



## Tick-borne Infections Council of North Carolina, Inc

SPRING NEWSLETTER 2008

### Highlights...

Scroll down to see these features and more!

- Charlotte Observer and Raleigh N&O article on several people with Lyme disease in NC
- TIC-NC had a booth at **Shakori Hills Music Festival**, April 17 -20
- TIC-NC presented at a vector meeting in Baltimore in February
- Several new books out on Lyme disease
- An excellent guide on tick management from Connecticut
- Blog for bio-lab that has been proposed near Butner
- Summary of studies on the two-tier testing for Lyme disease
- Physician protection legislation
- Insect repellants-- paper in the **Journal of the American Academy of Dermatology**
- Tick-borne diseases now found in all 50 states

### Quote ...

"Politicians and lawmakers are very seldom aware that they should, above all, be social healers and prevent suffering." Carlos Bourdony, MD, Puerto Rico, 1986

### NEWSPAPER ARTICLE ON TICK-BORNE ILLNESS IN NORTH CAROLINA

*"Patients, doctors debate Lyme: Some say it's vastly underreported; others call it easily cured."*

Posted on Wed, Feb. 20, 2008 in N&O and Charlotte Observer. Full story: Jean P. Fisher [http://www.newsobserver.com/print/tuesday/city\\_state/story/951230.html](http://www.newsobserver.com/print/tuesday/city_state/story/951230.html)  
[http://www.newsobserver.com/news/health\\_science/story/951337.html](http://www.newsobserver.com/news/health_science/story/951337.html)

Raleigh - Even as mounting evidence suggests the state may harbor more tick-borne illness than records indicate, patients with symptoms that match Lyme say doctors continue to turn deaf ears to their complaints.

Dave Tierney of Cary thinks that's what happened to him. Plagued with unexplained fatigue, muscle aches, eye pain and other problems for years, Tierney was diagnosed with multiple sclerosis last year. In June, he left his job as a pilot with Delta Airlines and began getting long-term disability benefits.

But after researching his symptoms on the Internet, Tierney became convinced he had chronic Lyme disease. An infectious disease doctor and a specialized laboratory test confirmed it. After three months of intravenous antibiotics, his symptoms are much improved.

"I could have been on MS medicine for the rest of my life," said Tierney, who

returned to work this month.

### **SHAKORI HILLS SPRING MUSIC FESTIVAL**

TIC-NC had booth from April 17 -20 at the annual spring festival in Chatham County. It is in the country so there are ticks. Many participants came by to use repellent, have ticks removed, and get general information on ticks. It was busy and fun-- 4 stages with music, crafts, dancing, food, and more. [www.shakorihills.org](http://www.shakorihills.org)

### **TIC-NC PRESENTED AT THE MID-ATLANTIC MOSQUITO CONTROL ASSOCIATION MEETING**

The Mid-Atlantic Mosquito Control Association Annual Conference was held February 27- 29, 2008 at the Baltimore city center Hotel in Baltimore Md. TIC-NC was represented by Marcia E. Herman-Giddens who gave a talk on ticks and their diseases in the south-east. [www.mamca.org](http://www.mamca.org)

### **NEW BOOKS WRITTEN FOR THE PUBLIC ON LYME DISEASE**

#### **"It's All In Your Head" Series of Books on Lyme Disease by author PJ Langhoff**

Books 1 and 2 of the new 3-Book series are available for order

- **Book 1: "It's All In Your Head," Patient Stories From the Front Lines-** Intimate Aspects of Chronic and Neuropsychiatric Lyme Disease
- **Book 2: "It's All In Your Head," Around the World in 80 Lyme Patient Stories-** Valid Reasons to Debate Current Treatment Guidelines.

**Order at: [www.allegorypress.com/books.html](http://www.allegorypress.com/books.html)**

(Available soon also through Amazon.com)

- **Coming Spring of 2008: Book 3 in the series - "The Baker's Dozen and the Lunatic Fringe,"** How "Junk" Science Shifted the Lyme Disease Paradigm - an intriguing look at the politics, research and history of Lyme

**"Cure Unknown: Inside the Lyme Disease Epidemic"** (Hardcover) by Pam

Weintraub's, Pam is a science writer for Discover magazine. The book is an intelligent insightful account about Lyme disease and the controversies surrounding the illness. It is available for presale at Internet bookstores such as [Amazon.com](http://Amazon.com) and [Borders.com](http://Borders.com).

**"The Lyme Disease Solution"** by Kenneth Singleton, MD, MPH is now available.

The author combines the best concepts of allopathic Lyme-literate medicine with his extensive knowledge and experience in the field of alternative and complementary medicine. The best way to obtain his book is through his web site:

[www.lymedoctor.com](http://www.lymedoctor.com) His book may also be obtained through the usual retail channels such as Amazon.com.

### **TICK MANAGEMENT GUIDEBOOK**

The **Tick Management Handbook** from Connecticut is an excellent guide to all aspects of tick life cycle, prevention, landscape control, etc. It is full of excellent

photos. 84 pages. Recently revised.

<http://www.ct.gov/caes/lib/caes/documents/publications/bulletins/b1010.pdf>

## BIO-LAB PROPOSED NEAR BUTNER

The Bio-Agro Defense Facility Lab will apparently be similar to the Plum Island lab that, among other things, researched ticks and tick-borne diseases. Opposition has arisen to having this lab so close to major population centers in Raleigh. See: <http://www.nobio.org>

## SUMMARY DATA ON SENSITIVITY AND SPECIFICITY OF THE CDC RECOMMENDED TWO-TIER TESTING FOR LYME DISEASE

BMJ | 17 November 2007 | Volume 335

The two tier testing system endorsed by the Centers for Disease Control and Prevention (CDC) has a high specificity (99%) and yields few false positives. But the tests have a uniformly miserable sensitivity (56%)—they miss 88 of every 200 patients with Lyme disease (table). By comparison, AIDS tests have a sensitivity of 99.5%—they miss only one of every 200 AIDS cases. In simple terms, the chance of a patient with Lyme disease being diagnosed using the commercial tests approved by the Food and Drug Administration and sanctioned by the CDC is about getting heads or tails when tossing a coin, and the poor test performance assures that many patients with Lyme disease will go undiagnosed.

Until we scrap the worthless commercial tests for Lyme disease and find a better way to make the diagnosis of this protean illness, the “Lyme wars” will continue unabated.<sup>1</sup>

Raphael B Stricker past president, International Lyme and Associated Diseases Society, San Francisco, CA94108, USA [Rstricker@usmamed.com](mailto:Rstricker@usmamed.com)

Lorraine Johnson executive director, California Lyme Disease Association, Los Angeles, CA90068, USA

Competing interests: RBS serves on the advisory panel for QMedRx. 1 Tonks A. Lyme wars. *BMJ* 2007;335:910-2. (3 November.) [comstockcomplete.com](http://comstockcomplete.com)

### *Sensitivity and specificity of commercial two tier testing for Lyme disease*

<b>Study</b>	<b>Sensitivity</b>	<b>Specificity</b>
Schmitz et al. <i>Eur J Clin Microbiol Infect Dis</i> 1993;12:419-24	66%	100%
Engstrom et al. <i>J Clin Microbiol</i> 1995;33:419-27	55%	96%
Ledue et al. <i>J Clin Microbiol</i> 1996;34:2343-50	50%	100%
Trevejo et al. <i>J Infect Dis</i> 1999;179:931-8	29%	100%

Nowakowski et al. <i>Clin Infect Dis</i> 2001;33:2023-7	66%	99%
Bacon et al. <i>J Infect Dis</i> 2003;187:1187-99	68%	99%
Mean of all studies	56%	99%

## ARTICLE ON PHYSICIAN PROTECTION LEGISLATION ACROSS THE US

In the Bull's-Eye by Alexis Simendinger

*National Journal*, 12 January 2008 (c) 2008 by National Journal Group Inc. All rights reserved.

Four years ago, Pennsylvania State Rep. Merle Phillips found a tick on his shoulder but probably would have soon forgotten it, except that its bite produced a distinctive red bull's-eye rash. The businessman began complaining of unusual -- even for a 75-year-old -- exhaustion and achy joints. Now Phillips has a different complaint: Insurers in his state refuse to cover the expensive, long-term antibiotic therapy that he credits with his recovery from Lyme disease.

About the time that Phillips was bitten, a close friend's teenage son, the twin of an intern working in the lawmaker's office, became sick and weak, dropping 69 of his 182 pounds. With no clear diagnosis, one hospital discharged Matt Peters in a wheelchair with suggestions that his problems were psychological. Like Phillips, Peters eventually discovered he had Lyme disease. And, like Phillips, he credits long-term use of antibiotics with getting him back on his feet.

Such treatment sounds unremarkable but has become ensnared in a controversy pitting Lyme disease sufferers and patient-advocacy groups -- who insist that it works -- against influential factions in the medical and insurance communities, which point to research indicating such treatment is unnecessary and potentially harmful. A few physicians have even been punished by their profession or by state regulators for prescribing long-term antibiotic treatment for "chronic" Lyme disease, a condition whose existence is in dispute.

[But the advocates of such long-term treatment are making headway in an unusual place -- state legislatures.](#) As the cases of Lyme disease and other tick-borne illnesses continue to rise, especially in the Northeast, so has the pressure on lawmakers and governors to mediate between sick people and mainstream medicine.

For many lawmakers in the Northeast, Lyme disease is an ever-present issue: It affects people in their families, neighborhoods, houses of worship, and workplaces. Legislative offices get calls from worried constituents seeking ways to control the spread of ticks, while those already infected want help in finding doctors and

insurance coverage, and in managing resulting disabilities.

The Centers for Disease Control and Prevention, which estimates that only 10 percent of Lyme infections are reported to it, found that U.S. cases at least doubled between 1995 and 2005. In the 10 states where Lyme disease is most common, the average in 2005 was 32 known cases for every 100,000 people. Lyme and other tick-borne diseases are crawling across the United States, exacerbated by warming temperatures and evolving land-development trends.

Phillips hopes that Pennsylvania will be the next state to try to help those infected. He's the chief sponsor of a bill that would protect physicians who exercise their medical judgment to treat some cases of Lyme disease with long-term antibiotics and would require insurers to cover such treatment. Rhode Island wrote similar protections into law in 2004. Minnesota's insurance law requires health plans to cover medical care for "diagnosed Lyme disease." Connecticut, where Lyme disease was discovered in the late 1970s thanks to the swollen knees of children, mandates insurance coverage for 30 days of intravenous antibiotics and/or 60 days of oral antibiotic therapy. Legislation to cover long-term treatment for Lyme disease has also been introduced in Massachusetts, New Jersey, and New York.

Last year, Pennsylvania's Health Department, seeing the legislative push, formed a 15-member Lyme Disease Task Force, which includes half a dozen state lawmakers, to consider the disease's impact and make recommendations. The group, which met once last spring, gathered for four hours in Harrisburg on January 8 to talk with experts, patients, and interested parties.

In the 2005-06 legislative session, the Phillips bill cleared the Pennsylvania House in its maiden go-round before succumbing to opposition in the state Senate. Trying again, the House Health and Human Services Committee held extensive hearings last September and November, and Phillips thinks that the legislation has a better shot at enactment this year. He predicts that Democratic Gov. Ed Rendell will sign it if it reaches his desk.

Maybe so, but one doctor who said he has treated Lyme disease for more than two decades and who supports the Phillips bill warns Pennsylvania lawmakers that opponents are determined to derail it. "Powerful interests will oppose this bill, and you will be pressured to see it die," Joseph Burrascano, president of East End Medical Associates of East Hampton, N.Y., said at the Pennsylvania House committee's September hearing. "You know who will oppose this bill, and you will have to make a choice. Do you pledge allegiance to the insurance industry, or to the sick people you represent who are in need of medical care?"

Grassroots patient-advocacy groups cast the Infectious Diseases Society of America as the enemy. The IDSA keeps company with a wide array of physicians and researchers who churn out peer-reviewed studies and papers, including a much-discussed October

article in the New England Journal of Medicine that concluded that a short course of antibiotics is sufficient to kill the bacteria that causes Lyme disease.

The disease is transmitted to humans via black-legged ticks that have been cozy with infected deer, mice, or other mammals. Lingering symptoms of illness may be signs of damage caused by the initial infection, but a "chronic" or persistent form of Lyme, calling for months or years of antibiotic therapy, is malarkey, many medical experts argue.

Some insurance companies, disposed to let that less-pricey assessment drive their decisions about coverage, tell doctors and patients they will not pay for extended antibiotic therapy for Lyme disease, regardless of the clinical condition of a particular patient. The costs can be significant: Health care technologist Tracie Schiffel, 42, of Minnesota, for example, told National Journal she spent 10 months on intravenous antibiotics followed by oral antibiotics, and has been free of Lyme-induced symptoms for six months. Because of Minnesota's mandate, Blue Cross and Blue Shield paid for her treatment, the cost of which she puts at \$250,000. The IDSA represents 8,000 physicians and scientists in the United States and overseas. In August, the society's president lobbied the National Governors Association to be on the alert for "some states' misguided attempts to legislate the prolonged use of antibiotic therapy for Lyme disease," which the society says "may be dangerous, leading to potentially fatal infections in the bloodstream."

Part of the controversy over what constitutes appropriate treatment for Lyme disease probably stems from the fact that the *Borrelia burgdorferi* bacteria does not infect individuals and manifest itself in the same way every time. Also, there is no perfect diagnostic test. Lyme disease's symptoms mimic those of other infections and can come and go as the immune system battles the bacteria -- leaving some doctors guessing about its eradication when testing is unreliable. What's more, the ticks can be as small as the dot over the "i" in "infection," and the initial bite can go unnoticed, especially by children, so treatment may not be immediate.

The IDSA is tracking state legislative action on Lyme as determinedly as it studies the spirochete itself. Within days of a December 18 filing in Maine, the IDSA was on alert to monitor a bill that would count as Lyme cases those that are "physician-diagnosed" even without the telltale bull's-eye rash or "laboratory confirmation of infection." (All sides of the debate appear to agree that testing for Lyme infection is frequently inconclusive.)

Early this year, Connecticut's attorney general is expected to issue the findings of a yearlong investigation into whether the IDSA is anti-competitive -- that is, whether the association issued influential guidelines for treating Lyme that knowingly excluded scientific evidence of the benefits of long-term antibiotics. Some patients assert that members of the IDSA and its board are tied to pharmaceutical companies that see antibiotic therapy as a threat to a future vaccine market (one vaccine sold

in 1999 was withdrawn because of safety worries). The IDSA says its Lyme disease guidelines are based solely on the preponderance of medical studies.

In the nation's capital, lawmakers from 26 states have introduced bipartisan legislation to establish a national Tick-Borne Diseases Advisory Committee in the Health and Human Services Department to encourage coordination of "a broad spectrum of scientific viewpoints" among federal agencies, constituency groups, physicians, and the public.

Patricia Smith, the volunteer president of the Lyme Disease Association, one of the patient-advocacy groups fighting the IDSA, says her constituency wants more federal funding for research and is focusing on state legislatures to get help for people already infected. The association wants legislative and insurance recognition for two standards of care, including long-term antibiotic therapy, and seeks statutory protection for doctors who responsibly administer such treatment. Smith says that the IDSA and the insurance industry have "made a huge effort to come out and testify against the bills."

Rep. Phillips, who heard Smith testify in Pennsylvania in September, thinks that a trend is building to support patients and their doctors and the Lyme therapy decisions they make on a case-by-case basis. "I see a thrust in other states that are doing a lot -- New Jersey, New York, Maryland, Connecticut, Rhode Island," he said. "There are legislators there who are trying to protect the doctors who are practicing this type of Lyme treatment and, through them, thousands and thousands of their patients."

## **CZECHS HAVE VACCINE AGAINST LYME DISEASE**

**BY ČTK / PUBLISHED 24 JANUARY 2008**

Prague, Jan 23 (CTK) -

Czech company Bioveta completed the five-year development of a vaccine for people against Lyme disease (borreliosis), Bioveta's director Libor Bittner told the latest issue of the weekly Ekonom to be issued on Thursday. The vaccine is already tested in the Czech Republic and Germany. The results of the tests are expected by July, Bittner said.

Bioveta may become the first company in the world to produce the vaccine. It already produces vaccines against Lyme disease for dogs.

If the tests are successful, the company will seek a strategic partner because the necessary approval process lasting several years is too complex and expensive for it. Lyme disease is an infectious disease transmitted by ticks.

There has been no preventative vaccination against the type of Lyme disease that has been reported in Europe and Asia, Ekonom writes. A vaccine against encephalitis, another tick-borne disease, has already been developed.



In 2006, 4370 people got infected with borreliosis in the Czech Republic, which has been the highest number in the past ten years. Bioveta, founded in 1951, produces veterinary immunologicals and pharmaceuticals. It exports its products to some 40 countries.

A description of the product, from the company website is available at:

<http://www.bioveta.cz/product.asp?vyrobekid=134>

## **INSECT REPELLANTS-- LATEST DEVELOPMENTS**

J Am Acad Dermatol. 2008 Feb 11; [Epub ahead of print]

*Insect repellents: Historical perspectives and new developments.*

Katz TM, Miller JH, Hebert AA.

Department of Dermatology, University of Texas at Houston, Houston, Texas.

Arthropod bites remain a major cause of patient morbidity. These bites can cause local or systemic effects that may be infectious or inflammatory in nature. Arthropods, notably insects and arachnids, are vectors of potentially serious ailments including malaria, West Nile virus, dengue, and Lyme disease. Measures to curtail the impact of insect bites are important in the worldwide public health effort to safely protect patients and prevent the spread of disease. The history of insect repellent (IR) lends insight into some of the current scientific strategies behind newer products. Active ingredients of currently available IRs include N,N-diethyl-3-methylbenzamide (DEET), botanicals, citronella, and, the newest agent, picaridin. Currently, the environmental Protection Agency's registered IR ingredients approved for application to the skin include DEET, picaridin, MGK-326, MGK-264, IR3535, oil of citronella, and oil of lemon eucalyptus. DEET has reigned as the most efficacious and broadly used IR for the last 6 decades, with a strong safety record and excellent protection against ticks, mosquitoes, and other arthropods. Newer agents, like picaridin and natural products such as oil of lemon eucalyptus are becoming increasingly popular because of their low toxicity, comparable efficacy, and customer approval. Various characteristics and individual product advantages may lead physicians to recommend one agent over another.

## **TICK-BORNE DISEASES ARE FOUND IN ALL 50 STATES**

*Ticks are on the rise and on the move – posing an increased risk to people and pets*

ORLANDO, Fla.--(BUSINESS WIRE)--Veterinarians and industry experts concerned with the spread of tick-borne diseases announced today the results of a disturbing study that found tick populations are not only increasing in number, but also in reach across the United States. The results, presented during the 2008 North American Veterinary Conference (NAVC) in Orlando, were part of a voluntary national veterinary reporting system that was developed by IDEXX Laboratories of Westbrook,



Maine. The data uncovered the presence of at least three tick-borne diseases, Lyme disease (*Borrelia burgdorferi*), anaplasmosis (*Anaplasma phagocytophilum*) and ehrlichiosis (*E.canis*), in every state in the country. All three tick-borne diseases can cause mild to severe health complications and even death in humans and dogs, if left untreated.

"This information is important because it indicates the significant degree to which people and pets are being exposed to tick-borne diseases, and therefore, the risk of developing some very serious illnesses," said Susan E. Little, DVM, PhD, Dipl. EVPC, Center for Veterinary Health Sciences at Oklahoma State University. "As veterinarians, we need to incorporate this information into our practice, continuing to stress the need for year-round tick control in dogs and the importance of routinely screening for ticks and tick-borne diseases."

These commonly recognized diseases in dogs could cause multiple health problems. Lyme disease, commonly associated with both people and canines, can often present with fever, weight loss, arthritis and nausea in dogs. In people, if the disease is untreated, it can lead to medical problems such as neurological damage, heart complications and arthritis.

A recently recognized disease spread by ticks, anaplasmosis, can cause mild to severe illnesses in dogs and has been known to cause death in people. In ehrlichiosis, signs are very similar to anaplasmosis and include potential neurological complications. Among people, 13 percent of ehrlichiosis cases being reported are in children.

Common ticks of dogs in North America causing the biggest problem include the American dog tick (*Dermacentor variabilis*), the black-legged tick or “deer tick” (*Ixodes scapularis* in the East, *pacificus* in the West), and the brown dog tick (*Rhipicephalus sanguineus*).

To better understand where these problem ticks are migrating, the testing results of domestic dogs from thousands of veterinary practices across the United States during the time period of 2001 to mid-2007 were compiled in collaboration with scientists at IDEXX in a national prevalence study. Test results were generated from IDEXX’s reference laboratory network as well as from millions of SNAP® 3Dx® and SNAP® 4Dx® reported results. SNAP 4Dx allows for the immediate detection of exposure to Lyme borreliosis, ehrlichiosis and anaplasmosis as well as heartworm disease. Results uncovered the following:

**Table 1. Percentage of Positive Test Results for Lyme disease, anaplasmosis and ehrlichiosis**

Region	Lyme disease	Anaplasmosis	Ehrlichiosis	Co-infection
Northeast	11.6%	5.5%	0.3%	1.4%

Southeast	1.0%	0.5%	1.3%	0.1%
Midwest	4.0%	6.7%	0.4%	2.0%
West	1.4%	4.5%	0.6%	0.8%
<b>Nationwide</b>	<b>5.1%</b>	<b>4.8%</b>	<b>0.6%</b>	<b>1.3%</b>
	-	-	-	-

Positive tests for Lyme disease were highest in the Northeast, while positive results for anaplasmosis was highest in the Midwest. In the Southeast, ehrlichiosis has been most widely reported.

Of particular interest to researchers, was that the number of Lyme positive dogs in Connecticut (where 18 percent of the dogs were reported to test positive for Lyme) were from 50- to more than 200-fold greater than those in the southeastern border states of Texas, Louisiana, Mississippi, Alabama and Florida. Also surprising was the high prevalence level of infection detected in the western states of southern California, Arizona and New Mexico.

“This is of serious concern to veterinarians,” said Dwight D. Bowman, M.S., Ph.D., Department of Microbiology and Immunology, College of Veterinary Medicine, Cornell University. “It tells us ticks are on the move and raising the risk of infection from tick-borne illnesses to regions where they are not only unfamiliar with these diseases and symptoms, but also perhaps unfamiliar with how to prevent illness and protect their pets.”

## Ticks and Travel

Exposure to urban wildlife and a high incidence of Lyme disease in the northeastern states was expected based on the number of human cases reported. However, dogs testing positive to Lyme disease exposure were also found in the southeastern United States.

“We noticed a surprising number of cases in the South,” said Michael W. Dryden, DVM, Kansas State University College of Veterinary Medicine. “One explanation may be the continual urbanization of America, which is adding to the problem of tick migration in places where we haven’t seen prevalence in the past.”

In the South, the rate of ehrlichia positive dogs was more than twice the national average. Cases of ehrlichiosis due to the *E. canis* pathogen are considered more common in the southern U.S. where infestations of the brown dog tick are also more commonly seen, although in the absence of effective control programs, the brown dog tick can survive indoors in kennels and homes - virtually anywhere there are dogs. The report also found cases of heartworm in the South that was detected in more than 3 million dogs in 48 states. Evidence of at least one agent was found in dogs from every state considered.

## **What Pet Owners Can Do**

Because displaced wildlife often find refuge and seek food in suburban areas, people and pets more often come into contact with the most common species of urban wildlife like raccoons, skunks or opossums. Exposure to urban wildlife may pose serious health risks to humans and their pets. More information about tick migration, images of various species of ticks and maps where positive results have occurred, can be found on [www.dogsandticks.com](http://www.dogsandticks.com).

The Companion Animal Parasite Council (CAPC) recommends year-round heartworm, flea and tick preventatives for the life of your dog, for all areas of the country. Industry experts also stress the importance of testing for co-infection if you are living in an at-risk area, or you travel to high tick-borne disease prevalence areas with your pets.

“CAPC is very pleased to be the organization charged with disseminating this very important information,” said Michael Paul, DVM, executive director of CAPC. “While it is disturbing that the incidence of these diseases is as high and their distribution as wide as was uncovered, it is important to realize that increased awareness will lead to greater testing surveillance. Year-round use of safe and effective tick control products available from veterinarians as advocated by CAPC, will do much to reduce the clinical incidence of these diseases.”

## **About the CAPC**

The mission of the Companion Animal Parasite Council is to foster animal and human health, while preserving the human-animal bond, through recommendations for the diagnosis and year-round management of parasitic infections in dogs and cats. The CAPC is an independent council of veterinarians and other animal health care professionals established to create guidelines for the optimal control of internal and external parasites that threaten the health of pets and people. Its membership represents broad expertise in parasitology, human medicine, public health, veterinary law, private practice and association leadership. For more information about the CAPC, please visit [www.capcvet.org](http://www.capcvet.org).

## **About IDEXX Laboratories**

IDEXX Laboratories, Inc. is a leader in companion animal health, serving practicing veterinarians around the world with innovative, technology-based offerings, including a broad range of diagnostic products and services, practice management systems and pharmaceuticals. IDEXX products enhance the ability of veterinarians to provide advanced medical care and to build more economically successful practices. IDEXX is also a worldwide leader in providing diagnostic tests and information for the production animal industry and tests for the quality and safety of water and milk. Headquartered in Maine, IDEXX Laboratories employs more than 4,500 people and offers products to customers in over 100 countries.

## Contacts

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*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. We are all-volunteer and appreciate donations.*

### Board

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### Disclaimer

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Any contact information is provided for you to learn about tick borne illnesses and related issues. Our organization is not responsible for the content of other material or for actions as a result of opinions or information expressed which may appear from time to time.

It is the responsibility of you as an individual to evaluate the usefulness, completeness or accuracy of any information you read and to seek the services of a competent medical professional of your choosing if you need medical care.

This organization is not a representative, program, affiliate of any other organization, unless specifically stated. Contact us at [info@tic-nc.org](mailto:info@tic-nc.org)

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## MEMBERSHIP FORM

Please get your family members, friends and neighbors to join.



Tick-borne Infections Council of North Carolina, Inc  
**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.*

Date \_\_\_\_\_

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

NAME \_\_\_\_\_

May print name publicly     List as anonymous

Address \_\_\_\_\_

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Cost to join: *none*

Donation levels:

\$5-15 Individual \_\_\_\_\_ \$50 Sustaining \_\_\_\_\_

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*We need your help!* Are you interested in volunteering to help us with?

Data collection \_\_\_\_\_ Publicity \_\_\_\_\_ Fundraising \_\_\_\_\_

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Other \_\_\_\_\_

If donating, please make check out to TIC-NC, Inc and mail to:

Tick-borne Infections Council of NC, Inc

PO Box 841

Pittsboro, NC 27312

919.542.2529    [info@tic-nc.org](mailto:info@tic-nc.org)    [www.tic-nc.org](http://www.tic-nc.org)