



• ANTIBIOTIC TREATMENT

Early and disseminated LD	Disseminated LD	Advice and monitoring
<ul style="list-style-type: none"> Use NICE antibiotic guidance First line is usually doxycycline in people aged 9 years and above and amoxicillin under 9 years See BNF for more details Doses are higher and for a longer duration than usually used for other conditions May need two courses of antibiotics 	<ul style="list-style-type: none"> May require secondary care advice/referral – without delaying treatment initiation May require IV antibiotics Emergency referral for suspected CNS, uveitis or cardiac infection Children: discuss with secondary care if more than a single EM rash 	<ul style="list-style-type: none"> Review at 3 weeks: if symptoms persist, give a different course of antibiotics Advise of possible Jarisch-Herxheimer reaction Review if ongoing or recurrent symptoms, refer to secondary care If symptoms continue after 2 completed courses of antibiotics, seek specialist advice; do not routinely offer further antibiotics

SUMMARY OF NICE GUIDELINE 95

Key points – diagnosis	Key points – treatment	Guideline limitations
<ul style="list-style-type: none"> EM present – diagnostic of LD No EM – diagnose on history, clinical presentation & testing Negative test - do not rule out LD If negative ELISA and < 4 weeks of symptoms - repeat after 4-6 weeks If symptoms >12 weeks but negative ELISA, do immunoblot Symptoms are often multi-system 	<ul style="list-style-type: none"> Early, adequate antibiotics offer best chance of cure - avoid delay EM rash – treat – NICE advise testing not needed If LD suspected, start treatment whilst awaiting results Treat positive immunoblot Use BNF guidance for treatment 	<p>NICE committee acknowledges:</p> <ul style="list-style-type: none"> Lack of robust UK epidemiological data Negative test result does not exclude the diagnosis Extent of evidence informing treatment varies between stages Need to develop diagnostic tests tailored to UK infections

CONTEXT AND COMPLEXITIES

Testing	Antibiotic efficacy	Clinical uncertainties
<ul style="list-style-type: none"> No direct blood test for infection – looks for antibody response Unreliable in early LD Include clear history on test request No test of cure Investigations may confirm LD, but can't exclude it 	<ul style="list-style-type: none"> No international consensus on effective treatment protocols Variable quantity and quality of evidence on effectiveness of different antimicrobial regimes Read more on antibiotic treatment 	<ul style="list-style-type: none"> Wide range of presentations, mimics other conditions; can be dormant and re-present months or years later Research ongoing into diagnostic & treatment uncertainties

PERSISTENT OR ONGOING SYMPTOMS

Possible causes	Problem-solving approach	Differential diagnoses
<ul style="list-style-type: none"> Post-treatment LD occurs in 10-20% patients after standard treatment <p>Consider:</p> <ul style="list-style-type: none"> Ongoing infection Non-compliance with treatment Re-infection Post-infectious symptoms Immune dysfunction Symptoms due to tissue damage by Lyme disease, e.g. nerve palsy Alternative diagnosis 	<ul style="list-style-type: none"> View individual symptoms in context of overall clinical picture Review medical history and timeline Not all possible symptoms and signs are required for diagnosis Consider consequences of ongoing illness such as malnutrition due to catabolic process of infection, frailty 	<p>Musculoskeletal:</p> <ul style="list-style-type: none"> OA, RA, myositis, fibromyalgia <p>neurological/psychiatric:</p> <ul style="list-style-type: none"> MS, MND, Parkinson's, migraine, transverse myelitis, Bell's palsy, depression, anxiety, OCD, psychosis, dementia <p>Other systems:</p> <ul style="list-style-type: none"> Vasculitis, PoTS, thyroid-related, menopause, IBS, IBD, SLE, long COVID, post-viral syndrome