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[Health.Alert@dhhs.nh.gov](mailto:Health.Alert@dhhs.nh.gov)

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## Tickborne Diseases in New Hampshire

**Unfortunately, once again, NH has been infested and plagued with Ticks.** Lyme disease has been identified in all 10 NH counties. **It takes only one bite to potentially cause a person to sustain debilitating long-term effects. This is an urgent matter which should not be taken lightly.**

### Key Points and Recommendations:

1. Blacklegged ticks transmit at least five different infections in New Hampshire (NH): Lyme disease, Anaplasma, Babesia, Powassan virus, and Borrelia miyamotoi.
2. **NH has one of the highest rates of Lyme disease in the nation**, and 50-60% of blacklegged ticks sampled from across NH have been found to be infected with *Borrelia burgdorferi*, the bacterium that causes Lyme disease.
3. NH has experienced a significant increase in human cases of anaplasmosis, with cases more than doubling from 2016 to 2017. The reason for the increase is unknown at this time.
4. The number of new cases of babesiosis also increased in 2017; because *Babesia* can be transmitted through blood transfusions in addition to tick bites

**Epidemiology:** Lyme disease has been identified in all 10 NH counties.

Anaplasmosis and babesiosis continue to increase across the state. Powassan virus is rare, with only three reported cases, one in 2013, one in 2016, and one in 2017. One case of *B. miyamotoi* was identified in a NH resident in early 2018. Additional data can be found on the web at:

<http://www.dhhs.nh.gov/dphs/cdcs/lyme/publications.htm>.

**Background:** NH has evidence of local transmission of five tickborne diseases. Lyme disease (*Borrelia burgdorferi*), babesiosis (*Babesia spp.*), anaplasmosis (*Anaplasma phagocytophilum*), Powassan virus, and *Borrelia miyamotoi* are transmitted by the bite of the blacklegged tick (*Ixodes scapularis*). Although the lifespan of this tick is two years, people are most likely to be infected between April and August when the aggressive nymph stage is active. Nymphs are very small (< 2mm) and difficult to see unless they become engorged with blood.

**In households, pets commonly bring ticks in from outdoors that can serve as a source of infection for their owners.**

**Symptoms:** Many tickborne diseases present initially with nonspecific flu-like symptoms that may include fever, chills, malaise, headache, muscle and joint pains, and lymphadenopathy. Some may also present with other systemic symptoms (neurological, cardiovascular, gastrointestinal symptoms). Powassan (POW) virus infection, in particular, can progress to meningoencephalitis. About half of those that survive clinical disease have permanent neurological consequences/damage

**Prevention:** An individual's risk of tickborne disease depends on their outdoor activities and the abundance of infected ticks. All tickborne diseases are prevented the same way. There are options for personal protection through the use of appropriate clothing and repellents, as well as options for environmental management and control. The use of environmental management and control is successful in preventing tick encounters, thereby reducing the risk of tick bites. There are several resources available to educate people about how to reduce their risk of tick encounters and tick bites.

## Prevention continued

State of New Hampshire Tickborne Disease Prevention Plan:

<https://www.dhhs.nh.gov/dphs/cdcs/lyme/documents/tbdpreventionplan.pdf>

University of New Hampshire Cooperative Extension's Biology and Management of Ticks in New Hampshire:

[https://extension.unh.edu/resources/files/Resource000528\\_Rep1451.pdf](https://extension.unh.edu/resources/files/Resource000528_Rep1451.pdf)

CDC Tick Bite Prevention: <https://www.cdc.gov/ticks/avoid/index.html>

## Prevention Messages for Parents and students:

- ➤ Avoid tick-infested areas when possible and stay on the path when hiking to avoid brush.
- ➤ Wear light-colored clothing that covers arms and legs so ticks can be more easily seen.
- ➤ Tuck pants into socks before going into wooded or grassy areas.
- ➤ Apply insect repellent (20-30% DEET) to exposed skin. Other repellent options may be found here: <https://www.epa.gov/insect-repellents/find-insect-repellent-right-you#search-tool>
- ➤ Permethrin is highly effective at repelling ticks on clothing; it is not meant for use on skin.
- ➤ Outdoor workers in NH are at particular risk of tickborne diseases and they should be reminded about methods of prevention.
- ➤ Perform daily tick checks to look for ticks on the body, especially warm places like behind the knees, behind the ears, the groin, and the back of neck.
- ➤ Pets returning inside may also bring ticks with them. Performing tick checks and using tick preventatives on pets will minimize this occurrence.
- ➤ Encourage landscape or environmental management to reduce tick habitat and encounters.
- ➤ Shower soon after returning indoors to wash off any unattached ticks and check clothes for any ticks that might have been carried inside. Placing dry clothes in the dryer on high heat for ten minutes or one hour for wet or damp clothes effectively kills ticks.

- ➤ Remove ticks promptly using tweezers. Tick removal within 36 hours of attachment can prevent Lyme disease, but transmission of other tickborne diseases can occur with shorter periods of attachment time.

➤ Monitor for signs and symptoms of tickborne diseases for 30 days after a tick bite. People should contact their healthcare provider if symptoms develop

For more information about specific clinical syndromes associated with the different tickborne diseases, please review the following:

- **Lyme disease:** [https://www.cdc.gov/lyme/signs\\_symptoms/index.html](https://www.cdc.gov/lyme/signs_symptoms/index.html)

**Anaplasmosis:** <https://www.cdc.gov/anaplasmosis/symptoms/index.html>

- **Babesiosis:** <https://www.cdc.gov/parasites/babesiosis/disease.html>

- **Powassan:** <https://www.cdc.gov/powassan/symptoms.html>

***Borrelia miyamotoi:*** <https://www.cdc.gov/ticks/miyamotoi.html>

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Please do not hesitate to contact me with any further questions or concerns.

Karen M. Freedman RN BSN

South Meadow School Nurse  
108 Hancock Rd  
Peterborough, NH 03458  
603-924-7105 ext. 1246

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