FACT SHEET FOR PHYSICIANS

LYME IS ENDEMIC IN TEXAS

Texas Department of State Health Services

1) The presence of Lyme disease was established in Texas in 1984.
   www.dshs.state.tx.us/idcu/disease/lyme/information/pamphlet

2) All 11 of the Texas Public Health districts have reported cases of Lyme/TBD
3) Lyme cases were recorded in Texas as early as 1983

4) “In 1984, Lyme Disease was identified in Texas. There are typically 50-275 human cases of Lyme disease reported in Texas annually. Texas is endemic for the blacklegged tick, Ixodes scapularis. The diagnosis of Lyme disease may be made solely on clinical symptoms, with or without serologic testing.” (last update 3/22/13)
   www.dshs.state.tx.us/idcu/disease/lyme/description/
   Texas Department of State Health Services Web Site

5) “The Texas Department of Health Laboratory began culturing the Lyme disease spirochete Borrelia burgdorferi in 1985. This organism was subsequently isolated from blood, cerebrospinal fluid, joint fluid, skin, bone, and autopsy tissues from humans. Fluorescent-antibody tests with murine monoclonal antibodies confirmed that seven of these isolates were B. burgdorferi and that two others belonged to the genus Borrelia.”

6) “While not being reported in epidemic proportions, Lyme borreliosis is endemic in Texas and physicians need to be familiar with it.”

7) “Between 1990 and 1992, ticks from eight Texas parks were collected and analyzed to determine the prevalence of spirochete infected-ticks. Borrelia spirochetes were detected in 1.03% of 5,141 Amblyomma americanum (L.) adults examined, a species Texas residents often encounter. No spirochetes were observed in the other tick species tested.”

8) “…also addressed are issues of seronegativity, particularly as they apply to regions of the country where strain variation of borrelia is expected and its influence on standardized testing is unknown.”

9) “Even though rates of human cases of Lyme Disease as well as rates of Ixodes ticks infected with Borrelia bacteria are both relatively low in Texas, the best data currently available
indicate that the assumption of high levels of spatial concordance would not be correct in Texas (Kappa coefficient...”


Texas A&M University Research:
10) "Of the 1235 tick samples collected, 109 were identified as I. scapularis. Infection with B. burgdorferi was detected in 45% of the I. scapularis ticks collected. The model presented here indicates a wide distribution for I. scapularis, with higher probability of occurrence along the Gulf of Mexico coast. Results of the modeling approach applied predict that habitat suitable for the distribution of I. scapularis in the Texas-Mexico transboundary region will remain relatively stable until 2050.”


11) A Texas strain is discussed...“The A in the Texas isolate makes them more similar to strains N40 and 297 than to B31.”

2015 Esteve-Gassent et al “Prevalence of Borrelia burgdorferi-infected ticks from wildlife hosts,” a response to Norris et al Parasites & Vectors 8:129

Centers for Disease Control:
12) “During 1992–2006, a total of 248,074 cases of Lyme disease were reported to the CDC by health departments in 50 states, D.C. and US territories...”


13) “Lyme Disease is the most commonly reported vector-borne illness in the United States.”


EM RASH IS NOT ALWAYS PRESENT

1) “Along with the ‘flu-like’ symptoms, many victims (about 35%) develop an unusual skin lesion.”

www.dshs.state.tx.us/idcu/disease/lyme/information/pamphlet

2) “In approximately 70–80% of cases, patients develop a characteristic rash, erythema migrans (EM), within 30 days of infection with B. burgdorferi.”


EM RASH APPEARANCE VARIES

1) “Classic bulls-eye is NOT the most common presentation of EM as is believed.”


2) “Erythema migrans skin lesions can vary in appearance (figure 3). Some lesions are homogeneously erythematous, whereas others have prominent central clearing or a distinctive target-like appearance. [65,91,110] On the lower extremities, the lesion may be partially purpuric. Vesicles or pustules are present at the center of a primary erythema migrans lesion in approximately 5% of cases [115].”

3) “EM is a red expanding rash, with or without central clearing, which is often accompanied by symptoms of fatigue, fever, headache, mild stiff neck, arthralgia, or myalgia.”

EM RASH IS DIAGNOSTIC FOR BORRELIA INFECTION

“Erythema migrans is the only manifestation of Lyme disease in the United States that is sufficiently distinctive to allow clinical diagnosis in the absence of laboratory confirmation.”

LYME DISEASE DIAGNOSIS

1) “Lyme Disease is diagnosed on the basis of physician-observed clinical manifestations and a history of probable exposure to infected ticks. Laboratory results are neither suggested nor required to confirm diagnosis for patients with recent onset (2–3 weeks) of a characteristic EM rash.”

2) “Lyme disease is diagnosed by medical history, physical exam, and sometimes a blood test. It may take four to six weeks for the human immune system to make antibodies against Borrelia burgdorferi and therefore show up in a positive blood test. That is why patients with the Lyme rash usually have a negative blood test and diagnosis is based on the characteristic appearance of the rash.”
www.idsociety.org/Lyme_Facts/ , Infectious Diseases Society of America website

PROBLEMS WITH SEROLOGICAL TESTING

1) “Serologic testing is too insensitive in the acute phase (the first 2 weeks of infection) to be helpful diagnostically. [102,103, 116] Patients should be treated on the basis of clinical findings.”

2) “ELISA’s and immunoblots for detecting anti-Borrelia antibodies have widely divergent sensitivity and specificity, and immunoblots for detecting anti-Borrelia antibodies have only limited agreement. Therefore, the choice of ELISA-immunoblot combination severely influences the number of positive results, making the exchange of test results between laboratories with different methodologies hazardous.”
Ang CW, Notermans DW, Hommes M, Simoons-Smit AM, Herremans T. “Large differences between test strategies for the detection of anti-Borrelia antibodies are revealed by comparing eight ELISAs and five immunoblots,”

3) Published studies detailing POOR Borrelia burgdorferi sensitivity to the Elisa test:

1995 Oksi J. J Clin Microbiol
1996 Le Due T. J Clin Microbiol
1997 Bakkan L. J Clin Microbiol
1999 Trevejo RT. J Infect Dis
1999 Wang G. Clin Microbiol Reviews
1999 Goossens HA. Eur J Clin Microbiol Infect Dis
2001 Van Dam AP. Expert Rev Mol Diagn
2003 Bacon R. J Infect Dis

4) Published studies showing CDC Two Tier Testing is NOT reliable for Borrelia burgdorferi
5) Published studies showing C6 Elisa Test has POOR Sensitivity for Borrelia burgdorferi

1999 Liang FT J Clin Microbiol
2003 Bacon RM J Infect Dis
2004 Gottner G Int J Med Microbiol
2007 Gomes-Solecki MJ Clin Vac Immunol

LYME/BORRELIA CO-INFECTIONS

   www.cdc.com/ticks/diseases
   Additionally, recent studies have included Colorado Tick Fever, Powassan encephalitis and Bartonellosis, Heartland Virus and B. myamotoi.

2) “The etiology of residual patient complaints after treatment may include an inflammatory response unrelated to active infection or may be due to alternative disease processes. The possibility that these symptoms may be related to a tick-transmitted coinfection was not evaluated in any of the studies.”

3) “Humans co-infected with LD and babesiosis appear to have more intense, prolonged symptoms than those with LD alone. Coinfected persons can also manifest diverse, influenza-like symptoms, and abnormal laboratory test results are frequently observed…Clinicians should consider the likelihood of coinfection when pursuing laboratory testing or selecting therapy for patients with tick-borne illness.”

4) “In Lyme disease concurrent infections frequently occur…their pathological synergism can exacerbate Lyme disease…clinically relevant co-infections are caused by Bartonella species, Yersinia enterocolitica, Chlamydiophila pneumonia, Chlamydia trachomatis and Mycoplasma pneumonia.” In the USA, “human granulocytic anaplasmosis (HGA) and babesiosis” are also important to consider. “The diagnosis is even more complex when co-infections occur in association with Lyme disease.”

LYME DISEASE CAN BE TRANSMITTED CONGENITALLY

In a May 2014 presentation to the Houston Lyme Disease Support Group, Steven Norris PhD (UT Medical School at Houston) discussed his 20+ year history of Lyme research, publications and patents. He stated during his presentation that he DOES now believe that the “Borrelia burgdorferi bacteria can be passed to the fetus.” In a May 24, 2014 email to the TXLDA Vice-President of Education he provided the
following references to be used whenever Texas patients are being told that the *Bb* infection is unable to be passed to their infant, along with the 1985 CDC MMWR report where Lyme disease and pregnancy is again discussed.

1) “Confirmed trans placental transmission of *B. burgdorferi* has been documented in several cases”  

2) “Trans placental transmission occurs as is evidenced by the presence of *B. burgdorferi* organisms isolated from postmortem and placental tissue.”  


7) “Prevention and early diagnosis are important during pregnancy. Rarely, Lyme disease acquired during pregnancy may lead to infection of the placenta and may possibly lead to stillbirth. Studies of women infected during pregnancy have found there are no negative effects on the fetus when the mother receives appropriate antibiotic treatment for her Lyme disease.”  
CDC Brochure #CS226008-A, “Lyme Disease: What You Need to Know”  
*What To Do If You Suspect Lyme Disease During Pregnancy*

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**2006 IDSA GUIDELINES**

1) “It is important to realize that guidelines cannot always account for individual variation among patients. They are not intended to supplant physician judgment with respect to particular patients or special clinical situations. The IDSA considers adherence to these guidelines to be voluntary, with the ultimate determination regarding their application to be made by the physician in the light of each patient’s individual circumstances.”  
*Clin Infect Dis* 2007; 44: 1138 (15 April)

2) “More than half of the recommendations in practice guidelines issued here are based on opinions from experts rather than higher-level evidence from clinical trials.”  

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**TEXAS LEGISLATION AFFECTS DOCTORS**

1) SENATE BILL 1360/HB 2975  
Sec.156.059 “Continuing Education in Tick-Borne Diseases.”  
Enacted in 2011 encourages Texas physicians to pursue continuing medical education in the diagnosis and treatment of tick-borne diseases, including Lyme disease.
2) Physicians are required by law to report a case of Lyme Disease, a reportable disease.

Texas Health and Safety Code
SUBTITLE D. PREVENTION, CONTROL, AND REPORTS OF DISEASES
Communicable Disease Prevention and Control Act 1989
Sec. 81.049. FAILURE TO REPORT; CRIMINAL PENALTY.
(a) A person commits an offense if the person knowingly fails to report a reportable disease or health condition under this subchapter.
(b) An offense under this section is a Class B misdemeanor.

INFECTIONS ARE THE MOST OFTEN MISDIAGNOSED

“The most common misdiagnosed diseases were (in order) infection, neoplasm, myocardial infarction, pulmonary emboli and cardiovascular disease.”

2014 ILADS GUIDELINES

- Available on the National Guidelines Clearinghouse website.
- The only guidelines available that are written in accordance with the Institute of Medicine (IOM) standards for the development of trustworthy guidelines.
- Only guidelines available that are based on the GRADE process.
- Only guidelines use a patient centered approach.
- Only guidelines which are current, replacing the old 2006 IDSA guidelines.


Texas Lyme Disease Association
Board of Director’s/VP Education
Debra McGregor RN, BSN
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