

## Information about pathogens in humans

### What is West Nile fever?

West Nile fever is a viral infection transmitted to humans by mosquitoes. The infection often runs its course without any signs of illness. Possible signs of illness include flu-like symptoms and a skin rash. Inflammation of the meninges, brain, or other organs can develop in rare cases.

The pathogen, the West Nile virus, is found in various regions all around the world. The virus has long been transmitted in Southern Europe in summer. Climatic changes mean that sufficiently favorable conditions for the West Nile virus can now also be found in Germany. Since 2019, alongside infections in people returning from travel abroad, there have also been reports of transmission via mosquitoes in Germany. The southern regions of eastern Germany are most notably affected.

### How is West Nile fever transmitted?

The West Nile virus is transmitted via the bite of various mosquitoes, predominantly those of the genus *Culex*. These mosquitoes are found throughout Germany. The mosquitoes become infected after biting wild birds and pass the pathogen on to other birds, but also, occasionally, to mammals such as horses and humans.

Infections with the West Nile virus spread by mosquitoes occur in Germany during the summer and fall.

### What are the symptoms of the disease?

In the majority of cases, people infected with the West Nile virus do not develop any signs of illness. In around a fifth of cases, the disease presents with flu-like symptoms. The onset is usually sudden with fever, shivering, headache and back pain, fatigue, and swelling of the lymph nodes. In addition, a nodular, blotchy skin rash spreading from the trunk to the head and the limbs is observed in around half of these patients. Infections with no complications usually heal with no consequences after three to six days. Symptoms such as fatigue, weakness, and exhaustion may persist for several weeks.

Approximately one out of every 100 people infected develops a severe disorder of the central nervous system (CNS). Meningitis develops in some of those affected. Encephalitis is rarer. In such cases, possible signs of illness include a high fever, stiff neck, muscle weakness, lightheadedness, apraxia (movement disorders), paralysis, convulsions, and impaired vision. Around half of the patients with encephalitis suffer long-term consequences.

Inflammation of other organs such as the heart and liver occurs in isolated cases.

Approximately five to ten percent of infections where the CNS is affected result in death.

### When does the disease occur and for how long is a person contagious?

The time between infection and the onset of the disease is generally 2–14 days. Infected individuals are not contagious. As the West Nile virus cannot reproduce well in humans, mosquitoes cannot become infected with the virus via a bite and subsequently transmit it to others.

### Who is particularly at risk?

There is a risk of contracting West Nile fever when staying in regions where the virus is found and there are high numbers of active mosquitoes. Southern France, northern Italy, Greece and other regions of the Balkans, Turkey, and the Middle East are frequently affected, further north the high-risk areas include parts of Czechia, Hungary, Slovakia, and Austria. North America, Africa, and Australia are also affected. In Germany, West Nile fever can occur in the summer and fall in the southern regions of eastern Germany in particular.

## Who is particularly at risk?

The elderly and those with immunodeficiency are particularly at risk of developing severe symptoms. The elderly and those with a history of cardiovascular disease or immunodeficiency are most at risk of dying from a severe case of West Nile fever.

## What do I need to consider if I get the disease?

There is no specific therapy for West Nile fever. In case of illness, only the symptoms can be treated, for example with antipyretics (fever-reducing drugs).

If you fall ill following a stay in an area where the West Nile virus is prevalent, you should contact your physician and inform them of your trip.

## How can I protect myself?

The most important means of protection against West Nile fever and other infections transmitted by mosquitoes is to prevent mosquito bites. People with an increased risk of severe complications in particular should follow these guidelines:

- ▶ Protect yourself as far as possible by wearing light, long-sleeved tops and pants.
- ▶ Bug repellents applied to exposed parts of the body offer additional protection. Please always follow the product's instructions for use.
- ▶ Mosquito nets over doors and windows or air-conditioning units can help prevent mosquitoes from entering buildings.
- ▶ Mosquito breeding sites around home environments such as open water containers or small vessels where water can collect should be removed or covered where possible. Birdbaths should be cleaned and refilled regularly.

There is no vaccine available for West Nile fever.

## Where can I get more information?

For further information and advice, please contact your local health authority.

For further (specialist) information, please visit the website of the Robert Koch Institute (RKI) at ([www.rki.de/westnilfieber](http://www.rki.de/westnilfieber)).

Travelers can refer to the Federal Foreign Office's travel and safety information to check whether their destination abroad is an area where the West Nile virus is prevalent (<https://www.auswaertiges-amt.de/en>).



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