

Human pathogen information sheet – vaccinations keep you safe!

What is TBE?

Tick-borne encephalitis (TBE) is an inflammation of the brain and brain membranes that is caused by a virus. The pathogen occurs in many European countries. In Germany, the main high-risk regions are Baden-Württemberg, Bavaria, Southern Hesse and southeast Thuringia, with isolated areas in central Hesse (Marburg-Biedenkopf district), Rhineland-Palatinate (Birkenfeld), Saxony (Vogtland district) and Saarland (Saar-Palatinate district). The TBE virus spreads primarily via small mammals such as mice. The virus is then transmitted to humans by infected ticks. Cases of TBE usually occur in spring and summer, occasionally in autumn.

How is TBE transmitted?

By tick bites

The virus is transmitted by infected ticks. A tick bite can enable the virus to enter the human blood system. Not every bite from an infected tick leads to infection, however.

Via foodstuffs

Very rarely, people can infect themselves by drinking tainted, unpasteurised milk from goats or sheep (and, in exceptional cases, from cows).

Important: TBE is not transmitted from person to person!

What symptoms do the patients show?

Most of those infected (approx. 70–95%) will remain free of symptoms or their disease will not progress into the second phase.

The symptoms of TBE disease usually occur in two phases:

- ▶ First, patients suffer flu-like symptoms such as fever, headaches, aching limbs and generally feeling unwell. Often, the tick bite has been forgotten by now and the symptoms are mistakenly attributed to a common cold. For most patients, the disease progresses no further.
- ▶ For some patients, however, an inflammation of the brain membranes and the brain (meningoencephalitis) occurs around a week later. Inflammation of the spinal cord may also occur. Symptoms include a return of fever as well as nausea, vomiting and problems with the nervous system. If the disease takes a serious course, it may result in paralysis of the limbs, difficulty with swallowing or speech, respiratory paralysis, and coma.
- ▶ ***Complications*** can include paralysis, headaches, a general lack of resilience and mood swings, and may persist for several months. While a full recovery with no further complications is possible even at a late stage, patients may nonetheless suffer lasting damage. Around 1 in 100 patients with nervous system involvement will die of the infection.

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

If the illness breaks out, it usually happens 1 to 2 weeks after the tick bite, rarely up to 4 weeks after it.

People who fall ill are not infectious.

Who is most at risk?

People particularly at risk include those living in high-risk areas who spend their leisure time outside, especially if this involves contact with grass or low bushes, or have close contact with animals who spend a lot of time outside.

As people grow older, the disease becomes more serious. Senior citizens in particular are at higher risk of complications.

What should I do if I fall ill?

- ▶ Patients should stay in bed.
- ▶ Severe cases are treated in hospital and may require intensive care.
- ▶ Since there is no treatment available that targets the TBE disease directly, the aim is to alleviate the symptoms.
- ▶ After one TBE infection, the patient is usually immune and cannot develop the illness a second time. If you continue to be exposed to a TBE risk, however, immune protection should be refreshed by vaccination after 3 to 5 years, since there is insufficient experience about how long the immune protection will persist.

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How can I protect myself?

There are two ways to protect yourself against infection

Vaccination

Vaccination against TBE is recommended for:

- ▶ People who live in TBE high-risk areas and who spend a lot of time outdoors
- ▶ Travellers in areas with a special TBE risk, if there is likely to be any contact with ticks. (An overview of the current TBE high-risk areas in Germany is available from the Robert Koch Institute website: www.rki.de/fsme)
- ▶ Professionals such as forest wardens/workers or hunters

Three injections are required to establish immunity. A booster should be given after 3 years if there is a persistent risk of infection. Subsequent boosters must then be given every 5 years. Depending on the particular vaccine used, a booster injection should be given every 3 years from the age of 50 or 60.

If the person has already been infected, a subsequent injection will be unable to prevent an outbreak of the disease.

Important facts: Ticks can transmit a range of pathogens. Alongside TBE, another is Lyme disease. There is no prophylactic vaccination against Lyme disease, however.

Avoid tick bites

Ticks become active in warmer weather (about 7°C and over). They particularly favour underbrush, bushes, tall grasses and loose piles of leaves. From there, ticks are wiped off and carried along unnoticed by persons or animals.

- ▶ If you are hiking through bushes and tall grass, jogging or picking berries, always wear closed shoes, long-sleeved shirts and long trousers. Pull your socks up over your trouser cuffs.
- ▶ Wear light-coloured clothing wherever possible, so the tiny ticks are easier to see and remove.
- ▶ Before spending long periods of time in forests or fields, apply tick repellent to protect your skin. Remember: tick repellent only works for a short period and does not offer complete protection.
- ▶ Never touch wild animals such as hedgehogs, since these often carry ticks.
- ▶ Even if you take precautions, always check your whole body for ticks thoroughly after spending time outdoors. As bloodsuckers, they like warm, soft places on the skin. Accordingly, be especially careful to check the backs of the knees, the groin, the armpits, behind the ears and over your head and hairline.
- ▶ If you should discover a tick on your body, remove it as quickly as possible. It is best to use tweezers or a special instrument to remove ticks. Do not pour oil or glue on the animals.
- ▶ Seize the tick near its head and as near to your skin as possible, then pull it straight out carefully. Once removed, disinfect the small wound around the bite mark thoroughly.

Where can I find out more?

Your local health authority can provide you with further advice. Since TBE 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/fsme).

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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