

Lyme Disease is Endemic in Vermont

Ten of Vermont's fourteen counties meet the Centers for Disease Control and Prevention's definition of an endemic county for Lyme disease – one in which at least two confirmed cases have been acquired, or in which established populations of a known tick vector are infected with *Borrelia burgdorferi*. Nine counties (Addison, Bennington, Caledonia, Chittenden, Orange, Rutland, Washington, Windham and Windsor) meet the criteria because of human cases, while Grand Isle county has *Ixodes scapularis* ticks that are known to be infected with the Lyme bacterium. Ticks from Grand Isle county were collected in 2004 after Lyme disease cases with tick exposure in the county were reported. Testing by the Maine Medical Center's Vectorborne Disease Laboratory indicated that 34 of the 69 ticks collected (49%) were positive for *B. burgdorferi*. Canine Lyme seroprevalence studies and ticks submitted to the Agency of Agriculture, Food & Markets by veterinarians suggest that Franklin, Lamoille, and Orleans counties have Lyme disease activity, although there is insufficient data on the tick populations in these counties to label them as endemic. The Lyme disease status of Essex country is largely unknown.

Signs and Symptoms: While the risk of contracting Lyme disease in Vermont is lower than in other New England states, Lyme disease should be considered in the differential diagnosis when a patient presents with signs and symptoms consistent with *B. burgdorferi* infection. These include fatigue, headache, fever, swollen lymph nodes, muscle and joint pain, and an erythema migrans (EM) rash. EM usually develops 7-10 days (range, 3-30 days) after a tick bite. An EM rash ≥ 5 cm in diameter is diagnostic for Lyme disease. Tick bite hypersensitivity reactions, which appear as erythematous lesions within 48 hours of a tick bite, are usually < 5 cm in diameter and typically begin to disappear within 24-48 hours.

Testing: Antibodies against *B. burgdorferi* are not detectable in most people within the first two weeks after infection. A two-test approach using a sensitive enzyme immunoassay (EIA) or immunofluorescent assay (IFA) followed by a Western immunoblot is recommended. For patients with symptoms in excess of four weeks, a positive IgM test in the absence of a positive IgG is likely to be a false-positive result for a current infection.

Treatment: Based upon the treatment guidelines developed by the Infectious Disease Society of America, <http://www.journals.uchicago.edu/CID/journal/issues/v43n9/40897/40897.html>, routine use of antimicrobial prophylaxis is not recommended for prevention of Lyme disease after a tick bite in Vermont.

Tick Testing: Testing *Ixodes scapularis* ticks is not recommended for diagnosis or prophylaxis decisions. Test results would not be available within 72 hours, after which there is an absence of data on the efficacy of prophylaxis. Furthermore, infected ticks are not likely to transmit *Borrelia* without feeding for at least 24 hours, and duration of tick attachment is often unknown.

Patient Follow-up: Persons who have been bitten by a tick should be monitored for signs and symptoms of Lyme disease for 30 days. Patients should be instructed to seek medical attention if an expanding erythematous rash or other symptoms of Lyme disease develop within one month of a tick bite.

Reporting: Lyme disease is reportable to the Vermont Department of Health by calling 863-7240 or 1-800-640-4374.

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The *Infectious Disease Bulletin* can be viewed at:

<http://healthvermont.gov/pubs/IDB/index.aspx>

For questions & comments, please contact Mary Spayne at (802)863-7240

Vermont – Selected Reportable Diseases – 2007

(Data through MMWR Week 17 – 4/28/07) – Provisional

Number of Cases Year-To-Date																			
	Campylobacter	Cryptosporidium	E.coli O157:H7	Giardia	Group A Strep Inv	Hepatitis A	Hepatitis B - Acute	Hepatitis B - Chronic	Hepatitis C - Acute	Hepatitis C - Chronic	Legionellosis	Listeriosis	Lyme	Meningococcal Inf.	Pertussis	Salmonella	Shigella	Tuberculosis*	Varicella
Age																			
<5	7	2	0	8	0	0	0	0	0	0	0	0	0	2	4	4	0	0	23
5-14	1	0	1	4	3	0	0	0	0	0	0	0	4	0	8	1	0	0	126
15-24	3	3	2	6	0	0	0	3	1	30	0	0	1	0	1	3	0	0	4
25-39	2	0	0	4	1	0	0	12	2	68	0	0	1	0	1	2	0	0	1
40-64	12	1	0	14	2	0	0	7	0	160	1	0	1	0	2	4	0	0	2
65+	5	0	0	1	5	0	1	0	0	1	0	0	1	0	0	1	0	1	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total (YTD)	30	6	3	37	11	0	1	22	3	259	1	0	8	2	16	15	0	1	158
5-yr Median (YTD)	29	6	0	37	7	2	1	†	3	†	1	0	5	1	20	15	1	1	†
County of Residence																			
Addison	2	1	0	2	1	0	0	2	0	8	0	0	0	0	2	0	0		12
Bennington	1	0	0	1	0	0	0	1	0	15	0	0	0	0	0	1	0		5
Caledonia	2	0	0	2	0	0	0	1	0	12	0	0	1	0	0	2	0		5
Chittenden	9	1	0	9	2	0	0	6	0	85	0	0	2	0	0	6	0		28
Essex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1
Franklin	4	1	2	1	0	0	0	4	0	18	0	0	0	1	0	4	0		27
Grand Isle	2	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0		0
Lamoille	3	0	0	1	0	0	0	2	0	7	0	0	0	0	0	0	0		8
Orange	2	0	0	1	1	0	0	0	0	4	0	0	1	0	1	0	0		4
Orleans	1	0	0	2	0	0	0	1	0	14	0	0	0	0	0	0	0		3
Rutland	0	2	0	5	4	0	0	2	0	25	1	0	3	0	0	0	0		7
Washington	1	1	1	7	2	0	0	2	1	15	0	0	0	1	5	0	0		20
Windham	1	0	0	4	0	0	1	1	1	27	0	0	0	0	8	1	0		21
Windsor	2	0	0	2	1	0	0	0	1	26	0	0	1	0	0	1	0		17
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Total (YTD)	30	6	3	37	11	0	1	22	3	259	1	0	8	2	16	15	0	1	158
VDH District Office																			
Barre	1	1	1	7	1	0	0	1	1	11	0	0	0	1	5	0	0		19
Bennington	1	0	0	1	0	0	0	0	0	7	0	0	0	0	0	1	0		5
Brattleboro	1	0	0	4	0	0	0	1	1	24	0	0	0	0	8	1	0		21
Burlington	9	1	0	9	2	0	0	2	0	59	0	0	0	0	0	7	0		28
Middlebury	2	1	0	2	1	0	0	0	0	4	0	0	0	0	2	0	0		13
Morrisville	3	0	0	2	0	0	0	2	0	6	0	0	0	0	0	1	0		8
Newport	1	0	0	1	0	0	0	1	0	7	0	0	0	0	0	0	0		3
Rutland	0	2	0	5	4	0	0	2	0	16	1	0	0	0	0	0	0		7
St. Albans	6	1	2	1	0	0	0	3	0	4	0	0	0	1	0	4	0		28
St. Johnsbury	2	0	0	2	0	0	0	0	0	8	0	0	0	0	0	0	0		5
Springfield	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0		8
White River	4	0	0	3	2	0	0	0	0	0	0	0	0	0	1	1	0		12
Central Office	0	0	0	0	1	0	1	10	1	108	0	0	8	0	0	0	0		1
Total (YTD)	30	6	3	37	11	0	1	22	3	259	1	0	8	2	16	15	0	1	158

(802)863-7240

1(800)640-4374 (VT)

FAX: (802)865-7701

*This column partially obscured to protect patient confidentiality

†Data captured differently in previous years; no 5-year median available