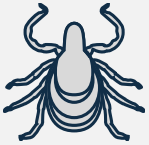




Antibiotics can effectively treat bacterial tickborne diseases, such as Lyme disease, anaplasmosis, ehrlichiosis, hard tick relapsing fever, and Rocky Mountain spotted fever. However, overuse can lead to antibiotic resistance and unwanted side effects. The following graphic describes current guidance on antibiotic use under a few common clinical scenarios.

Tick Bite



Q: Was the patient bitten by a deer tick (also known as a blacklegged tick), or could it possibly have been a deer tick? Was it attached for at least 36 hours or partially to fully filled with blood? Was the tick removed in the last 72 hours?

A: If **any answer is no**, then antibiotics are not recommended. If **yes to all**, give one dose of doxycycline (200 mg for adults; 4.4 mg/kg for children of any age under 45 kg). One dose can reduce the risk of Lyme disease after a tick bite. Prophylaxis is not 100% effective, so patients should still be monitored for signs of illness.

Q: Does the patient have symptoms of a bacterial tickborne disease? Has the patient tested positive for a bacterial tickborne disease?

A: If **yes to both**, then prescribe antibiotics. Otherwise, antibiotics are not indicated even if a removed tick tests positive for bacteria or other pathogens associated with a tickborne disease. The presence of a pathogen in a tick does not indicate or predict disease in the exposed patient.

(+) Tick Test Result



EM Rash



Q: Does the patient have an erythema migrans (EM) rash?

A: If **yes**, Lyme disease can be diagnosed immediately, and testing is not required. The patient should receive a full course of antibiotics (usually 10-14 days, depending on the antibiotic). Note: EM rashes can be found anywhere on the body and can have different clinical presentations in addition to the "bull's eye" shape.

Q: Should patients be prescribed more antibiotics if Lyme disease symptoms persist after treatment?

A: Antibiotics are ineffective for ongoing Lyme symptoms. For **arthritis only**, if symptoms persist after 28 days of antibiotics, an additional 28-day course may be prescribed.

Prolonged Symptoms



(+) IgG Test Result



Q. If the patient had Lyme disease and continues to have a positive IgG test result, even months to years after treatment, should the patient be treated again?

A. No, the patient should not be treated for Lyme disease again due to IgG test results alone. A positive test indicates previous exposure to pathogens, not current infection, and positivity can persist for months to years. Patients should not be routinely screened for Lyme disease or other tickborne diseases in the absence of new symptoms.