

# TICK INFORMATION

## Ticks Are Dangerous Carriers of Disease

Ticks are responsible for transmitting early-summer meningitis (ESME). The central nervous system of humans is invaded by the virus transmitted by a tick-bite. Meningitis, permanent damages such as paralysis, but also death are possible results if one is bitten by an infected tick. In infested forests, up to 3% of the ticks are infected with the virus. The danger should *not* be underestimated. Unfortunately, as not everyone has been vaccinated, there are still cases of the sickness. The danger of being infected can easily be avoided with the so-called tick vaccination.

## What Happens Once You Are Bitten By a Tick?

The virus transmitted by a tick-bite causes the dangerous ESME, which can result in permanent health damage or death. Once inside the body, this virus cannot be treated by medication. The only protection therefore is prevention, i.e., vaccination. Ticks can also transmit a second sickness, the so-called "Lyme-Borreliose." The Borreliose is not transmitted by viruses but by bacteria. Not only ticks, but also other insects (mosquitoes, gadflies, or horseflies) can be carriers of bacteria. One can usually recognize Borreliose by a slowly growing red mark in the area of the bite. The symptoms thereafter, such as fever, headache, sore throat, and lymph-node swelling are further indications of an infection. You should see a doctor if any of these symptoms occur. There is no vaccination for Borreliose, but there is medication, e.g., penicillin, with which the sickness can be treated and complications can be avoided.

## The Only Prevention is the Tick Vaccination

You can protect yourself by getting the tick vaccination. The serum is available in sufficient quantities and at all pharmacies during the tick season. Out of season, however, the serum is not stored and has to be ordered in advance. The vaccine needs to be stored in the refrigerator, between 2 and 8 degrees Celsius. From January to mid-June the serum is available at a discount. The usual doctor's fee for the vaccination is about €8. But, IIASA's Physician for Occupational Health gives the tick shots for free; the staff member only pays for the serum itself.

## Ticks Are Most Common In Spring

Ticks are most common at the beginning of the warm time of the year, that is in April, sometimes already in March. The hotter it gets, the more the danger rises and reaches its climax in early summer. The serum can be taken any time of the year, the most advisable time for the vaccination is during the cold time of the year. If you are vaccinated in autumn or winter, then the serum is effective in spring already, at the beginning of the "tick season."

## The Typical Tick Region

Ticks are usually found in forests and transition zones between different vegetation forms. That would include forest ridges with bordering meadows, forest-clearings and pastures located close to rivers and streams. Very often one also finds infested areas on warm South-lying regions with little undergrowth and hedges. Especially these types of landscapes attract tourists and people wanting relaxation, and are made accessible by hiking paths, etc. Persons who spend a lot of time in the outdoors, whether to relax or at work, have a higher risk of being bitten and should definitely be vaccinated.

## The Vaccination Cycle

If you are getting the vaccination for the first time, you receive the first two part-vaccinations; you are then protected until the following year.

- 1st vaccination: now
- 2nd vaccination: 2 weeks to 3 months after the first vaccination
- 3rd vaccination: 9 to 12 months after the second vaccination
- 4th vaccination: 3 years after the third vaccination

With these four vaccinations, the basic inoculation is completed. You will now have the best possible protection against meningitis. However, this protection does not last forever; a booster is necessary every five years (every three years after the age of 60).

## What to Do If You Are Bitten By a Tick

Ticks appear secretly and quietly, one does not feel the bite itself. When the first symptoms occur, the ticks have already fallen off. As one does not always notice the infection, there is a possibility of having a secondary vaccination. This gamma globulin is derived from the blood-plasma of vaccinated persons and is available in the form of ampoules at all pharmacies, only by prescription. It must be injected within 96 hours after the tick bite.

## Who Should Be Vaccinated?

Generally everybody should be vaccinated. Pregnant woman should definitely be vaccinated. There is absolutely no risk for the unborn baby. Only the sickness (ESME) itself can be dangerous for the baby. Children should be vaccinated as of one year of age. For them the vaccination is especially important as they often play outside and could easily be bitten by an infected tick. Older people often wrongly believe they are immune to ESME, as they have already been bitten by ticks. One only becomes immune if one has overcome an infection, which is unfortunately often combined with physical problems. The vaccination is therefore strongly advised. There is one exception for people who can not be vaccinated, that being persons with acute fever related sicknesses. They should wait until they have recovered from the illness. For persons who are allergic to preservatives, a special serum is available. Please ask your doctor.

For more information, please contact your doctor, IIASA's Occupational Health Physician, a pharmacy, or the Human Resources Department.

For information in German about ticks, visit <http://www.zecken.at>

You can find out more information about Lyme Disease (another disease carried by ticks) on the CDC Lyme Disease Home Page (<http://www.cdc.gov/ncidod/dvbid/lyme/index.htm>).