**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>