Lyme disease is a Multi-Systemic Disease caused by the bacteria called *Borrelia burgdorferi* (Bb) which normally is a bacterial spirochete (spiral) shape.

**General Early Lyme disease Symptoms & Signs:**
- Erythema Migrans (EM) rash is only found in 50% of patients at the site of the bite. The classic bulls eye rash is a type of EM rash that has a central clearing and is found in about 9% of cases. Some patients have no rash at all.
- Other types of rashes anywhere on the body – signals disseminated disease. Fever & Flu like Symptoms/Illness.

**Musculoskeletal:** joint pain or swelling or stiffness, muscle pain, shin splints, neck or back stiffness, migrating muscle pain or cramps, TMJ, neck creaks & cracks, tender soles.
Reproductive: testicular pain/pelvic pain, menstrual irregularity, unexplained milk production (lactation), sexual dysfunction or loss of libido.

Cardiac/Pulmonary: Chest pain or rib soreness, shortness of breath, heart palpitations, pulse skips, slow pulse, heart block, heart murmur, valve prolapse.

Neurological: muscle twitching, headache, tingling, numbness, burning or stabbing sensations, facial paralysis (that looks like Bell’s palsy), dizziness, poor balance, increased motion sickness, light-headedness, wooziness, difficulty walking, tremor, confusion, difficulty thinking/concentrating/ reading, forgetfulness, poor short term memory, disorientation (getting lost, going to wrong place), difficulty with speech, double or blurry vision, eye pain, blindness, increased floaters, increased sensitivity to light or sound or smell, buzzing or ringing in ears, ear pain, decreased hearing or deafness, difficulty swallowing, seizure activity, white matter lesions, low blood pressure.

Neuropsychiatric: mood swings, irritability, depression, disturbed sleep (too much, too little, early awakening), personality changes, Obsessive Compulsive Disorder (OCD), violent outbursts, paranoia, panic/anxiety attacks, hallucinations.

Gastrointestinal: Nausea or vomiting, difficulty eating, change in bowel function. Constipation, diarrhea, gastritis, abdominal cramping, irritable bladder or bladder dysfunction, cystitis.

Other: fever, sweats, or chills, weight change (loss or gain), fatigue, tiredness, hair loss, swollen glands, sore throat, difficulty swallowing, swelling around the eyes, & swelling in feet.