

# Looking for a bull's-eye rash? Look again – erythema migrans can take many forms.



Most people do not see the tick that causes their Lyme disease. However, approximately 75% of patients with early Lyme disease will have the telltale skin lesion in the first 1-4 weeks of infection. The Lyme disease skin lesion is large, greater than 5 cm (2 inches), in size. It can be distinguished from an uninfected tick or bug bite because it lasts days or weeks and enlarges in size over time. When the skin lesion is present, it is a more accurate way to diagnose Lyme disease than by using the currently available blood tests.

Most clinicians recognize the classic target lesion or bull's-eye rash. However, most are not aware that the majority of Lyme disease skin lesions are uniformly red or reddish-blue. In late spring and early summer when early Lyme disease is most prevalent, any of the skin lesions shown here could be indicative of Lyme disease. Fever, chills, and muscular pain in the neck and extremities are common early Lyme disease symptoms. The presence of these symptoms with a rash should raise the suspicion of a Lyme disease diagnosis.



## Central Clearing/ Target Lesions

The classic bull's-eye target lesion of Lyme disease occurs in the minority of patients. The majority of Lyme disease skin lesions lack the hallmark rings and central clearing. **Only about 20% of Lyme disease lesions have a bull's-eye appearance.**



## Uniformly Red Lesions

Most Lyme disease skin lesions are uniformly red without the rings or target appearance. They are distinguished from other skin rashes by their round or oval shape and sharply demarcated borders. Skin lesions often hide in difficult to see places such as behind the knee or in the groin or armpit.



## Blistering Lesions - It's not a spider bite.

1% of Lyme disease skin lesions have a central blistering or pustular appearance that is commonly mistaken for a spider bite. Why does this occur? It is likely a more severe inflammatory reaction to *Borrelia burgdorferi* that results in skin blistering.



## Blue-Red Lesions

Some Lyme disease skin lesions have a blue-purple color and can be mistaken for a bruise. What distinguishes this from a bruise? The perfectly uniform circle and sharply demarcated border. They may be minimally pruritic or sensitive to touch but are not pruritic like poison ivy or extremely painful like shingles or cellulitis.



## Disseminated Lesions

These are not multiple tick bites. The original skin infection of Lyme disease can spread through the bloodstream to other areas of the body, including the joints, nervous system and other areas of the skin. This results in multiple skin lesions that often have variable shapes and appear throughout different areas of the skin.

## How to differentiate Lyme disease from other causes of fever and rash.

While viral illnesses and other bacterial infections can cause symptoms of fever, fatigue, and pain that mimic Lyme disease, they do not have large distinct round or oval rashes like Lyme disease. In addition, most viral illnesses have typical cold symptoms of runny nose or prominent cough which are not common in Lyme disease.