infection may be less obvious. In addition to fever, vomiting, cramps, irritability or sleepiness, there may be a protruding or hard fontanelle - the gap between the skull plates in infants. The stiff neck, in contrast, may be missing.

### What’s the incubation period – and how long are you infectious?

As a rule, the first signs of illness appear 3 to 4 days after infection or – more rarely – after 2 to 10 days. Twenty-four hours after beginning a course of antibiotics, patients are no longer infectious.

### Who is most at risk?

Anyone can contract meningococcal disease. Most commonly, however, the disease affects babies in their first year of life, infants or young people. There is a greater risk of infection under poor hygienic conditions, with a weakened immune system or in cramped living quarters. Smoking or a previous viral infection of the airways can also increase a person’s sensitivity to meningococcal disease.



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### What should I do if someone falls ill?

- ▶ Even if you merely suspect meningococcal disease, take the patient to hospital immediately!
- ▶ The infection is treated with antibiotics. In the first 24 hours after starting the course of antibiotics, patients are isolated to protect others from contracting the disease.
- ▶ If you experience symptoms such as sudden fever, chills or headaches then you should seek immediate medical attention.
- ▶ Meningococcal infection is subject to the rules of the German Prevention of Infection Act. As soon as a meningococcal infection is suspected, children and adults are prohibited from visiting local community facilities such as schools or kindergartens. The same applies to persons having close contact with patients. After recovery, the patients can attend the community facilities again. A medical certificate is not required.
- ▶ For persons in contact with the patient, the visiting ban is lifted if they show no symptoms and have received antibiotics.

### How can I protect myself?

#### Vaccination

There are different types of meningococci. Serogroups Types B and C are most frequent in Germany. The German Permanent Vaccination Commission (STIKO) recommends vaccination against serogroup C for all children aged between 12 and 23 months. Individuals not vaccinated as a child should receive a vaccination before the age of 18. Immunisation against other serogroups (ACWY and/or B) is also available and is also recommended for certain high-risk groups:

- ▶ Persons with an impaired immune system
- ▶ Lab personnel
- ▶ Travellers visiting countries with widespread meningococcal disease
- ▶ Pilgrims (before travel to Mecca)
- ▶ Pupils and students, before stays in countries where vaccination is recommended
- ▶ In the event of multiple regional cases of meningococcal disease
- ▶ For non-immune persons with patient contact

Talk to your GP about the necessity for a vaccination, as well as the risks and benefits of immunisation.

#### As a person with patient contact

- ▶ If possible, avoid contact with people suffering from the disease.
- ▶ People in close contact with patients, i.e. living in the same household, have a greatly increased risk of falling ill from meningococcal disease.
- ▶ As well as contact persons in the same household, best friends at school or kindergarten or other acquaintances with close patient contact can also be at risk.
- ▶ For prevention, antibiotics are recommended as fast as possible after contact. This is sensible up to 10 days after contact. This can prevent the breakout and reduce the danger of passing it on to others.

### Where can I find out more?

Your local health authority can provide you with further advice. Since meningococcal 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/meningokokken](http://www.rki.de/meningokokken)). For information about how vaccinations stop infection, visit the website set up by the Federal Centre for Health Education ([www.impfen-info.de](http://www.impfen-info.de)).



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#### Editor:

Federal Centre for Health Education, Cologne.  
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Drawn up in cooperation with the Bundesverband der Ärztinnen und Ärzte des Öffentlichen Gesundheitsdienstes e.V. and in coordination with the Robert Koch-Institute.

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