

stage, early localized disease, consists of the tick bite at the time of inoculation, followed in 3 to 30 days by the development of erythema migrans at the site of the bite. The lesion begins as a small erythematous papule that enlarges radially up to 30 cm (12 inches) over a period of days to weeks. It results in a large circumferential ring with a raised, edematous doughnut-like border resulting in a bull's-eye appearance ([Fig. 6-16](#)). The thigh, groin, and axilla are common sites. The lesion is described as “burning,” feels warm to the touch, and occasionally is pruritic. The single annular rash may be associated with fever, myalgia, headache, or malaise.



FIG 6-16 Lyme disease. Note annular red rings in erythema chronicum migrans. (From Weston WL, Lane AT: *Color textbook of pediatric dermatology*, St Louis, 1991, Mosby.)

The second stage, early disseminated disease, occurs 3 to 10 weeks after inoculation. Many patients develop multiple smaller, secondary annular lesions without the indurated center. They may occur anywhere except on the palms and soles, and in untreated patients they disappear in 3 to 4 weeks. Constitutional symptoms, including fever, headache, malaise, fatigue, anorexia, stiff neck, generalized lymphadenopathy, splenomegaly, conjunctivitis, sore throat, abdominal pain, and cough, are often observed. A focal neurologic finding of cranial nerve palsy (seventh nerve palsy) occurs in 3% to 5% of cases. Lymphocytic meningitis may also develop in this stage, but the symptoms are said to be less acute than viral meningitis ([American Academy of Pediatrics, 2015](#)). Additional manifestations include ophthalmic conditions, such as optic neuritis, uveitis, conjunctivitis, and keratitis.