



Updated version (22/03/2018 – UM) see: www.travelhealth.be

PRECAUTIONS AGAINST TICKS

General:

FSME = Fröhsummer Meningo-Enzephalitis (also called TBE = tick-borne encephalitis) and **Lyme disease** are notorious infectious diseases in the Northern hemisphere transmitted by ticks. We also see occasional cases of **African Tick Fever** originating from Southern Africa (*the presence of an “inoculation chancre” - a small pustular lesion, not very painful and often covered with a dark scab in a big body fold, with swelling of adjacent lymph node(s) and sometimes accompanied by a diffuse red rash - is characteristic*).

Most tick bites are not even noticed because the insect injects an *anaesthetic* (painkiller) in the bite wound.

Following general precautions are recommended:

- Wear trousers and tuck them into your socks, wear high boots, etc.
- After walking or playing in the forest or bushes, check your body for ticks. Look carefully in the larger body folds and hairy zones (at least twice daily when camping in an endemic region)
- Avoid walking through tall grass in Africa
- A speedy removal of the insects considerably diminishes the chance of transmission of a number of infectious agents. This means removal within 12 to 24 hours for Lyme disease and within 24 hours for rickettsiosis. Unfortunately, the FSME-virus can already be transmitted by the tick from the very beginning. The safest and best way to remove ticks is to grab the insect as close to the skin as possible with a pair of pointed tweezers (preferably not with your fingers – wear gloves or other protection!). Pull slowly, steadily and firmly. More information on tick tongs, the tick hook and the tick lasso is available at <http://www.otom.com> and <http://www.codaproducts.com>. It does not help to rub the affected area with petrol or ether, or touch it with a burning cigarette as this only causes irritation and may cause the influx of saliva or stomach content and thus of micro-organisms. An acceptable alternative is to cut the tick away, by cutting off its proboscis with a razor blade very close to the skin, provided the subsequent cut is properly disinfected (a sterile needle can be used to remove the rest of the **mouth parts**. This is not really necessary since they will work their way out later).
- The use of insect repellents based on **DEET** or **Picaridine** on the skin is helpful. It provides only protection on the places of the skin where the product has been applied. The effectiveness is much lower than 100% and is limited to max. a few hours.

- Another possibility is treating the outer-clothing with a **Permethrine**-spray (let it dry for some hours):
 - BioKill® (500 ml, 2,2 % of permethrine, for sale in drugstores or in shops specialized in outdoor activities)
 - Pital Pyrethrines 0,25%
 Permethrine spray can also be used to impregnate cotton anklets or bracelets and even the entire outer-clothing (like army uniforms) or to sprinkle on curtains, wire-netting and tent sailings.
- Be careful, direct contact with the skin must be avoided.

Lyme disease

No vaccination exists against Lyme disease!

In the US a vaccine effective against local ticks was available (but the effectiveness in Europe was doubtful). Production of this vaccine has been discontinued since September 2002.

Information about Lyme disease can be found on the website of the Flemish government – Flemish Agency for Care and Health: <http://www.gezondmilieu.be/> and use the search term “ticks”.

TBE = tick-borne encephalitis or FSME = Frühsommer Meningo-Enzephalitis

General:

TBE or FSME is a viral meningoencephalitis (inflammation of the cerebral membranes and/or brain tissue) transmitted by ticks. The disease is endemic in rural forest areas of several central European countries, the so called TBE belt (Austria, Switzerland, Southern Germany, Hungary, the Czech Republic, Slovakia, Poland, ex-Yugoslavia, ex-USSR, Bulgaria, Rumania, etc.). Cases have also been reported in Sweden, Denmark and the Baltic states. The risk is seasonal: from spring to autumn (from April to October).

The Austrian Government in fact officially alerts residents and tourists via pharmacies.

For risk areas consult:

https://www.itg.be/Files/docs/Reisgeneeskunde/TBE%20Endemic%20Risk%20Map_updated%202016.pdf.

Vaccination is recommended in case of outdoor activities (walking, hiking, camping, etc.) in these areas.

The disease is usually mild, without any symptoms and resembling an ordinary bout of flu.

Sometimes there are serious symptoms (neurological signs) estimated 1 in 100 infected tick bites (but only a small minority of ticks are infectious: varying from 1/20 to 1/1000 ticks). A fatal outcome (3 out of 100 people with neurological disease symptoms) or neurological damage (15%) are possible. In the ex-USSR, especially Siberia, a variant of this disease with a high mortality rate exists.

Prevention through vaccination:

- Existing vaccines are (based on killed virus):
 - **FMSE-IMMUN® 0,5 ml & FSME-IMMUN® 0,25 ml Junior** (Pfizer; can be obtained at the pharmacy on prescription; price 39,73 € per dose; junior form: price: € 39,17)
 - Encepur® (Chiron-Berhing, not available in Belgium)
- These vaccines also provide protection against the Siberian variant.
- The vaccination plan consists of 3 intramuscular injections of 0.5 ml.

	Classic scheme	Accelerated scheme °
1e dose	Day 0	Day 0
2 nd dose	1 – 3 m	Day 14
3 rd dose	5 – 12 m after 2 nd dose	5 – 12 m after 2 nd dose
1th booster	3 years	3 years
Next booster	5 years * to 10 years	5 years * to 10 years

° in case of lack of time

* in persons older than 60 years the booster has to be administered every 3 years

- **At least 2 injections** have to be administered before departure to a risk area; this gives a level of protection of 90-95% 2 weeks after the second injection. If there is not enough time, it is best to use the **fast plan** with the FSME IMMUN vaccine.
- Vaccination may be indicated for naturalists and tourists who plan a lot of outdoor activities (campers, hikers, but also regular walkers) in endemic zones.
- **An alternative is the strict application of prevention measures against tick bites but infection with this virus can be transmitted directly at the time of the bite.**
- In case the proposed vaccination scheme could not been followed and the intervals between the different vaccines are longer than scheduled, the vaccination scheme must not be restarted, every given vaccine counts.
- A booster injection has to be administered after 3-5 years, but this is often forgotten and the traveler only shows up years later. A recent study shows that persons having had a booster injection in time after the complete basic vaccination, show very high antibody titers and do not need further booster injections. An interval of 20 years is perhaps possible when 4 injections have been administered (recent studies).
- The immune response in persons aged above 60 years may possibly be lower and the disease more serious. Strictly following the vaccination scheme with a booster injection every 3 years is indicated in this group.