

Tick-borne encephalitis

TBE is a viral infection usually transmitted through the bite of an infected tick that exists in parts of central, eastern and northern Europe across Russia to parts of eastern Asia

Tick-borne encephalitis (TBE) is a viral infection usually transmitted through the bite of an infected tick. The disease occurs in parts of central, northern and Eastern Europe, Siberia and parts of Asia. Ticks are found on forest fringes within adjacent grassland, forest glades, riverside meadows and marshland, forest plantations with brushwood and shrubbery. Ticks can also be found in parks and gardens.

Travellers to areas where TBE occurs may be at risk when walking, camping or working in woodland. In Europe, early spring through to late autumn are generally higher risk, but seasons vary according to location. Since 2011, six confirmed cases of TBE have been reported in the UK. All had history of travel to the TBE endemic areas of Europe.

Typically, the disease occurs in two stages: a mild flu-like illness and a potentially serious infection of the central nervous system (brain and spinal cord). TBE is rarely fatal in Europe: however in Asia it can be fatal in up to 20 percent of cases. Long-term neurological complications are common.

Prevention

Travellers should:

- Avoid known heavily tick-infested areas of forest and woodland during the spring, summer and autumn where possible.
- [Practise bite avoidance](#) methods: for example wear appropriate clothing and use effective insect repellents.
- Check the body for ticks regularly. The larval forms of Ixodes ticks are tiny and difficult to see.
- [Remove ticks](#) as soon as possible by using a pair of fine tipped tweezers or tick remover.
- Avoid consumption of unpasteurised dairy products in areas of risk (a potential route of transmission).
- Seek advice from a medical practitioner if any signs of illness occur within 28 days of a tick bite.

TBE vaccination is available for those travellers intending to visit rural risk areas, or whose occupation may put them at higher risk (see below).

Tick-borne encephalitis vaccine

TBE vaccine should be considered for:

- All persons living in TBE risk areas.
- Those at occupational risk in risk areas: farmers, forestry workers, soldiers.
- Travellers at risk of disease.

- Laboratory workers who may be exposed to TBE.

Vaccination schedule

Vaccine	Schedule	Accelerated schedule	Length of protection
TicoVac® (16 years and older) or TicoVac Junior® (above 1 year and below 16 years)	3 doses on days 0, between 1 and 3 months, and 5 to 12 months after the second dose*	2nd dose can be given 2 weeks after the 1st dose	**First booster no more than 3 years after 3rd dose. After this, boosters may be given at 5 year intervals if at risk

***After the first two doses, sufficient protection can be expected for the on-going tick season (protection rate over 90 percent after the second dose)**

****In those aged > 60 years, booster intervals should not exceed three years (see below)**

Resources

- More detailed information can be found in our [TBE factsheet](#)
- [UKHSA: Tick-borne encephalitis Immunisation against infectious disease](#)
- Further details on the vaccines can be found on the [Summary of Product Characteristics \(SPC\) on the electronic medicines compendium](#)