



Hard Tick Relapsing Fever (*Borrelia miyamotoi*)

Definition:

Hard Tick Relapsing Fever (*B. miyamotoi*) disease is a tickborne relapsing fever illness caused by the bacteria, *B. miyamotoi*.

Signs and symptoms:

Common signs and symptoms of HTRF (*B. miyamotoi*) include fever, chills, and headaches. Other symptoms are sweats, myalgia, arthralgia, malaise/fatigue, rash, abdominal cramps, nausea, vomiting, diarrhea, dizziness, confusion/altered mental status, photophobia, leukopenia, thrombocytopenia, or elevated aminotransferase levels. There have been cases of meningoencephalitis in those who are immunocompromised.

Transmission:

HTRF (*B. miyamotoi*) disease is primarily transmitted to a person through the bite of an infected deer tick (*Ixodes scapularis*). This tick is endemic in the state of Maine and can be found throughout the state.

Diagnosis:

HTRF (*B. miyamotoi*) is diagnosed by clinical symptoms and laboratory tests. A blood test is necessary for confirmation. Co-infections with other tickborne diseases may occur and should be considered.

Role of the School Nurse:

Prevention

- Provide education to students and staff regarding prevention efforts including wearing protective clothing, using insect repellent, using caution in tick infested areas, and performing daily tick checks.
- School nurse should encourage the use of insect repellents when outside (following local policy guidelines), and always performing a tick check when returning indoors.
 - School nurses can apply insect repellent with parental permission (see <http://www.maine.gov/agriculture/pesticides/schoolipm/what/whats-new.htm>)
- If a tick is found, the school nurse should remove the tick using tweezers or a tick spoon. Identification of the tick may be useful.
- Tick cards and posters are available for identification at: <https://www.maine.gov/dhhs/mecdc/infectious-disease/order-form-wn.shtml>
- Whole ticks in safe containers may be given to the parents.
- Testing of the tick is not recommended.

Treatment Recommendations

- If symptoms are noted, the child should be referred to their primary care provider for treatment.



Exclusions

- There is no need to exclude students from school for *B. miyamotoi* disease.
- Educational modifications may be warranted in children with a positive diagnosis.

Reporting Requirements

- HTRF (*B. miyamotoi*) disease is a reportable condition.

Resources:

- Tickborne Disease in Maine: A Physician's Reference Guide
<https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vector-borne/documents/tick-reference-guide.pdf>
- Insect Repellent Finder (including time of protection)
<https://www.epa.gov/insect-repellents/find-insect-repellent-right-you>
- Tick Submission information (for identification)
<https://extension.umaine.edu/ticks/>
- Federal CDC *B. miyamotoi* disease website <https://www.cdc.gov/ticks/miyamotoi.html>