

TABLE

Pretest probability scenarios for suspected Lyme disease

CLINICAL SCENARIO	TEST?	RATIONALE
Erythema migrans	No	Pretest probability high; clinical diagnosis of Lyme disease (treat without testing)
Signs/symptoms of disseminated Lyme disease, live in endemic region	Yes	Pretest probability intermediate; high prevalence yields high PPV
Signs/symptoms of disseminated Lyme disease, live in non-endemic region	Yes	Pretest probability intermediate; cost-effective
Nonspecific myalgias	No	Pretest probability too low
Asymptomatic patient	No	Pretest probability too low
Empiric antibiotic response; treatment	No	Antibiotic treatment decreases humoral testing not cost effective
Test-of-cure	No	Test remains positive after treatment
Immunized	No	ELISA will be positive (Western blot could assess exposure)

Erythema Migrans

80% of patients will get it
 Only 1/3 have a central clearing
 Lesion needs to be at least 5cm
 Lyme test with a rash will be negative
 Most patient will have some symptoms soon after the rash appears
 Appears within one month of infection

Treatment of Early localized, arthritis*, or uncomplicated disseminated Lyme

Shapiro. NEJM 370:18 May 1, 2014

Drug	Dose	Duration	Comment
Doxycycline	200mg/day 4mg/kg/day	14-21 days (10 for EM is adequate)	Do not use in children <8 or pregnant women
Amoxicillin	1500mg/day 50mg/kg/day	14-21 days	Ineffective vs anaplasma and babesia which can be transmitted with Lyme in WI
Cefuroxime	1000mg 30mg/kg/day	14-21 days	Ineffective vs anaplasma and babesia which can be transmitted with Lyme in WI
*Arthritis	For acute Lyme arthritis 28 days of treatment is required, most experts recommend retreatment with a second 28 day course		

Prophylaxis

Infection rate for ticks imbedded less than 72h is low
 One 200mg dose of doxy is effective
 Amoxicillin isn't effective as a 1x dose
 Prophylaxis currently not recommended by experts but is commonly given and is safe
 Permetherin and DEET work vs ticks

“Chronic Lyme” or “Post-Treatment Lyme” are likely not real syndromes and symptoms are unrelated to infection. Doxycycline has the potential to harm these patients and has no evidence of benefit.

Lyme meningitis is very rare, most cases are from Europe. Serology and/or PCR will be positive

Joint involvement is common if not treated promptly but resolves completely in 90% of cases following appropriate treatment.

Testing for Lyme is done by ELISA with confirmatory western blot looking for IGM and IGG.

Serology remains positive for years after infection this does not indicate ongoing infection

Lyme is named for Lyme Connecticut not after a person so it's “Lyme” not “LymeS”

Questions, comments or disagreements may be directed to Adam Clements DO or William Bowler MD. Citations available on request.