

OPTIMIZE YOUR IMMUNE SYSTEM

Create Health and Resilience
with a Kitchen Pharmacy

by

MARIE RUGGLES, RD, CN

SAMPLE CHAPTER



EMERALD LAKE
BOOKS

Sherman, Connecticut

Optimize Your Immune System

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This book is dedicated to my husband, Shelly,
who was a primary champion of this work.
His support has kept me energized to finally
bring it to completion.

This book is also dedicated to you, my dear reader.
You are the reason I approach each day
with a passion for learning and teaching.
My prayer is that you will be strong and healthy
so you can walk in your purpose.

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INTRODUCTION

This is a book about wellness. Supporting the crucial function of your immune system is one of the best things you can do to maintain your health; it is your first line of defense. Everything you eat and drink either strengthens or weakens your immune system.

Start with your food. I'm going to show you how to transform a corner of your pantry into a kitchen pharmacy, stocked with healing foods, teas, spices and supplements to ensure you have immune-optimizing solutions within reach when your system needs a boost. This is known as the "food-as-medicine" approach to health, and it is backed by thousands of clinical research studies.

I started my career in research and continue to be impressed with the expansion of clinical studies in nutritional immunology. Every day, new clinical trials are revealing the immune-enhancing effects of specific foods and nutrients. My mission is to take the science out of the lab and bring it into your kitchen in simple, actionable steps.

You will learn how to build a strong foundation. This will help you to experience a better outcome, no matter what immune challenge you are facing. In addition to preventive health and overall wellness, there will be a focus on viral infections,¹ including what to do when you have been in an unhealthy environment or when you are starting to feel like something is coming on. In a nutshell, you're

¹ Colds, the flu and other conditions with similar respiratory symptoms are usually caused by a virus.

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going to learn how to get ahead of a virus; bolstering your defenses *before* it gets ugly.

Typically, you feel fine for a few days while a virus is busy spreading. It's only when the viral load significantly increases that you develop the symptoms that let you know you are sick. Soon after one virus passes through, it's replaced by another one or some other threat to your health. That's why I suggest starting with building a foundation that will strengthen and prepare your immune system for whatever comes at it.

The information provided in this book is for maintaining wellness, not for the treatment of illness or a specific virus. Each virus has a unique biology and requires different interventions. The best way to increase your chance for a successful outcome is by using a variety of immune-boosting supports that offer unique benefits. This approach allows you to cover all the bases by optimizing your internal defense system.

More on that later. For now, let's talk about what happens when you go to a party.

Some of those people you are hugging and kissing are coming down with something, but they don't know it yet. People who are carrying a virus often feel fine for the initial two to five days (or longer) while it's in their body setting up house and multiplying. Yup. Your friends are out partying while their systems are being overtaken. It's not until the virus reaches mass multiplication after several days that their symptoms keep them home. We call these people "shedders." They are passing the virus on to others, often without any awareness of their own infectious state.

Meanwhile, you're shaking hands and sharing the same wine bottle, using the same serving spoons, and then scratching your nose with that hand. You're also breathing the same air that may carry droplets (with invisible uninvited microorganisms) right into your lungs. It's the same scenario when you place your hands on the grocery cart handle, bathroom faucet or equipment at the gym. Some germs can survive for longer than ten hours on a surface.

And guess what? When someone who is fifteen feet away from you sneezes, you're in their water droplet zone!

Taking deliberate action to strengthen your immune system is the first step in staying healthy along with handwashing and other baseline hygiene precautions. When I think of my immune system, the image that comes to me is a group of guards at the door who decide who gets in, who can stay and, most important, who gets deleted from the party list!

That's what this book is all about; creating a high-functioning immune system with the crucial foods and nutrients to keep you well all year long. In times when additional support is needed on a short-term basis, further immune resilience can be achieved by using natural reinforcements.

By paying daily attention to nourishing this system of defense, your entire body will benefit. What's good for the immune system is also good for the rest of your body, from your brain to the appearance of your skin. A robust immune system will help protect you from autoimmune conditions, such as arthritis, cancer and many other unwanted guests.

Optimizing immune function is the first step to providing an internal shield of protection and enjoying better health all year long. The three steps for optimization include:

1. **Act Now.** This is the time to prepare your immune system for the season ahead. Give your body some TLC (or “tender loving care”) every day. Being proactive is key.
2. **Be Ready.** Keep a few natural wellness options on hand for when you need to step it up a notch to support your immune system after being near a sick person or in an unhealthy environment.
3. **Take Control.** Take back your power, knowing you can strengthen your internal defense system with food, supplements and healthy lifestyle choices.

This book will show you exactly how to accomplish each of these three steps.

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My background is in nutrition and public health, and I am a certified diabetes educator. My experience includes over forty years in the wellness arena. I have found that staying well requires more than a healthy diet. This led me to incorporate a variety of simple, natural wellness strategies and products into my programs with tremendous success. While there are many immunity-strengthening supplements available, the ones you will find here are primarily food-based, including powerful extracts of elderberries and grapefruit seeds. These help me to keep it simple with confidence, knowing they deliver. And I just love everything “food.” I hope you will also gain the same appreciation.

These are not your only options. They are what my work has focused on. There are other approaches including herbs, naturopathic and traditional Chinese wellness strategies that also have much to offer. What I’m sharing here is easy to find and simple to use; a treasure trove of wellness you can implement on your own. As new clinical trials emerge, additional information for optimizing immune support will become available. Feel free to consult other natural practitioners along the way to further enhance your wellness.

You are the owner of an inner army responsible for protection, maintenance and renewal. This is your personal “homeland security” system, which needs reinforcements for optimal function. The key to optimizing your security system is knowing when to take extra measures to strengthen your innate disease and virus-fighting immune system. The innate immune system includes your first line of soldiers to enter battle. These early risers are critical in controlling the escalation of conflict—the multiplication of viruses. In this book, you will learn how to activate this system for optimal results.

If you are wondering whether there is solid scientific evidence on the role of nutrition and immunity, check out the U.S. government’s research database at [PubMed.gov](https://pubmed.gov). There is a very robust body of research demonstrating the undeniable role food and nutrients play in strengthening immune resilience.

Simply typing “vitamins and infection” into the search bar of the PubMed database will show over 25,000 studies on this topic, with more being added every week. More specific searches, like “zinc and virus” or “pneumonia and nutrition” each bring up more than 4,000 studies. While searching for “probiotics and infection” yields over 7,000 results.

With a growing interest in viral immunity and the existing body of data showing the essential role of nutrition in immune resilience, these numbers are bound to increase dramatically over the next few years. In this book, I interpret the science for you in a way that makes it easy to translate into what to serve for dinner.

You will also learn how to develop a simple home inventory of natural wellness options. Choose those that fit *your* lifestyle. These options include whole foods, superfoods, spices, vitamins D and C (plus other critical nutrients and supplements), teas, mood management, sleep, activity and immune-support supplements.

Superfoods are foods that contain special therapeutic compounds, also known as “bioactives.” I like the way Amanda Archibald, RD, author of *The Genomic Kitchen* describes bioactives.

...bioactives function like a switch that, when activated, sets in motion a series of biochemical steps, akin to knocking over a series of dominos. The result of this cascade is the activation of certain genes.

I believe God designed your amazing body with innate wisdom for knowing exactly what to do. The support offered in this book is derived from God’s creation (plants). Including these reinforcements maximizes your body’s efforts to efficiently carry out the job your creator designed it to do. Extra support is often needed because of a lifestyle that may include unhealthy food choices, chronic distress and toxin overload.

I am going to provide specific steps for developing your own home inventory of natural wellness options. When specific items are mentioned (teas, supplements, foods, etc.), I will provide guidance

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on which brands and products I use and recommend to my students. These suggestions are highlighted as “Products I Love,” some of which may already be found in your kitchen. Whenever possible, I suggest a few products, simply to give you some price options.

When I recommend brands, it’s to guide you to “safe” companies, meaning they don’t use unnecessary fillers, which can be a source of contaminants. Their capsules contain exactly what is listed on the label. It also means the company has been thoughtful about the sourcing of ingredients. This is not the case with all brands.

My recommendations represent just a sample of the many excellent nutraceutical supplement brands. Feel free to “price shop” using these guidelines to review other products.

For a continuously updated list of products I love, visit my website at marieruggles.com/products.

The body has many wellness maintenance management systems we could talk about. The immune system is a great starting place. Even if your primary area of focus may be on another system, you will still benefit from the immune system focus. You can always layer on targeted support for your personal area of concern. True wellness begins with addressing core imbalances that, when brought into balance, will correct many areas of your physiology, strength, cognition, mood and resilience. In “Medical Resources” on page 122, I have provided a list of nutrition-minded and natural medicine practitioners who can further assist in your wellness journey.

Why am I so excited to share this strategy for optimizing immune function and getting ahead of a virus with you? There is truly no need to dread being plagued with unhealthy winter days or everyday health challenges. This is because you can take care of your body all year long, creating strength and resilience. With a bit of information, you will understand how to get back into the driver’s

seat. More on that in Chapter 1. Immune System 101, where you will learn how you may be unintentionally blocking your immune system's vital activities.

What tools do you need? Choose whatever resonates with you. Start with what's accessible and easy. In Chapter 2. Foods that Optimize Immune Function, I will introduce you to some very surprising foods that contain bioactive compounds that deeply nourish your cells, calm inflammation, and fortify the immune response. Some of these might be readily available in your kitchen. You will find easy ideas for incorporating my strategies into your day with my "Whole Foods Quick Start Guide." Whole foods are the cornerstone of vibrant health.

I have made every effort to address various topics in this book in a way that's easy to understand. When you understand the concepts, you're more likely to be motivated to consistently follow through on my recommendations.

You will also learn there are certain foods that can hinder immune function. Too much sugar, for example, can derail immune activity. The same is true with stress, physical activity and sleep. Each of these is a factor you can modify yourself, putting you into the driver's seat of your own wellness.

An adequate supply of nutrients is another one of the key reinforcements for priming your immune system to be on constant surveillance and to mount a vigorous attack when needed. In Chapter 3. Superfoods That Optimize Gut Health & Immune Function and Chapter 4. Nutrients and Supplements That Optimize Immune Function, you will learn about superfoods and specific nutrients that strengthen your immune system.

According to Diana Noland, MPH, RDN, IFMCP, LD, a pioneer in the field of clinical nutrition and co-editor of *Integrative and Functional Medical Nutrition Therapy*:

It is now recognized that an individual's vulnerability to infection is associated with nutrition status. Nutrients maintain the integrity of the immune system.

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The critical interplay between sleep, exercise and mood, as well as the function of your immune system will be addressed in Chapter 5. Lifestyle Factors That Affect Immune Function. In Chapter 6. Putting It All Together, you will find a simple, reference summary for self-care. This is where you will see what it looks like to put my recommendations into practice during each phase, including daily wellness, exposure to an unhealthy person or environment, and the need for extra immune support when you feel like something is coming on.

Can you picture your family having great health all year long? My *most* favorite part of teaching others about having a home inventory of natural wellness options is sharing the message that you can *take back your power*. If anyone in my family wakes up with something going on, I typically have a safe and simple option to take care of it, so there are fewer missed days of school, work and play!

Taking back your power is like having boots on the ground in your own home. I always feel confidently equipped to take care of myself and my loved ones. My hope for you after reading this book is that you will feel more empowered and less victimized by circumstances. We regularly take actions to protect ourselves and loved ones from harm. This may include the use of protective equipment, like seat belts and biking helmets, or the scheduling of periodic dental appointments, but do you ever think about actively protecting your immune system?

I hope you will embrace personal responsibility for the care and keeping of your immune system, knowing that wellness starts when your feet hit the floor every morning. If you are well all winter, it's in part because of what you did during the other eight months of the year. Are you already starting to feel the power?

I encourage you to read the entire book to get a feel for the wellness options that are literally at your fingertips. Then, keep the book handy to serve as a reference guide, which is where Chapter 6. Putting It All Together will come in handy. After all, you are a busy person. No need to memorize anything; the information is

in here. Keep this reference in the kitchen or other convenient location. I wrote this book and yet I still refer to it for guidance!

There you have it. After putting my tips into practice, your personal security system will be charged and ready. Know that as you read, I will be in prayer for you, hoping each chapter will shower your home with the wellness blessings you most need at this time.

CHAPTER 1. IMMUNE SYSTEM 101

The immune system's prime function is to protect your body. Knowing some basic information about how your immune system works will go a long way in helping you to take better care of it and your entire body. This extra care will pay it forward with big health dividends through all seasons and as you age.

In addition to the daily and seasonal challenges your immune system is actively confronting, it is a key player in preventing potential ailments. Every day, this system is busy targeting radical cells for destruction and neutralizing the daily onslaught of toxins. For all these reasons, keeping your immune system strong and ready to fight should be a top priority.

White blood cells are one of the key components of your immune system responsible for surveillance and defense. There are several varieties of white blood cells, each with specialized jobs. For simplicity, we are going to group their overall mission into:

- Attack
- Engulf
- Digest

Other components of your immune system are equally important and have specific jobs. They are all warrior cells. Some fight parasites, produce fighter chemicals, or develop antibodies. These components of your immune system are continuously at work. In times

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of high demand, the workload is increased along with the need for more fuel.

The fuel that drives these activities comes in the form of vitamins and minerals. Immune cells love nutrients. They even have receptor sites for them. Cell receptor sites are like parking spaces. Your immune cells have parking spaces with the names of specific nutrients on them. Taking good care of your body all year long by supplying it with a continuous store of nutrients will give your body a reserve to draw upon in times of increased demand.

Your immune system will thank you for the extra care and attention by:

1. Increasing the number of immune cells and defense compounds.
2. Strengthening the barriers, including your skin, gut bacteria and the mucous membranes of your nose, throat, airways and lungs.
3. Enhancing the activity of immune cells, including detoxification, maintenance, renewal and killing off foreign invaders, such as viruses.
4. Blocking attachment of invaders.
5. Managing inflammation.
6. Working harder and longer to remove debris from degraded cells and toxins.

When it comes to viruses, your immune system can intervene at any stage of an invasion. Intervention might take place at the “wall,” which is where the barriers, such as mucous membranes, stand guard. If the virus does gain entry, your warrior cells may prevent it from attaching onto a cell in your sinuses or lungs. And if the virus has successfully evaded the barriers and entered a cell, your immune killer cells can disable its ability to replicate and spread to other nearby cells.

With the understanding of how important supporting the immune system is, its optimal function starts with your daily self-care habits, including healthy foods, exercise, hydration, quality

sleep, mood management and providing an adequate supply of nutrients and bioactives. It can take months to reboot your immune system, or longer if you have really been “off the trail.” Now is the time to start, keeping in mind that today’s healthy habits will protect you in the upcoming seasons.

Your immune system is a remarkably designed army of combatant cells that work at maximum efficiency when you:

1. Nourish it.
2. Avoid immunotoxicity.
3. Provide well-timed reinforcements.
4. Avoid blockages that disrupt your immune system’s activity.

To nourish your immune system, you must provide a daily supply of vitamins, minerals and other bioactive compounds that are essential ingredients for driving immune activity. This is something you can do today to ramp up for those times when your system has an increased need for protection, such as defeating foreign invaders.

You can avoid immunotoxicity by replacing toxic cleaners, air fresheners, processed foods, candles, shampoos, moisturizers, toothpastes and other personal care products that flood your cells with chemicals that block normal functioning.

As for providing well-timed reinforcements, let’s look at what happens when unhealthy organisms enter your body. According to Aristo Vojdani, PhD, microbiologist and immunologist, pathogen activity can be described with the acronym IRS: Infection, Replication and Spread. In a healthy person, the immune system is instantly alerted and begins to deploy killer cells to take out the enemy. Sometimes, unbeknownst to you, the unhealthy organisms find a way to quietly evade the killer cells and start to multiply. For this reason, it’s critical to act as soon as possible. During this time, you feel fine. After two to five days (or longer) of multiplication, you start to recognize you need immune support because you now have uncomfortable symptoms.

The best time to act is before you are in distress so your immune system is ready for any challenge. The second best time is as soon

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as you have been with an unhealthy person, in an unhealthy environment, or have a weakened immune system from stress, grief or depression. On a personal note, I am most vulnerable to infection when my stress level is high or when I'm burning the candle at both ends. These two scenarios often occur simultaneously, creating a double whammy.

When your body gives a signal (fatigue, scratchy throat, slight congestion), it's an alert that it's time to act. Acting immediately will pay off tremendously. This is your opportunity to bring in the reinforcements—superfoods and immune-enhancing supplements.

It is crucial to avoid blockages that disrupt your immune system's activity. The way we live can inhibit your immune system's performance, even as sophisticated as it is.

Toxins can be found in our environment as well as in products we use and foods we ingest. Unfortunately, these toxins can block our body's ability to protect and renew itself with precision (as it is intended to do), thereby derailing the healing powers of the immune system. They can be found in the air, as pesticides on the food we eat, in processed foods, and contaminants from food containers. They can even be found in the chemicals used to manufacture cleaning and personal care products.

Sugar can also sabotage your immune system. Additionally, toxic emotions are also top saboteurs of a resilient inner-defense system.

Sixty years ago, toxins started to enter our environment in massive amounts. According to Joseph Pizzorno, ND, Author of *The Toxin Solution: How Hidden Poisons in the Air, Water, Food and Products We Use Are Destroying Our Health*, "Toxins are now the invisible primary drivers of countless health problems. They block normal immune function and disrupt every aspect of our physiology," and this has been shown repeatedly in cutting-edge research.

Daily use of chemical-laden products creates a virtual cesspool of toxins in your body that block optimal immune function. Your body has an innate capacity to detox, but was not designed to manage the current level of toxic exposure most of us experience.

The good news is there are many easy steps you can take today to decrease toxin exposure. Swapping out toxic products for chemical-free cleaning and personal care products is one way to immediately stop the daily influx of damaging compounds.

Start by checking the labels of your cleaning or personal care products. Type any name you don't recognize into Google preceded by the phrase "dangers of" and see what comes up.

I once assumed products on the store shelf were safe. How could they be there otherwise? I also assumed the government oversees product safety. Not so. The government requires no pre-market testing. The FDA lets the cosmetics industry self-police, which leaves the public vulnerable to toxicity.

According to the Environmental Working Group:

The Food and Drug Administration has no authority to require companies to test cosmetic products for safety and the agency does not review or approve most ingredients before they go on the market; companies may use any ingredient in their products without approval. In the past 30 years, the FDA has banned only 11 ingredients from use in personal care products, whereas the European Union has banned more than 1,000. The average woman uses up to fifteen personal care products daily, exposing herself on average to 126 daily toxins.

Which products should you consider swapping out for safer alternatives? Consider the cleaning products you use, as well as your daily personal care items, including shampoo, toothpaste and moisturizer. Remember, when you choose natural immune-support options, you are also likely avoiding chemical-laden alternatives.

Also, consider the packaging choices you make. When you eat canned soup or drink water from a plastic bottle, your blood levels of BPA and other plastics increase dramatically. To find out more about the toxins in the packaging you use, contact food manufacturers for

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information about the content of their packaging. Eden is the only company in the United States I know of that does not use harmful chemicals in the lining of their cans.

According to the Environmental Working Group:

...in order to receive organic certification, packaged foods must not only be free of toxic pesticides but also of thousands of added chemicals like artificial preservatives, colors and flavors. Only 40 synthetic substances have been approved for organic packaged foods. By contrast, thousands of chemicals can be added to conventional packaged foods, many of which don't require independent government approval for use.

This is another reason to go organic as much as possible. Choosing organic options will also go a long way to help you avoid another chemical, glyphosate. This toxin is considered to be a probable human carcinogen. According to the World Health Organization, glyphosate is found in many foods we consume daily, such as nonorganic oats (including granola and oat-based cereals), pasta, crackers, pizza and ice cream.

The job of your immune system is to target and destroy unhealthy microbes, such as viruses and bacteria. It will work much better when blockages caused by toxins in our system are removed. These blockages can overwhelm your defenses or impede immune cell activity by preventing the entry of key compounds into your cells.

Remember, you will need the highest levels of support from your immune system at times when you are in emotional distress. Stress will sabotage your immune defenses. Yet, this is the time we are most likely to let our guard down and stop taking care of ourselves. Don't make this big mistake. The times when you are stressed out and experiencing challenges are the times when you need to step up your game. Being proactive against stress is essential for ensuring your immune system is well-equipped to launch a well-fortified defense to protect you.

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PRAISE FOR OPTIMIZE YOUR IMMUNE SYSTEM

A treasure trove of practical information arriving at such a time of global urgency to strengthen our immune systems. The strong message throughout the book is the power of nutrition with various foods, nutrients and dietary supplements that are proven to be involved in preventing different diseases and minimizing pathophysiology of the disease. We can all have knowledge of the first line of defense for early interventions for our family's health and reduce the risk of more serious disease.

Diana Noland, MPH, RD, CCN, IFMCP, LD
founder of Noland Nutrition,
Co-Editor, *Integrative and Functional Medical Nutrition Therapy*

It is with great pleasure that I endorse and highly recommend Marie Ruggles's *Optimize Your Immune System*. It's an excellent, comprehensive guide to maximizing one's immune potential through nutrition and lifestyle modifications. Rarely do I review books with this level of guidance and step-by-step recommendations that can help individuals at every stage of readiness-for-change.

John Bagnulo, MPH, PhD

A nourishing read for all of us concerned about nutrition and immunity! This beautifully written book is a clear, actionable guide that delivers practical food-as-medicine and lifestyle strategies to bolster your immune defense. This is a wonderful and timely book!

Kathie Swift, MS, RDN

Co-Founder, Integrative and Functional Nutrition Academy

Author, *The Swift Diet*

If you want to take back control of your health, read this book. The section called *Immunity on a Budget* is a holy grail guide to an easy and affordable path to a stronger immune system.

Sabina Fasano

Founder, Solutions for Women

Optimize Your Immune System is chock-full of great information! The author, Marie Ruggles, masterfully wrote in a way that can be appreciated by those who already have some knowledge of the topic but want to take it to the next level, while also being easily understood by those who are just entering into this new way to approach wellness. The extensive detail is wonderful without being intimidating. A real “go to,” at the ready at all times!

Veronica Anderson, RN, IAC

I always find Marie Ruggles’s writing soothing, which complements her very relevant information on medical nutrition therapy and natural wellness. I highly recommend everyone from healthcare practitioners to everyday laypeople to read this straight-forward book. It will change their lives, help others, and provide solace when implementing Marie’s recommendations. Her guidance will help support the body’s immune system regardless of if or when we experience another pandemic—we all need to be prepared.

Diana L. Malkin-Washeim, PhD, MPH, RD, CDCES, CD-N

Director, Nutrition and Diabetes Program

BronxCare Diabetes Center of Excellence

Giving the consumer the ability to build their wellness right in the comfort of his or her own home is powerful! I know this will be a resource I will return to again and again.

Julie Mayring, PhD
Licensed Psychologist and Middle School Educator