



Two Standards of Care in Lyme Disease

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Medically recognized standards of care are treatments that have been accepted by medical experts as appropriate treatments for a disease or condition and are commonly used by healthcare professionals. The medical recognition of standards of care is typically represented by publication in a peer-reviewed journal or some form of recognition by a professional medical society. (1) Multiple standards of care exist for over 25 medical conditions that have posted guidelines on the National Guidelines Clearinghouse. (2)

In Lyme disease, opinion within the medical community is deeply divided regarding the best approach for treating Lyme disease, particularly when patients remain ill after treatment with short-term protocols. (1, 2) This split has resulted in two standards of care: one advanced by the Infectious Diseases Society of America (IDSA) and the other advanced by the International Lyme and Associated Diseases Society (ILADS). Both viewpoints are reflected in peer-reviewed, evidence-based guidelines and constitute medically recognized standards of care.

Guidelines reflect both the evidence base and value judgments of the guidelines panel. Factors associated with divergent guidelines include a weak evidence base, clinical experience, patient preferences, treatment availability, and clinician values. (3) The main difference between the guidelines of the IDSA and those of ILADS is that in the face of scientific uncertainty, the ILADS guidelines defer to clinical judgment and patient preferences while those of the IDSA make very strong recommendations against treatment and severely restrict the use of clinical judgment.

A recent study funded by the Centers for Diseases Control and Prevention (CDC) surveyed a representative sample of people in the US population and found that only 39% of those with Lyme disease were treated in accordance with blanket short term recommendations in the IDSA guidelines. The majority were treated for longer periods. (4)

In 2013, the CDC dramatically revised its estimate of the annual incidence of Lyme disease from roughly 30,000 cases per year to over 300,000 cases, a ten-fold increase. (5) To put this in perspective, the annual incidence of Lyme disease is now 1.5 times more than the estimated number of cases of breast cancer and six times higher than the annual incidence of HIV/AIDS. However, federal funding of Lyme disease has been meager. For example, while Lyme disease occurs six times more often annually than HIV/AIDS, it receives less than 1% of the funding allotted to HIV/AIDS by the National Institutes of Health. (6)

Inaccurate diagnostic tests—based on technology that is over 20 years old— create medical uncertainty in both the diagnosis and treatment of Lyme disease. The primary tests used in Lyme disease are antibody tests that detect past exposure to infection rather than active infection. Unlike tests for HIV/AIDS, which have a sensitivity and specificity of over 99%, Lyme disease tests are highly insensitive and miss more than half of cases. (7)

Further uncertainty results from the high rate of treatment failure for all stages of Lyme disease. According to the CDC, as many as 20% of patients remain ill after the short term treatment protocol recommended by the IDSA. (8) Other studies suggest the treatment failure rate for early Lyme disease may be as high as 36%. (9) In late Lyme disease, treatment failure rates may exceed 50%. (10) When patients remain ill after treatment, antibody tests cannot tell us whether the bacteria persist or whether treatment is effective.

However, persistence has been demonstrated in both animal and human studies after treatment with antibiotics when more invasive testing such as tissue and organ biopsies are performed. (18,19-21)

Only three NIH-funded trials have been conducted on the treatment of chronic Lyme disease. (11-14) Sample sizes were extremely small, ranging from 37 to 78 patients. Critics have pointed out that studies this small lack sufficient statistical power to measure clinically relevant improvement.^{2,3} Nevertheless, two of the three studies demonstrated that retreatment improved some patients' measures, such as fatigue and pain. In addition, a number of observational trials have demonstrated that most patients improve with continued treatment. (7, 15-18)

Chronic Lyme disease may be long lasting, may significantly impair patient quality of life, and may be costly to patients, employers, healthcare systems, and society. In a survey of more than 5000 patients with chronic Lyme, half report that they have been ill for more than 10 years. These patients suffer a worse quality of life than those with most other chronic illnesses, including congestive heart failure, diabetes, multiple sclerosis and arthritis. (19)

Over 43% report that they had to stop working and 25% report that they have been on disability at some point in their illness.(19) They are five times more likely to visit healthcare providers and twice as likely to be seen in emergency rooms compared to the general population. (19) The cost of this increased healthcare utilization continues until patients are restored to health.

To increase the quality and trustworthiness of guidelines, the Institute of Medicine recommends that guideline developers use a rigorous evidence assessment scheme called GRADE, include patient representatives in the guideline development process, and update the guidelines regularly. (2)

Although the IDSA has recently adopted the GRADE assessment protocol, its Lyme guidelines were developed in 2006, before the protocol applied. The IDSA has not updated its Lyme guidelines since that time. The IDSA has denied patient requests to participate in its guideline process for the past 10 years. In contrast, the ILADS guidelines were revised in 2014, reflect current science, included patients in the development process, and used the GRADE evidence assessment tool.

In the face of scientific uncertainty, clinical decisions should be based on the best currently available evidence. Today's patients cannot wait for tomorrow's research. The IDSA guidelines deny treatment options to seriously ill patients. This results in unnecessary suffering for patients and is inhumane and unjust.

We agree with the AMA, ACP and other professional medical organizations that informed shared medical decision making enhances the exercise of the patient's right of self-determination—a cornerstone of medical ethics.(3, 20) Shared decision making is a collaborative process by which patients and their providers make healthcare decisions together, taking into account the best scientific evidence available, clinical judgment, and the patient's values, preferences, and circumstances.(21)

In light of the fact that two standards of care exist for Lyme disease, we believe that:

- Physicians, insurers, patients and governmental agencies should be educated that two treatment approaches exist;
- Physicians should a) provide patients with information regarding the risks and benefits of all available treatment options, and b) engage in shared decision making, taking into account patient preferences and values and the importance of autonomy in matters involving health related quality of life and functional capacity;
- Insurance reimbursement should be provided for treatment rendered in accordance with either standard of care; and
- Government agencies should provide unbiased information regarding both standards of care and treatment approaches.

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