

tick head) appear to be unfounded; there is no need for medical examination of the tick itself. After the tick is removed, wash the bite area with an iodine scrub, rubbing alcohol, or plain soap and water ([Centers for Disease Control and Prevention, 2011a, 2011b](#)).

Insect repellents containing diethyltoluamide (DEET) and permethrin can protect against ticks, but parents should use these chemicals cautiously. Although there have been reports of serious neurologic complications in children resulting from frequent and excessive application of DEET repellents, the risk is low when they are used properly. Products with DEET should be applied sparingly according to label instructions and not applied to a child's face, hands, or any areas of irritated skin. Clove oil has been reported as being safe and effective as an insect repellent without the effects of chemicals ([Shapiro, 2012](#)). Permethrin-treated clothing has also been shown to be effective in repelling ticks ([Miller, Rainone, Dyer, et al, 2011](#)). After the child returns indoors, treated skin should be washed with soap and water. Information about Lyme disease can be obtained from the American Lyme Disease Foundation, Inc.* or from the Centers for Disease Control and Prevention; www.cdc.gov/lyme/.

Cat Scratch Disease

Cat scratch disease is the most common cause of regional lymphadenitis in children and adolescents. It usually follows the scratch or bite of an animal (a cat or kitten in 90% of cases) and is caused by *Bartonella henselae*, a gram-negative bacterium. The disease is usually a benign, self-limiting illness that resolves spontaneously in 4 to 6 weeks ([American Academy of Pediatrics, 2015](#)).

The usual manifestations are a painless, nonpruritic erythematous papule at the site of inoculation, followed by regional lymphadenitis. The lymph nodes most commonly involved are axillary epitrochlear, cervical, submandibular, inguinal, and preauricular. The disease may persist for several months before gradual resolution. In some children, especially those who are immunocompromised, the adenitis may progress to suppuration. Some children may develop serious complications that include encephalitis, hepatitis, and Parinaud oculoglandular syndrome.