

# Factsheet Tick-borne Encephalitis



#### What

Tick-borne encephalitis (TBE) virus is spread through the bite of an infected tick.
Occasionally, TBE virus can spread to people by consuming raw milk or cheese from infected goats, sheep, or cows. Human exposure typically occurs during work or recreational activities in wooded or bushy areas where these ticks are commonly found.

Ticks, specifically hard ticks, transmit the tick-borne encephalitis (TBE) virus. Ticks become infected when they feed on blood from infected vertebrate hosts, particularly small rodents, and can subsequently transmit the virus during their next blood meal. Three virus subtypes have been identified, and disease development is partly dependent on the virus subtype. Transmission occurs within minutes after the bite of an infected tick. Transmission through other routes, such as consumption of unpasteurized milk from infected animals, is less

common.

### Where and when

The geographic distribution of Tick-borne encephalitis virus (TBEV) is expanding. Currently, TBEV is prevalent in parts of Europe, and TBE is endemic in many EU countries. It is also common in northern and central regions of the Eurasian continent. Tick activity is seasonal, and transmission risk areas can vary from year to year.

## **Prevention**

Vaccination against Tick-borne encephalitis (TBE) is available and is a safe and effective way to prevent infection, offering protection for three years. Individuals at risk of exposure to ticks in endemic regions are advised to consider vaccination. Additionally, general preventive measures are important, such as avoiding tick bites by using repellents and wearing protective clothing and refraining from consuming unpasteurized dairy products.



#### **Treatment**

There is no specific antiviral treatment for Tick-borne encephalitis virus (TBEV). Management is supportive, focusing on relieving symptoms and providing care for complications that may arise.

# **Symptoms**

Many people infected with Tick-borne encephalitis (TBE) virus have no symptoms. The incubation period is typically 7-14 days after a tick bite, or 3-4 days after consuming contaminated milk. Initial symptoms include fever, headache, vomiting, and weakness, lasting about a week and sometimes resolving fully. In some cases, severe symptoms like confusion, coordination issues, speech difficulties, limb weakness, and seizures may develop about a week later.

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# In case of infection

Disease severity in tick-borne encephalitis (TBE) varies by virus subtype. The European subtype has a case fatality rate of about 1–2%, the Siberian subtype 6–8%, and the Far Eastern subtype around 20%. Children generally have a better prognosis than adults. However, up to half of patients experience symptoms 6 to 12 months post-encephalitis, with severe impairment in about 30%.