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Tick-borne encephalitis risk: practical advice during vaccine shortage

An important reminder of practical aspects of tick-borne encephalitis prevention for health professionals and travellers

[Tick-borne encephalitis](#) (TBE) virus is found in some countries of central, eastern, and northern Europe, and across Russia to parts of eastern Asia. TBE infection can cause a very serious central nervous system (brain and spinal cord) illness and can be prevented by vaccination.

While this is unusual, between 2019 and 2022 four cases of locally acquired TBE were reported in the United Kingdom (UK) [1].

TBE is mostly spread by the bite of an infected *Ixodes* tick. Ticks live in forest fringes in leaf litter and grasslands, in forest glades, riverside meadows and marshland, forest plantations with brushwood, and in shrubbery. Ticks can also be found in parks and gardens in cities. Ticks that spread TBE are most active in the warmer months (spring, summer and autumn) in countries where the virus is known or assumed to occur [1].

The virus can also be spread by eating and drinking infected, unpasteurised dairy products, like milk and cheese, but this is rare [1].

[Tick-bite avoidance measures](#) during outdoor activities should be advised for everybody, regardless of whether they had TBE vaccine before travel or not. TBE vaccine for pre-exposure vaccination is recommended for those visiting affected areas whose activities increase their TBE risk. This includes individuals:

- Living in TBE risk areas.
- Working in forestry, woodcutting, farming and the military.
- Visiting forested areas and urban parks, e.g. camping, fieldwork, hiking and hunting.
- Laboratory workers who may be exposed to TBE.

There is currently a temporary shortage of TBE vaccine (TicoVac) in the UK.

It is important to remember additional practical advice for travellers to TBE risk areas taking part in outdoor activities which increase their risk of a tick-bite.

Advice for travellers

Before you travel

Check our [Country Information pages](#) to see if TBE is a risk at your destination.

- For advice on TBE vaccine, discuss your plans with a health professional who will advise you about your risk and vaccine availability.
- If you are unable to get TBE vaccine or time is short before you travel, you may be advised to try to have/complete the vaccine course abroad.
- You can search for a clinic overseas on The International Society of Travel Medicine (ISTM)

[Global Travel Clinic Directory](#).

- Read about TBE and how to reduce your risk before you visit TBE risk countries. Make sure you have travel health insurance.

While you are away

Avoid tick bites during all outdoor activities.

- [Practise bite avoidance methods](#): for example, wear appropriate clothing and use effective insect repellents.
- Check your whole body for ticks regularly. *Ixodes* tick larvae are tiny and difficult to see (they can be the size of a freckle or speck of dirt). After feeding, adult ticks become engorged (bloated) and can be the size of a coffee bean.
- Common places for ticks to hide are armpits, back of knees, elbows, groin and hairline.
- However, ticks can attach anywhere, so a full body check is recommended.
- [Remove ticks](#) as soon as possible with a pair of fine tipped tweezers or tick remover.
- Avoid eating and drinking unpasteurised dairy products.
- If any signs of illness occur within 28 days of a tick bite, get urgent advice from a doctor or another health professional.

When you return

If you develop flu-like symptoms within 28 days of a tick-bite you should contact your GP or call [NHS111](#). Remember to tell them that you recently travelled abroad to a TBE risk country.

Advice for health professionals

Travellers visiting affected areas whose activities put them at risk should be counselled about [tick-bite avoidance measures](#).

Information on licensed TBE vaccine available in the UK is available at the [electronic medicines compendium \(emc\)](#).

When TBE vaccines are in short supply, health professionals may need to prioritise vaccine doses and schedules for those at highest risk. Remember good protection is achieved after the second dose in the three-dose schedule. The third dose is usually scheduled five to 12 months after the second [2]; if travel is not planned immediately, consider delaying the third dose until up to 12 months after the second.

If doses in a vaccine course are delayed, there is usually no need to restart the course. See our information on [interrupted vaccination schedules](#) for more advice. Travellers may be able to complete their vaccine course overseas. The International Society of Travel Medicine has an [Global Travel Clinic Directory](#), which can be used for travel clinics abroad.

Travellers at occupational risk should be referred to their Occupational Health services/employer for further advice.

If TBE is suspected in a traveller returning from areas where TBE is presumed or known to occur, the referring clinician should contact a clinician at the [Rare and important pathogens laboratory \(RIPL\)](#) to discuss the case to ensure that the correct samples are sent for testing [1].

Resources

- [Getting to grips with Tick-borne encephalitis](#)
- [Leaflet for travellers on ticks and tick-borne diseases and preventive measure](#)
- [Tick removal](#)
- [UK Health Security Agency: Tick-borne encephalitis: the green book, chapter 31](#)

References

1. [UK Health Security Agency. Tick-borne encephalitis: epidemiology, diagnosis and prevention. Last updated 25 April 2023 \[Accessed 05 February 2024\]](#)
2. [Pfizer. Summary of Product Characteristics for TicoVac. Last updated 12 August 2021. \[Accessed 05 February 2024\]](#)