

# Tick Borne Encephalitis

## What is Tick Borne Encephalitis?

Tick borne encephalitis (TBE) is a viral infection spread by tick bites. The disease is present in rural, low-forested areas of at least 27 European countries and in some countries in East Asia and Russia. TBE incidence has risen over the years. It is estimated that more than 12,000 cases occur worldwide annually, although true incidence could be much higher. European countries report approximately 2,000 cases annually.

## Transmission

The disease is transmitted by the bite of a hard tick (called Ixodes Ricinus). Usually up to 1- 2% of ticks harbour TBE, but up to 10% may be infected. The ticks are most active during the summer months when the climate is hot and humid.

The ticks prefer wooded areas and river meadows so risk groups are those who walk, hike, cycle, camp or work in woodlands. Rarely does infection occur in city areas or above 1500m in endemic areas.

TBE can also be transmitted by eating or drinking infected unpasteurised dairy products in risk countries. Unpasteurised products should be avoided in countries known to have TBE.

## The illness:

It is estimated that only 10% of travellers bitten by a tick carrying TBE will develop symptoms. The illness usually occurs in two stages. After approximately 2-28 days the infected person develops a flu-like illness, fever, tiredness, aches and pain. Most recover, but around a 30% develop the second stage, with a sudden rise in temperature with meningitis (brain inflammation). About 10% of these go on to develop meningoencephalomyelitis which can lead to paralysis.

There is no specific treatment for TBE and it is fatal in up to 20% of cases from Asia. There is a higher risk of serious illness and death in people over the age of 60.

## Vaccination:

### Routine vaccine schedule: Adults and children over one year:

A total of three doses, Day 0, 1-3 months later and at 5-12 months

**Rapid schedule:** A total of two doses, Day 0 and Day 14 (90% protection) with a booster at 5-12 months. Protection starts 14 days after 2<sup>nd</sup> vaccination. The length of protection after 2<sup>nd</sup> dose is 1 year and 3 years after the 3<sup>rd</sup> dose.

### Booster dose

1<sup>st</sup> booster advised 3 years after the 3<sup>rd</sup> vaccination. Sequential doses every 5 years unless aged over 60 years when booster should be given every 3 years.

**Tick-bite prevention:** Anti-tick bite measures should be followed:

- Wear long sleeves and trousers tucked in to socks. Use DEET 50% on exposed skin and permethrin should be used to treat clothing.
- Check for ticks each evening after possible exposure. Ticks are upwardly mobile and like hairy areas – in particular check hairline, behind the ears, elbows, backs of knees, groin and armpits.
- If a tick is found, remove it as soon as possible by pulling slowly and constantly with fine tipped tweezers or tick remover, taking care to remove the whole tick. Oil, varnish or other substances should not be used as this may prompt injection of infectious material into the body.
- Seek local medical advice straight away.

### For further information:

[www.tbe-info.com](http://www.tbe-info.com)

or

<http://travelhealthpro.co.uk>

or

<https://ecdc.europa.eu/sites/portal/files/media/en/healthtopics/vectors/infographics/Documents/tick-borne-diseases-infographic-2014.jpg>