Autoimmune Disorders: When the Immune System Runs Amok

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Educational Purposes Only

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Immune System Defense

• When an intruder invades your body—like a cold virus or bacteria on a thorn that pricks your skin—your immune system protects you
• It tries to identify, kill and eliminate the invaders that might hurt you

Autoimmune Means “Immunity Against Self”

• An autoimmune disease develops when your immune system decides your healthy cells are foreign and as a result the immune system attacks healthy cells
• This response is a hypersensitivity reaction similar to the response in allergic conditions
What Causes an Autoimmune Disease?

- The exact mechanisms causing these changes are not completely understood; but bacteria, viruses, toxins, and environmental factors may play a role in triggering an autoimmune process in someone who already has a genetic predisposition to develop such a disorder.

Autoimmune Diseases

- There are more than 100 types of autoimmune diseases, and some have similar symptoms.
- This makes it hard to know if you really have one of these diseases, and if so, which one.
Classifications of Autoimmune Disorders

- Autoimmune disorders are frequently classified into organ-specific disorders and non-organ-specific types.
- Some people can experience several organ-specific diseases at the same time.

Organ- and Non-Organ-Specific Disorders

- Organ Specific: the autoimmune process is directed mostly against one organ.
- Non-organ Specific: widely spread throughout the body.
Alarming Increases Worldwide

- Approximately 50 million Americans, 20 percent of the population or one in five people, suffer from autoimmune diseases
- In contrast, cancer affects 13 million Americans

![Autoimmune disorders incidence map](image)

Autoimmune Diseases More Common in Women

- Women represent 75-80% of people with autoimmune diseases
- One of the top eight leading causes of death in women under 65 and yet still rarely discussed as a women’s health issue
- African-American, Hispanic-American, and Native-American women - have a higher risk for some autoimmune diseases
Children and Autoimmune Diseases

• The *Journal of American Medical Association* states chronic health conditions among U.S. children rose almost 15 percent between 1994 and 2006, with the largest growth among conditions believed to have an autoimmune link such as obesity, asthma, and behavioral and learning problems.

Who Gets Autoimmune Diseases?

• **Women of childbearing age** — often starts during childbearing years
• **People with a family history** — Some autoimmune diseases run in families, such as lupus and multiple sclerosis
• **People who are around certain things in the environment** — environmental exposures may cause some autoimmune diseases, or make them worse
Who Gets Autoimmune Diseases?

- **People of certain races or ethnic backgrounds**
  Researchers have found many genetic variants that affect the risk of developing autoimmune diseases.

- **Infection:** If a genetically predisposed individual has suffered from specific viral or bacterial infections, there is a greater risk that they will also get an autoimmune disease in the future.

Autoimmune Risk Factors

- Genetic predisposition
- Environmental factors
- Gut dysbiosis
Autoimmune Disorders

• It develops over time, precedes clinical diseases by many years indicating a lifestyle component such as occurs in cardiovascular disease
• Initially, symptoms are vague and include fatigue, low-grade fever, muscle and joint aches, and malaise

Autoimmune Disease Affects Organs and Tissues

• Frequently affected are the endocrine glands; components of the blood; and the connective tissues
Common Autoimmune Disease Symptoms

- Pain – headaches, muscle pain, weakness, and stiffness
- Exhaustion, fatigue
- GI upsets: cramping, gas, bloating, diarrhea, constipation
- Skin – acne, rosacea, eczema, psoriasis, dermatitis, red bumps on facial skin, red flaking skin, recurrent rashes or hives, butterfly-shaped rash across nose and cheeks

Common Autoimmune Disease Symptoms

- Anxiety, brain fog, attention deficit problems, insomnia
- Frequent colds, dry mouth or eyes
- Numbness or tingling in hands and feet, tremors
- Rapid heartbeat
- Thyroid issues, weight gain or weight loss
Autoimmune Diseases Include:

- Alopecia
- Celiac disease
- Graves disease
- Hashimoto’s disease
- Inflammatory bowel disease
- Multiple sclerosis
- Rheumatoid arthritis
- Endometriosis
- Type 1 diabetes
- Lupus
- Psoriasis
- Raynaud’s
- Sjogren’s syndrome
- Vitiligo
- Pernicious anemia
- Guillain-Barre syndrome
- Myasthenia gravis
- ALS – Lou Gehrig’s disease

Autoimmune-Related Diseases

- **Chronic fatigue syndrome** can cause you to be very tired, have trouble concentrating, feel weak, and have muscle pain – symptoms come and go
- With **fibromyalgia**, pain or tenderness is felt on the neck, shoulders, back, hips, arms, and legs and are painful when pressure is applied to them
Underlying Causes

- **Heavy metals and chemical toxicants** – such as Bisphenol A, plasticizer exposure and other xenobiotics

- **Viruses, Bacteria, Fungi, Mold, Parasites**
  - It is important to note that an infection may not necessarily be the inducer but rather the total burden of infections from childhood on that trigger autoimmunity
Viruses, Bacteria, Fungi, Parasites

- Examples of infectious agents associated with autoimmune diseases are:
  - Systemic Lupus Erythematosus
  - Rheumatoid Arthritis
  - Sjogren's Syndrome
  - Mixed Connective Tissue Disease
  - Epstein-Barr virus

Epstein-Barr Virus (EBV)

- It affects approximately 95% of the world’s population
- It’s a DNA virus of the herpes family transmitted in saliva
- In childhood it causes a mild asymptomatic infection
- In adolescents it causes infectious mononucleosis in 30-70% of the cases
Nutritional Deficiencies

• In the past 50 years food has undergone transformation:
  • New strains of grains
  • Genetically modified crops
  • Pesticides, fungicides and insecticides are used on crops
  • Dairy cows are injected with hormones and antibiotics
  • Artificial preservatives, colors, flavors, and sweeteners are added to processed foods

Other Underlying Causes

• Smoking
• Sun exposure, radiation
• Chronic Inflammation tied to food sensitivities (especially gluten)
• Leaky gut
Leaky Gut and Autoimmune Diseases

• Studies in respected medical journals, such as the *Lancet*, the *British Medical Journal* and the *International Journal of Gastroenterology* have suggested that leaky gut causes autoimmune diseases.

Leaky Gut

• The mucosal barrier provides protection
• When the mucosal barrier is deficient it is more permeable to immunogens and allergens
• Changes in either the composition or amount of mucus may lead to an inflammatory response
Gut Microbiota

• The gut microbiota can be influenced by several factors: the motility of the gastrointestinal tract (GIT); the intake of pharmaceutical medications including antacids, antibiotics, and nonsteroidal anti-inflammatory drugs; smoking; the use of alcohol; the GIT transit time; mucosal blood flow; and renal clearance.

The Gut and Rheumatic Disease

• Rheumatoid arthritis (RA) is one of the most prevalent systemic autoimmune diseases targeting principally the joints, leading to joint deformity, disability, and increased mortality without treatment.

• Microbes from the periodontal tissue, the airways, and the gut microbiota have been implicated.
Juvenile Arthritis

• Patients with juvenile idiopathic arthritis have been shown to have increased intestinal permeability along with gastrointestinal symptoms
• Arthritis is frequently found in patients with IBD, again suggesting the gut is involved

Multiple Sclerosis

• Multiple sclerosis (MS) is one of the most frequent and severe demyelinating neurological diseases, mainly affecting young people, eventually leading to their becoming disabled
• Increased intestinal permeability in these patients and in their relatives has been reported
The Brain-Gut Connection

• A bidirectional communication between the brain and the gut
• The GI system is directly controlled by the enteric nervous systems, the “second brain” which consists of more neurons than the spinal cord

Let’s Get Some Help from Plants & Nutrients

• Probiotics
• Vitamin D
• Borage oil, Evening Primrose oil, fish oil
• Hydrangea root, Green Tea extract, Turmeric and Hops
• Purification Mix
Probiotics

• In addition to removing foods and factors that damage the gut, replace them with foods from the anti-inflammatory diet program, repair with specific supplements, and rebalance with probiotics.

Vitamin D

• Vitamin D inhibits the inflammatory process by suppressing activity of immune cells that take part in autoimmune reactions.
• Some reports imply that vitamin D may even be helpful in multiple sclerosis and diabetes type 1.
Borage Oil

• Borage oil contains gamma linoleic acid (GLA), which is an omega-6 fatty acid essential for joint structure and function
• Borage oil may reduce joint tenderness and inflammation
• The Arthritis Foundation recommends 1,300 mg daily

Evening Primrose Oil

• This wildflower has 7-10% GLA, the same fatty acid that makes borage oil effective
• Arthritis Research UK ranks evening primrose as effective but may take six months to feel the effects at 540 mg of this oil twice per day
Fish Oil

- Omega-3 may help prevent chronic inflammation and ease symptoms associated with arthritis pain
- Fish high in omega-3 include herring, mackerel, and tuna
- The Arthritis Foundation recommends 2.6 grams of fish oil twice per day

Hydrangea Root

- An herb used in Chinese medicine for 2,000 years is the first to target specific cells that are overactive in autoimmune diseases
- Researchers said it slows progression of autoimmune diseases without suppressing normal immune system functioning
Green Tea Extract

- A centuries-old herbal remedy high in antioxidants
- A recent study found that green tea has an active compound that reduces inflammation and swelling

Turmeric

- Turmeric has been used in Ayurvedic and Chinese herbal medicine for over 4,000 years
- A study published in the AAPS Journal showed that it was more effective in reducing pain and swelling in patients with RA than taking medication
Hops

- A nervine and sedative, hops has an excellent potential for the management of pain and inflammation associated with rheumatologic issues

Nature's Institute

Purification Mix Formula

- Supports cellular integrity and function of the intestinal lining
- Aids in gut metabolism and microbiome balance
- Balances gut pH to balance beneficial bacteria
- Activates detoxification signaling
- Supports elimination
- Elimination of heavy metals

Nature's Institute
What Else Can We Do?

• **Relieve symptoms** of pain, swelling, depression, anxiety, sleep problems, fatigue, or rashes with botanical options

• **Get regular physical activity but be careful not to overdo it** with a gradual and gentle exercise program

• **Get enough rest** as rest allows your body tissues and joints the time they need to repair

What Else Can We Do?

• **Reduce stress:** Stress and anxiety can trigger symptoms to flare up with some autoimmune diseases

• **Look closely at your diet:** celiac disease is frequently associated with other autoimmune disorders, in particular type 1 diabetes (T1D) and thyroiditis
What Else Can We Do?

• **Reduce processed salt consumption**: Researchers gained new insight into how an immune cell involved in several autoimmune disorders is regulated and among their findings was a potential link with salt consumption.

**Comprehensive Elimination Diet**

Anti-Inflammatory Diet

• Follow the program outlined on the University of Wisconsin Integrative Medicine website at: http://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout_ai_diet_patient.pdf

What Else Can We Do?

You have some power to lessen your pain by using imagery for 15 minutes, 2-3x each day.

• Put on your favorite calming music
• Lie back on your favorite chair or sofa; or if you are at work, sit back and relax in your chair
• Close your eyes
• Imagine your pain or discomfort
• Imagine something that confronts this pain and watch it "destroy" the pain
In Summary

• Don’t smoke
• Protect skin from sun exposure
• Avoid radiation
• Reduce stress
• Exercise
• Get enough rest
• Relieve symptoms with botanical choices

In Summary

• Heal the gut, and repopulate with good bacteria
• Avoid processed salt
• Follow and Anti-Inflammatory Diet
• Regularly practice detoxification of environmental contaminants as well as heavy metal contamination
• Gluten challenge – remove for 60 days
• Find other cross-reactive foods such as animal products, nuts, soy, legumes, corn, nightshades on a Comprehensive Elimination Diet
In Summary – Daily Supplementation

- Vitamin D
- Eleven Strains of Probiotics
- Purification formula drink mix
- GLA Super Oils Combination, along with Fish Oils of EPA/DHA
- Extract of Green Tea
- Hydrangea herb
- Turmeric
- Liquid silver

Autoimmune Questionnaire
Designed by Dr. Emma Kruger, M.D.
A Strong Word of Caution

Immune stimulating herbs are contraindicated in autoimmune disorders -- Immune “regulating” or immune “modulating” herbs should be used only!!

Immune STIMULATING Properties!

- Alfalfa
- Andrographis
- Ashwaganda
- Astragalus
- Berberine
- Black Cohosh
- Cat’s Claw
- Chamomile, German
- Chamomile, Roman
- Chlorella
- Cordyceps
- Echinacea
- Elderberry
- Garlic
- Korean Ginseng
- Siberian Ginseng (Eleuthro)
- Goldenseal
- Gynostemma
- Pine bark (pycnogenol)
- Shiitake mushroom
- Spirulina
- St. John’s Wort
Useful Publications:

Plant Medicine Safety
Your Body’s Environmental Chemical Burden

Available by contacting Cindy Klement
734-975-2444

Courses Available from Nature’s Institute:
Resources

- U.S. Library of Medicine: [https://medlineplus.gov/autoimmunediseases.html](https://medlineplus.gov/autoimmunediseases.html)
- National Institute of Arthritis and Musculoskeletal and Skin Diseases: [https://www.niams.nih.gov/Health_Info/Autoimmune/default.asp](https://www.niams.nih.gov/Health_Info/Autoimmune/default.asp)
- National Institute of Allergy and Infectious Diseases: [https://www.niaid.nih.gov/research/immune-system-overview](https://www.niaid.nih.gov/research/immune-system-overview)
Resources