

Ticks and their importance relating to the transmission of infectious diseases

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TICKS: GENERAL INFORMATION

Ticks are blood-sucking parasites distributed around the world. They can be found in forest clearings, on hedges, grasses, and especially on the grassy edges of footpaths and roads. The tick (scientific name: *Ixodes ricinus*) carries various different infectious diseases, including Lyme borreliosis (a bacterial infection) and tick-borne encephalitis (TBE – a viral infection of the nervous system). Both diseases also occur in South Tyrol.

LIFECYCLE OF THE TICK AND HABITAT

A female tick lays its eggs and the larvae hatch. After feeding on blood, the larvae develop over the course of several weeks into so-called nymphs and then into adult ticks. Ticks are dependent upon sucking blood in all three phases of their lifecycle. After each meal of blood, they leave their host. The larvae are less than half a millimeter in size, and thus barely visible to the naked eye.



(lifecycle of the tick)

(natural habitat of ticks)

During all of their stages of life, the natural habitat of ticks is on the ground, in underbrush, on shrubs or grasses – until they go in search of their next meal of blood. In total the life-cycle of the tick lasts from 2-4 years.

Tick activity is highest in the early spring and, to a lesser extent, in the autumn. In suitable locations with a mild climate, ticks can remain active until December and return to activity as early as January.

Ticks can be found at elevations from 250 meters to 1,000 meters above sea-level. In favorable locations, they can be found at elevations as high as 1,500 meters. Ticks are prevalent throughout large sections of South Tyrol – especially in the vicinity of Bozen / Bolzano, the Unterland, and in the area of the Überetsch.

TICK-BORNE ENCEPHALITIS (TBE)

The TBE virus is generally transmitted to humans by ticks. In a few individual instances, it can also be transmitted by drinking the raw milk of infected cows or goats.

A TBE disease is typically characterised by two phases: the infection begins roughly 7-12 days after the tick bite, with the victim complaining about fever and aches and pains in the head and limbs – similar to a summer flu. In most cases the disease is then already over.

In only about 10% of all cases does the virus result in an inflammation of the meninges (so-called meningitis), of the brain (encephalitis), and/or of the spinal cord (myelitis). In comparison to adults – in whom the infection occurs more often and has a more-severe course – children become sick less frequently, and the prognosis is better. There is no specific treatment method.

The patients themselves are not infectious as there is no transmission of the disease from person to person. After having contracted and been cured of TBE, the patient is most probably immune for the rest of their life.

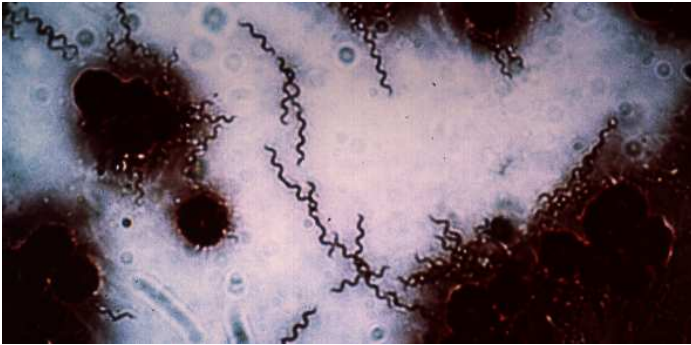
After the first case of TBE in South Tyrol in the year 2000, only 1-2 cases annually were reported in the following years. In 2016, 10 clinical cases were reported (as of September). At present, the following areas are at risk: The area southwest of Bozen, the Überetsch and the Unterland, the right side of the Etsch, and the left side of the Etsch in Montan, Neumarkt, and Salurn.

TBE- PRECAUTIONARY MEASURE

The safest preventative active measure against TBE is vaccination. This should be started in late autumn, in order to be immunised by the following spring, the beginning of the active life of the ticks.

LYME BORRELIOSIS

This is the most common infectious disease transmitted by ticks in Central Europe. The disease frequently breaks out 2-4 weeks after the tick bite, which is characterized by a circular and expanding red spot around the bite. This skin condition will clear up with proper treatment in about one month. If the infection remains unnoticed or is not treated, an inflammation of the joints, muscles, nervous system, etc. can occur weeks or months later.



(borrelia)



(erythema)

In South Tyrol, 5-15 cases of borreliosis are registered per year. They are reported in the most-varied of areas – most frequently in the Überetsch and the Unterland.

TO PREVENT TICK BITES

Do NOT leave marked trails. Do NOT walk through tall grass or brush against shrubs, bushes, or grass on the edge of paths. You should wear light-colored clothing that covers your entire body. Tuck your pant legs into your socks or stockings. Anti-tick sprays and lotions applied to the skin are of only limited effect. After spending time outdoors, carefully inspect your entire body for ticks and wash your clothing at temperatures above 60°C.

AFTER A TICK BITE

The tick must be removed as quickly as possible, since the risk of infection rises with the sucking time. The tick should be carefully removed using flat tweezers. In doing this, place the tip of the tweezers right over the skin and carefully lever the tick out with a constant pulling force (do NOT attempt to twist it!). If any biting apparatus remains in the wound, this is not dangerous. After removing the tick make sure the area around the bite is thoroughly disinfected. In the following days and weeks, check the area around the tick bite. If a round red mark appears and/or if general complaints arise, consult a physician.