# Triage protocol: Tick bites and Lyme disease

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| **Emergency** | Is patient suffering a severe allergic reaction?  
Abnormally rapid pulse  
Skin cold and clammy to the touch  
Skin that is ashen, cyanotic or mottled  
Changes to levels of consciousness  
Labored respirations | Refer patient to the Emergency Department |
| **Urgent**    | Abdominal pain with vomiting, headache, shaking, or chills  
Signs of infection or purulent drainage  
Muscle weakness or profound fatigue  
Generalized rash  
Neurological changes  
Fever ≥ 102°F  
History of allergic reaction to tick bite  
Intense itching, swelling, redness, rash or hives | Same day appointment |
| **Semi-Urgent** | Symptoms of arthralgia, particularly a swollen knee  
Unexplained rash, particularly erythema chronicum migrans  
While tick exposure raises the index of suspicion, many patients with possible Lyme disease will have no history of a tick bite. Ask about outdoor exposure | Appointment within 48-72 hours |
| **Prophylaxis** | The tick has been identified as a deer tick and has been attached for 36 hours or greater | Prophylaxis: Doxycycline, if not allergic or pediatric |

**Important questions:**

When did the tick bite the patient? Specific times are useful, as it takes 36-48 hours for any disease transmission to occur
Where is the location of the tick bite? While a rash from Lyme disease may occur anywhere, it is still medically important to identify the site of a possible tick bite.

Does the patient have allergies to antibiotics like doxycycline?

Are there other contraindications to doxycycline, such as age?

Can the patient identify the species of tick?

If patient calls with possible tick bite, attempt to identify the species of tick. Patient can be referred to the Vermont Department of Health website: [http://healthvermont.gov/prevent/zoonotic/tickborne/ticks.aspx](http://healthvermont.gov/prevent/zoonotic/tickborne/ticks.aspx)

**Frequently asked questions:**

**What can be used to prevent tick bites?**

- Insect repellent containing at least 20% DEET
- Wear long pants with socks and shoes, long-sleeved shirts and gloves
- Avoid tall grass, wooded areas
- Check all skin following being outdoors
- Shower with washcloth following outdoor exposure

**I have been bitten by a tick, what do I do?**

- Remove the tick with tweezers, being careful to not crush or squeeze the body. Apply gentle traction to the head or mouth of the tick, pulling gradually
- Once removed, attempt to identify the tick species, then dispose it
- Wash the skin near the bite with soap and water
What testing is there for Lyme?

**Two-Tiered Testing for Lyme Disease**

**First Test**
- Enzyme Immunoassay (EIA)
- OR
  - Immunofluorescence Assay (IFA)
- Positive or Equivocal Result
  - Consider alternative diagnosis
  - OR
    - If patient with signs/symptoms consistent with Lyme disease for ≤ 30 days, consider obtaining a convalescent serum

**Second Test**
- Signs or symptoms ≤ 30 days
  - IgM and IgG Western Blot
- Signs or symptoms > 30 days
  - IgG Western Blot ONLY

*National Center for Emerging and Zoonotic Infectious Diseases
Division of Vector Borne Diseases | Bacterial Diseases Branch*