Tick tests for the detection of Borrelia are not recommended by the ESCMID Study Group for Lyme Borreliosis (ESGBOR)

For several years, so-called tick tests have been promoted by various companies to quickly detect and identify *Borrelia burgdorferi* sensu lato (henceforth referred to as *Borrelia*) in ticks found attached on people. The aim is to commence treatment of a *Borrelia* infection as rapidly as possible. The tests are based on the detection of DNA via PCR methods or *Borrelia* antigen detection using antibodies. Each method has its characteristics.

It is advised not to use such tests based on the following facts:

- In Europe, between 20-25% of ticks are infected with Borrelia and the risk of infection with clinical symptoms following a tick bite is between 1-5% (i.e. 1 tick bite out of 20 or 1 out of 100).
- A positive test result only shows that the tick contained *Borrelia* but does not mean that the *Borrelia* were transmitted nor that they were pathogenic. Transmission of *Borrelia* during the first 24 hours of attachment is unlikely and many ticks are detected and removed before that.
- Antibiotic treatment is indicated when clinical symptoms are present and should not be based on positive results of these tick tests.
- No published study has assessed the quality of these tests or attempted to standardize them. The methods used, which can be very efficient under certain circumstances, also have limitations in terms of specificity and sensitivity and can lead to false interpretations.
- Studies have indicated that people also developed infections when the analyzed ticks were negative for *Borrelia*, possibly because another, undetected tick caused the infection or because the tests used produced a false-negative result.
- In case of a negative test result, the person risks a false sense of security and is likely to neglect checking for relevant skin inflammation and this may delay diagnosis resulting in more severe disease.
- The use of these fairly expensive tests does not guarantee a reliable result. Furthermore, it can lead to over-treatment of non-infected patients.

It is recommended:

1. Use protective measures. Wear light-coloured clothing, so ticks can be detected more easily as well covering clothing (long trousers, long sleeves) and closed shoes, shirt tails covered by the trousers and the trouser legs covered by the socks. Dresses, shoes and exposed skin may be sprayed with an anti-tick spray (containing DEET).
2. Check your clothes and exposed areas, during and after the walk, for the presence of ticks. At home examine the entire body. Repeat this procedure over the next few days.

3. If a tick is found, it should be removed immediately. Grasp the tick with tweezers as close to the skin as possible and pull it out. The place of attachment should be disinfected and the date of the tick bite should be noted.

4. If any enlarging redness appears around the tick bite, commencing a few days or weeks after the bite, and if you have headache, body aches and fever, you should consult your doctor.

This recommendation is based on the Swiss national recommendation of the national center for tick borne diseases (CNRT). A German version may be found at [http://www2.unine.ch/cnrt/page-11428_de.html](http://www2.unine.ch/cnrt/page-11428_de.html) and a French version may be found at [http://www2.unine.ch/cnrt/page-11428_fr.html](http://www2.unine.ch/cnrt/page-11428_fr.html).


Huegli D., Moret J, Rais O., Moosmann Y., Erard P., Malinverni R., Gern L. Prospective study on the incidence of infection by *Borrelia burgdorferi* sensu lato after tick bite in a high endemic area of Switzerland. Ticks and tick-borne diseases 2011, 2: 129-36.
