

Spirochetes are a group of helically coiled or spiral shape bacteria with lengths between 3-500  $\mu\text{m}$  and diameters around 0.09-3  $\mu\text{m}$ . Spirochetes are very motile due to their unique flagella structure, called axial filaments, which run lengthwise between the bacterial inner and outer membranes. The flagella contraction causes a twisting motion which allows the spirochete to move around. Various *Borrelia* and *Treponema* species from the Spirochaetaceae family are responsible for diverse human diseases.

## Lyme Disease

Among the 36 known *Borrelia* species, 12 cause Lyme disease or other borreliosis when transmitted by infected tick bites. Among the pathogenic *Borrelia* species are *Borrelia burgdorferi*, *B. garinii*, and *B. afzelii*.

The Lyme disease spirochete *Borrelia burgdorferi* is one of the most sophisticated bacterium with 853 genes that encode a variety of bacterial proteins for their complexed cellular structure. These proteins can trigger a broad spectrum immune response which damages multiple organs. Patients can develop symptoms in their whole body with more severe symptoms in their neurological systems. These symptoms include brain fog, feelings of detachment, memory loss, anxiety, panic attacks, agitation, fever, fatigue, insomnia, constipation or diarrhea, burning sensations throughout the body, joint pains, and body pains. Even when bacteria cannot be detected after treatment with antibiotics, patients may still experience the same symptoms.

## Relapsing Fever

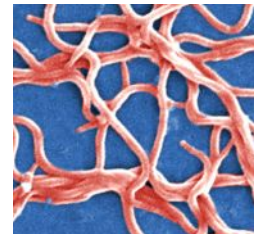
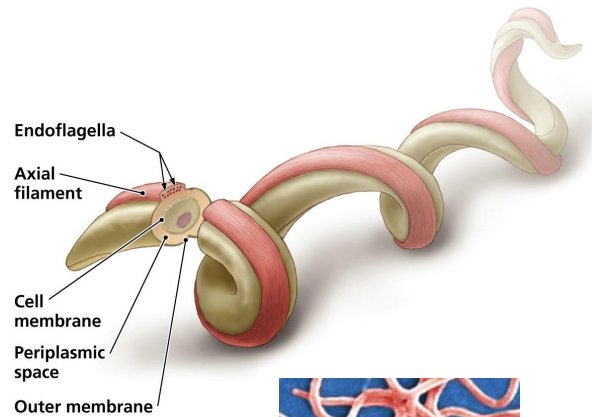
Relapsing fever is caused by nearly 20 species of the *Borrelia recurrentis* spirochete. These bacteria are transmitted by lice or soft-bodied ticks.

## Periodontal Diseases

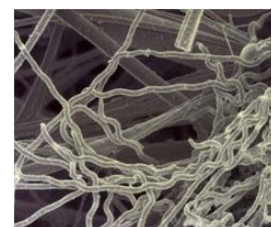
Nearly 60 diverse *Treponema* (T) spirochete species were identified in subgingival pockets in human periodontal diseases. These periodontal pathogen spirochetes are comprised of *T. denticola*, *T. socranskii*, *T. pectinovorum*, *T. amylovorum*, *T. lecithinolyticum*, *T. maltophilum*, *T. medium*, among many others. Co-infection by oral Spirochete *Treponema denticola* can enhance alveolar bone resorption.

## Genital Disease

Many other *Treponema* spirochete species are present in the human genital mucosa. Syphilis is a type of STD caused by *Treponema pallidum* spirochete.



*Borrelia burgdorferi*



*Treponema denticola*

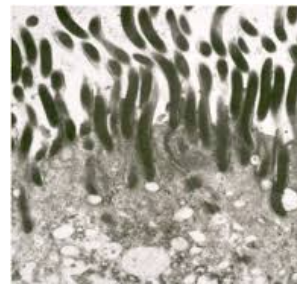


*Treponema pallidum*

## H. pylori and Intestinal Spirochetosis

*Helicobacter pylori* (*H. pylori*) is a spirochete that causes stomach ulcers. Of the Brachyspiraceae family, *Brachyspira aalborgi* and *Brachyspira pilosicoli* are responsible for human intestinal spirochetosis. They work by attaching to the apical cell membrane of the colorectal epithelium.

A large study in Chicago in the early 1900s revealed a 28% prevalence of intestinal spirochetes in the stools of healthy persons. Symptomatic intestinal spirochetosis is most commonly accompanied by complaints of chronic watery diarrhea and vague abdominal pain without other apparent cause. Disease severity can range from asymptomatic to rapidly fatal.



*Intestinal Spirochetosis*

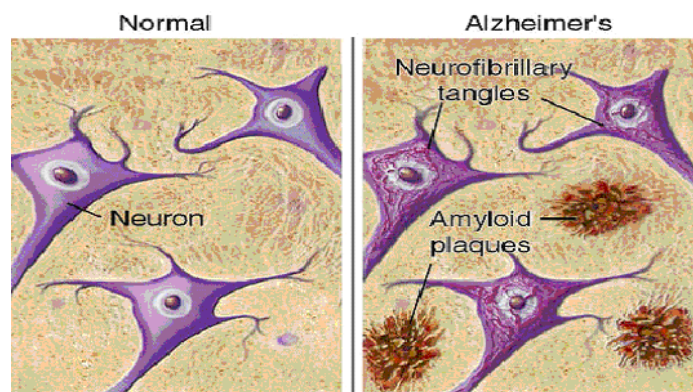


*H. pylori*

## Alzheimer's Disease and Dementia

Dementia and associated cortical atrophy and microgliosis usually occur in late stages of Lyme disease due to *Borrelia burgdorferi* infections. In late neurosyphilis, chronic spirochetal infection can also cause slowly progressive dementia, brain atrophy, and amyloid deposition. Recently, it has been suggested that various types of spirochetes, in an analogous way to *Treponema pallidum*, could cause dementia and may be involved in the pathogenesis of Alzheimer's disease. An analysis of a total 680 brain and blood samples found that Spirochetes were detected in Alzheimer's disease at more than 91.1% (451/495) of the samples, while the 185 control samples were negative for Spirochete presence.

The pathological hallmarks of Alzheimer's disease are progressive brain atrophy and the accumulation of cortical senile plaques and neurofibrillary tangles. A fibrillary amyloid substance is deposited in senile plaques, formed by the aggregation of the amyloid beta peptide ( $A\beta$ ). Spirochetes were observed in senile plaques, neurofibrillary tangles, curly fibers and in the wall of cortical or leptomenigeal arteries exhibiting amyloid deposits. Spirochete and bacterial peptidoglycan specific antigens were co-localized with  $A\beta$ . Control brains without



Alzheimer's disease -type cortical changes were negative for spirochete presence. These observations suggest that various types of spirochetes of the order Spirochaetales might cause dementia and contribute to the pathogenesis of Alzheimer's disease.

Oral anaerobic *Treponema* (T) spirochetes are predominant periodontal pathogens that are highly prevalent in the population. Using species specific PCR, studies have detected six different periodontal pathogen spirochetes, specifically, *T. denticola*, *T. pectinovorum*, *T. vincenti*, *T. amylovorum*, *T. maltophilum*, *T. medium* and *T. socranskii* in the brains of Alzheimer's disease patients. At least one oral *Treponema* species was detected in 14 of 16 AD cases, and in 4 of 18 controls. *Treponema* antigens were detected both in the hippocampus and frontal cortex. These important results indicate that periodontal pathogen spirochetes, in an identical way to *T. pallidum*, have the ability to invade the brain, persist in the brain, and cause dementia. They also indicate that co-infection by several spirochetes occurs in Alzheimer's disease.

It is likely that bacteria toxins may induce inflammation and damage to small blood vessel in the brain. The resulting ischemia activates amyloid-processing enzymes and other proinflammatory factors that eventually compromise neuronal functions, leading to lesions and amyloid formation.

## **Wellness Recommendations**

### Lyme Disease and Intestinal Spirochetosis

Infections by the spirochetes are viewed as types of damp heat toxins. Spiromin helps remove the damp heat toxins and clear the infection caused by Lyme disease *Borrelia spirochete*. However, just as antibiotics cannot eradicate the infection completely, treatment with Spiromin alone is not enough. Co-infection with other types of microbes are very common among Lyme disease patients. Research of over 3000 patients with chronic Lyme disease found that over 50% had coinfections, with 30% reporting two or more coinfections. The coinfection includes microbes either bigger than Spirochetes such as filarial nematode or smaller than Spirochetes such as mycoplasma. Instead of being opportunistic pathogens, these microbes may have a symbiotic relationship with spirochete. While the exact symbiotic relationship is not fully understood, its existence prevents eradication of spirochetes. In order to completely clear the Lyme Spirochete infection, treatment that eliminates the symbiotic species is also necessary.

Spirochetes and its symbiotic species, including mycoplasma and filarial nematode, can make their way to the intestine and make the gut a safe harbor. Patient's GI tract may also has other parasite.

The recommended treatments for Lyme disease and Intestinal Spirochetosis include Spiromin, Nemacin, Peritonin, Green and Silver. Spiromin helps clear spirochetes, Nemacin help clear the nematodes, and Peritonin helps clear the mycoplasma infection. Since Nematodes can develop resistance to the treatment, Green is included to clear the parasites that survived the Nemacin treatment. Green also helps clear pinworms which may have survived the Nemacin. Silver helps clear the gram-negative bacteria. Due to irritation of the liver and kidneys from toxins released by dead pathogens, patients may experience a die off effect. LC Balancer, Brown, Xcel, KS, and Levera are recommended to support liver and kidney function. This will allow for effective toxin processing and excretion as well as reduce liver and kidney inflammation. Patients usually experience symptom improvement with 10-11 weeks of treatment. 13 weeks (3 months) of treatment is required for significant improvement with sustained results. If patients develop diarrhea which can't be controlled by Silver and WhiteHead Formulas, patients may have other types of parasite in the GI tract and other parasite treatment from Wei Lab is required before resuming the Lyme treatment.

### H. pylori

The recommended treatments for stomach H. pylori infection include Spring Capsule, SJ and Formula B and Formula D. Spring Capsule enhances stomach blood supply and improve stomach contractions, SJ helps repair the stomach lining damage and ulcers, Formula B improves intestinal contraction and open up the pyloric sphincter to avoid acid reflux, and Formula D helps clear stomach H. pylori infection and inflammation. Due to irritation of the liver and kidneys from toxins released by dead pathogens, patients may experience a die off effect. LC Balancer, Brown, Xcel, KS, and Levera are recommended to support liver and kidney function. This will allow for effective toxin processing and excretion as well as reduce liver and kidney inflammation. Patients usually experience symptom improvement with 2-3 weeks of treatment. 6-8 weeks of treatment is required to have significant improvement with sustained results.

### Periodontal Diseases

The treatment recommendation for periodontal disease due to spirochete infection includes Spiromin, Apro and Talgia. Spiromin helps clear gum spirochete infections, Apro helps clear gum gram-positive bacterial infection and inflammations, and Talgia helps nurture the teeth nerve root and clear mycoplasma infections. Patients usually experience symptom improvement with 1 week of treatment. 4-6 weeks of treatment are required for significant improvement. Gumgen may also be required to clear gram-negative bacterial infections.

### Alzheimer's Disease and Dementia

Treatment of Alzheimer's disease and dementia requires Resurgen, Surgenin, Spiromin, Brown, LC Balancer and Xcel for early stage cases which do not involve apparent amyloid plaque formations. Resurgen reduces small blood vessel inflammation in the brain, Surgenin repairs blood vessel damage and clears blood flow blockage to help resume normal blood flow, and Spiromin clears spirochete infections. Neuronin is

recommended after most of the germs are cleared (about 6 weeks into the treatment) to enhance blood flow to the brain and repair neuron damage. Patients can experience symptom improvement with up to 8 weeks of treatment. Over 3 months of treatment is required for significant improvement.

For advanced stage cases which involve amyloid plaques formation, Gold formula is also required to dissolve the amyloid plaques. Patients may experience symptom improvement in 3 months. 7-9 months of treatment may be required for significant improvement.

If patients have multiple types of spirochete infections and co-infections of mycobacteria, gram-negative bacteria, treatment with Spiromin may not be sufficient. 6-9 weeks of treatment with Spiromin-R, Cerebrin, Brinin-2 and Fibro are also required. Spiromin-R helps further clear the spirochete in the brain, Cerebrin helps clear co-infected gram-negative bacteria, Brinin-2 helps clear the mycobacteria in the brain, and Fibro helps dissolve the granulomas. Brown, LC Balancer and Xcel are also required to help improve liver and kidney health to support toxin processing and secretion. Neuronin is recommended after most of the germs have been cleared (3-4 weeks into the treatment) to help repair neuron damage.

#### Usage Information:

Spiromin: 1 capsule, 3 times a day

Nemacin: 2 capsules, 3 times a day

Peritonin: 2 capsules, 3 times a day

Green: 2 capsules, 3 times a day. If patient experiences headache or pressure sensation inside the head, it is recommended to open up the capsule and make a tea using the herb powder to drink.

Silver: 3 capsules, 3 times a day

Brown: 50mL, 2 times a day, or 3 Capsules, 3 times a day

LC Balancer: 1 teaspoon, 3 times a day, or 3 Capsules, 3 times a day

Xcel: 2 capsules, 3 times a day

KS: 1 capsule, 3 times a day

Levera: 3 capsules, 3 times a day

Spring: 2 capsules, 3 times a day

SJ: 2 capsules, 3 times a day

Formula B: 3 capsules, 3 times a day

Formula D: 3 capsules, 3 times a day

Apro: 2 capsules, 3 times a day

Talgia: 2 capsules, 3 times a day

Gumgen: 2 capsules, 3 times a day

Resurgen: 3 capsules, 3 times a day

Surgenin: 2 capsules, 3 times a day

Spiromin-R: 2 capsules, 3 times a day

Cerebrin: 2 capsules, 3 times a day

Brinin-2: 2 capsules, 3 times a day

#### **Selected Case Studies**

##### Case 1: Successful Treatment of Lyme's Disease

*Gregory Lind, DC, Milpitas, California (March, 2017)*

70 y.o. female patient was diagnosed with Rheumatoid Arthritis March 21, 2016. The patient had periods of inflammation and aching mostly in arms, hands, hip and brain. The symptoms went away for a month or two and then came back for a few days to months. When the inflammation and aching was present, the patient felt like her body was on fire and achy. The patient was also having panic attacks, during which the patient felt pain and pressure on her chest around heart area. Starting 6 years ago, the patient sequentially experienced nausea and dizziness (due to inflammation of stomach lining), severe fatigue, and immune system crash.

Doctor's impression was that the patient might have heat in her body including the brain, liver and urinary tract and recommended Wei Lab's herbal formulas including LC Balancer, Brown, Qi Booster, KS, BI, Hepavin, Platinum, Xcel and Millenium. The patient reported that she felt improvement in her heart and brain after 4 weeks of treatment. Yet when the patient started the second phase of treatment to improve her GI condition, she experienced an increase in pain and change of pain pattern which was abnormal and contrary to what was expected. The pattern of the pain, according to her rheumatologist, was not typical of RA either. It was suspected that the patient's unusual response to the GI treatment might revealed a hidden infection in her body. The patient reported that several health practitioners she saw before also thought she had Lyme or spirochete infection. Her test result for Lyme disease was negative at that time. Further examination revealed that the patient had gum disease which might be caused by the same type of spirochete infections. The patient went to one of the best Lyme disease's lab in U.S. to test for Lyme disease again, but this time the result came back positive.

The patient was recommended to use a Lyme disease protocol including Wei Lab's Spiromin, Nemacin, Peritonin and Green. Spiromin formula helps clear damp heat toxins and infections caused by spirochetes. Spirochetes have a very complex cellular structure and can trigger a broad spectrum immune response. These immune responses can cause damage in multiple organs and patients can develop symptoms in their whole body including the neurological system. Nemacin helps clear digestive nematode parasites, a type of round worms which can protect the Spirochete since they use Spirochete as their food. Peritonin helps clear damp toxin and clear mycobacteria and atypical bacteria in the gut, connective tissue and the peritoneal space, a common co-infection with the Spirochete. Green is also recommended to help clear co-infected parasites which may be resistant to the Nemacin. Wei Lab's herbal formulas LC Balancer, Brown, Xcel, KS, BI and Levera are also recommended to support liver and kidney function for effective toxin processing and secretion as well as reduce liver and urinary tract inflammations. At the same time the patient also continued her spiritual healing treatment.

After 3 days of treatment the patient reported that the first day she did not sleep well, but she slept great on the third day. She had slight diarrhea. Stomach was upset a little. On the fifth day, she still had some slight diarrhea in the morning. Her stamina was slightly down. Wei Lab's herbal formulas Probiosis and Silver were recommended with some supplements to address the issue.

After 17 days of treatment patient reported that after adding the Probiosis and Silver for 1 week, her diarrhea was gone. She was feeling pretty well.

After 25 days of treatment, the patient reported that in the last week her heart was not feeling well, tired, painful, fluttering, pounding and shaky. Brain felt inflamed, spacy and shaky. Her neck was tight and her anxiety had increased. Wei Lab's herbal formula PaceKeeping was recommended to help stabilize her heart. Continued treatment was recommended, as the symptoms may be a die off effect.

After 2 months of treatment, patient reported that she still didn't see any change yet. She still had the pain in the hip, wrist and spine and the pain was inside her bone. Her brain still felt foggy and spacy. She couldn't think or stay on track sometimes. PaceKeeping had been helpful for her heart. Yet the patient was very committed to finish the 13 weeks treatment.

After finishing 3 months (13 weeks) of treatment, patient reported that after hitting the 10-11 week mark, changes had shown up. The herbal treatment and her spiritual healing had paid off. During the last 2-3 weeks, all her body pains were totally gone. Her brain no longer felt inflamed, spacy, shaky brain. She still had some minor symptoms: she got a little stiff and cranky in the morning and needed some stretching, and pain started to come back when she got afraid and became vulnerable. She did feel that she had finally healed up. 3 months after finishing the treatment, patient reported that she still felt very well and did not experience body pain.

Case 2: Lyme Disease Solution  
*Chrisenia White ND, Naperville, IL*

A 22-year-old female presented with Lyme Disease diagnosed in 2006. Her symptoms were severe joint pain, fatigue, and she was breaking out all over. She had tried multiple treatments up until this point but never experienced sustained relief. On 8/5/18 patient started on Wei Labs parasite killing products: Spiromin, Nemacin, Peritonin, Green, Silver, and S-2. Spiromin formula helps clear damp heat toxins and infections caused by spirochetes. Damp heat toxins can be caused by bacteria such as spirochetes, which have a very complex cellular structure, triggering an immune response in a broad spectrum. Nemacin helps clear digestive nematode parasites, a type of round worms which are usually small in size, less than a few millimeters. Peritonin helps clear damp toxin and clear mycobacteria in the guts, connective tissue and the peritoneal space. Nematodes can develop resistance to the treatment. In order to clear the parasite that survived the Nemacin treatment, Green Formula is recommended. Silver clears infections in the appendix and colon. S-2 removes infections by gram negative bacterium in the peritoneal space including membranes that cover the inside of the abdomen and most of its organs.

Two weeks into the treatment her symptoms flared but then calmed down. She noticed slight improvement in her brain fog and fatigue. Her appetite was still low and she was forcing herself to eat.

Patient continued with month two of treatment adding in LC Balancer at low dose to help with her fatigue. Six weeks in she still hadn't noticed much of a difference. However, her acne had gotten significantly worse since starting the products. Dr. White noted this was likely correlated with toxin retention and accumulation in the skin, as she was not on any of the supporting products. At the beginning of September, Dr. White recommended she start Bitter to help clear pro-inflammatory cytokines in the blood and help with toxin removal. At the end of month two she noted her symptoms have subsided significantly since adding in the Bitter. She noticed a decrease in her energy after she ran out of the LC Balancer.

At this time Dr. White recommend she take a two week break from the parasite killing products to allow any residual eggs time to hatch. She continued on low dose of the Bitter and LC Balancer (1 capsule 3x day on a good day). In those two weeks off the parasite killing products patient symptoms ramped up and were significantly worse the last two days of that 14 day period. November 7<sup>th</sup> she restarted the parasite killing products at low dose: Spiromin 1 capsule daily, Nemacin 1 capsule three times each day, Peritonin, 1 capsule three times each day, Green 1 capsule three times each day, Silver 1 capsule three times each day, and S-2 1 capsule three times each day. At the end of December, the patient had completely finished the low dose parasite killing products and she was feeling way better! She was taking LCB and Bitter, every couple of days or every other day (when she remembered). She can still tell when she doesn't take the LCB as her energy remains low. Patient plans to continue with one more month of low dose LCB and Bitter to clear residual toxins.

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