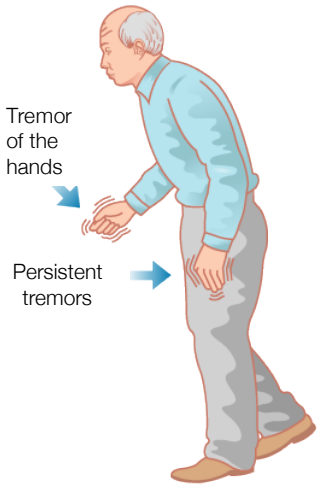
Parkinson's Protocol

Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by resting tremors, stiffness coupled with slowed movement, impaired balance, loss of automatic movements or bradykinesia, and depression. As the condition progresses, scar tissue can form, which further interrupts neuron function. Patients will also experience speech difficulty, memory loss, fatigue and cognitive impairment.

For more than thirty years it has been understood that inflammatory changes occur in the brains of patients with PD, but only in the last few years has inflammation been viewed as part of the cause of the progressive nature of the disease and not just a result of the disease. This means that the disease may start because of an abnormal accumulation of protein. This abnormal accumulation may be triggering the body's inflammatory response, which then causes the damage and furthers disease progression. Brain inflammation and increased levels of cytotoxic molecules can result in neuron damage leading to the loss of the dopaminergic neurons in the substantia nigra. Chronic brain inflammation also causes lesions or scar tissue formation, which further interrupts neuron function resulting in disease progression.

Tremors

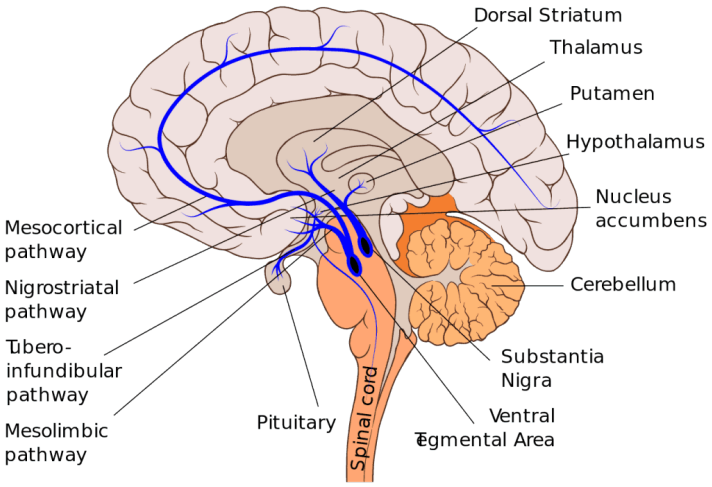
About 80% of people with PD suffer from tremors. Other health issues can also cause tremors but Parkinson's tremors are different. They are usually resting, rhythmic, and asymmetric. Meaning, the tremors happen when the muscles are still, are slow and continuous, and tend to start on one side of the body.



There are five main areas of the body that the tremors affect. These include the hands, foot, jaw, tongue, and internal. Typically, a PD tremor starts in the hand before 'spreading' to affect the rest of the arm. The tremor can also spread to affect the foot on the same side of the body. Some patients with PD say they can feel a shaking sensation inside their chest or abdomen, which can't be seen from the outside. After several years, the tremor can spread to affect the other side of the body.

The pathological hallmark of PD is nigrostriatal dopamine depletion. The nigro-striatal pathway is one of the four major dopamine pathways in the brain. Dopaminergic pathways are involved in both physiological and behavioral processes, including movement and other functions such as cognition, executive functions, reward, and motivation. The nigrostriatal pathway connects the substantia nigra pars compacta (SNc) which is a basal ganglia structure in the midbrain with the dorsal striatum in the forebrain which is mainly associated with the cognition involving motor functions. The basal ganglia is part of a system called the basal ganglia motor loop and it is critical in the production of movement. The basal ganglia's primary function is in action selection. It controls and regulates activities of the motor and premotor cortical areas so that voluntary movements can be performed smoothly.

Tremors result from inflammation and increased levels of cytotoxic molecules that damage the dopaminergic neurons in the substantia nigra as well as from an impaired interaction between the basal ganglia and a cerebello-thalamo-cortical motor loop consisting of motor cortex, ventral intermediate part of the thalamus (VIM) and cerebellum. Dopaminergic neurons damage can cause reduced production of dopamine and eventually lead to neuron loss which further reduce the dopamine levels. The basal ganglia need dopamine to connect the neurons. Lowering dopamine levels within the brain reduces



connections and interrupts communications. This means that body movements become less smooth, and tremors and other movement symptoms, such as rigidity, occur.

Since tremors can be unpredictable, Western medical doctors often say it's the toughest symptom to treat with medication. The most commonly prescribed medications include beta-blockers and anti-seizure drugs. Although they can help reduce tremors by blocking nerve impulses, often patients develop tolerances to them in about a year. Meaning, that they need to continuously up their dose and increase the risk of sides effects.

Impaired Balance and Difficulty Walking

Difficulties with balance and walking are linked to the changes that occurred in the basal ganglia with PD. This, combined with stiffness, freezing or shortened steps, puts people with PD at risk of falling. No western medications are effective for these issues.

For people who don't have PD, balance is achieved through an automatic reflex which is controlled by the basal ganglia (a part of the brain essential to balance). In PD patients, the basal ganglia's function becomes compromised. To compensate for this, the brain uses another area — an area used for thinking — to take over. The thinking part of the brain, mainly the frontal cortex, can't control balance automatically. This results in balance becoming less automatic. This means that when people experience freezing and fall, they can't adjust their balance automatically. Taking small steps to try and regain balance can make things worse because it involves shifting weight with each step.

Besides the pathophysiological impairment in the basal ganglia and dysfunction in the striato-thalamo-cortical circuitry, it was also found that PD patients have altered cerebellar activity during motor execution, motor learning, and at rest.[8] The cerebellum is also called "Little Brain" which is responsible for balance, equilibrium and movement. The cerebellum helps coordinate voluntary movements, control posture, maintain balance and fine motor movement, and is involved in motor skills learning. Cerebellar dysfunction as well as pathophysiological and atrophic changes have also been found in both motor and non-motor symptoms of PD. The basal ganglia and cerebellum are reciprocally connected and the cerebello-cortical functional connectivity is involved in behavior and motor controls. Research results have shown that cerebellum atrophy of PD is associated with a pathological loss of connectivity with large-scale cortical networks. Such abnormalities could potentially have more widespread effects on both motor and no-motor symptoms. Dopamine medication use is correlated with cerebellar atrophy and loss of connectivity with the ventral attention network. An increased dopamine medication or dopaminergic overdose can cause cerebellar atrophy, and impair cerebello-cortical connectivity of this system.

The cerebellum is a crucial source of the brain's predictive capacity, as well-learned behavioral patterns stored in the cerebellum can be engaged to anticipate the consequences of current behavioral options. Reduced cerebellar modulation of cortical function has generalized effects upon the ability to smoothly coordinate and sequence both movement and cognition. Thus, increased cerebellar atrophy and the concomitant loss of cerebellar-cortico connectivity is likely to be a key contributor in a wide range of motor and non-motor deficits that can emerge with the progression of PD.[9]

Speech Difficulty

Dysarthria is a disorder of spoken communication. Approximately 90% of persons with PD will develop dysarthria during the course of the disease, although individuals with PD themselves may be unaware of problems with spoken communication. Voice abnormalities tend to be the first indication of dysarthria followed by articulation and fluency abnormalities. Dysarthria can emerge at any stage of the disease and can worsen in the later stages causing a progressive loss of communication leading to social isolation.

Although it is believed that dysarthria in PD is caused by central or peripheral nervous system damage that is associated with disturbance in muscular control for speech. More recent research has pointed out that dysarthria in PD seems to be mainly related to non-dopaminergic deficits and associated particularly with non-motor symptoms.[10] It is likely that the basal ganglia damage in PD could result in deficits of both motor programming and language formulation through their interrupted connections with the brain language center. The majority of the

language difficulty in PD is caused by the disconnection of the brain's language processing center with the language execution and performance system.[11]

Brain lesions have been found in multiple locations which are well correlated with the neurological disorders of the location. In a study with 29 PD cases, only 31% of the lesion were located at the substantia nigra. Other lesions were located in a variety of different cortical and subcortical locations. Lesion locations causing parkinsonism were functionally connected to a common network of regions including the midbrain, basal ganglia, cingulate cortex, and cerebellum.[12] Anterior cingulate cortex is involved in spoken word production. Since many PD patients' dysarthria fail to respond to dopaminergic medication, it is likely that the lesion may interrupt the neuron communications causing non-motor neurocortical disorders including speech dysfunction.

Gut Dysbiosis and PD

The pathological hallmark of PD has long been considered to be the intracellular deposition of aggregated α-synuclein, leading to neuronal cell death and neuroinflammation. More recent, PD is considered a multi-systemic disease, affecting the central as well as the peripheral nervous system (CNS, PNS), resulting in several non-motor symptoms, often including gastroparesis or constipation with increased gut permeability and inflammation. More importantly, the gut microbiota is emerging as an important modulator of neurodegenerative diseases, and gut microbe dysbiosis is linked to PD symptoms and pathophysiology. Animal studies also showed that the microbiota can affect α-synucleinopathy as well as neuroinflammation. It is likely that the gut dysbiosis, gastrointestinal symptoms and alterations of the enteric nervous system that preceded the PD may trigger the brain inflammation leading to the PD development.

Studies that analyze the gut microbiome population revealed that the gut microbiome differs significantly between PD patients and controls.[13] The gut microbiome of PD patients and controls are enriched in different bacterial groups with a higher abundance of the genera Lactobacillus, Akkermansia, Hungatella, and Bifidobacterium and a decreased abundance of the Lachnospiraceae family and Faecalibacterium sp.[13] In PD both the Lachnospiraceae family and the Faecalibacterium genus are important short-chain fatty acids (SCFA) producers and it emerged as the most consistent PD gut microbiome alterations. SCFA are the end products of bacterial fermentation of dietary components and play a pivotal role in fueling and maintaining the integrity of the colonic epithelium and low SCFA can cause increased gut permeability and inflammation. Gut dysbiosis might result in a pro-inflammatory status which could be linked to the recurrent gastrointestinal symptoms and PD development.

Wellness Recommendation

Tremors

The wellness recommendation for tremors related to PD due to the brain inflammation and impaired dopaminergic pathways includes Platinum, Hepavin, Brown, and LC Balancer. Platinum helps remove brain heat and phlegm damp. It helps reduce brain inflammation and clear toxic molecules such as chemokines from the brain. Herbal ingredients in Platinum, have been shown to decrease levels of inflammatory cytokines, inhibit the expression of neuro-inflammation markers, attenuate mitochondrial dysfunction, and reduce dopaminergic neuron degeneration.[1] Hepavin helps clear liver heat and quench the Rising of Liver Yang. It helps calm down the liver Kupffer cells to reduce its production of chemokines which are stimulants to the brain's microglia. Herbal ingredients in Hepavin have been shown not only to inhibit chemokine production but also contains neuroprotective effects as well.[2] Brown nurtures Liver Yin and helps improve the structure and function of the liver to help support Platinum and Hepavin. Brown also contains herbal ingredients that inhibit the abnormal aggregation of the proteins found in PD patients and alleviates the degeneration of the nigrostriatal system.[3] LC Balancer is required to enhance microcirculation to help with waste processing and secretion.

Patients can experience symptom improvement with the reduction of tremors in 2 weeks. After 3 months, patients can have a reduced need for their Parkinson's medications and a reduction in symptom severity in bradykinesia caused by impairment of the basal ganglia in the dopaminergic pathways. If the patient's tremors are related to cerebellar atrophy, Bella formula may need to be added.

Gold with Qi Booster or LifeGen is also required if patients have difficulty with speech and/or other problems due to scar formation in the brain. 3-4 months of the protocol is required to have significant improvement.

Impaired Balance and Difficulty Walking

The wellness recommendation for impaired balance and difficulties with walking caused by cerebellar atrophy and loss of connectivity with cortical networks includes Bella Formula in combination with Platinum, LC Balancer, Brown, and Xcel. According to TCM, the cerebellum atrophy and dysfunction is caused by Qi, Blood Yin and Yang deficiency and the imbalance of the three Jiaos. Bella helps nurture the general Qi, Blood Yin and Yang as well as helps rebalance the three Jiaos. It helps enhance blood flow to the cerebellum to improve the structure and function of the cerebellum and its connection with cortical networks. Herbal ingredients in Bella have been shown to increase the number of neurons in the basal forebrain, hippocampus, and cerebral cortex as well as improve learning and memory abilities.[13] Platinum helps remove brain Heat and reduce inflammation. LC Balancer, Brown and Xcel are also required to support the liver and kidney for toxin processing and secretion. Patients can experience symptom improvement in 2 weeks with reduced ataxia, imbalance, unstable standing or walking, hand or calve shaking and slurred speech. 3-4 months of the protocol is required to have significant improvement.

Speech Difficulty

The wellness recommendation for speech difficulty includes Gold together with LifeGen, Qi Booster, Brown, LC Balancer and Xcel. These formulas help to resolve the speech difficulties for patient who have PD due to scar formation in the brain. Gold helps dissolve scar tissue and abnormal proteins in the brain including the language center. Herbal ingredients in Gold have been shown to have strong neuroprotective properties through both anti-inflammatory and anti-oxidative effects.[4] LifeGen targets the brain language center through increasing blood flow to the limbic system. Herbal ingredients in LifeGen have also been shown to specifically address PD through attenuating dopaminergic neuronal damage and inhibiting neuro-inflammation.[5] The herbal ingredients also have been shown to improve microcirculation and dilate blood vessels, not only benefiting the cardiovascular system but also activating blood to enhance flow to the upper body.[6] Qi Booster helps improve blood supply to the upper body, including the head and brain. Brown and Xcel are required to help with waste processing and secretion. LC Balancer helps to enhance systemic microcirculation to also assist in waste processing and herbal ingredients in LC Balancer have been shown to enhance neurogenesis, alleviates cognitive deficits, improves learning and memory function, and ameliorates neuronal apoptosis.[7] Patients can experience improvement in their symptoms in 3 days. 2-4 weeks of treatment may be required for significant improvement and sustained results.

Gut Dysbiosis

The wellness recommendation for gut dysbiosis includes Silver, Probiosis, and Luna. Silver removes heat and toxins from the intestine and helps clear gut infection by the pathogenic gram-negative bacteria and reduce the population of unfriendly bacteria. Probiosis removes heat from the GI tract and reduces intestinal inflammation and gram-positive bacteria. Luna nurtures the intestine and helps lubricate the intestines and nurtures the enteric nerves to improve the constipation. Patients can experience symptom improvement within 2 weeks. Depending on the severity of the condition, 6 weeks to 3 months of protocol is recommended for significant results.

Protocol Summary

PD Symptom	Recommendation
Tremor	Platinum, Hepavin, Brown, LC Balancer
Tremor with Scar Formation	Platinum, Hepavin, Brown, LC Balancer, Gold with Qi Booster or LifeGen
Tremor Involving Cerebral Atrophy	Platinum, Hepavin, Brown, LC Balancer, Bella
Impaired Balance and Difficulty Walking	Bella, Platinum, LC Balancer, Brown, Xcel
Speech Difficulty	Gold, LifeGen, Qi Booster, Brown, LC Balancer, Xcel
Gut Dysbiosis	Silver, Probiosis, Luna

Selected Case study

Case 1: Successful Symptom Resolution of Head Bobbing, Slowness of Movement, and Tremors in Parkinson's Disease Patient

Dr. Charles Lerner, DC, NY

A 67-year-old male patient suffering from Parkinson's Disease called to consult with Dr. Lerner. The patient complained of having tremors and bradykinesia. He had been taking Sinemet and Rasagiline as his only source of treatment. Without these medications, it has been impossible for him to move without tremors. He also complained of suffering brain fog.

Dr. Lerner recommended a 1-month protocol with Wei Laboratories Brown (half dose), LC Balancer, Hepavin and Platinum as a trial. 2 weeks into the treatment, the patient reported that he woke up in the morning feeling so well that he did not feel the need to take his standard western medications. He also commented that he felt he did not need the Hepavin as his mental state was good. Under these circumstances, Dr. Lerner agreed it was ok to eliminate the Hepavin from his formulas. So far, the patient has been excited with the results he has been seeing with the rest of his herbal formulas.

After one month of care, the patient reported very positive results. Prior to taking the Wei Labs herbal formulas he was used to awakening at 6:00 AM and needed to take his western medications by 8:00 AM to control his tremors. Since taking the herbal formulas he was feeling well enough and without tremors that he has been able to wait until noon to 1:00 PM before taking his first dose of his western medication. The patient has been pleased with the results because taking less of the western medications will prolong their usefulness, thereby extending his ability to survive his disease.

Further treatment with Brown, LC Balancer and Platinum have continued to be helpful and are recommended. The patient continues to see improvement. Symptoms of head bobbing with slowness of movement, which is usually present the whole day have diminished and is only present at the end of the day. He had always taken a low dose of Rasagiline and now has been able to reduce his dose of Sinemet without feeling any of the aforementioned ill effects of the disease. The patient is now on his third month of treatment and continues reporting the positive effects of the Chinese herbal formulas that Dr. Lerner has prescribed from Wei Laboratories.

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