Painful Autoimmune Conditions

Following are short descriptions of autoimmune conditions that affect the nervous system or involve pain, inflammation, muscular control, or posture in some way. This list is not exhaustive. These conditions can have symptoms that may lead a student to pursue Clinical Somatics in hopes of relieving their pain or muscular issues if they have not been diagnosed with a specific autoimmune condition yet. If you suspect that your student may have an autoimmune condition, urge them to see a doctor.

Clinical Somatics exercises can help people with autoimmune conditions maintain or improve their mobility and reduce their stress. For each condition, I note whether or not physical therapy is recommended. If it is recommended, you can feel confident that Clinical Somatics exercises may be helpful for the condition as well. As always, work within your student's comfort zone.

Autoimmune conditions are very often related to diet, toxins, infections, and stress. If you're interested in learning more about autoimmune conditions, I recommend reading *The Autoimmune Solution* by Dr. Amy Myers. Dietary changes, eliminating toxin exposure, treating infections, and reducing stress can often alleviate or eliminate autoimmune conditions.

You can see the list of 100+ recognized autoimmune conditions here:
https://www.aarda.org/diseaselist/

In this document:

Ankylosing Spondylitis (AS)

In ankylosing spondylitis (AS), the immune system attacks the joints of the spine, causing painful inflammation. The joints of the pelvis and rib cage can also be affected. The disease is more common and more severe in men. The majority of people with AS have a the HLA-B27 gene, but not everyone with that gene gets the condition.

Over time, the body attempts to heal the inflamed joints by growing new bone. This can eventually fuse sections of the vertebrae together. This fusion can also occur in the rib cage, limiting the ability to breathe.

People typically start experiencing symptoms in adolescence or early adulthood. Symptoms include pain and stiffness in the back, hips and neck, and fatigue. Symptoms can worsen over time, or improve and even stop altogether.

There is no cure for AS. Treatment typically involves nonsteroidal anti-inflammatory drugs (NSAIDs) or biologic medications that reduce inflammation. **Physical therapy, range of motion exercises, and flexibility exercises are recommended for AS.**

Guillain-Barre syndrome

Guillain-Barre syndrome is a rare autoimmune disorder in which the immune system attacks the myelin sheath surrounding the peripheral nerves. This prevents the nerves from transmitting signals. The first symptoms are usually weakness and tingling in the extremities. Other symptoms include:

- Weakness in the legs that spreads to the upper body
- Unsteady walking or inability to walk or climb stairs
- Difficulty with eye or facial movements, including speaking, chewing or swallowing
- Severe pain that may feel achy or cramp-like and may be worse at night
- Difficulty with bladder control or bowel function
- Rapid heart rate
- Low or high blood pressure
- Difficulty breathing

Guillain-Barre syndrome can spread quickly and cause paralysis. It is extremely important to seek medical attention quickly if symptoms are felt.

The disorder usually appears days or weeks after a respiratory or digestive tract infection. Potential triggers include:

- Infection with campylobacter, a type of bacteria often found in undercooked poultry
- Influenza virus
- Cytomegalovirus
- Epstein-Barr virus

•Zika virus
•Hepatitis A, B, C and E
•HIV, the virus that causes AIDS
•Mycoplasma pneumonia
•Recent surgery
•Hodgkin's lymphoma
•Rarely, influenza vaccinations or childhood vaccinations

Most people recover with proper medical treatment. There is no cure, but plasma exchange (plasmapheresis) and immunoglobulin therapy are both used successfully to speed recovery and reduce the severity of the condition.

Physical therapy is used in recovery from Guillain-Barre in order to help people overcome fatigue and regain strength and motor control. Among other symptoms, people may experience residual nerve pain, weakness, numbness, or tingling after treatment. Full recovery can take a few weeks to a few years.

Lupus

Lupus is a chronic, systemic inflammatory autoimmune disease in which the body's immune system attacks its own tissues and organs. It can affect almost any organ or system in the body including blood vessels, muscles, joints, the digestive tract, lungs, kidneys, heart and central nervous system.

Lupus can be difficult to diagnose because its signs and symptoms often mimic those of other ailments, and can vary from person to person. No one test can diagnose lupus. The combination of blood and urine tests, signs and symptoms, and physical examination findings leads to the diagnosis.

The most distinctive sign of lupus—a facial rash that resembles the wings of a butterfly unfolding across both cheeks—occurs in many but not all cases of lupus. Symptoms may come on suddenly or develop slowly, may be mild or severe, and may be temporary or permanent. Most people with lupus have mild disease characterized by episodes, called flares, during which symptoms get worse for a while, then improve or even disappear completely for a time.

The most common signs and symptoms include:
•Fatigue
•Fever
•Joint pain, stiffness and swelling
•Butterfly-shaped rash on the face that covers the cheeks and bridge of the nose or rashes elsewhere on the body
•Skin lesions that appear or worsen with sun exposure (photosensitivity)
•Fingers and toes that turn white or blue when exposed to cold or during stressful

periods (Raynaud's phenomenon)
•Shortness of breath
•Chest pain
•Dry eyes
•Headaches, confusion and memory loss

Some people are born with a genetic tendency toward developing lupus, which may be triggered by infections, certain drugs, or even sunlight. While there's no cure for lupus, treatments can help control symptoms. The medications most commonly used to control lupus include nonsteroidal anti-inflammatory drugs (NSAIDs), antimalarial drugs, corticosteroids, immunosuppressants, biologics, and rituximab (Rituxan).

Most people with lupus experience joint pain or stiffness and/or muscle pain, tenderness, or weakness at some point during their illness. These symptoms are most often the result of inflammation. Lupus arthritis describes pain, stiffness, swelling, tenderness, and warmth in the joints resulting from lupus. Tendinitis and bursitis may also result from inflammation. Muscle atrophy (wasting away of muscle strength) may occur if lupus arthritis becomes chronic. Lupus myositis describes inflammation of the skeletal muscles that causes weakness. Muscle weakness may also be a side effect of medication. **Physical therapy is recommended to help in regaining muscle strength and control.**

Lyme Disease

Lyme disease is transmitted by the bite of a deer tick. Typically, the deer tick must be attached for 36 to 48 hours in order to transmit the disease. Initially, a small red bump usually appears at the site of the bite, and resolves within a few days; this is normal and does not indicate Lyme disease.

Within a few days up to a month after the bite, a round, red, bull's-eye rash may appear around the bite, or elsewhere on the body. Some people also experience fever, chills, fatigue, body aches, headache, neck stiffness, and swollen lymph nodes. These are all possible signs of Lyme disease. Lyme disease is treated with either oral or intravenous antibiotics. Recovery is typically quicker and more complete the sooner treatment begins.

If untreated, people may later experience other symptoms, including:

•Chronic joint pain and swelling
•Meningitis (inflammation of the membranes surrounding the brain)
•Bell's palsy (temporary paralysis of one side of the face)
•Impaired memory
•Numbness or weakness in the limbs
•Impaired muscle movement
•Heart problems, like an irregular heartbeat
•Eye inflammation

•Liver inflammation (hepatitis)
•Severe fatigue

Approximately 10% to 20% of people infected with Lyme disease continue to experience symptoms even after being treated. This is referred to as chronic Lyme disease, post Lyme disease syndrome, post-treatment Lyme disease syndrome, or Stage 3, or tertiary, Lyme disease. The cause of these continued symptoms is unknown, but is believed to be autoimmune related. Further treatment with antibiotics is typically not effective.

The symptoms of chronic Lyme disease are similar to those of earlier stages:

- Fatigue
- Restless sleep
- Muscle and joint aches
- Pain or swelling in the knees, shoulders, elbows, and other large joints
- Decreased short-term memory or ability to concentrate
- Speech problems

Exercise and therapeutic movement modalities are recommended for people recovering from Lyme disease, both those who have been successfully treated and those who suffer from chronic symptoms.

Multiple Sclerosis (MS)

Multiple sclerosis (MS) is an autoimmune condition in which the immune system attacks the myelin sheath (protective material) surrounding nerves. When the myelin sheath is damaged, signals being sent through the nerves travel more slowly or not at all. This causes the symptoms of MS, which can vary from person to person, and include:

•Numbness or weakness in one or more limbs that typically occurs on one side of the body at a time, or the legs and trunk
•Tingling or pain in parts of the body
•Electric-shock sensations that occur with certain neck movements, especially bending the neck forward (Lhermitte sign)
•Tremor, lack of coordination, or unsteady gait
•Partial or complete loss of vision, often with pain during eye movement
•Double vision
•Blurry vision
•Slurred speech
•Fatigue
•Dizziness
•Cognition and memory issues
•Problems with sexual, bowel and bladder function

The cause of MS is unknown, but risk factors include:

- Female gender
- Family history
- Certain infections, including Epstein-Barr
- Caucasian race
- Vitamin D deficiency
- Thyroid disease, type 1 diabetes, or irritable bowel disease
- Smoking

There is no cure for MS. A variety of medications are used to slow down disease progression and control symptoms, but many of the medications have unpleasant side effects. Progression of the disease varies; some people may lose the ability to walk completely, while others will have long periods of remission with no new symptoms. **Physical therapy, occupational therapy, and exercise are all recommended for MS.**

Myasthenia Gravis

Myasthenia gravis is a rare autoimmune condition that results in muscle weakness. Myasthenia gravis results from problems with the transmission of signals from nerves to muscle cells at the neuromuscular junction (the junction between nerves and muscle cells).

Nerves communicate with muscles by releasing neurotransmitters that fit into receptor sites on muscle cells. One cause of myasthenia gravis is when the immune system produces antibodies that block or destroy muscle cells' receptor sites for the neurotransmitter acetylcholine. As a result, muscle cells receive fewer signals from nerves, and this is the cause of muscle weakness. Researchers believe the thymus gland triggers or maintains the production of the antibodies that block acetylcholine. In some adults with myasthenia gravis, the thymus gland is abnormally large. Some people with myasthenia gravis also have tumors of the thymus gland (thymomas). Usually, thymomas aren't cancerous (malignant), but they can become cancerous.

A second cause of myasthenia gravis is when the immune system produces antibodies that block the function of a protein called tyrosine kinase, which is involved in forming the neuromuscular junction. A third cause is when the immune system produces antibodies against a protein called lipoprotein-related protein 4, which is also involved in forming the neuromuscular junction.

There is no cure for myasthenia gravis, but medications can help improve muscle function. There are also treatments that filter abnormal antibodies from the blood or add healthy antibodies to the blood. Surgery may be done to remove the thymus gland. Some people go into remission temporarily or permanently.

Symptoms of myasthenia gravis include:

- Weakness of the eye muscles, resulting in drooping of the eyelids or double vision
- Weakness of throat muscles, resulting in impaired speaking or difficulty chewing and swallowing
- Weakness of the facial muscles, resulting in difficulty making facial expressions
- Weakness of the neck muscles, making it hard to hold up the head
- Difficulty breathing
- Weakness in the arms or legs

Exercise tends to make the symptoms of myasthenia gravis worse. Breathing exercises are recommended. Very gentle exercises to improve strength may be recommended. **Clinical Somatics exercises are likely safe for people with myasthenia gravis, but proceed slowly and work within the student's comfort zone.**

Parsonage-Turner syndrome

Parsonage-Turner syndrome, also called brachial neuritis, is characterized by the sudden onset of shoulder and upper arm pain followed by progressive upper arm weakness and/or atrophy. The pain is felt along the path of one or more nerves of the brachial plexus, which innervates the chest, shoulders, arms, and hands.

The pain felt in Parsonage-Turner syndrome is described as sharp, aching, burning, stabbing, or throbbing. Symptoms are usually experienced on just one side of the body. The pain may extend to the neck, lower arm, or hand. The pain may become worse with movement. After initial onset, intense pain may last from a few hours to several weeks, at which point the pain typically starts to subside. As pain becomes mild, people may experience a range of weakness to total paralysis, loss of sensation, reduced or absent reflexes, and wasting away of muscles. Most people completely recover within 2 years.

It is believed that most cases of Parsonage-Turner syndrome are due to an autoimmune response following an viral or bacterial infection or exposure to an environmental factor. Triggers include surgery, vaccinations, injury, childbirth, strenuous exercise, medical procedures, and various health conditions. Some researchers believe that the syndrome is multifactorial, likely caused by an interaction between environmental and genetic factors.

Treatment includes pain relievers and corticosteroids. **Physical therapy or occupational therapy is recommended after the acute phase, when pain begins to subside.**

Peripheral Neuropathy

Peripheral neuropathy is damage to the peripheral nerves, which transmit signals between the central nervous system and the rest of the body. Sensory nerves, motor nerves, or nerves that control autonomic functions (like blood pressure, heart rate, digestion, etc) may be affected. More than 100 types of peripheral neuropathy have been identified. Some involve damage to only one nerve (mononeuropathies) but most involve damage to multiple nerves (polyneuropathies).

Symptoms of peripheral neuropathy include:

- Numbness, prickling, or tingling in the feet or hands, which can spread into the legs and arms
- Sharp, jabbing, throbbing, or burning pain
- Extreme sensitivity to touch
- Pain during activities that shouldn't cause pain (allodynia)
- Lack of coordination and falling
- Muscle weakness
- The sensation of wearing gloves or socks when you're not
- Paralysis if motor nerves are affected
- Heat intolerance
- Excessive sweating or not being able to sweat
- Bowel, bladder, or digestive problems
- Changes in blood pressure, causing dizziness or lightheadedness

Health conditions that may cause peripheral neuropathy include:

- Autoimmune diseases: Most commonly, Sjogren's syndrome, lupus, rheumatoid arthritis, Guillain-Barre syndrome, chronic inflammatory demyelinating polyneuropathy and vasculitis
- Diabetes
- Viral or bacterial infections, including Lyme disease, shingles, Epstein-Barr virus, hepatitis B and C, leprosy, diphtheria, and HIV
- Inherited disorders, such as Charcot-Marie-Tooth disease
- Tumors, both benign and malignant
- Bone marrow disorders
- Other diseases including kidney disease, liver disease, connective tissue disorders, and hypothyroidism

Other causes of peripheral neuropathy include:

- Alcoholism
- Exposure to toxic substances
- Medications, including chemotherapy
- Injuries or pressure on nerves

•Vitamin deficiencies, including B vitamins, vitamin E, and niacin

Medications can reduce the pain of peripheral neuropathy. Anti-seizure medications, anti-depressants, and topical treatments may also be prescribed. Nerve stimulation, blood therapies, and surgery may also be used. People are advised to avoid repetitive motions that may put pressure on nerves. **Low impact exercise and physical therapy are recommended, with a doctor's approval.**

Polymyalgia Rheumatica

Polymyalgia rheumatica is an inflammatory condition that causes muscle pain and stiffness in the neck, shoulders, and hips. Pain and stiffness tends to be worst in the morning or after periods of inactivity. People may have flu-like symptoms, like fever, fatigue, loss of appetite, or unintended weight loss. The condition usually affects people over 50, with age 70 being the most common age of onset.

The cause of polymyalgia rheumatica is unknown, but scientists believe that both genetics and environmental exposure, like a virus, may be involved. Some people who are initially diagnosed with polymyalgia rheumatica are later re-diagnosed as having rheumatoid arthritis.

Some people with polymyalgia rheumatica also develop a related condition called giant cell arteritis or temporal arteritis. This condition involves inflammation in the lining of the arteries. It can cause headaches, vision difficulties, jaw pain, scalp tenderness, and in extreme cases stroke or blindness.

Some people experience remission of polymyalgia rheumatica within one to several years. The condition is usually treated with corticosteroids, and most people who take corticosteroids return to normal activities. **However, if activity level has been affected, physical therapy is recommended.**

Reflex sympathetic dystrophy/Complex regional pain syndrome (RSD/CRPS)

Reflex sympathetic dystrophy (RSD), also called complex regional pain syndrome (CRPS), is a chronic pain condition that involves the sympathetic nervous system and likely an inflammatory response of the immune system.

RSD/CRPS typically begins after an injury, infection, surgery, stroke, or heart attack. The symptoms usually affect one arm, leg, hand, or foot, and over the time pain may spread. Progression can be unpredictable; in some people, the condition may continue to get worse over time, while in others it can spontaneously go into remission.

Symptoms include:

- Intense burning or throbbing pain that is out of proportion to the severity of the original injury or trauma
- Sensitivity to touch or cold
- Swelling
- Changes in skin temperature, alternating between sweaty and cold
- Changes in skin color, ranging from white and blotchy to red or blue
- Changes in skin texture, which may become tender, thin or shiny in the affected area
- Changes in hair and nail growth
- Joint stiffness, swelling, and joint damage
- Muscle spasms, tremors, weakness, and loss (atrophy)
- Decreased ability to move the affected body part

There is no cure for RSD/CRPS, so treatment is focused on relieving pain and symptoms. Treatment is most successful when early on in the course of the illness. Pain relievers, anti-depressants, anti-convulsants, corticosteroids, bone-loss medications, sympathetic nerve-blocking medication, or intravenous ketamine may be prescribed.

Therapies used to treat RSD/CRPS include heat therapy, topical analgesics, transcutaneous electrical nerve stimulation (TENS), biofeedback, spinal cord stimulation, intrathecal drug pumps (medications pumped into the spinal cord), acupuncture, and mirror therapy. **Physical therapy and occupational therapy are recommended to decrease pain and improve range of motion and strength.**

Rheumatoid Arthritis (RA)

Rheumatoid arthritis (RA) is an autoimmune condition in which the immune system attacks the synovium, the protective lining of joint capsules. Joints can be tender, warm, swollen, and stiff. Over time, inflammation thickens the synovium and can cause deformity and loss of function of the joints. Symptoms tend to begin in smaller joints, like the fingers, then may spread throughout the body. Rheumatoid arthritis most often starts in middle age. Symptoms may come and go, remit completely, or last forever. It is thought that genes, environment, and hormones may contribute to RA.

About 40% of people with RA also experience symptoms that don't involve the joints. Some may have fatigue, fever, or loss of appetite. Other parts of the body that may be affected are the skin, eyes, lungs, heart, kidneys, salivary glands, nerve tissue, bone marrow, and blood vessels.

Risk factors for RA include: female gender, age, family history, smoking, obesity, and environmental exposure (possibly to asbestos or silica).

There is no cure for RA. Treatments include medication, lifestyle changes, and surgery. Remission is more likely when treatment with disease-modifying anti-rheumatic drugs

(DMARDs) begins early. Nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroids, and biologic agents may also be prescribed.

Assistive devices can help to avoid stressing painful joints when gripping objects or getting dressed. **Physical therapy or occupational therapy may be recommended to keep joints flexible and to teach ways of using the body that do not strain the joints.** Regular exercise, relaxation techniques, and applying heat or cold are all recommended. Clinical Somatics exercises will likely be helpful for improving flexibility and mobility, reducing associated muscle stiffness (that may occur from splinting painful joints), and reducing stress.

Stiff Person Syndrome (SPS)

Stiff person syndrome (SPS) is a rare neurological disorder believed to be autoimmune in nature. Patients have recurring episodes of severe muscle stiffness, rigidity, and painful muscle spasms in the truck and limbs. They also have heightened sensitivity to stimuli including noise, touch, and emotional stress, all of which may trigger sudden muscle spasms or falls. People may develop hunched posture and may become too disabled to walk or move.

Most people with SPS begin experiencing symptoms between age 30 and 60. People with SPS frequently have other autoimmune conditions, including diabetes, thyroid disease, vitiligo, and pernicious anemia. There is an increased incidence of epilepsy, and a rare variant of SPS is associated with breast or lung cancer. Stiff person syndrome is often misdiagnosed as Parkinson's disease, multiple sclerosis, fibromyalgia, psychosomatic illness, or anxiety and phobia.

Most people with SPS have elevated levels of glutamic acid decarboxylase (GAD) antibodies in their blood. The antibodies attack GAD, a protein involved in making gamma-aminobutyric acid (GABA) which controls muscle movement. This leads to not enough GABA available to control muscle movement. Some people with SPS have antibodies to amphiphysin, a protein involved in the transmission of signals from one neuron to another; these people have a higher risk of cancer.

There is no cure for SPS. Treatment includes muscle relaxants, anti-anxiety drugs, anti-convulsants, pain relievers, and intravenous immunoglobulin (IVIg) treatment to manage symptoms. **Physical therapy and occupational therapy help to manage SPS symptoms and may help with the side effects of medications.**

When teaching Clinical Somatics exercises to someone with SPS, move extremely slowly, carefully, and within their comfort zone so as to avoid triggering a muscle spasm. The exercises may be very helpful in reducing the stress associated with the condition.