It is estimated that 30-50 percent of acute Lyme disease patients develop chronic Lyme (chronic borreliosis; neuroborreliosis). That is, despite antibiotic and other treatment, the *Borrelia burgdorferi* organism remains alive and well, periodically causing a worsening of symptoms or causing new symptoms to appear. Two-thirds of those bitten by an adult tick or tiny tick nymph never even know they've been bitten, and fewer than 50 percent of those finding ticks or nymphs feeding on them develop the "classic" bull's-eye rash that the CDC stipulates as one of its diagnostic criteria; many people with Lyme never exhibit any type of rash.

There are over 300 known strains of *Bb* and at least six genotypes, increasing the difficulty in testing people for its presence. This is compounded by the fact that the majority of public health and commercial labs such as Quest Diagnostics, LabCorp, Unilab, etc., use a hierarchy of tests, established by the CDC and followed by the AMA. The first of test to be done, the ELISA, is known to miss the organism in the samples tested. Only when this less-than-accurate ELISA is positive is a second test, the Western blot, ordered.

Since these labs use the Centers for Disease Control & Prevention's epidemiological criteria, which even the CDC says is not to be used for diagnostic purposes, thousands of people each year who get negative ELISA and Western Blots are told by their doctors that they do not have Lyme, when in fact they do.

Many of those who go on to develop chronic Lyme do so because of not getting properly diagnosed right away, or not getting the appropriate treatment (too many doctors still prescribe too-short a period of antibiotics). Others keep testing negative for the disease because the tests used do not detect the strain they have, or the Bb is in one of its many presently undetectable morphs.

Over the past several years, as independent labs such as IgeneX and MDL have developed more sensitive tests for *Borrelia* and other tickborne diseases, an increasing number of people who were originally diagnosed with CFS and FM are turning up positive for *Borrelia* and, frequently, one or more of the other tickborne diseases. Others who are seronegative for *Bb* (getting false negatives on tests) respond to appropriately aggressive antibiotic therapy, and may later show positive on the Western blot IgM (early or reactivated infection) and/or IgG (chronic or ongoing infection) tests, despite negative ELISAs and earlier Western blots.

*Note on the following symptoms:* Many of these are symptoms common to other diseases. Getting a proper diagnosis for CFS, FM, and CMP is as much ruling out other diseases (including proper testing and assessment for Lyme and other tickborne diseases) as it is looking at the clues in dozens of tests and the actual physical exam. In the case of Lyme disease, however, even if you test negative, many Lyme-knowledgeable physicians and patients recommend starting on an appropriate antibiotic protocol for Lyme, testing again after being on the antibiotics for 6-8 months.

**AUTONOMIC NERVOUS SYSTEM/ENDOCRINE/IMMUNE/HORMONE**
Abnormal sensitivity to hot or cold
Allergies (nasal, other; new, increased or worsening)
Canker sores (frequent)
Chills and/or shakes when hungry (may occur instead of feeling hungry)
Cold hands and feet
Extreme fatigue after minimal exertion
Feeling hot or cold often
Flu-like symptoms, on-going or recurrent after initial gradual or acute onset; includes mild fever (99.5-101.5 F / 37.5-38.6 C), chills
Hair loss (alopecia)
Herpes simplex or shingles rash
Increased susceptibility to infections
Low-grade fevers
Low blood pressure (below 110/70)
Low body temperature (below 97.5)
Lymph nodes painful, swollen (in neck; under arms)
Night sweats (not related to menopause or fever)
Orthostatic Intolerance (neurally mediated hypotension)
Reactive hypoglycemia and insulin resistance
Thirst, increased
Temperature irregularities; often feeling hot or cold irrespective of actual ambient temperature and body temperature; low body temperature (below 97.6 F / 36.4 C)
Thyroid inflammation (acute thyroiditis; hypothyroidism; Hashimoto’s thyroiditis)

CARDIOPULMONARY/RESPIRATORY/CIRCULATORY
Cardiac abnormalities (mitral valve prolapse; myocarditis; tachycardia; palpitations; dysrhythmia)
Cough
Dyspnea (out of breath) or shortness of breath (air hunger) after minimal or no exertion
Heart attack
Heart palpitations
Heart pounds so hard it shakes body, bed
Pulse skips
Serious rhythm disturbances of heart
Sighing, frequent, not related to mental/emotional state
Stroke
Vasculitis

CENTRAL NERVOUS SYSTEM/NEUROLOGICAL/NEUROPATHIC/OTOLOGIC
Abnormal CAT, MRI and/or SPECT scans
Alcohol intolerance
Aseptic meningitis
"Brainfog"; inability to think clearly
Difficulty moving tongue to speak
Diminished or absent reflexes
Fainting or blackouts; feeling like you might faint
Headaches (frequent, severe, recurring)
Hearing fluctuations (sounds fade then return)
Hearing changes, often from day to day (need to turn up, then down, volume of radio, TV)
Joint or arthritic pain not relieved by NSAIDs (ie, ibuprofen)
Libido (decreased)
Light-headedness, feeling spaced-out
Migraine headaches
Muscle twitching
Noise intolerance
Paralysis or severe weakness of limb
Parasthesias (numbness, tingling, crawling, itching sensations) in face, head, torso, extremities
Photosensitivity
Radiculitis
Seizures; seizure-like episodes
Sensory alterations (hyper- or hyposensitivity) - smell, taste, hearing (noise intolerance)
Severe muscle weakness
Syncope (fainting)
Tinnitus (ringing/noises in one or both ears)
Touch or weight of clothing on or against body causes discomfort or pain
Tremors, trembling

COGNITIVE FUNCTION
Becoming lost in familiar locations when driving
Difficulty with simple calculations (e.g., balancing checkbook)
Difficulty expressing ideas in words
Difficulty moving your mouth to speak
Difficulty making decisions
Difficulty following directions while driving
Difficulty remembering names of objects
Difficulty remembering names of people
Difficulty recognizing faces
Difficulty following simple written instructions
Difficulty following complicated written instructions
Difficulty following simple oral (spoken) instructions
Difficulty following complicated oral (spoken) instructions
Difficulty integrating information (putting ideas together to form a complete picture or concept)
Difficulty putting tasks or things in proper sequence
Difficulty paying attention
Difficulty following a conversation when background noise is present
Difficulty making and/or retrieving memories (long/short-term memory deficits)
Difficulty understanding what you read
Easily distracted during a task
Feeling too disoriented to drive
Forgetting how to do routine things
Forgetting the use of common objects (such as, what to do with the shampoo when you are standing in the shower)
Forgetting how to get to familiar places
Impaired ability to concentrate
Losing your train of thought in the middle of a sentence
Losing track in the middle of a task (remembering what to do next)
Poor judgment
Switching left and right
Slurred and/or slurred speech
Stuttering; stammering
Transposition (reversal) of numbers, words and/or letters when you speak and/or speak
Word-finding difficulty
Using the wrong word
DIGESTIVE/HEPATIC
Bloating; intestinal gas
Decreased appetite
Digestive chemicals (acid, enzymes) reduced or absent
Esophageal reflux; heartburn
Frequent constipation
Frequent diarrhea
Food cravings (especially carbohydrates, sweets)
Food/Substance intolerance
IBS
Liver function impaired; mild abnormalities
Increased appetite
Nausea
Spleen tender or enlarged
Stomach ache, cramps
Vomiting
Weight gain or loss

EQUILIBRIUM/PERCEPTION
Bite your cheeks or tongue frequently
Bump into things frequently
Difficulty discriminating printed matter despite proper vision correction
Distances (difficulty judging when driving; when putting things down on surfaces)
Dizziness or vertigo
Dropping things frequently
Dysequilibrium (balance problems)
Impaired coordination
Loss of balance when standing with eyes closed
Perception (not quite seeing what you are looking at)
Some patterns (stripes, checks) cause dizziness
Spatial disorientation
Staggering gait (clumsy walking)
Words on printed page appear to jump off page or disappear when staring at them

EYES/VISION
Acuity changes not related to prescription changes
Blind spots
Blurred vision
Conjunctivitis
Diminished visual acuity in absence of actual vision change
Drooping eyelid
Double vision
Eye pain
Flashes of light perceived peripherally
Optic neuritis or atrophy
Oscillopsia (image jiggles)
Prescription changes more frequently
Pressure sensation behind eyes
Red and/or tearing eyes
Retinal damage
Slowed accommodation (switching focus from far to near, near to far)
Spots or floaters not related to migraines
Swelling around eyes
Uveitis and/or iritis
Wandering or lazy eye

**HEAD/NECK/MOUTH**
Bell's palsy (facial paralysis, one or both sides)
Bruxism (grinding/clenching teeth)
Canker sores
Dizziness when you turn your head or move
Dry chronic cough
Dry eyes, nose and mouth (sicca syndrome)
Pain in ears, palate, gums
Periodontal disease
Prickling pain along skin of jaw
Problems swallowing, chewing
Runny nose in absence of cold, allergies
Sinus infections
Sore spot on the top of your head
Temperomandibular Joint Syndrome (TMJ)
Unexplained toothaches
Xerostoma (dry mouth)

**MUSCULOSKELETAL**
Arthritic pain that migrates from joint to joint
Carpal tunnel syndrome
Frozen shoulder
Intermittent joint swelling
Joint aches (arthralgia)
Joint pain, without redness or swelling
Loss of tone
"Lumpy, bumpy" long muscles
Morning stiffness
Muscle aches (myalgia)
Muscle pain, stiffness, weakness
Pyriform muscle syndrome
Reduced range of motion
Stiff neck
Writing causes pain in hand, arm shoulder

**PAIN SYMPTOMS**
Abdominal pain
Chest pain
Generalized pain
Shooting or stabbing pains
Painful tender points (FMS: 11 out of 18 tender points)

**PSYCHOLOGICAL SYMPTOMS/MOOD/EMOTIONS**
Abrupt/Unpredictable mood swings
Anxiety or fear for no obvious reason
Appetite increase/decrease
Decreased self-esteem
Depression or depressed mood
Feeling helpless and/or hopeless
Feeling worthless
Frequent crying for no reason
Helpless/Hopeless feelings
Inability to enjoy previously enjoyed activities
Irritability; over-reaction
New phobias/irrational fears
Panic attacks
Personality changes (labile, irritable, anxious, confused, forgetful)
Phobias (irrational fears)
Rage attacks; anger outbursts for little or no reason
Suicidal thoughts or suicide attempts

SENSITIVITIES
Acute or abnormal reactions to medications
Alteration in taste, smell, and/or hearing
Chemicals (alcohol, medications; lower tolerance for)
Food sensitivities
Increased perception of and sensitivity to noise
Light sensitivity
Sensitivity to odors (able to detect and/or react in concentrations far lower than before and that healthy people cannot smell)

SKIN/NAILS
Abnormal scarring
Acrodermatitis Chronica Atrophian
Blotchy or mottled skin
Bruise easily
Bruises may take longer to appear, and/or longer to fade
Bull's-eye (Erythema migrans) on light skin (resembles a bruise on dark skin)
Dermographia (minor scratch pressure on skin leaves vivid red welts)
Dry, itchy skin
Easily scar
Eczema or psoriasis
Fragile nails
Frequent skin irritations
Lymphadenosis benigna cutis
Nails that curve under or downward
Overgrowing connective tissue (ingrown hair, adhesions, thickened/split cuticles, cysts, fibroids)
Painful skin (abnormal/excessive pain when scratched or rubbed)
"Paper" skin (feels fragile, tissue-thin when rubbed)
Rashes on body, face
Vertical ridges or beads in nails

SLEEP SYMPTOMS
Abnormal brain activity in stage 4 sleep
Altered sleep/wake patterns (alert/energetic late at night, sleepy during day
Difficulty falling asleep
Difficulty staying asleep (frequent and/or prolonged awakenings)
Hypersomnia (excessive sleeping)
Myclonus (restless leg syndrome; occasional jerking of entire body)
Nightmares (frequent, extremely vivid and/or disturbing)
Unrefreshing/Non-restorative sleep

**UROGENITAL/REPRODUCTIVE**
Decreased libido
Discharge from breast or galactorrhea
Endometriosis
Frequent urination
Incontinence
Impotence
Infant: premature; low birth weight; low muscle tone; failure to thrive
Interstitial cystitis
Miscarriage or stillbirth
Painful intercourse
Painful urination or bladder
Pelvic and/or rectal pain
Prostate pain
Swollen testicles
Other symptoms worsen before start of menstruation
Worsening of PMS

**OTHER**
Abnormal or other changes in sweating
Activity level reduced to less than 50% of pre-onset level
 Burning sensation (internal and/or external)
Cancer
Changed voice
Changes in sweat odor/body odor
Delayed reaction to overactivity/exertion (onset 24-48 hours after exertion)
Electromagnetic (EM) sensitivity (electrical storms, full moon, affect function of electrical devices)
Fatigue, prolonged, disabling, made worse by exertion or stress
Fibrocystic breasts
"Galloping" cholesterol and triglycerides
Hair loss (not related to age, hormones, diet, medication)
Hands hurt excessively when put in cold water
Handwriting changes, altering signature and/or other writing
Hoarseness
Painful, weak grasp that gives way/lets go
Periods of concentrated thinking causes physical and mental exhaustion, increases pain
Sore throat
Swelling/Idiopathic edema (fluid retention syndrome)
Symptoms worsened by extremes of temperature (hot, cold), stress, and/or air travel
Symptoms change focus from time to time, like infection is moving through the body
Thickened mucus secretions (nose, bowel, vaginal)
Thickened "sleep" around eyes in mornings
Very attractive to biting flies and mosquitoes
Weight changes (usually gain)
COMMON CO-INFECTIONS AND DISORDERS
Babesiosis
Cytomegalovirus (CMV)
Epstein-Barr virus (EBV)
Ehrlichiosis
Herpesvirus
HHV6
Iron deficiency
Mercury or other metal toxicity
Mycoplasma
Systemic mold and/or mold sensitivities

Sources


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