

Lyme Disease

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Definition:

Lyme disease is caused by the bacteria *Borrelia burgdorferi*. Lyme disease is transmitted by the bite of an infected deer tick.

Signs and symptoms:

Symptoms of Lyme disease include the formation of a characteristic expanding rash (erythema migrans) at the site of a tick bite 3-30 days after exposure. This rash occurs in 80% of patients. Fever, headache, joint and muscle pains, and fatigue are also common during the first several weeks. Later features of Lyme disease can include arthritis in one or more joints (often the knee), Bell's palsy and other cranial nerve palsies, meningitis, and carditis (AV block). Lyme disease is rarely, if ever, fatal.

Transmission:

Lyme disease is transmitted to a person through the bite of an infected deer tick (*Ixodes scapularis*). This tick is endemic in the state of Maine, (map showing counties with confirmed and probable cases) and can be found throughout the state. In order to transmit Lyme disease the tick must be attached for 24-48 hours. Lyme disease cannot be transmitted from person to person.

Diagnosis:

Lyme disease is diagnosed by clinical symptoms and laboratory tests. Two tier testing is recommended for the best interpretation. Co-infections with other tick borne diseases may occur and should be considered.

Role of the School Nurse:

Prevention

- Provide education to students and staff for the best prevention efforts include: Wear protective clothing, use insect repellent, use caution in tick infested areas, and perform daily tick checks.
- 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 are available (web site) for identification.
 - Whole ticks in safe containers may be given to the parents.
 - Testing of the tick is not recommended.

Treatment Recommendations

- If a bulls-eye rash is noted, the child should be referred to their primary care physician for treatment
- Treatment is available and is most effective when it is started early. Several treatment options are available, and are usually prescribed for 14-21 days

Exclusions

- There is no need to exclude students from school for Lyme Disease.
- Educational modifications may be warranted in children with a positive diagnosis.

Reporting Requirements

- Lyme disease is a reportable disease.

Resources:

- Maine CDC Lyme disease website (including fact sheet)
<http://www.maine.gov/dhhs/boh/ddc/epi/vector-borne/lyme/index.shtml>
- Lyme Disease Resources for Educators <http://www.maine.gov/dhhs/boh/ddc/epi/vector-borne/lyme/lyme-resource-educators.shtml>
- “No Ticks for ME” Lyme disease prevention poster <http://www.maine.gov/dhhs/boh/ddc/epi/vector-borne/posters/index.shtml>
- Tick-borne Disease in Maine: A Physician’s Reference Guide
<http://www.maine.gov/dhhs/boh/ddc/epi/vector-borne/index.shtml>
- Insect Repellent Finder (including time of protection)
<http://cfpub.epa.gov/oppref/insect/index.cfm#searchform>
- Tick Submission information (for identification)
<http://www.mmcri.org/home/webSubContent.php?list=webcontentlive&id=109&catID=4&subCatID=19>
- IDSA Lyme Disease Treatment Guidelines <http://cid.oxfordjournals.org/content/43/9/1089.full>
- Federal CDC Lyme disease website <http://www.cdc.gov/ncidod/dvbid/lyme/>