

Building Immune Resilience for a Whole New World

How We Can Use Our Personal Immunotype to Create a Healthier Future for Ourselves



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Our Immune Dysfunction Crisis



“Until the recent pandemic, the past 100 hundred years reflected a 180-degree pivot from infectious diseases driving our health problems to lifestyle driven inflammation as the main source of our most chronic diseases.”

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Morbidity and Mortality 100 years ago vs. now



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|---|--|--|
| <ul style="list-style-type: none"> • Tuberculosis • Typhoid • Dysentery • Pneumonia • Syphilis • Influenza • Accidents | | <ul style="list-style-type: none"> • Cardiovascular disease • Cancer • Diabetes • Alzheimer's disease • Anxiety and depression • Obesity • Autoimmune disease |
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Chronic inflammation drives most chronic disease

Cardiovascular Disease	Type 2 Diabetes	Alzheimer's	Autoimmune Disease	Obesity	Food Allergies
<ul style="list-style-type: none"> Cardiovascular disease (high blood pressure, heart attacks, stroke, congestive heart failure and peripheral artery disease) - affects 48% of people worldwide and is the leading cause of death 	<ul style="list-style-type: none"> Americans have been diagnosed with type 2 diabetes causing to blindness, kidney failure, stroke, heart disease, and limb amputation. People with pre-diabetes and undiagnosed diabetes brings this to 100 million 	<ul style="list-style-type: none"> Alzheimer's disease affects close to 6 million people in the United States 	<ul style="list-style-type: none"> Autoimmune disease affects 23.5 - 50 million Americans depending upon sources 	<ul style="list-style-type: none"> Obesity prevalence in the US is 42.4 percent of adults 	<ul style="list-style-type: none"> 32 million Americans have food allergies

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The Good News Nurture > Nature



Most chronic diseases are completely preventable with lifestyle, environmental and behavioral changes

Examples:

- ✓ Consuming ten portions per day of fruits and vegetables could prevent about 7.8 million premature deaths worldwide each year
- ✓ Stress plays a role in 75 percent to 90 percent of human diseases
- ✓ People who get 17 to 21 percent of their calories from added sugar have a 38 percent higher risk of dying from cardiovascular disease than those who get 8 percent of their calories from sugar
- ✓ Exercising just 15 minutes a day can add 3 years to your lifespan

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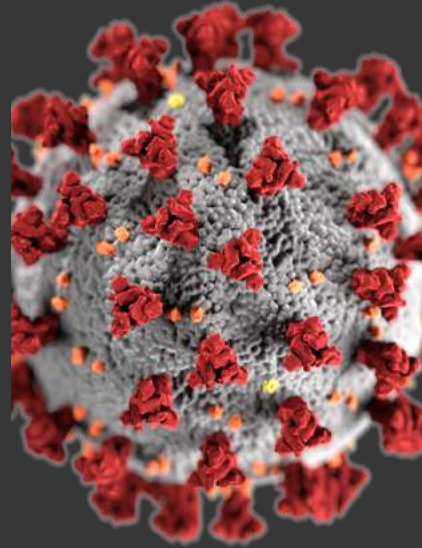
We need inflammation Characteristics of a healthy immune response



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What we've learned from the COVID-19 pandemic

- ✓ People with diseases of chronic inflammation often fared worse than others.
- ✓ Certain vitamin and nutrient deficiencies led to poor outcomes, ICU stays and longer hospitalizations.
- ✓ Risk factors for long haulers COVID (post acute sequelae of COVID-19) are Type 2 diabetes, certain autoantibodies, female sex, COPD and reactivated Epstein – Barr Virus infection.



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The Four Immunotypes



Smoldering

Chronic low level inflammation from inflammatory foods, obesity, sedentary lifestyle, poor sleep, excess alcohol, obesity, stress etc. leading to cardiovascular disease, diabetes, arthritis and other lifestyle diseases. Poor inflammation resolution.



Hyperactive

Seasonal and perennial allergies, chronic sinus infections, asthma, food allergies and sensitivities, eosinophil and mast cell disorders, urticaria (hives) and eczema. TH2 dominant.



Weak

Frequent infections with viruses and bacteria. Difficulty clearing infections and reactivation of dormant viruses. Frequent GI symptoms and fatigue. Often poor sleep, toxin and poor stress tolerance. Issues with both innate and adaptive immune responses.



Misguided

All autoimmune diseases. Ongoing self tissue destruction driven by underlying non-resolving inflammation. Issues can be occult infection, gut dysbiosis, toxicity and stress issues. Tend to be Th17 dominant.

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Supporting your Immune Army



Innate immunity

Barriers of the body

- Skin, tears, saliva, mucosal lining, enzymes, stomach acid, microbiome bacteria.

Innate immune cells

- Phagocytes (macrophages, dendritic cells, neutrophils)
- Natural killer cells, eosinophils, basophils, mast cells

Adaptive immunity

T cells

- killer
- helper
- memory

B cells

- Antibody producers

CYTOKINES

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Why knowing your specific immunotype can help?



- ✓ Helps us know which parts of our immune system to boost and which to balance or calm down.
- ✓ Allows us to use specific lifestyle interventions to improve innate and adaptive immunity.
- ✓ Helps guide dietary choices and nutritional interventions.
- ✓ Guides use of specific vitamins, minerals, herbs, botanicals and other supplements to bring back immune balance.

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Targets for optimizing immune balance



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Sleep/circadian rhythm

- ✓ Sleep is a very active time for immune activation and sleep deprivation and dysfunction can lead to both innate and adaptive immune dysfunction.



Improvement of cortisol/melatonin relationship to enhance pathogen killing at night, antibody production and anti-inflammatory response.



Promote tissue repair.

Interventions to improve sleep quality:

Blue light blocking glasses, technology apps, black out shades, sleep masks, dawn clocks and light boxes

- Sleep hygiene – Cooling pads for bed, sound machines, aromatherapy, sleep stories/meditations.
- Sleep enhancing supplements - melatonin, GABA, magnesium, CBD, anxiolytic herbs (hops, valerian, skullcap) and adaptogens.

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Gut Health



GALT: Gut Associated Lymphoid Tissue.

Where the bulk of the human immune cells reside and significant interface occurs between innate and adaptive immune cells and gut microbes.

Interventions include:

- Products to support health of resident bacteria: prebiotic fibers, synbiotics, fermented foods, probiotics, resistant starches, fiber.
- Leaky gut barrier repair: collagen, glutamine, colostrum, short chain fatty acids (butyrate)
- Digestive Support: Enzymes, digestive bitters, demulcent herbs, motility support.
- Dysbiosis interventions: Herbal anti-fungals and anti-bacterials.
- Polyphenol foods and supplements and gut health promoting vitamins and minerals (i.e. zinc, omega -3 fats, and vitamin K2)



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Stress Management

Acute positive stress is beneficial and creates hormesis.

Chronic stress is immune suppressive and pro-inflammatory.

Affects both innate and immune immunity as well as gut health and sleep.



Behavioral interventions:

- Mindfulness meditation, cognitive behavioral therapy, breath work, tapping, acupuncture, gratitude practices, nature therapy, yoga, exercise creative outlets, journaling, massage etc

Adaptogens: Energizing and calming

- Rhodiola, Ashwaganda, Panax Ginseng, Schisandra, Eluethero, Holy basil
- Medicinal mushrooms (also act as immune stimulants) – Cordyceps, Turkey Tail, Lion's Mane, Chaga, Maitake etc
- CBD/Hemp products



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Feeding the immune system

A diet of organic whole foods with high nutrient density is the cornerstone of balanced immune modulation. Specific nutrients act as immune modulators, support innate and adaptive immune cells and enhance inflammation resolution and tissue repair



- Antioxidants, E, selenium, vitamin D etc
- Immune boosting foods : medicinal mushrooms and spices (e.g, tumeric)
- High polyphenol “superfoods” (cacao, green tea, blueberries, cloves)
- Adaptogenic coffee, coffee substitutes, herbal teas
- Gluten free/grain free substitutes
- Dairy substitutes
- Low glycemic natural sugar substitutes
- Plant proteins
- Alternatives for food sensitivities (e.g. low FODMAPS)



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Environmental toxins

Toxins can be immune distractors as well as stimulants. Many are implicated in hormone disruption, cancer, autoimmune disease, obesity and increased allergies. Consumers are focused on transparent labeling and 3rd party certification.



Interventions:

- Green Beauty and baby products (free of phthalates, parabens, heavy metals, fragrance, etc)
- Organic, non-GMO foods
- Products for EMF reduction
- Water filtration
- Air filtration
- Nontoxic cleaning products/gardening products (free of formaldehyde, bleach, ammonia, organophosphate pesticides and herbicides etc.)



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What is the role of nutritional supplements?



- ✓ You can not supplement yourself out of a poor diet, sleep, lack of exercise or toxin filled lifestyle.
- ✓ Are very beneficial when used properly as adjunct.
- ✓ Can help when absorption is poor (genetics, GI issues), when higher doses are beneficial (e.g. turmeric, resveratrol, quercetin) or dietary avoidance (e.g. B12 in vegan diet)
- ✓ Helpful when ingredient is not widely available in food, such as substances made primarily in the body (e.g. Vitamin D, glutathione)
- ✓ Bioavailability, cost, palatability, effectiveness and purity are paramount.

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Immune balance is necessary for immune resilience



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Thank you!

Contact:

info@modaycenter.com

IG:@theimmunitymd

FB:modaycenter215

