The latest ILADS Lyme Disease Treatment Guidelines were published in 2014 in an open access journal. The guidelines cover three common issues faced by clinicians: management of a known tick bite, antibiotic treatment of patients with erythema migrans rash, and management of patients who remain ill following antibiotic therapy for Lyme disease.


Cameron DJ, Johnson LB, Maloney EL.

2014 Sep;12(9):1103-35.

Below is an abstract of the guidelines with a link to the full journal publication.

**ABSTRACT**

[View Complete Publication](#)
Evidence-based guidelines for the management of patients with Lyme disease were developed by the International Lyme and Associated Diseases Society (ILADS). The guidelines address three clinical questions – the usefulness of antibiotic prophylaxis for known tick bites, the effectiveness of erythema migrans treatment and the role of antibiotic retreatment in patients with persistent manifestations of Lyme disease. Healthcare providers who evaluate and manage patients with Lyme disease are the intended users of the new ILADS guidelines, which replace those issued in 2004 (Exp Rev Anti-infect Ther 2004;2:S1–13). These clinical practice guidelines are intended to assist clinicians by presenting evidence-based treatment recommendations, which follow the Grading of Recommendations Assessment, Development and Evaluation system. ILADS guidelines are not intended to be the sole source of guidance in managing Lyme disease and they should not be viewed as a substitute for clinical judgment nor used to establish treatment protocols.

Evidence-based medicine is the integration of best research evidence with clinical expertise and patient values [1]. The International Lyme and Associated Diseases Society (ILADS) has adopted the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system as its basis for evidence assessment and the development of recommendations to ensure a transparent and trustworthy guideline process [2–5].

These guidelines address three fundamental treatment questions: the usefulness of antibiotic prophylaxis for known tick bites, the effectiveness of erythema migrans (EM) treatment and the role of antibiotic retreatment in patients with persistent manifestations of Lyme disease. ILADS anticipates performing GRADE assessments on additional topics related to the diagnosis and treatment of tick-borne diseases in the future.

The GRADE scheme classifies the quality of the evidence as high, moderate, low or very low. The quality of evidence from
randomized controlled trials (RCTs) is initially rated as high, but may be downgraded based on five limitations: study bias, publication bias, indirectness (generalizability), imprecision and inconsistency. Evidence quality from observational studies is generally low, but may be upgraded based on a large effect or dose–response gradient [6]. Rather than labeling recommendations as strong or weak, these guidelines use the terms ‘recommendation’ or ‘strong recommendation’ for or against a medical intervention. The GRADE scheme itself is a continually evolving system. These guidelines attempt to incorporate the current state of GRADE.

Although Lyme disease is not rare, the treatment of Lyme disease has not attracted pharmaceutical interest and the evidence base for treating Lyme disease is best described as sparse, conflicting and emerging. For example, Hayes and Mead of the CDC performed a systematic review of the evidence regarding the treatment of late neurologic Lyme disease and their GRADE-based evaluation rated the quality of the evidence as very low [7]. The ILADS guidelines working group reached a similar conclusion after assessing the research evidence pertaining to its three clinical questions, rating the evidence quality as very low. The low quality of evidence seen in Lyme disease is consistent with the evidence base for the field as a whole. Indeed, the majority of recommendations in infectious disease medicine generally are based on low-quality evidence [8].

When high-quality evidence is not available, guideline panels are faced with making recommendations based on low- or very low-quality evidence. Although evidence alone is never sufficient to determine guideline recommendations [2], when evidence is weak, the values of those on the panel, including differing specialty perspectives, may carry more weight [8]. One of the goals of the GRADE scheme is to make the value judgments underlying recommendations transparent.

When the evidence base is of low or very low quality,
guideline panels should be circumspect about making strong recommendations to avoid encouraging uniform practices that are not in the patient’s best interest and to ensure that research regarding benefits and risks is not suppressed [8]. Guidelines panels should also make the role of their values and those of patients in recommendations explicit and should promote informing and empowering patients to engage in shared decision-making [8].

This panel has placed a high value on the ability of the clinician to exercise clinical judgment. In the view of the panel, guidelines should not constrain the treating clinician from exercising clinical judgment in the absence of strong and compelling evidence to the contrary [9].

In addition, this panel believes the goals of medical care in Lyme disease are to prevent the illness whenever possible and to cure the illness when it occurs. When this is not possible, the panel believes the emphasis for treatment should be on reducing patient morbidity. Therefore, the panel placed a high value on reducing patient risks for developing the chronic form of the disease and on reducing the serious morbidity associated with these disease forms. Thus, the panel’s values align with the Institute of Medicine (IOM) goal of reducing the impact of chronic illness at the individual and national levels by, among other things, treating the treatable [10]. To this end, the panel valued primary prevention (by effectively treating a tick bite), secondary prevention (by treating an EM rash sufficiently so as to restore health and prevent disease progression) and tertiary prevention (by treating patients whose illness may be responsive to additional therapy, thereby reducing the morbidity associated with the chronic forms of the disease).

ILADS is mindful of the role of patient preferences and values in GRADE as well as the IOM’s call for patient-centered care that is responsive to the needs, values and expressed preferences of individual patients [11]. Patient-centered care
focuses on achieving treatment outcomes that patients value [11], including the restoration of health, prevention of health deterioration and the provision of treatments that have the potential to improve quality of life (QoL). To facilitate the development of treatment plans addressing the unique circumstances and values of individual patients, patient-centered care encourages shared medical decision-making.

Shared decision-making takes into account the best scientific evidence available, clinical expertise and the role of patient’s values and preferences in deciding among available treatment options [12,13]. Despite the terminology, decision-making is not truly shared between clinician and patient; the responsibility for choosing between options remains with the clinician.

To effectively engage in shared decision-making, patients need to understand the implications of their choices. Physicians should not assume that patients share their values in making risk/benefit determinations. Studies have demonstrated that patients and physicians may have very different assessments of preferences and risk tolerance [8]. In addition, there is considerable variation among individual patients in their tolerance for risk and in what they regard as a valuable benefit. Patients may also tolerate more risk when they have severe presentations of disease or when there are no other treatment options available [14].

In the GRADE system, recommendations take into account not only the quality of the evidence, but also the balance between benefits and harms and patient values and preferences [5]. In instances where a GRADE evaluation concludes that the evidence quality is low or very low or that there are trade-offs between risks and benefits that depend on the values of the individual, the GRADE system recommends that recommendations should identify a range of therapeutic options and acknowledge that different choices may be appropriate for different patients.
In assessing the balance between the risks and benefits of antibiotic treatments for Lyme disease, the panel weighed the burden of disease, the magnitude and relative importance of patient-centered outcomes as well as treatment-associated risks and the risks attendant on not treating. The panel acknowledged that the health-related and economic consequences of chronic disease are enormous for individuals, families, communities, healthcare systems and the nation, impacting the wellbeing of individuals, family functioning and economic productivity [15–18]. Therefore, the panel recommends that patients be informed of the risks and benefits of treating and not treating, including the risks of continuing to suffer significant morbidity or permitting a serious systemic infection to progress.

The panel assessed risks and benefits of treatment on a generalized basis. In addition, the panel recognizes that there is a need for clinicians, in the context of shared medical decision-making, to engage in a risk–benefit assessment that reflects the individual values of the particular patient.

Guidelines for the diagnosis and treatment of Lyme disease are conflicting (Supplementary Appendix I [Supplementary material can be found online at www.informahealthcare.com/suppl/10.1586/14787210.2014.940900]) The IOM recently highlighted the conflicting Lyme guidelines of ILADS and the Infectious Diseases Society of America (IDSA) and noted that the National Guidelines Clearinghouse has identified at least 25 different conditions in which conflicting guidelines exist [19]. According to the IOM, conflicting guidelines most often arise when evidence is weak, organizations use different assessment schemes or when guideline developers place different values on the benefits and harms of interventions [20].

The adoption of GRADE by ILADS is, in part, an effort to use the same assessment scheme as the IDSA, although it should be
noted that the IDSA’s Lyme disease guidelines listed on the National Guidelines Clearinghouse were originally published in 2006 and do not reflect the organization’s adoption of GRADE for guideline revisions after 2008. Additionally, the use of GRADE is one element of ILADS’ compliance with the eight standards identified by the IOM as being integral to creating trustworthy treatment guidelines (Supplementary Appendix II).

The guidelines were developed in phases. A working group identified three questions to address, conducted a literature search and subsequent assessment of the evidence quality and evaluated the role of patient preferences and values for each question. A preliminary draft of the guidelines was sent to the full guidelines panel and, subsequently, outside reviewers for review and comment, with the document being further refined. The panel and working group members were required to disclose potential financial conflicts of interest. The full panel, which consisted of the board of directors of ILADS, determined that fee for service payments are inherent in the provision of healthcare and did not disqualify experienced clinicians from serving on the guideline panel nor did serving on the boards of non-profit organizations related to Lyme disease. Financial relationships exceeding US$10,000 per year that were not intrinsic to medical practice were viewed as potential conflicts; no panel or working group members held such financial conflicts of interest.

Back To Health Policy Resource Center
View Complete Publication