

# Loudoun



# Lyme



County of Loudoun, Virginia  
Health Department  
1 Harrison Street, SE  
Leesburg, VA 20170  
[www.loudoun.gov/lyme](http://www.loudoun.gov/lyme)



## Objective

The Loudoun Targets Lyme initiative was developed and implemented with the goal of reducing the number of new cases of Lyme disease in Loudoun County in 2013 through increased community awareness.

## Background

Lyme disease, an infection with the bacterium *Borrelia burgdorferi*, is transmitted to humans through the bite of infected blacklegged ticks (formerly called deer ticks). Typical symptoms of Lyme disease include feeling like you have the flu and a characteristic target shaped skin rash called erythema migrans (EM). If left untreated, this infection can spread to the joints, the heart, and the nervous system, with potentially serious complications. The infection is typically diagnosed based on the patient's symptoms and physical findings, such as the characteristic EM rash; laboratory testing is helpful if used correctly and performed with validated methods. Most cases of Lyme disease can be treated successfully with a few weeks of antibiotics, particularly if identified at an early stage.

Steps to prevent Lyme disease include using insect repellent, dressing appropriately, removing ticks promptly, applying pesticides on your property where indicated, and reducing tick habitats. It is also important to seek medical attention promptly should signs or symptoms occur to help prevent complications of the infection.

Initially Lyme disease was an infection of the Northeast and upper Midwest states in the United States. In recent years, though, an increasing number of Lyme disease cases have been reported in the Mid-Atlantic states and in Virginia. In 1999, there were 29 cases of Lyme disease in Loudoun County, which grew to 106 cases in 2005 and 223 in 2010. In 2011, the number of cases in Loudoun County reached 261, representing 25% of all of Virginia's cases. The large majority of all Loudoun cases during this period became symptomatic in May through July, with infections likely occurring several weeks earlier.

In 2006 the Loudoun County Health Department (also known as the Loudoun Health District) had conducted a survey of Lyme disease cases (available online at [www.loudoun.gov/lyme](http://www.loudoun.gov/lyme)) to better determine the risk and protective factors for becoming infected; the results showed a low proportion of residents engaging in behaviors that could protect them before being diagnosed with Lyme disease, and a perception from respondents that they most likely became infected on their own property.

In response, the Health Department enhanced its efforts to increase awareness of steps residents could take to prevent infection, particularly on their own property. As the number of cases of Lyme disease continued to increase in Loudoun County, county leadership wanted to take additional steps.

On March 20, 2012, the Loudoun County Board of Supervisors passed a 10-Point Action Plan to Mitigate Lyme Disease (attached) and assigned the Health Department to act as staff support for this initiative.

Key aspects of this plan involved the creation of a Lyme Disease Commission and increasing community outreach and education, with a focus on awareness of prevention and treatment of Lyme disease in Loudoun County. They subsequently approved \$100,000 to cover any printing, tick evaluation and spraying costs associated with this initiative.



## Strategy

The Health Department's first step was to reach out to key county departments, state agencies, regional partners, and private organizations to determine how best to fulfill this objective. These included, but were not limited to, the Loudoun County Department of Parks, Recreation & Community Services (PRCS), County Administration/Division of Public Affairs & Communications (PAC), Extension Office and Public Schools, the Loudoun Health Council, the Virginia Department of Health, the Fairfax County Health Department, and the National Capital Lyme Disease Association. We also reached out to health departments in Connecticut, New York and New Jersey, which have been battling Lyme disease for the past 30 years.

Based on the feedback received it was decided the best approach to addressing this issue in Loudoun County was to launch a formal campaign to influence a change in behaviors that increase the risk of Lyme disease transmission. The focus of this effort was to reduce risk behaviors and increase protective behaviors during the peak months of April through June of 2013.

Loudoun County chose to use the **Transtheoretical Model of Behavior Change** for this campaign which includes five stages of change:

**Precontemplation.** The stage at which there is a lack of awareness of the problem and the person has no intention to change behavior in the foreseeable future; the goal for people at this stage would be to make them aware of the existence and impact of Lyme disease in Loudoun County.

**Contemplation.** The stage in which the person is aware that a problem exists and is seriously thinking about overcoming it, but has not yet made a commitment to take action; the intervention goal at this stage would be to stress their control over becoming infected.

**Preparation.** The stage where people are intending to take action in the immediate future; the goal of the campaign for this stage would be to focus on those actions that are easiest to successfully undertake, which could be different for each person.

**Action.** The stage in which people have begun taking steps to modify their behavior and maintenance.

**Maintenance.** The stage where people have been able to sustain their behavior change; the goal for these two stages is to provide encouragement and positive feedback to maintain and further those protective changes.



## Actions

In the summer of 2012, the key stakeholders, including the Loudoun Health Department, PRCS, PAC, Lyme Commission, Health Council and National Capital Lyme, held their first of a series of meetings to discuss the proposed behavior change campaign and decided to bring all existing and proposed county efforts under this initiative. Using focus groups, the campaign chose "Loudoun Targets Lyme" as the name to brand this effort, with a distinct logo (above) selected amongst over 50 entries created as part of a competition by Loudoun County Public School students.

The renamed Loudoun Targets Lyme Planning Team continued to meet regularly for the rest of 2012 and into 2013 to identify steps needed to prepare for the key months for Lyme disease transmission and to review existing and proposed information. Materials and messages were created or compiled to target different constituencies at different stages of change, including young children, teenagers, adults, parents, businesses, medical providers, homeowners associations, local governments, non-English speakers, and those at high risk of coming into contact with ticks at work or at leisure.

Examples (attached) include a kids activity page, a one page fact sheet, a more in depth tick brochure, press releases, email, Twitter and text messages, government proclamations, web pages, a dedicated Facebook site, posters and banners, and temporary tattoos with the Loudoun Targets Lyme logo; some of this information was focused on general awareness, while others provided more specific information on the risks of Lyme disease and the steps the reader could take to stay safe.



## Results

The Loudoun Targets Lyme Campaign kicked off April 2013 to provide for at least one month of messaging before the start of peak Lyme disease transmission season. Since then, information has been provided to every doctor in Loudoun County, both via mail and email. Lyme disease materials have been sent home with every elementary school child, emails have been sent to the parents of every public school child and information provided at each public library branch.

Lyme disease month proclamations were issued by Loudoun County and by four of its towns. Multiple press releases were distributed, with news stories created in local and regional papers as well as in those of homeowner associations. A dedicated web page [www.loudountargetslyme.com](http://www.loudountargetslyme.com) was created, which has received about 2,000 visits so far. Additionally, the Loudoun Targets Lyme Facebook page has over 500 followers and a reach of over 5,000, and a dedicated email address [lyme@loudoun.gov](mailto:lyme@loudoun.gov) was created to facilitate communication. A community awareness survey, available at [www.surveymonkey.com/s/LymeAwareness](http://www.surveymonkey.com/s/LymeAwareness), was distributed both to elicit information on current practices related to Lyme disease and to reinforce steps residents can take to stay safe. There were over 800 responses to the survey. Risk evaluations were conducted at every Loudoun County park, which can provide specific and credible information to visitors on areas of each park that may pose the greatest risk of contact with blacklegged ticks.

During this period, the campaign has participated in more than 25 events focused on each geographical region of the county and on such diverse populations as youth, bicyclists, dog owners, sports enthusiasts, environmentalists, gardeners, runners and bluegrass music lovers.

The campaign also held an in depth forum on keeping children safe from Lyme disease that was attended by over 100 residents. This outreach was critical to addressing specific questions and barriers to change from residents. Many of these events attracted thousands of participants each, with many coming to the familiar lime green Loudoun Targets Lyme tent for information. The staffing for this effort came from existing employees, college interns and volunteer time from the Loudoun Lyme Disease Commission and the Loudoun Medical Reserve Corps (MRC).

The success of this campaign is measured through the endpoints of increased community awareness and impact on new Lyme disease infections. Increased awareness is measured anecdotally through feedback from residents stating they received the message through one of the campaign's interventions. A more formal assessment will be a follow-up community awareness survey to be conducted next season looking at changes in knowledge and protective actions taken compared to this year's survey.

Changes in actual disease outcomes will be measured through the number of Lyme disease cases reported in the county in 2013 and future years. An additional indicator of increased awareness of Lyme disease risk will be if an increasing percentage of cases are diagnosed and treated at an earlier stage, at a time when symptoms are less severe.

## **Other Jurisdictions**

This program is well suited to be reproduced next year in Loudoun County and can be easily adapted for other jurisdictions interested in changing behaviors to reduce the risk of Lyme disease in their communities. Other than the cost of printing materials, there was no additional cost to the county for conducting this initiative. The information, survey and outreach materials created as part of this campaign are all available in electronic format and can be customized to other communities. Additionally, many communities have pools of volunteers, whether through their Medical Reserve Corps, Boy or Girl Scouts, or other county departments to assist with the outreach component.





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Additional  
Materials

COMMONWEALTH OF VIRGINIA  
COUNTY OF LOUDOUN  
BOARD OF SUPERVISORS



*Loudoun County Proclamation  
May 2013  
Lyme Disease Awareness Month*

**WHEREAS**, the health and safety of all Loudoun residents is important to the happiness, prosperity and well-being of our County's families and communities; and

**WHEREAS**, according to the Centers for Disease Control and Prevention, Lyme disease is the most commonly reported vector-borne illness in the United States; and

**WHEREAS**, over 200 new cases of Lyme disease were reported in Loudoun in 2012; and

**WHEREAS**, numerous cases go unreported or undetected each year; and

**WHEREAS**, in 2012 the Loudoun County Board of Supervisors passed a 10-Point Action Plan to Mitigate Lyme Disease in Loudoun County, including the creation of a Lyme Disease Commission; and

**WHEREAS**, Lyme disease is almost always caused by the bite of an infected black-legged tick and is caused by a type of bacteria that gives early symptoms, such as a bulls-eye rash, fever, aching muscles, headache, and fatigue; and

**WHEREAS**, checking for ticks and proper tick removal are imperative, and if done correctly and promptly, can aid in the prevention of the disease; and

**WHEREAS**, each May an educational campaign is launched to heighten awareness about Lyme disease, and Loudoun County has provided residents with information about personal protection, tick control methods, and tick identification services to protect people from the disease;

**THEREFORE BE IT RESOLVED** that the Loudoun County Board of Supervisors hereby proclaims May 2013 as LYME DISEASE AWARENESS MONTH in Loudoun County.

  
Scott K. York, Chairman, At Large

  
Shawn M. Williams, Vice Chair, Broad Run District

  
Suzanne M. Volpe, Argonkian District

  
Ralph M. Buona, Ashburn District

  
Geary M. Higgins, Catlett District

  
Janet S. Clarke, Blue Ridge District

  
Matthew F. Letourneau, Dulles District

  
Kenneth D. Reid, Leesburg District

  
Eugene A. Delgaudio, Sterling District



**Board of Supervisors 10-Point Action Plan  
to Mitigate Lyme Disease in Loudoun County  
March 20, 2012**

1. Create a Lyme Disease Commission, appointed by the Board of Supervisors and made up of Loudoun citizens and health care professionals with an acute interest and expertise in Lyme disease prevention and education. This group will be charged with implementing the 10 Point Plan with the assistance of county staff as well as enlisting the help of citizens and organizations whose focus is already on Lyme disease.
2. Create a Lyme survey, as a follow-up to the 2006 Lyme Disease in Loudoun County survey, to determine the current key risk factors for contracting Lyme disease as well as any other relevant statistics that will enable a better determination of where work and funding should be directed.
3. Add a high-profile link to the front page of the Loudoun County website that will direct viewers to the County's web page which contains comprehensive information on Lyme disease prevention and treatment.
4. Develop a set of educational materials targeting different age groups, including elementary schools. Work with Loudoun County Public Schools to provide students with educational materials that can be disbursed through their health classes as well as consider sending out information on Lyme in children's backpacks, as has previously been done. Suggest having a contest for school-aged children to create a tag-line (for example, "It's Time to Know about Lyme") and a logo for this effort.
5. Organize a series of Lyme Education Forums within the County that include a panel of experts that can field questions from the public regarding Lyme, provide educational materials to the public as well as help facilitate the formation of Lyme Support groups in underserved geographic areas of the county.
6. Work with the local newspapers to place a series of monthly articles concerning Lyme once a month for the first year, with quarterly articles thereafter. These articles would keep the public up-to-date with advances in prevention and treatment, inform citizens of new resources that are available to them, as well as publish a spraying schedule for public parks.
7. Establish a list of doctors that specialize in the diagnosis and treatment of Lyme disease and provide this information on the County's Lyme webpage in addition to any new educational materials. Have the Health Council or Lyme Disease Commission provide education to doctors and the medical community.
8. Develop information for homeowners on costs/benefits of spraying their yards for ticks.
9. Provide a Lyme education awareness briefing to all children enrolled in Parks and Recreation outdoor programs. There are approximately 10,000 children enrolled in these outdoor recreation camps.

*Leesburg* ★ *Events*

**GARDEN FESTIVAL 4/20-21**

**LoudounTargetsLyme.com**

**volunteer@leesburgva.gov**





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## Lyme Disease

### Information about Lyme Disease in Loudoun County

- [Loudoun Targets Lyme!](#)  NEW

Lyme disease is caused by bacteria that some people get after being bitten by ticks infected with an organism named *Borrelia burgdorferi*. The organism that causes Lyme Disease is maintained in wild rodents, deer, other mammals and certain ticks, most commonly the black-legged (deer) tick. It is transferred to people by the bite of an infected tick.

People of any age and in any part of Loudoun County can get Lyme disease. Infections occur throughout the year, but are more common during the late spring and summer and in people who work or play outdoors. Dogs, cats and horses can also get Lyme disease.

In 2012, the [Board of Supervisors](#) - in recognition of the seriousness of Lyme disease - declared 2012 "Lyme Disease Awareness Year," created the [Loudoun Lyme Disease Commission](#), and adopted a [10-point action plan to mitigate Lyme disease](#).

### Resources

Loudoun County has many resources available to help promote community awareness about the prevention of Lyme disease, including frequently asked questions, links to information, and brochures that you may view and print, including "Ticks and Tick-Borne Diseases in Loudoun County." You may click on the image at right to view the brochure.

- [Facebook Page](#)
- [Frequently Asked Questions](#)
- [Insect Repellent](#)
- [Lyme Disease Brochure](#)
- [Lyme Disease Information from the Centers for Disease Control](#) (CDC)
- [2012 Lyme Disease Survey Results](#) NEW
- [2006 Lyme Disease Survey Results](#)
- [Preventing Tick-Borne Diseases in Virginia](#)
- [Tick Management Handbook](#)
- [Tick Poster](#)
- [Tick Tips from the CDC](#)
- [Resources for Children - Kid's Activity Pages and More](#) NEW

### Other Tick-Related Illnesses

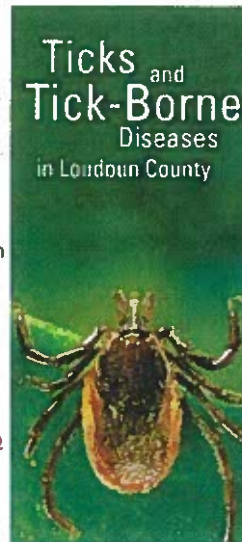
- [Babesiosis](#)
- [Bartonella](#)
- [Ehrlichiosis](#)
- [Rocky Mountain Spotted Fever](#)

### QUICK LINKS [VIEW ALL](#)

- [Ticks and Tick-Borne Diseases in Loudoun County](#)
- [Tick Management Handbook](#)
- [Tips to Stop Ticks](#)

### FAQs [VIEW ALL](#)

- [What is Lyme disease?](#)
- [How common is Lyme disease in Loudoun County?](#)
- [Can you recommend a doctor who is familiar with diagnosing and treating Lyme disease?](#)





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Home > Frequently Asked Questions

## ▼ Health Department - Lyme Disease

[Hide All Answers](#)

### 1. What is Lyme disease?

Lyme disease is caused by bacteria that some people get after being bitten by ticks infected with an organism named *Borrelia burgdorferi*. It was first identified in the 1970s in Lyme, Connecticut.

### 2. How common is Lyme disease in Loudoun County?

In 2011, Loudoun County reported 261 cases of Lyme disease, representing approximately 25% of the cases reported in Virginia that year. This compares to 223 reported cases of Lyme disease in Loudoun County in 2010, 201 cases in 2009, 235 cases in 2008, and 293 cases in 2007. Importantly, these figures are for surveillance purposes only and are not meant to reflect the total number or proportion of Lyme infections each year in Loudoun County.

### 3. Can you recommend a doctor who is familiar with diagnosing and treating Lyme disease?

The Centers for Disease Control and Prevention (CDC) provides a link to a national list of doctors who are familiar with the diagnosis and treatment of Lyme disease and other tickborne infections at [www.cdc.gov/lyme/faq/#doctor](http://www.cdc.gov/lyme/faq/#doctor)

You could also choose to see a doctor in our area who specializes in infectious diseases by searching through the Inova Health System database at [www.inova.org](http://www.inova.org) and clicking on "Search for an Inova Doctor" or the Reston Hospital database at [restonhospital.com](http://restonhospital.com) and clicking on "Find a Doctor".

Please note that the Health Department and Loudoun County government cannot evaluate the professional qualifications and competence of individual doctors. The inclusion of a doctor on the CDC, Inova or Reston Hospital lists should not be seen as an endorsement by the Health Department or the Loudoun County government.

### 4. Are there Lyme disease support groups in Loudoun County?

Yes. There is a Western Loudoun Lyme Support Group based in Purcellville and an Eastern Loudoun Lyme Support Group based in Sterling. These groups are not affiliated with or endorsed by the Loudoun County Government or Health Department. Information on the Loudoun Chapter of the National Capital Lyme Disease Association is available from Carol DuPuis at [lymeaide4you@aol.com](mailto:lymeaide4you@aol.com): beginning in April 2013 their meetings will be the second Sunday of the month from 3-5 pm at 224D Cornwall Street Community Meeting Room. Information on the Western Loudoun Lyme Support Group is available by emailing [charphealy@yahoo.com](mailto:charphealy@yahoo.com). Information on the Eastern Loudoun Lyme Support Group is available by emailing [sfp@imgdoctors.com](mailto:sfp@imgdoctors.com) or calling 703-421-7000.

### 5. Where is the organism that causes Lyme disease found?

The organism is maintained in wild rodents, particularly the white-footed mouse, other mammals, and certain ticks, most commonly the black-legged (deer) tick. It is transferred to people by the bite of an infected tick.

### 6. Who gets Lyme disease?

People of any age and in any part of Loudoun County can get Lyme disease. Infections occur throughout the year, but are more common during the late spring and summer and in people who work or play outdoors. Dogs, cats, and horses can also get Lyme disease.

Search

Health Department - Lyme Disease



## Categories

- All Categories
- Affordable Dwelling Unit-Purchase Program
- Affordable Dwelling Unit-Rental Program
- Affordable Dwelling Unit-Screening
- Animal Care & Control
- Assisted Living Placement
- B&D Bonds - Performance
- B&D Bonds-Erosion & Sediment Control (E&S)
- B&D Bonds-General
- B&D Building & Development
- B&D Code Enforcement - Inspections
- Broadband Services
- Business Tax - Business Professional and Occupational License (BPOL) Tax
- Business Tax - Filing Procedures
- Business Tax - Payment Information
- Business Tax - Property Tax Exemption for Nonprofit Organizations
- Business Tax - Transient Occupancy Tax
- Business Tax -Tax Compliance
- Child Abuse and Neglect and Child Protective Services
- Circuit Court
- Community Corrections
- Construction and Waste Management

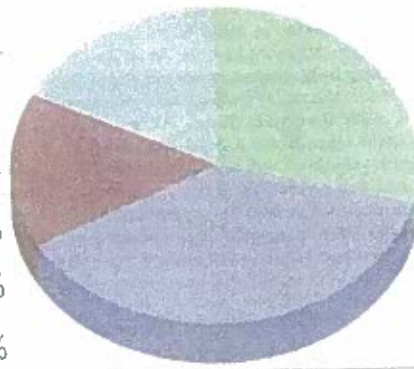
7. **How is the organism spread?**  
 The bacteria that cause Lyme disease are spread by black-legged ticks
- You cannot get Lyme disease from animals or other people.
8. **What are the signs and symptoms of Lyme disease?**  
 View the [signs and symptoms webpage](#) for information.
9. **How can Lyme disease be prevented?**  
 View the [Lyme disease prevention webpage](#) for helpful tips.
10. **What should I do if I think I have Lyme disease?**  
 You should contact your doctor if you have an unusual rash and/or other signs or symptoms of Lyme disease, or if you believe that you have had a black-legged tick attached to you for at least 36 hours.
- The Health Department does not recommend having ticks tested for infection with the bacteria that causes Lyme disease.

County Administrator  
 Department of Mental Health, Substance Abuse & Developmental Services-Fees  
 DMV Select  
 Emergency Communications Center  
 Federal & State Tax Forms  
 Fire, Rescue & Emergency Management  
 Fire, Rescue & Emergency Management - Fire Marshal  
 Fire, Rescue & Emergency Management - Human Resources  
 Fire, Rescue & Emergency Management - Special Events Planning  
 Guardian for Minors - Formal Qualification Process  
 Guardian for Minors - Guardian for the Estate of a Minor  
 Guardian for Minors - Guardian for the Person of a Minor  
 Health Department - Fluoride in Private Drinking Water Wells  
 Health Department - Loudoun County Pandemic Influenza Response Plan  
 Health Department - Lyme Disease  
 Health Department - Nonconventional Septic Systems  
 Health Department - Private Water Wells in Limestone Geology Regions  
 Home Improvement Programs  
 Homebuyer Information Guide  
 Juvenile Court Service Unit  
 Loudoun County Public Library  
 Loudoun County Tax Relief  
 Management & Financial Services - Budget Office  
 Mapping & Geographic Information  
 Mapping - Open Space  
 Medicaid Personal Care  
 Nursing Home Admission  
 Online Cable TV Complaint Form  
 Parks, Recreation, and Community Services  
 Planning - County

# Online POLL

### Lyme Disease Awareness Month: How has Lyme affected you?

- I or someone in my family has Lyme 29.3%
- I know someone with Lyme 37.6%
- I go into the woods or a park 15.8%
- Lyme doesn't bother me 17.3%



What's your view on the King Street improvement project?

## Loudoun Targets Lyme

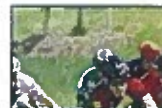
Community Page about Lyme disease

Like  Like Message

Loudoun Targets Lyme is an initiative to improve awareness of steps Loudoun County residents can take to prevent, identify and receive treatment for Lyme disease.



518 Likes



About Suggest a Change

Photos

Likes

Events

Videos

Loudoun Targets Lyme shared a link 4 hours ago

<http://purcellvillegazette.com/?p=192>



Run/Walk in Purcellville Highlights Lyme Disease | Purcellville Gazette

Over 1000 participants took part in the Lyme disease awareness walk and run held in Purcellville, VA on May 19th. The event was a great success and a testament to the community's dedication to the Lyme...

Like Comment Share

Doreen Downer Meadows likes this.

Write a comment...

Loudoun Targets Lyme 2 hours ago

Fill out our brief survey at [www.surveymonkey.com/s/LymeAwareness](http://www.surveymonkey.com/s/LymeAwareness) to let us know how Lyme has affected you

Loudoun Targets Lyme shared a cover photo 2 hours ago

# Online POLL

### Lyme Disease Awareness Month: How has Lyme affected you?

- I or someone in my family has Lyme 29.3%
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- I go into the woods or a park 15.8%
- Lyme doesn't bother me 17.3%



Like Comment Share

5 people like this.

Loudoun Targets Lyme How would you have voted? Go to <https://www.surveymonkey.com/s/LymeAwareness> and let us know



Lyme Awareness Survey

[www.surveymonkey.com](http://www.surveymonkey.com)

Web survey powered by SurveyMonkey.com. Create your own online survey now with SurveyMonkey's expert certified FREE templates

May 25 at 5:43am Like



# Tick Removal

Prompt removal of any attached tick that you find may help prevent infection.

- Use fine-tipped tweezers or shield your fingers with a tissue, paper towel or rubber gloves, when removing the tick; otherwise infectious agents may enter through mucous membranes or breaks in the skin.



- Grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure.
- Do not twist or jerk the tick; this may cause the mouthparts to break off and remain in the skin.
- Do not squeeze, crush or puncture the tick body, because its fluids may contain infectious organisms.
- Do not use nail polish, petroleum jelly, alcohol or heat to remove the tick.
- After removing the tick, thoroughly disinfect the bite site and wash your hands with soap and water.

# Preventing Tick-Borne Disease

Preventing tick-borne disease is as easy as:

## 1 DRESSING APPROPRIATELY

- Wear light-colored clothing so that ticks are easier to see and remove.
- Tuck pant legs into socks; tuck shirt into pants.

## 2 CONDUCTING FREQUENT TICK CHECKS

- On yourself, your children and your pets.
- Check for ticks after all outdoor activities.

## 3 USING TICK REPELLENT

- Apply 20%-30% DEET (or other effective tick repellent) to exposed skin.
- Pre-treat (or purchase) clothes treated with 0.5% permethrin, an insecticide that both kills and repels ticks.
- Always follow directions on the label when using repellents and insecticides.

**DOGS CAN GET SICK AS WELL.** Don't forget to ask your veterinarian about tick control methods for your pets.

# Ticks and Tick-Borne Diseases in Loudoun County

Loudoun County Health Department



703.777.0234  
[www.loudoun.gov/lyme](http://www.loudoun.gov/lyme)

Photos Courtesy of James Gathany (CDC), CDC Image Library, and Texas A&M University

Original brochure design by Fairfax County Health Department



Loudoun County Health Department  
703.777.0234  
[www.loudoun.gov/lyme](http://www.loudoun.gov/lyme)

Image courtesy of Taylor Harty and the Department of Health and Human Services

# Reduce the Number of Ticks in Your Yard

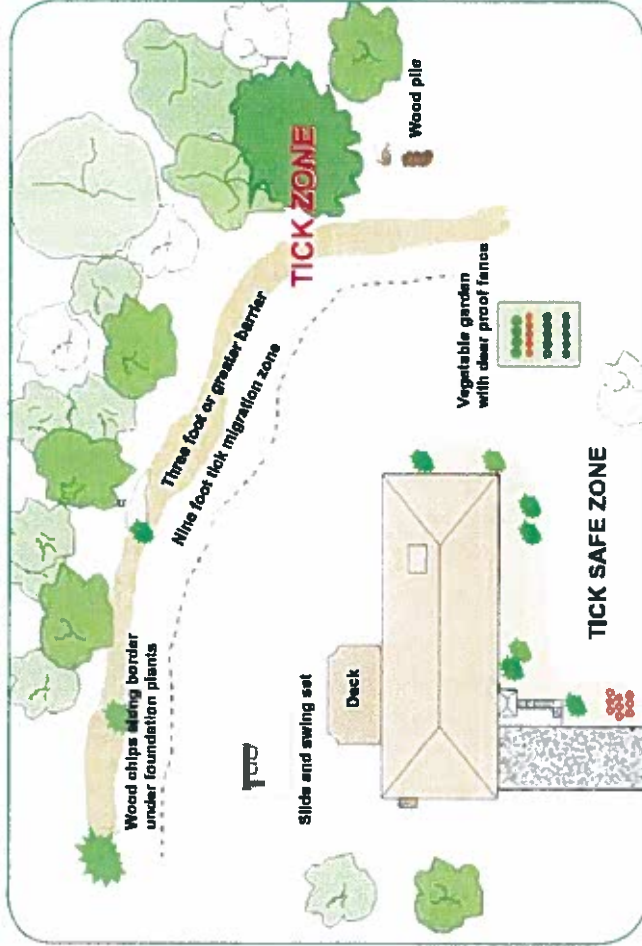
## PRACTICE TICK-SAFE LANDSCAPING

- ticks need high humidity levels to survive.
- Create a sunny and dry area where ticks cannot survive:
  - Remove leaf litter and clear tall grass and brush around houses and at the edges of lawns.
  - Lay down wood chips or gravel between lawns/recreational areas and wooded areas.
  - Keep playground equipment, decks and patios away from yard edges and trees.

## DISCOURAGE DEER

- Deer bring ticks into your yard.
  - Remove plants that attract deer.
  - Plant deer-resistant shrubs and plants.
- Build a fence to keep deer out.
  - Deer can jump up to 8 feet.
  - Deer will not jump over a fence they can't see through.

## Landscape to create Tick Safe Zones



Adapted from CT Agricultural Experiment Station

## Applying Permethrin to Vegetation and Grass



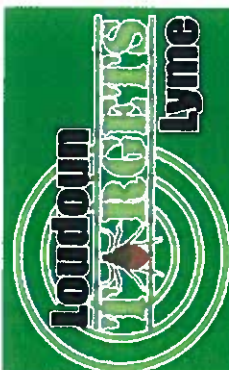
## USE CHEMICAL CONTROL

- Use permethrin to effectively control ticks in your yard.
  - If properly timed, a single application at the end of May or beginning of June can reduce tick populations by 68-100%.
  - Applying a permethrin barrier spray to your yard will provide temporary relief from ticks.
  - Permethrin is an insecticide that kills ticks.
  - Permethrin has low human toxicity and is readily available in garden centers and hardware stores.

- When looking for permethrin products, make sure to check the labeling—permethrin is the name of the active ingredient, not the product brand name.
- Apply permethrin to ivy, shrubs, trees, grasses and to other plants.
- Permethrin will not harm your garden plants.
- Always read and follow the label instructions before applying insecticides.

For more information on ticks in Loudoun County, please visit [www.loudoun.gov/lyme](http://www.loudoun.gov/lyme)

# Loudoun TICKETS Lyme

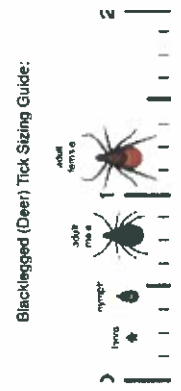


Preventing tick-borne disease is as easy as:

1. Dressing appropriately, wear light-colored long sleeves and pants.
2. Conducting frequent tick checks on yourself and pets.
3. Using tick repellent (DEET and other insecticides).



For more information and events in Loudoun County, please visit [www.loudoun.gov/lyme](http://www.loudoun.gov/lyme) and be sure to like us on Facebook at 'Loudoun Targets Lyme'!



**Did you know** a bulls eye rash and flu-like symptoms are often the first signs of Lyme disease?

Tell a grown up immediately if you notice these signs!

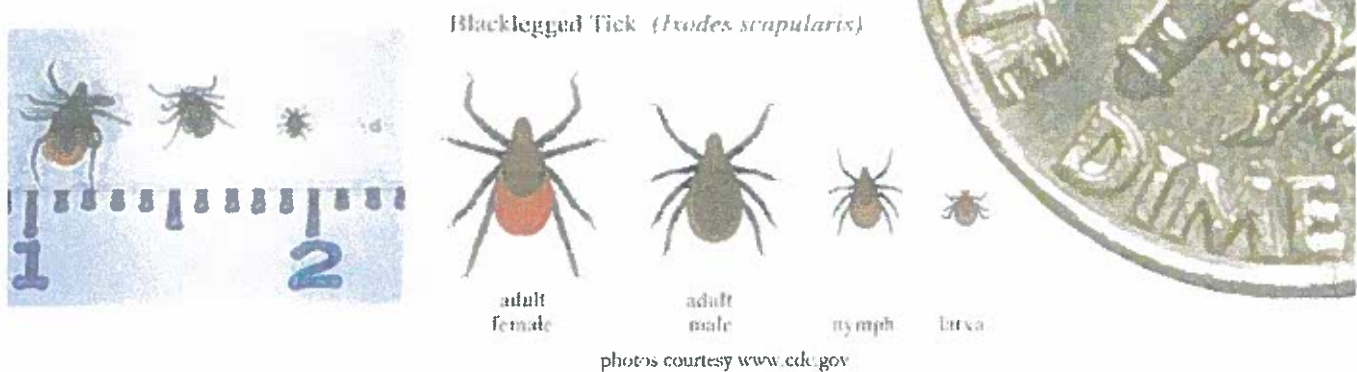


# LYME DISEASE IN LOUDOUN COUNTY VIRGINIA

## EXPOSURE

Lyme disease is present throughout Loudoun County.

The bacteria that cause Lyme disease are spread through the bite of an infected blacklegged tick (deer tick).



The bacteria that cause Lyme disease cannot be spread by casual human contact or by eating infected meat.

Not all blacklegged tick bites result in Lyme disease.

Bushy and wooded areas with leaf litter and tall grasses are places ticks prefer.

Blacklegged ticks can become infected after feeding on white-footed mice and other small rodents. The rodents are the source of the infection and the tick becomes infected after feeding on the rodent.

## DETECTION

A circular rash, also called a bull's eye rash, can be associated with Lyme disease; however, Lyme disease can occur without a bull's eye rash.

Some early symptoms of Lyme disease can resemble those of the flu such as fever, chills, muscle aches and fatigue.

Lyme disease symptoms can occur between 3-30 days after the initial tick bite.

All of the following can be symptoms of Lyme disease:

All of the following can be symptoms of Lyme disease:

Arthritis	Bell's Palsy (facial paralysis)	Fatigue
Fever/Chills	Headache	Joint and Muscle Pain
Memory Impairment/Brain Fog	Nausea/Vomiting/Stomach Ache	Neck Stiffness

## TREATMENT

The rash and flu symptoms of Lyme disease will typically go away even if not treated, however, untreated Lyme disease can spread to other parts of the body, such as the nervous system, hearts and joints.

The best way to remove an attached tick is with pointed tweezers or Tick Spoon and grasping the tick as close to the skin surface as possible and pulling upward.

One should not use Vaseline or other chemicals, matches, a heat source or a razor to remove a tick.

## PREGNANCY

Prevention and early diagnosis of Lyme disease in pregnancy is important. Antibiotics can be taken during pregnancy. Untreated, Lyme disease can be dangerous to your unborn child.

## PREVENTION

Things you can do to prevent Lyme disease include:

- Avoid areas that may have a lot of ticks (bushy, wooded areas with tall grass or leaf litter)
- Use insect repellent
- Wear light-colored clothing
- Wear long sleeve shirts, pants, and long socks
- Tuck pants into socks

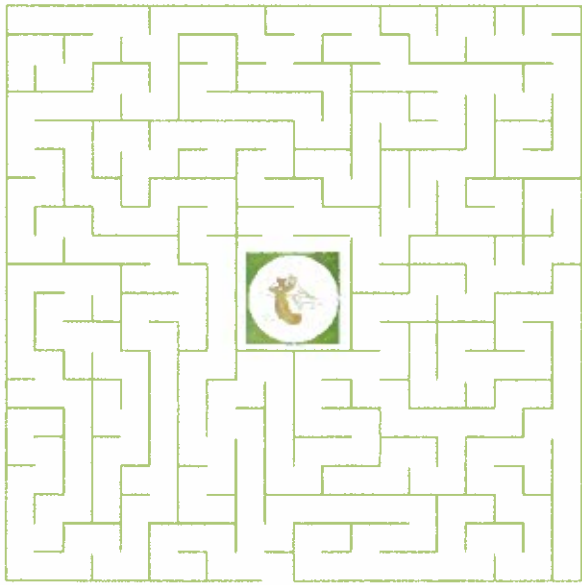
**IF YOU THINK YOU HAVE BEEN EXPOSED TO LYME DISEASE, CONTACT YOUR HEALTH CARE PROVIDER.**

For more information, visit [www.loudoun.gov/lymcommission](http://www.loudoun.gov/lymcommission) or email us at [lyme@loudoun.gov](mailto:lyme@loudoun.gov)

# How Do You Target Lyme Disease?

Mice carry ticks onto your property.

Can you help get the mouse out of your yard?



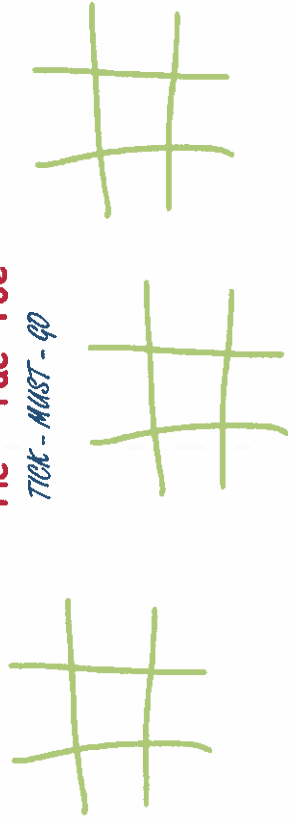
Connect the dots to see what you need to keep off you, your pets and your property



Can you find these words associated with Lyme Disease?

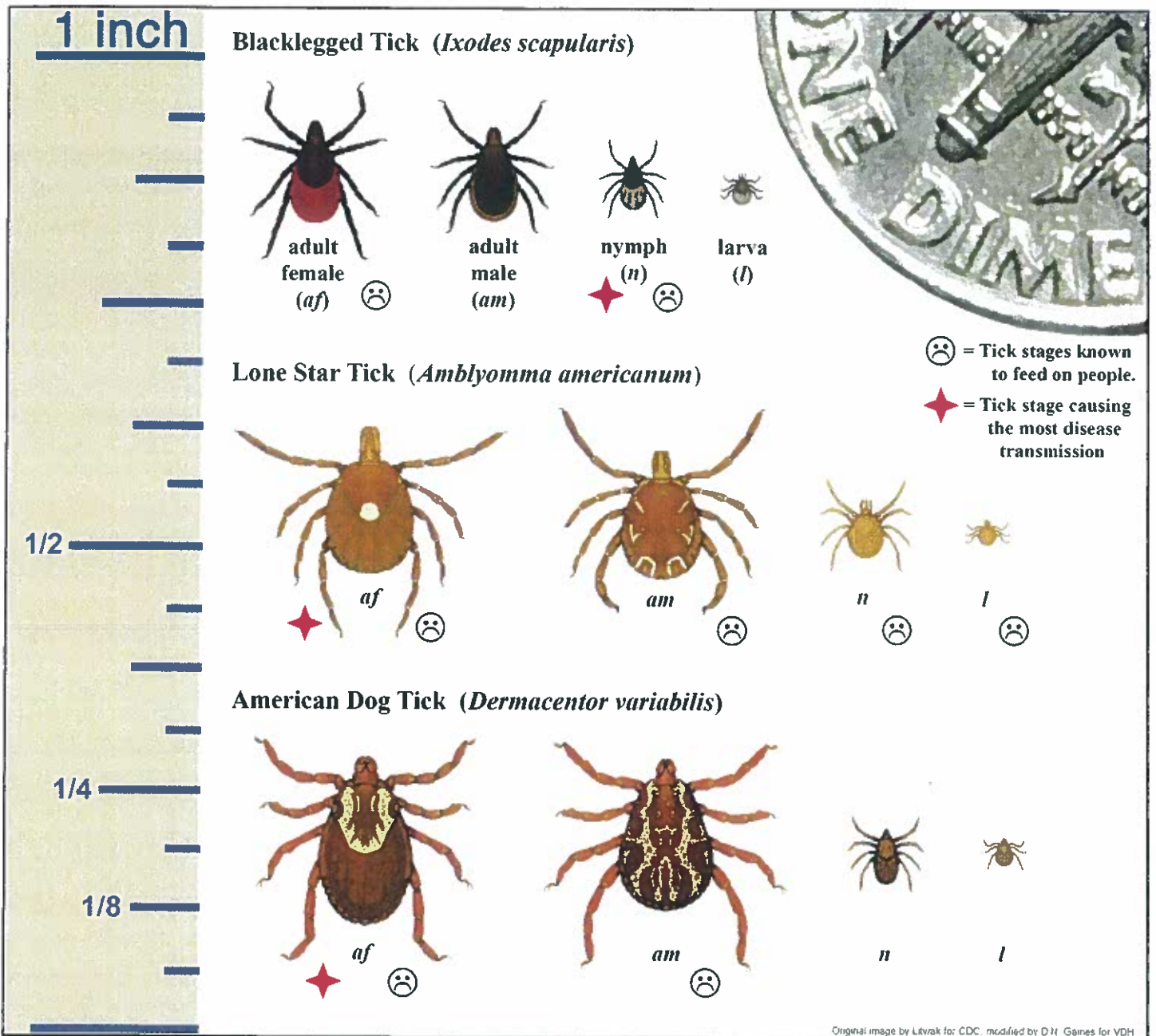
P X D Y B B A G T T T B A R R I E R  
 U E C I E Y M Q E N W B L A C K L E G G E D  
 R F G M S R E M Y E D L E B U L L S E Y E  
 L E Y G Y E S A V M L S C H E C K  
 R L E C D L H S D E E D E E T  
 T A C D L K E R E F R D I S E A S E  
 I V D H C Y K I A B S M I C E  
 K B W K T T L S B L F N Y M P H  
 B A R R I E R P H G R R A S H  
 R E P E L L E N T T I C K T W E E Z E R

**Tic - Tac-Toe**  
TICK - MUST - GO



Can you match the tick stage with its picture?  
blacklegged  
ticks are shown  
twice their  
actual size

# Tick Identification Chart



## Tick-borne Disease Chart

Disease	Vector Species	Stage that Transmits the Most Disease to People	Minimum Feeding Time for Disease Transmission
Anaplasmosis	Blacklegged Tick	Nymph	24 hours
Babesiosis	Blacklegged Tick	Nymph	36 hours
Lyme Disease	Blacklegged Tick	Nymph	36 hours
Ehrlichiosis	Lone Star Tick	Adult	24 hours
Rocky Mountain Spotted Fever	American Dog Tick	Adult Only	4-6 hours
Tularemia	American Dog Tick Lone Star Tick	Nymph and Adult	Unknown

For more information visit [www.vdh.virginia.gov/TickBrochure](http://www.vdh.virginia.gov/TickBrochure)

## About Tick-borne Diseases in Virginia

**Anaplasmosis and Ehrlichiosis:** Symptoms of ehrlichiosis and anaplasmosis occur 7-14 days after tick bite including fever, headaches, muscle pain, vomiting and general discomfort. Severe or fatal illness can occur and treatment should not be delayed.

**Babesiosis:** Symptoms of babesiosis may take 1-3 weeks to appear; they include fever, chills muscle pains, fatigue and jaundice. Most people show no symptoms. Asplenic and immunocompromised patients may suffer severe or fatal illness.

**Lyme Disease:** The first sign of LD is a circular or oval rash at least 2 inches in diameter called an erythema migrans (EM). The EM rash occurs 3-30 days after a tick bite and is accompanied by headaches, joint or muscle aches, fever and tiredness. The rash does not itch or hurt and may go unnoticed. When left untreated, LD may progress to affect the joints, nervous system and heart, and may cause long lasting arthritis and nervous system damage in some people.



EM rash associated with lyme disease



Spotted rash caused by RMSF

**Rocky Mountain Spotted Fever:** Rocky Mountain spotted fever (RMSF) is a serious illness characterized by a sudden onset of symptoms. Symptoms may begin 2-14 days after a tick bite, including fever, deep muscle pain, severe headache, chills and upset stomach or vomiting. A red, spotted rash may appear beginning on the wrists and ankles and spreading to the palms, soles of feet and to the rest of the body. Treatment should begin as soon as RMSF is suspected. Untreated cases may be severe or fatal.

**Tularemia:** Symptoms of tularemia include the sudden onset of fever and chills. An ulcer may develop at the bite site and the lymph nodes may become enlarged. Untreated cases may be severe or fatal.

### Preventing Tick Bites

- Recognize when you are in potential tick habitats such as tall grass, forest underbrush or leaf litter.
- Walk in the center of mowed trails, keep grass cut and rake leaves/clear brush in wooded yards.
- Wear light-colored clothing so ticks are visible.
- Tuck pant legs into socks or boots, tuck shirts into pants and wear long sleeved shirts.
- Apply repellents to skin containing up to 50% DEET for adults or less than 30% DEET for children.
- Repellents containing other active ingredients such as bioUD, oil of lemon eucalyptus, IR3535, picaridin, or 2-undecanone are also effective.
- Apply repellent containing 0.5% permethrin to clothing. Follow directions carefully and do not apply this repellent to skin.
- **Conduct thorough tick checks after you have been in tick habitat; remove ticks promptly.**

### How To Remove a Tick

- Using tweezers, grasp tick near mouth parts as close to the skin as possible.
- Be careful not to squeeze the tick's swollen abdomen.
- Pull tick in a steady, upward motion until it releases from the skin
- **Other methods of tick removal are unsafe**
- Disinfect hand and bite site with soap and water and apply antiseptic to the site.
- You may want to identify the tick and save it in alcohol for several weeks. If you become ill, the tick might help your doctor diagnose the illness.



**If you become ill and have been exposed to ticks, tell your doctor about your tick exposure.**

## Students Tell Of Lyme's Impact In The Classroom

1 Comment | 1 YouTube | 1 Facebook | 1 Twitter | 1 LinkedIn | 1 StumbleUpon | 1 Dribbble | 1 Email | 1 Print | 1 RSS



**Lyme Forum: Brody Brown**

**1 comment**  
 The Loudoun Lyme County Commission took its educational mission into the schools Thursday night with a special forum that focused on the impact the tick-borne disease can have on children.

The panel of speakers included two students who described how Lyme has affected their ability to perform schoolwork. Questions from parents illustrated a frustration in working with teachers and administrators to accommodate the disabling effects of the disease.

Brody Brown, an eighth grade student at Simpson Middle School, contracted Lyme the summer before entering third grade. After a hike at Ball's Bluff, he found a tick behind his ear. Two weeks later he was very sick. His family—including his mother, Dr. Carolyn Walsh, who now is a member of the Lyme Commission—didn't accept the initial diagnoses of the flu. "I saw a

# Loudoun County VIRGINIA

WHERE TRADITION MEETS INNOVATION

Site Tools

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- Board of Supervisors
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- Departments
- For Employees
- Jobs
- Loudoun County Towns
- Loudoun en Español

- EVENTS
- May 28  
Water Resources Technical Advisory Committee
  - May 28  
Board of Supervisors Economic Development Committee

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### County Spotlight

**Loudoun Targets Lyme**  
 The Board of Supervisors has voted to fund a special program to fight Lyme Disease in Loudoun County.



HEADLINES AGENDAS HOT TOPICS

Water Resources Technical Advisory Committee  
 Read on...  
 Board of Supervisors Economic Development Committee  
 More...  
 Board of Supervisors Economic Development Committee  
 Details...  
 Board of Supervisors Economic Development Committee  
 More...

Services Center

CUSTOMER SUPPORT  
 PUBLIC WORKS  
 PLANNING & DEVELOPMENT  
 PUBLIC SAFETY  
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 FINANCE

**My Loudoun** MY COUNTY MY WAY



# POST LOCAL

Weather

Traffic

Is the News FBI agents killed Virginia GOP Double homicide Whole Foods

MEGA MILLION TUESDAYS & FRIDAYS  
POWERBALL WEDNESDAYS

PHOTOS: Notable deaths of 2013

Hillary's wayward aides

## With arrival of spring, Loudoun ramps up Lyme campaign

By Caitlin Gibson, [E-mail the writer](#)

As Loudoun County residents welcome the arrival of spring — flocking to back yards, parks and outdoor events to take advantage of warmer weather — county officials have launched an initiative to raise awareness of the area's high rate of Lyme disease infection.

Hundreds of Loudoun residents are diagnosed with Lyme each year, officials said. The goal of the campaign is to lower that rate by educating people about protective measures they can take, how to identify early symptoms and what to do if they think they've been exposed to the disease.

The initiative is the most recent step in an

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HOME LIVE NEWS NEWS WEATHER MORNING NEWS TRAFFIC ENTERTAINMENT BUS

## Loudoun County continues fight against Lyme disease

Like [Facebook](#) To people like this, be the first of your friends



By Caitlin Gibson, [E-mail the writer](#)

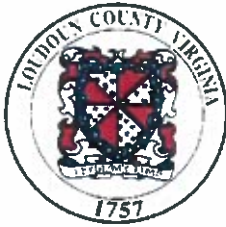
LOUDOUN COUNTY, Va. — It's a ranking Loudoun County could be a most-worst place in the state of Virginia for Lyme disease.



But a year ago, the Board of Supervisors declared war on Lyme to try and turn things around.

And already there are signs of improvement.

On one street in Leesburg, five families have at least one parent or one child with Lyme disease.



## Loudoun County, Virginia

[www.loudoun.gov](http://www.loudoun.gov)

### News Release

Office of the County Administrator/Public Affairs and Communications  
1 Harrison Street, SE, P.O. Box 7000, Mailstop #03, Leesburg, VA 20177-7000  
703/777-0113 · Fax 703/771-5841

For Immediate Release  
April 10, 2013

Media Contact: Anna Nissinen, Public Affairs and Communications Officer  
703-777-0113, [anna.nissinen@loudoun.gov](mailto:anna.nissinen@loudoun.gov)

### Loudoun Targets Lyme Initiative Officially Launched

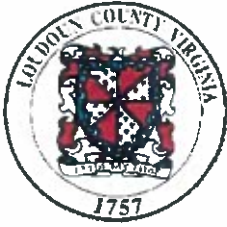
Loudoun County has officially launched the Loudoun Targets Lyme initiative. The initiative will provide information on steps Loudoun residents can take to stay safe from Lyme disease through the webpage [www.loudoun.gov/loudountargetslyme](http://www.loudoun.gov/loudountargetslyme), on Facebook at [www.facebook.com/loudountargetslyme](http://www.facebook.com/loudountargetslyme), and at venues throughout the county, including the upcoming "Loudoun Health for Life Day," Saturday, April 13, 2013, at Gum Springs Library.

Increasing awareness about Lyme disease is very important, "especially as we enter the peak season for Lyme disease," said Dr. David Goodfriend, Loudoun County Health Department Director. "You can help increase awareness by liking the Loudoun Targets Lyme Facebook page, by downloading and sharing Lyme disease resources from the website, by stopping by at one of the many events this spring where the Loudoun Targets Lyme booth will be located, and by spreading the word to friends, family and coworkers," Goodfriend said.

In 2012, the Loudoun County Board of Supervisors - in recognition of the seriousness of Lyme disease - declared 2012 "Lyme Disease Awareness Year," created the Loudoun Lyme Disease Commission, and adopted a ten-point action plan to mitigate Lyme disease. Loudoun Targets Lyme is an outgrowth of this plan and involves Loudoun County government, businesses, non-profit organizations and citizens focused on reducing the impact of Lyme disease in Loudoun County.



###



## Loudoun County, Virginia

[www.loudoun.gov](http://www.loudoun.gov)

**News Release**

Office of the County Administrator/Public Affairs and Communications

1 Harrison Street, SE, P.O. Box 7000, Mailstop #03, Leesburg, VA 20177-7000

703/777-0113 · Fax 703/771-5841

For Immediate Release  
May 2, 2013

Media Contact: Anna Nissinen, Public Affairs and Communications Officer  
703-777-0113, [anna.nissinen@loudoun.gov](mailto:anna.nissinen@loudoun.gov)

### **Board Declares May *Lyme Disease Awareness Month*; Loudoun Targets Lyme Launches Survey**

The Loudoun County Board of Supervisors has declared May as “Lyme Disease Awareness Month” in Loudoun County. The Board’s proclamation notes that incidents of Lyme disease increase in warm weather when people and pets spend more time outdoors and encourages residents to take precautions against the disease.

Last month, Loudoun County officially launched the Loudoun Targets Lyme initiative. Since then, thousands of Loudoun County residents have received information on steps they can take to stay safe from Lyme disease through the webpage [www.loudoun.gov/loudountargetslyme](http://www.loudoun.gov/loudountargetslyme), on Facebook at [www.facebook.com/loudountargetslyme](http://www.facebook.com/loudountargetslyme), through information sent home from school, and at venues throughout the county.

Loudoun County has also created a brief, anonymous Lyme disease survey online at [www.surveymonkey.com/s/LymeAwareness](http://www.surveymonkey.com/s/LymeAwareness) to help target the initiative’s activities. “Please take a few minutes to complete this important survey,” said Dr. David Goodfriend, Loudoun County Health Department Director. “Also, and don’t forget to like the Loudoun Targets Lyme Facebook page, download and share Lyme disease resources from the website, stop by at one of the many events this spring where the Loudoun Targets Lyme booth will be located, and spread the word to friends, family and coworkers.”

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###



Loudoun Targets Lyme  
Community Events

Initiative	Date	Location
Brambleton Ribbon Run 5/10K	4/13	Brambleton Town Center, 22895 Brambleton Plaza, Brambleton, VA 20148
Health for Life Day	4/13	Gum Spring Library, Millstream Dr., VA 20105
Lower Loudoun Little League Opening Day	4/20	Jeff Cobb Field, 333 South Sterling Blvd, Sterling, VA
Leesburg Flower & Garden Festival	4/20-21	Post Office Parking Lot, Leesburg, VA
Painting Purcellville Green	4/20	Town Hall, Purcellville, VA
Earth Day at Loudoun Family Festival	4/28	42920 Broadlands Blvd. Broadlands, VA 20148
South Riding Business Expo & Community Yard Sale	5/4	Dulles South Multipurpose Center, 24950 Riding Center Dr.
Grapehound Wine Tour	5/10	Lost Creek Winery, Purcellville, VA
South Riding Market Square Rocks	5/11	South Riding Market Square
Loudoun Bluegrass Festival	5/11	Loudoun County 4H Fairgrounds, 17588 Dry Mill Rd., Leesburg, VA 20175
Breaux Vineyard Dog Days	5/11	36888 Breux Vineyards Ln., Purcellville, VA 20132
Purcellville Public Safety Day	5/11	757 East Main Street/The Shops @ Main and Maple, behind Walgreens
Cirque du Cyclisme Cyclosporitive	5/18	Best Western Hotel, Leesburg, VA
Ashburn FD Safety Day & Open House	5/19	Lansdowne Fire Station
National Capital Lyme 3 <sup>rd</sup> Annual 5K	5/19	Purcellville Train Station, 200 N. 21 <sup>st</sup> Street, Purcellville, VA 20132
Ashburn Farm Summer Kick Off	5/25	Windmill Dr. -Thistlewood Ct., Ashburn Farm
Cascades 10K Firechase and 911 Fun Run	5/25	Round Hill
RHVFD Open House	5/25	Round Hill
Ride Sally Ride Bicycle Race	6/1	Industrial Park, Davis Dr., Sterling VA
Breaux Vineyards 16 <sup>th</sup> Annual Cajun Festival	6/15	36888 Breux Vineyards Ln., Purcellville, VA 20132
YouthFest	6/15	Brambleton Town Center
The Northern Virginia Summer BrewFest	6/22-23	Morven Park, Leesburg, VA
D.C. United SoccerFest	6/29-30	Morven Park, Leesburg, VA

