

## Ticks in North Carolina

In NC you can become infected with several diseases through tick bites. Pets can get these diseases, too.

Since the 1980s, the most common and aggressive tick in the Piedmont is the Lone Star. Dog ticks bite humans less frequently. Black-legged (deer) ticks are more frequent along the coast and may be increasing in the Piedmont. Tick bites are currently less frequent in the mountains. For more information, visit [www.tic-nc.org](http://www.tic-nc.org).

### Protecting Yourself Outdoors

- Avoid woods or other areas with ticks from March through October.
- Develop a chip border around your lawn ([www.cdc.gov](http://www.cdc.gov)).
- Use repellants.
- Wear long clothes; tuck pants in socks.
- Do frequent tick checks.

### Proper Tick Removal

- Do not burn or use any substance on the tick, it may cause the tick to regurgitate infected materials into the wound.
- Do not use bare fingers or squeeze or twist the body.
- Grasp tick with pointed tweezers as close to skin as possible and pull straight out with an even pressure.
- Use alcohol on tweezers and wound.
- KEEP THE TICK – tape it to a card and jot down the date.
- Wash hands thoroughly.

### NC Ticks Most Likely to Bite Humans

**Lone Star Tick**  
*Amblyomma americanum*  
May transmit ehrlichiosis, STARI, tularemia, *Rickettsia amblyommii*, tick paralysis, and possibly Lyme disease and babesiosis.



**American Dog Tick**  
*Dermacentor variabilis*  
May transmit Rocky Mountain Spotted Fever, *Rickettsia amblyommii*, ehrlichiosis, tick paralysis, and tularemia.



**Brown Dog Tick**  
*Rhipicephalus sanguineus*  
May transmit ehrlichiosis, Rocky Mountain Spotted Fever, and possibly babesiosis.



**Black-legged (Deer) Tick**  
*Ixodes scapularis*  
May transmit Lyme disease, babesiosis, Anaplasma, bartonella, and possibly Powassan encephalitis and tick-borne encephalitis (viral).



## Tick Infections: Basic Information

**The pathogens.** Lyme disease, Rocky Mountain Spotted Fever (RMSF), and other tick-borne infections are prevalent across the U.S. Ticks travel on people, animals, and birds. There are regional differences in types of ticks and what proportions carry various diseases. A newly recognized infection called STARI (Southern Tick Associated Rash Illness) may follow bites of Lone Star ticks. Knowledge of the human pathogens that ticks carry is constantly changing as emerging diseases are discovered.

**Rashes.** Many people with Lyme disease or STARI do not have a rash or it may be in a place that is not noticed. The rash may be solid red, usually circular or oval, or a “bull’s eye.” The rash that sometimes occurs with RMSF may be all over the body including the palms and soles of the feet. It may not occur for some days after infection. Many people do not develop rashes.

**Diagnosis.** 40% or more of people with tick diseases do not recall a bite. The diagnosis of Lyme disease, STARI, RMSF, and other tick-borne infections must be **clinical**, based on history and physical signs and symptoms (which vary according to the disease): exposure to ticks, fever, chills, headache, rash, swollen lymph nodes, fatigue, muscle aches, joint pains, abdominal pain, facial nerve paralysis, signs of brain inflammation, and others.

Waiting for lab tests before treatment may cause severe impairment or death. There are no blood tests that can be used for diagnosis during the immediate acute phase of an infection. Currently available tests for Lyme disease are unreliable and those for RMSF may cross-react with other rickettsias. No test is available for STARI.

**Treatment.** Prompt treatment with antibiotics begun during the first few days of infection will usually cure most infections. For Lyme disease, some clinicians believe 4 to 6 weeks of antibiotics ensures a better cure rate than the commonly prescribed 2 to 3 weeks. Ticks may carry more than one human pathogen so possible co-infections such as babesiosis must be identified and treated as well. If treatment is delayed or inadequate, recovery may be long and difficult and may require complex treatment regimens. Until more is known, STARI should be considered a form of Lyme disease and treated accordingly.

**Failure or Delay of Treatment.** The mortality rate for untreated RMSF is 20% to 30%. Even with treatment, death may occur in about 5% of cases, especially if there is a delay in beginning antibiotics. Ehrlichiosis must also be diagnosed and treated promptly.

If Lyme disease is not diagnosed and treated adequately

early on, more serious late-onset symptoms may occur, including numbness, severe pains including in the head, joint swelling, profound fatigue, muscle weakness, difficulty thinking, heart and eye problems, and others. Occasionally total disability or death may occur.

**Controversy.** Diagnostic and treatment strategies for Lyme disease and STARI vary.

## Membership Form

Please join us to help us lessen the impact of tick-borne infections in NC and to assist us with our registry of persons affected by tick-borne infections.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

There is no charge to become a member. Donations are encouraged. Donations are tax deductible.

### Suggested donation levels:

\$5-15 Individual     \$25 Family     \$50 Sustaining

\$100 TIC Circle     Other \_\_\_\_\_

### We need your help! Are you interested in volunteering to help us with:

Data collection     Publicity     Fundraising

Developing educational materials

Other \_\_\_\_\_

If donating, please make a check out to TIC-NC, Inc. Tear off this portion and mail to the address below. Don't forget the Case Registry Form on the back.

### Tick-Borne Infections Council of North Carolina, Inc.

PO Box 841 Pittsboro, NC 27312

Phone: 919-542-5573 Fax: 919-542-5573

info@tic-nc.org

www.tic-nc.org

## Case Registry Form (Short Version)

Name \_\_\_\_\_

Phone \_\_\_\_\_ Zip \_\_\_\_\_

Email \_\_\_\_\_

1. Have you ever been diagnosed with a tick-related illness?  
 Yes  No (If yes, please continue.)

2. If yes, were you aware of a tick bite prior to becoming ill?  
 Yes  No

3. Where did you most likely contract the tick-related illness?  
City/County \_\_\_\_\_ State \_\_\_\_\_

4. What infections have you have been diagnosed with?  
Please indicate the month/year: \_\_\_\_\_ month/year

Rocky Mountain Spotted Fever \_\_\_\_\_

Lyme disease \_\_\_\_\_

Babesiosis \_\_\_\_\_

Southern Lyme (STARI) \_\_\_\_\_

Bartonella \_\_\_\_\_

Ehrlichiosis (type if known: \_\_\_\_\_)

Tularemia \_\_\_\_\_

Other \_\_\_\_\_

5. How was your diagnosis made?  
 Clinical symptoms  Lab tests

6. What is your condition now?  
 Well  Partially well  Disabled

7. Do you know of other cases?  Yes  No  
If yes:  Family members  Pets  
 Others (Specify) \_\_\_\_\_

May we contact you for more information?  Yes  No

May we use your name publicly (as on lists, etc?)

Yes  No

(If no, we will keep your information under "name withheld.")

*The Long Version Case Registry asks additional questions that are helpful for public health monitoring. Please contact us by phone, email, or web site to fill out the complete Registry Form. Thank you!*

## Mission

Tick-Borne Infections Council of North Carolina, is a non-profit organization formed to improve the recognition, treatment, control, and understanding of tick-borne diseases in North Carolina.

## Goals

- Educate the public, medical and veterinary professionals, school health nurses, and the public health system about tick-borne diseases in North Carolina, including risk factors, emerging infections, and prevention.
- Foster an enhanced public health response.
- Encourage state public health agencies to conduct ongoing surveillance of (a) the prevalences of tick-borne infections in at-risk populations and (b) in ticks and vectors; and make this information available periodically to the public and the medical sector.
- Develop and maintain a registry of persons with tick-borne diseases in North Carolina.
- Encourage the public health sector to identify and characterize the newly emerging tick-borne infections in the Southeast.
- Work with the public health sector to require all tick-borne infections be reported at both county and state levels.

Engorged Lone Star nymph.  
Lone Star ticks at adult,  
nymph, and larval stages all  
bite humans.



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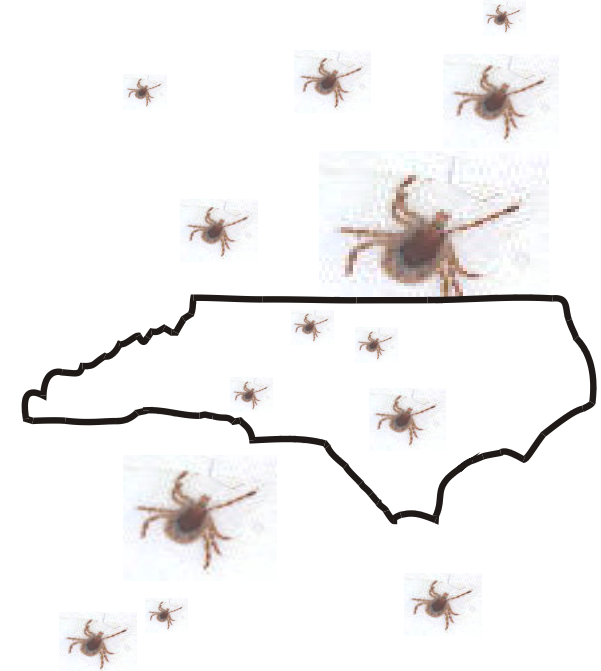
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Member, NC Center for Nonprofits



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TIC-NC, Inc. is a 501(c)(3) non-profit organization.