



## Autoimmune Conditions (Disorders)

**Autoimmune Disorder (AID):** An AID is a pathological state arising from an abnormal immune response of the body to substances and tissues that are normally present in the body. Immune deficiency diseases decrease the body's ability to fight invaders, causing vulnerability to infections, and can increase the likelihood of contracting another autoimmune disease.

**Causes:** The blood cells in the body's immune system help protect against harmful substances. Examples include bacteria, viruses, toxins, cancer cells, and blood and tissue from outside the body. These substances contain antigens. The immune system produces antibodies against these antigens that enable it to destroy these harmful substances.

When you have an autoimmune disorder (AID), your immune system does not distinguish between healthy tissue and antigens. As a result, the body sets off an inflammatory reaction that destroys normal tissues. The exact cause of AID is unknown. One theory is that some microorganisms (such as bacteria or viruses) or drugs may trigger changes that confuse the immune system. This may happen more often in people who have genes that make them more prone to AID's. AID's are on the rise - there are more than 80 types.

### **An AID may result in:**

The destruction of body tissue  
Abnormal growth of an organ  
Changes in organ function

### **An AID may affect one or more organ or tissue types. Areas often affected by AID include:**

Blood vessels	Joints / Muscles
Connective tissues	Red blood cells
Endocrine glands such as the thyroid or pancreas	Skin

**Types of AI's:** A person may have more than one AID at the same time. Common AID's include:

**Rheumatoid Arthritis (RA).** The immune system produces antibodies that attach to the linings of joints. Immune system cells then attack the joints, causing inflammation, swelling, and pain.

**Inflammatory Bowel Disease (IBD).** The immune system attacks the lining of the intestines, causing episodes of diarrhoea, rectal bleeding, urgent bowel movements, abdominal pain, fever and weight loss.

**Multiple Sclerosis (MS).** The immune system attacks nerve cells, causing symptoms that can include pain, blindness, weakness, poor coordination, and muscle spasms.

**Hashimoto's Thyroiditis (HT).** Antibodies produced by the immune system attack the thyroid gland, slowly destroying the cells that produce thyroid hormone.

### **Other Types of AI's:**

- |                   |                      |                                |
|-------------------|----------------------|--------------------------------|
| • Addison Disease | • Dermatomyositis    | • Systemic Lupus Erythematosus |
| • Coeliac Disease | • Pernicious Anaemia | • Graves Disease               |
| • Type1 Diabetes  | • Reactive Arthritis |                                |

**Symptoms:** These will vary based on the type and location of the faulty immune response and can include:

- |                                 |                             |                            |
|---------------------------------|-----------------------------|----------------------------|
| • Fatigue                       | • Weight loss / weight gain | • Difficulty concentrating |
| • Fever                         | • Joint pain                | • Dry eyes / mouth or skin |
| • General ill-feeling (malaise) | • Rash                      |                            |

### **The Endocrine System & Autoimmune Diseases**

The endocrine system is a target for autoimmune diseases. As the body's hormonal regulator, the endocrine system releases and then slows and/or stops the production of different hormones in response to various internal pancreas, adrenal, ovaries etc) may be affected in cases of AIDs.

**Causes & Triggers (Inc. Environmental):** Multiple factors are thought to contribute to the development of an immune response to self, including genetics, age and environment. In particular, viruses, bacteria (like H. Pylori) and other infectious pathogens are thought to trigger or propagating self-reactive immune responses. Examples include: Norovirus that is implicated in Crohn's Disease / Giardia in CFS, MS or Arthritis / Epstein Barr virus in MS, RA, HT / Lyme disease in RA. Other triggers include:

- **Oestrogen Dominance** – oestrogen may interplay with certain immune factors that enhance the action of the inflammatory response, increasing antibodies that attack certain tissues in the body.
- **Oxidative Stress** - free radicals attack healthy cells, causing them to lose their structure and function and eventually destroying them.
- **High Salt Diets** – salt causes an overproduction of immune cells that produces inflammatory proteins that are found in AIDs
- **Lectins/ Saponins / Phytates / Oxylates (High Consumption) in grains (gliadin) and pulses** - can affect/damage gut integrity [leaky gut] / cause bacterial overgrowth / affect cell membranes and tight cellular junctions / cause leaky gut / affect mineral absorption
- **Alcohol / Smoking** – both affect the immune system by reducing the (effectiveness) specialized cells that are used in immunity
- **Toxic Metals (Inc. fillings)** - can affect the immune system with their neurotoxic and immunotoxic effects

**Inflammation:** Chronic systemic inflammation is related to several AID's, such as lupus and fibromyalgia. Inflammation can be traced to destructive cell-signalling chemicals (cytokines) that contribute to many degenerative diseases.

**Vitamin D** is pivotal in the immune system - most immune cells express a vitamin D receptor. It stimulates T regulatory cells (Tregs) that govern the immune response, balances a hyper-responsive immune reaction and is critical for maintaining immune tolerance. It is believed they prevent AIDs by suppressing over activity of the immune system. Incidentally, MS is associated with low vitamin D levels.

**Cortisol** - a hormone used in the stress response, circadian rhythm and blood sugar regulation – is a powerful and important immune system modulator. Glucocorticoids such as prednisone and dexamethasone are widely used immunosuppressive agents and just as these agents suppress the immune system, absence of adequate endogenous cortisol (as in adrenal fatigue – from long term stress, etc) leads to uncontrolled immune reactions.

**Food Glycaemic Index/Load and Cortisol Levels:** Cortisol levels are rapidly responsive to our food intake during each day. The **glycaemic** index/load of a meal can dramatically affect cortisol levels for the next five hours. High glycaemic index foods, such as sugar and refined starches, cause **cortisol** levels to rise and can stay elevated all day – also affecting sleep.

**High Cortisol Caused by Non-Sprouted Grains:** Grains (mainly gluten) can result in an inflammatory-response in the gut that causes the secretion of excess cortisol into the intestinal tract, which deprives other parts of the body of their fair share of cortisol. While allergy and inflammation manifest themselves elsewhere in the body, the gut is a set-up for intestinal dysbiosis, lowered immune protection and metabolic reactivity to foods. Sprouting also removes much of the toxic peptides (lectins/phytates/saponins) that are found on the hull of grains.

### Diet & Lifestyle Advice for Autoimmunity and AID's

- Take a good quality multivitamin (Inc. Vitamin D)
- Support Liver Detoxification (**see Support Liver Detoxification handout**)
- Balance Blood Sugar levels and corresponding cortisol levels - focus on low GI foods (**see Blood Sugar Balancing handout**)
- Reduce Inflammation (**see Inflammation and Diet handout**)
- Support the Immune System and maintain the body's ability to fight disease (**see Immune Support handout**)
- Starchy root veg instead of grains a few times a week
- Reduce salt & alcohol / stop smoking / reduce heavy metal exposure (fillings)

### 6 Steps to Take for a Normal Balanced Cortisol Rhythm:

1. Go to bed by 10/11 p.m.
2. Eat breakfast by 7 a.m.
3. Eat low GI meals every five hours while awake.
4. Combine proteins with carbohydrates.
5. If you eat gluten grains, use sprouted whole grains.
6. Avoid sugar and excess starch.

**Please Note:** This handout should only be used as a guide to help inform you as to the foods that **may** help to support, or to reduce the risk of an autoimmune condition. It **should not** be used as definitive guide to autoimmune conditions or autoimmunity. If you think you may have an autoimmune condition then please contact your medical doctor.