

The Ripple Effect of Toxicity



AND WHAT **YOU**
CAN DO ABOUT IT

Lisa Helffrich, RD

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Author's Note: This book was written to help you get started with natural detoxification and is not intended as a comprehensive source of health information. It is recommended that you work closely with your healthcare professional to develop a successful detoxification program.

Table of Contents

About the Author.....	8
Acknowledgments	10
Introduction.....	13
What the Cell Needs to Stay Healthy.....	14
Peeling Back the Layers.....	16
Healthy Detox	19
What Is Detoxification?.....	19
Why Do I Need to Detoxify?	19
How the Body Detoxifies.....	20
Why We Become Toxic	26
What Toxicity Looks Like	27
The 11 Systems of the Body.....	28
How Often Should You Do a Detox Program?	44
Assisting the Body.....	47
DIET – What You Eat Makes a Difference	48

The Importance of Eating Organic.....	53
Antioxidants	57
FIBER – Simple Ways to Up Your Fiber.....	59
Suggestions for Your Grocery List.....	60
WATER – Proper Hydration is Key	65
The Dangers of Processed Foods	66
Putting It All Together.....	70
Living a Healthy Life.....	73
Exercise.....	73
Cleaning Up Your Home Environment	74
Quick and Easy Steps to Improve Your Home Environment	79
Is Stress a Toxin?.....	80
Supportive Therapies	83
Digestive Enzymes	84
Probiotics.....	86

Proteolytic Enzymes	87
Nutritional Supplements.....	89
Herbal Supplements Supportive to Detoxification.....	91
Selecting a Quality Supplement.....	92
Therapies You Can Do at Home.....	94
Treatments and Practitioners You Might Want to Consider	95
Conclusion.....	97
Resources.....	99
Appendix A: Success Stories	100
Appendix B: About Enzymes	110
Appendix C: Antioxidants.....	112

ABOUT THE AUTHOR

I have been interested in studying health and nutrition for thirty years, and I guess that makes me more of an expert than some on the subject. But I still get asked questions I can't answer, so I am constantly reading and searching for more information. I find myself saying, "Gosh, I didn't even know I didn't know that!" And then I wonder how many others are in the same boat. How do you go about learning something when you don't even know that you don't know it?

If you are reading this book, I hope it is because you are ready to learn what you don't know that you don't know. Hopefully I haven't lost you yet! If I have, just bear with me because the information is definitely going to be worth it.

My passion is food and nutrition and luckily it comes naturally for me, but even I am not perfect at it 100% of the time. I like to follow the 80/20 rule, which means 80% healthy food



choices and 20% not as healthy. My home is probably more the opposite of that and needs some serious attention! I share this to let you know that my health, home and life is always a work in progress, and all I ask of myself (or of you) is to take one step at a time toward making it a healthier life. I wrote *The Ripple Effect* to help people get started with natural detoxification – to show that you can make small changes that will make a big difference.

I pursued an education in nutrition because of a personal belief in health and wellness. I graduated from the University of Texas-Austin and became a Registered Dietitian. My diverse career history began in food service, long term care and sales, and then I found my true niche with Transformation Enzyme Corp. in 1996.

I started out as a clinician in the Transformation Enzyme Therapy Center where I used a variety of validation systems to assess and monitor the progress of my clients. Over time, by providing consultation on enzyme protocols to MD's, Chiropractors, Acupuncturists, Naturopaths and others, I have gained a working knowledge of different health care modalities and how nutrition and supplementation are a perfect fit with virtually every health care practice. I even went back to school in 2001 and studied Traditional Chinese Medicine for almost 3 years.

I am currently responsible for developing educational materials presented to health care professionals worldwide. This has involved giving presentations in the US, Singapore, Thailand, Japan and Russia promoting the benefits of nutrition, digestive enzymes and herbal supplements for improved health.

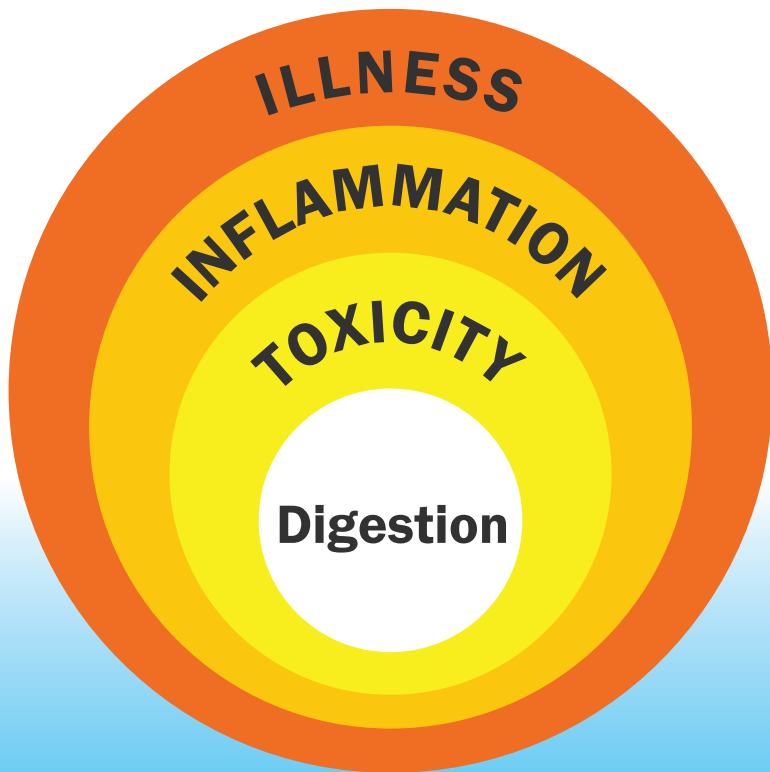
ACKNOWLEDGMENTS

A special thank you to Dr. DicQie Fuller-Looney and Dr. Richard Couey who impressed upon me the importance of enzymes and cellular nutrition and who have continued to teach and mentor me for fifteen years. Also thank you Dr. Robert Greenberg for continuing to teach me well beyond his Biological Terrain seminar!

Thank you to Natalie Butler, RD; K.D. Couch, NP; Jeannie Z, CCN, and all the clinicians and practitioners I have had the opportunity to work, learn and laugh with. Thank you to everyone at Transformation for giving me this opportunity, especially Suzanne Espinoza, Lindsay Bangle and Nathan Satterlee who helped me organize my thoughts and get them in writing.

And lastly, thank you to all those who have allowed me to be a part of their journey towards a healthier life. It is an honor to know you.





THE RIPPLE EFFECT

INTRODUCTION

I often receive calls asking if I have heard of a certain condition and if I know how to address it. I have to admit, more times than not, I have never heard of the disease, much less know what it is or how to manage it.

In my earlier days as a clinician this would concern me. I thought, “How in the world am I ever going to learn about all the diseases, illnesses or imbalances that our world faces today?” But I did my due diligence, looked it up and identified the underlying cause.

As time went by, I realized that every health condition I was seeing could be traced back to three key principles, and understanding them is vital to addressing toxicity. These principles are:

1. The human cell is the fundamental unit of life.
2. Every cell must receive nutrients to maintain its structure and function.
3. The environment inside and outside the cell must remain free of toxins.

God takes care of #1 and we are responsible for #2 and #3. If these do not take place, the cell becomes damaged, malfunctions or dies. As you will see in this book, supporting digestion and reducing toxicity are *both* key to correcting or preventing cellular damage that leads to illness.

First of all, when someone contacts me, I need to know a lot more about them than just the name of their disease or diagnosis. Two questions I always ask are:

1. What are they eating and drinking?
2. What are their bowel movements like?

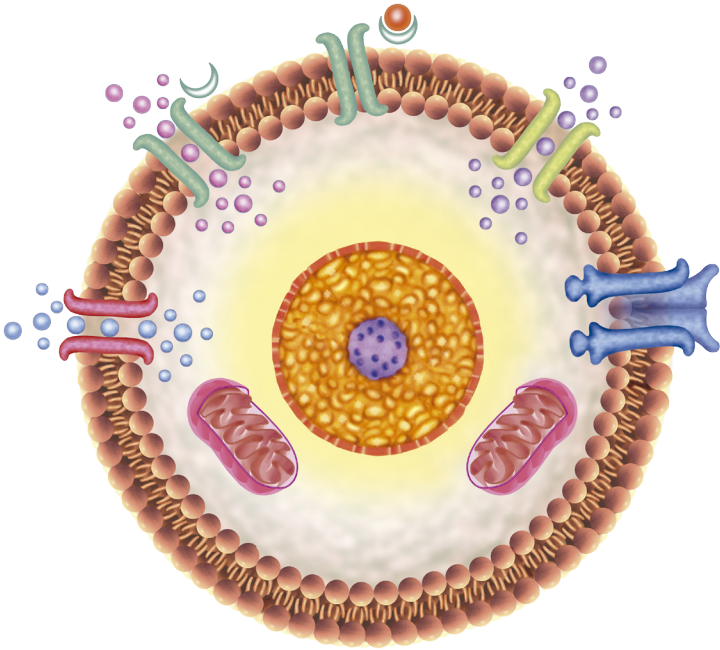
Yes, I know that second one catches people off guard, but I need to know what is going in and what is coming out of the body on a regular basis. Why is this so important?

Simply put, what goes in should be beneficial to the body, and if it is not beneficial it better be coming out. This, I believe, is fundamental to truly helping you get well and stay well. I focus on what a person is eating and drinking, help the body utilize those nutrients to the fullest and then support the body to filter and remove the waste. That, along with minimizing overall exposure to toxins, is the basis of a detox program.

What the Cell Needs to Stay Healthy

The human cell is the fundamental unit of life. We have trillions of them that make up our tissues, organs and muscles that form our body. The cell must receive nutrients and oxygen to perform its function and maintain its structure. This includes your brain cells for your ability to think, your nerve and muscle cells for your ability to move, your immune cells for the ability to defend yourself against disease and so on and so forth.

The cell membrane must also remain fluid, intact and free from damage. Additionally, the environment in and around the cell must remain “clean” in order to properly transport nutrients in



and waste out. If we can manage this and protect our cells from damage, our likelihood of achieving health and staying well is greatly improved. To me this is what preventive health and wellness is all about. So, here is what I look for when assessing a client:

1. Are the cells receiving nutrients?
2. Are the cells healthy structurally and functionally?
3. Is the body eliminating waste in a timely manner?

Unfortunately, when a client has contacted me, it is because he or she is not feeling well or has been diagnosed with a condition.

I immediately know there is an imbalance in this process of nutrients in/waste out and I begin identifying where it is and we work to correct the imbalance.

Peeling Back the Layers

It is important to understand that nutrition and digestion are key to this approach, and that is why I always start here. Let's look at a person's health in layers, like a bull's eye (see *illustration on pg. 12*).

- **DIGESTION** - The center of the bull's eye represents the digestive system, where the body receives the vast majority of nutrients (or non-nutrients in many cases). When nutrition and digestion are good, the body receives nutrients and you will benefit. However, if diet and lifestyle choices are poor, the opportunity for toxicity increases.
- **TOXICITY** - The next layer or ring represents toxicity. A toxin can be created internally or received externally and can be anything that interferes with the healthy workings of your cells. In a healthy scenario, the body's detoxifying organs are doing their job to keep up with and eliminate toxins in a timely manner. But if our food choices, digestive ability or lifestyle habits are poor, the level of toxicity rises. This, coupled with all of the environmental toxins we encounter daily, is often too much for the body to handle and toxicity builds up, affecting your health.
- **INFLAMMATION** - When the body cannot keep up with eliminating toxins, and the "congestion" persists over time, the third layer is created. This is inflammation, also

known as cellular damage. I believe, and it has been found by many researchers, that chronic inflammation is a common denominator in many degenerative diseases such as arthritis, heart disease, diabetes and cancer. I will explore this concept further in the *11 Systems of the Body* section of this book.

- **ILLNESS** - When toxicity and cellular damage persist at a greater rate than does nutrition and elimination, then the final layer or outer ring is what we see as a disease or condition. This is when the body is receiving too many non-nutritive substances, it cannot eliminate them fast enough, toxicity builds, cells are damaged and the body becomes sick

I realize I have simplified that quite a bit, but I am afraid sometimes we make things way more complicated than they have to be. The good news is the body usually responds quickly to positive changes, and the imbalance can be corrected through better food choices, simple lifestyle changes and some support to assist your body's detoxifying organs.

The purpose of this book is to provide information on healthy choices to minimize your exposure to toxins and support your body's ability to clear them. You will learn how supporting healthy digestion and detoxification can have a positive "Ripple Effect" on the overall health of the body. Most of all, I hope this book will assist you in making better choices and inspire you to take a proactive role in your own wellness!



“Good health is not an unobtainable privilege meant to be savored only by the fortunate. Rather, it is a right that should be enjoyed by anyone who is willing to take the time to learn how to take care of his or her own body.”

-Dr. DicQie Fuller-Looney

HEALTHY DETOX

What Is Detoxification?

The healthy body is constantly in an active detoxification mode and can easily keep up with eliminating all forms of toxicity. Some people, however, based on diet, lifestyle or environmental factors, may find they need to give their body some additional help to clear excess toxins that may have accumulated over time. Doing a cleansing as a way of ridding the body of harmful toxins has been used for thousands of years by many cultures as part of rituals for health and well-being.

The premise of body cleansing is based on the ancient Egyptian and Greek idea of autointoxication, in which food consumed can putrefy, ferment or turn rancid, releasing toxins that harm the body. Another term for cleansing is detoxification or “detox.” This process promotes optimum health and wellness by removing toxins from the body and replenishing essential nutrients. It involves eliminating, neutralizing and/or cleansing them from the body.

Why Do I Need to Detoxify?

In a perfect world, you don't! However, I think we can all agree that most of us do not live in a perfect world. Our diets are not

perfect 100% of the time, much of our environment cannot be controlled and our lifestyles are subject to stressors every day. I'll go into more detail about diet and lifestyle a little later in the book. For now, I want you to understand that it is extremely important to become more aware about what you put in, on and around your body, and how to assist your detoxifying organs to do their jobs more effectively.

We regularly service our cars by cleaning the filters and changing the fluids so the engine runs better and lasts longer. In some ways, the body is the same. Similar to our cars, it is a good idea to do regular maintenance on our body. Regular cleaning of our filters and fluids will help our body run more efficiently and feel better. With our cars, we use the proper fuel and oil according to the owner's manual. The same should be true for your health!

Consider the consequences of what would happen if the exhaust went inside the car as opposed to outside. It could be deadly in a very short amount of time! As mentioned earlier, if the toxic load becomes too great and cannot be removed, the inevitable result is inflammation and imbalance. In other words, your body will break down and leave you stranded.

“Deliver the nutrients, clear away the waste and allow the body to manage its resources.”

How the Body Detoxifies

Everything that enters your body, whether through the digestive tract, lungs or skin, must be metabolized and used for energy or building blocks. If it is not beneficial to your body, it needs

to be removed quickly and efficiently. Fortunately, your body already has a very sophisticated system of filters, converters and exhausts that continually work to absorb nutrients and remove toxins from the blood.

Your detoxifying organs are the liver, colon, lungs, kidneys and skin. The circulatory and lymphatic systems also play a key role, although they are not technically detoxifying organs. Your blood and lymph fluids are your body's way of transporting nutrients to every cell. This is also how metabolic wastes and environmental toxins are carried to the various detoxifying organs to be neutralized, broken down and removed.

What is left over after digestion, energy production, building and repair is called metabolic by-products or waste. Your lungs, kidneys, colon and skin are the main ways these toxins leave your body. I hope you are paying attention because this is your life – *or death!* If these organs did not constantly work together and do their jobs, your internal environment would quickly become polluted and make you very sick. For a better understanding, let's look a little closer at each of these organs.

Liver

Your liver filters as much as 100 gallons of blood every 24 hours. It is not only responsible for detoxification but also for regulating blood sugar, producing hormones and cholesterol, and managing over 50,000 enzymes! Its role in detoxification is more extensive than any of the other organs.

First, it filters out large toxins and even bacteria, viruses or other non-friendly microorganisms that enter your body via food, wa-

ter and air. Second, it synthesizes bile which helps in the digestion of fats and also removes fat-soluble toxins. And third, with the help of many enzymes, the liver neutralizes or breaks down chemicals, making them less harmful and easier to eliminate. These enzymatic processes are referred to as the liver's phase I and phase II detoxification pathways. Many of the foods suggested in the diet section of this book are there because they provide specific nutrients necessary for the liver to perform its detoxification duties.

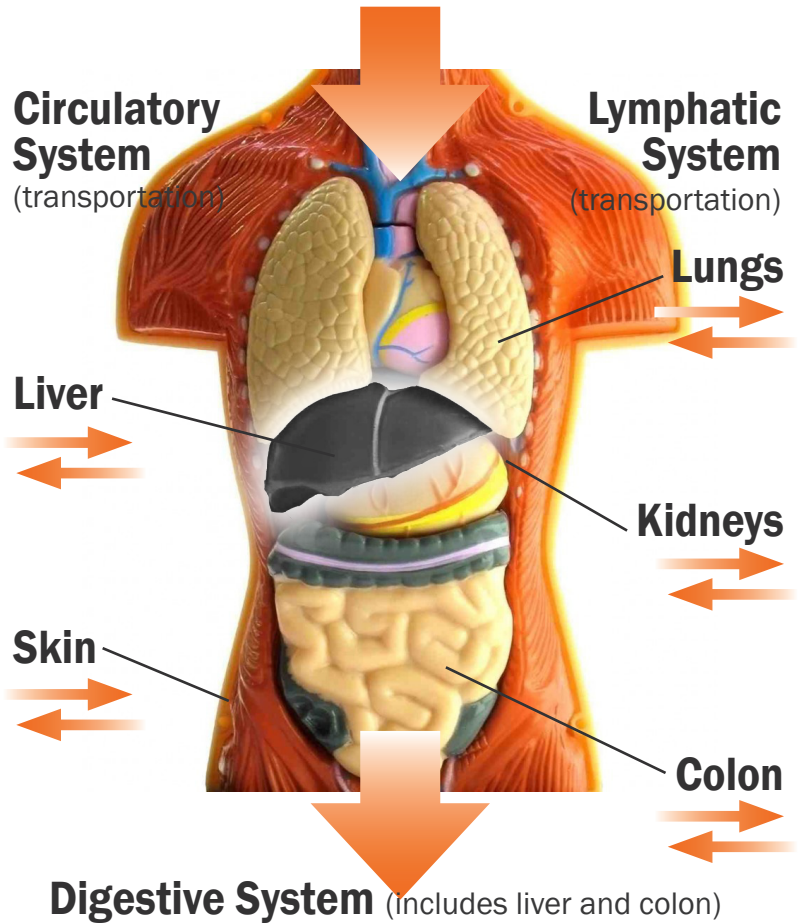
Colon

You are familiar with your colon, right? It's the final portion of your digestive tract, after the small and large intestines. Your intestines complete the digestive process where nutrients are absorbed into the blood stream. Once everything has been processed, the food residue, fiber and toxins move to the colon to be excreted in the form of bowel movements.

If you do not have at least one bowel movement every day (and ideally we should have two to three movements per day) the waste sitting in the colon will putrefy, ferment and turn rancid. This produces even more toxins that are reabsorbed back into the blood stream. For most of us, our body is able to handle this, but what a waste of energy and effort to continually recycle the toxins! This is why complete digestion and timely elimination is so important to your long term health.

Lungs

While the digestive system supplies nutrients to your cells, your lungs are supplying oxygen. As air moves into and out of the



DETOXIFYING NETWORK

“Nutrients IN, Waste OUT”

lungs, gases are exchanged via the blood vessels. And like the digestive system, your lungs also dispose of a by-product of energy production, carbon dioxide. That is the primary function of the lungs, but what if the air we breathe is not “clean”?

Your respiratory system is continually exposed to airborne pathogens and pollution. Therefore, it is very important to maintain the integrity of its mucosal lining as well as the body’s immune function. In my clinical practice, it is not uncommon for me to see toxicity underlying conditions such as allergies, sinus congestion and asthma. We all know that without our lungs supplying oxygen, we would die in only a few minutes. But what we may not be as aware of is we would also die if our lungs did not perform their important role in detoxification.

Kidneys

Your kidneys are another vital part of your body’s detoxification systems. They are responsible for maintaining blood volume, blood pressure, fluid balance throughout the body, acid/base balance and elimination of waste. The filtering unit of the kidneys is called the nephron and you have approximately one million of them per kidney. Through a network of capillaries and tubules, the nephrons continually filter the blood, reabsorbing needed nutrients and excreting waste collected as urine. If your kidneys fail to maintain this phenomenal balancing act within the blood, your life would end very quickly – it’s that simple.

Skin

The last true organ of your detoxification system is your skin. While its role in detoxification is minimal, it cannot be overlooked.

Your skin is the largest organ of the body and has a very large surface area, making it a prime candidate for absorbing chemicals. It is important to be aware of what you are putting on your skin as well as allowing it to “excrete” (via sweat) things that are not beneficial to your health. Your skin’s primary function is to keep water and other molecules inside the body and pathogens such as bacteria outside the body. But keep in mind it also has a role in the elimination of metabolic wastes through perspiration.

I think it is important to note that your skin is a reflection of your internal health. When clients ask me for help with skin-related conditions, I immediately look at their nutrition, digestion and elimination. When your internal environment is nourished, well hydrated and free of toxins, your skin will reflect this internal health with radiance.

Lymphatic / Circulatory Systems

So that is a quick review of your body’s detoxifying organs – your liver, colon, lungs, kidneys and skin. They are all responsible in one way, shape or form for absorbing nutrients and eliminating waste. While your circulatory and lymphatic systems are not necessarily considered detoxifying organs, they play an extremely important part in the process.

Your veins and lymphatic vessels are the transportation highways in your body. Lymph fluid and blood are constantly pumping through your lungs, liver, kidneys and GI tract, delivering nutrients and removing impurities. Nutrients are carried to every cell in your body by way of these two systems. Likewise, metabolic wastes and toxins are continually transported away from every cell and organ via these two systems. Therefore, it is crucial to

maintain healthy blood and lymph flow in order to support the body's detoxification efforts and stay healthy.

Why We Become Toxic

As you can see, a healthy detoxifying system will remove impurities and harmful toxins from your body in a timely manner. Oftentimes however, our dietary and lifestyle choices, not to mention our environment, overburden this network, impede the process and eventually compromise the function of these organs and our health. When you look at the various sources of internal and external toxicity, it is easy to see how quickly our bodies can become toxic and inefficient.

- metabolic by-products
- microorganisms
- contaminants in food and water
- pollution in the air
- insecticides
- pesticides
- food additives
- Rx drugs / alcohol
- cosmetics
- cleaning supplies
- building supplies

- heavy metals (mercury, lead)
- And the list goes on.....

I will address some of the most common sources of toxins and how best to reduce them in the *Living a Healthy Life* section.

What Toxicity Looks Like

How do you know you are toxic? I do not think anyone has ever called me and said, “I have a toxic body – can you help me?” Rather, they tell me about their signs and symptoms, which by the way are the ripple effect of poor digestion, toxicity and inflammation. I have seen firsthand that having a toxic body can be challenging to your health and may appear as many different ailments. Toxicity may result in headaches, fatigue, frequent colds, weakened immune system, constipation, allergies, excess mucous or sinus congestion, skin conditions, lackluster hair or stiff, achy joints, just to name a few.

On the other hand, if you are striving to limit your exposure to toxins and your body is managing its toxicity and keeping up with the waste, you will experience high energy levels, strong immunity, frequent bowel movements, ease of movement and exercise, restful sleep, healthy skin and shiny hair.

Over the years, I have used many tools to assess a person’s health status – health and diet history questionnaires, body composition analysis (BCA), dark field microscopy, cholesterol and glucose testing, and biological terrain assessment (BTA). Excess toxicity can cause oxidative stress or free radical damage. In other words, toxins cause cellular damage. These assessment

tools give me insight into the environment in and around your cell as well as the health of your cells.

Remember, the cell is the fundamental unit of life. When you supply nutrients to your cells and clear away the waste, your body will take care of the rest.

The 11 Systems of the Body

Earlier in the book, I indirectly talked about the 11 systems of the body. I took the time to explain the importance of a healthy cell because we have trillions of them that make up our tissues, organs and muscles. These form the 11 systems of our body.

The 11 systems are cardiovascular, digestive, endocrine, lymphatic, muscular, nervous, reproductive, respiratory, skeletal, skin and urinary. And now that you know the digestive, respiratory, urinary, circulatory and lymphatic systems as well as the skin are all very involved in the detoxification process, it will be easy to see the connection between toxicity and health conditions affecting these systems.

It is not just the detoxifying organs or systems that are challenged by toxicity. Every cell of the body is affected. You will soon understand how all systems of the body can show signs of illness as a result of toxicity. The good news is proper nutrition and a healthy digestive and detoxification system can have an immediate and positive effect on you.

I have had the opportunity to see this take place in many of my clients. I have worked with many of the conditions listed below and I can honestly say the patients who followed my suggestions

saw positive results. My goal here is to share a few of my clinical experiences that will help you make the connection between digestion, toxicity and your health. You may also read some of these stories from the client's perspective in *Appendix A*.

The Cardiovascular System

- High blood pressure
- High cholesterol
- Inflammation

Your cardiovascular system, also called the circulatory system, is your body's transportation system. It transports oxygen and nutrients to the cells and transports waste and toxins from the cells. In the clinic, I looked at blood samples under a dark field microscope and was able to assess the health of the red blood cells and how well they were flowing. If the cells were not strong and healthy – if they were stagnant and congested – I knew they could not do their job of carrying oxygen and nutrients effectively, nor could they remove toxins. The cells themselves were unhealthy and needed nutrients.

When looking at a blood sample I was also able to see toxicity – the things in the blood that were not supposed to be there. Some samples looked like a Christmas tree, filled with bright crystals, plaque and chylous (fat particles), while other samples looked “clean.” As we worked on dietary changes and added enzyme supplementation, we consistently saw the red blood cells strengthen and flow and the plasma cleared of excess “junk.”

How does this improve high blood pressure? Well, the more toxic you are, the more debris and foreign matter you have flowing in your blood. That can burden your vascular system, causing elevated blood pressure. I know there are many other physiological reasons for high blood pressure, but relative to toxicity, I saw this often. The connection to healthier cholesterol levels is obvious. When you eat better and give your body the right enzyme support to digest and manage the fats, your cholesterol ratios improve. Also, taking the toxic load off the liver allows it to work more efficiently on its many other duties like regulating cholesterol and hormones and producing bile.

Have you ever been told that plaque usually does not build up in your arteries unless there is an area on the arterial wall that has been damaged? This damaged area is called inflammation. Have you ever asked or wondered what causes the damage? Do you think it might possibly be excess toxins in the blood stream, and the better treatment might be detoxification rather than anti-inflammatory drugs? Just a thought...

The Digestive System

- Allergies
- Candida
- Constipation
- IBS/IBD (Celiac, gluten intolerance, Crohn's, Ulcerative Colitis)
- Diabetes
- Leaky gut

- GERD (Acid Reflux)
- Liver stress (hepatitis)
- Gall bladder stress

I used to think nutrition alone was the most important factor for health. But then I saw that even the healthiest, wisest and most judicious nutritionists get sick. I soon realized the digestive system is the most important system in your body. If you do not digest your food, deliver the nutrients to your cells and eliminate the waste, you will eventually get sick. It is extremely important to choose the right foods, but if you are not digesting them properly, you are missing the boat. I know now that nutrition *plus* digestion are the most important factors for health. With that said, I could tell you hundreds of stories about digestive health, but I wanted to share the story of one of my favorite clients.

She is a beautiful lady who in her younger days admittedly ate horribly. She is one of those people who could eat donuts, burgers and French fries and still feel and look great. Or so she thought. After several years of extreme stress, she found herself in severe pain. She had previously been diagnosed with a spastic stomach, but this pain was different. She ended up in the emergency room where they discovered her gall bladder was loaded with stones, inflamed and, to be frank, really messed up. Needless to say, they removed it along with her appendix, which had burst from toxicity. Today, she could be the “poster person” for her adherence to a very strict and healthy diet. And you can set your watch by how religiously she takes her digestive enzymes. She will be the first to tell you she cannot live without her strict diet and enzymes.

The Endocrine System

- PMS, irregular menses
- Menopause
- Adrenal Fatigue
- Thyroid Disorders

Your endocrine system includes numerous glands responsible for producing and secreting hormones into your blood stream. So how does toxicity interfere with your endocrine system? Well, your hormones are chemical messengers that communicate with every cell in your body. If the cell or its membrane is not healthy, the message does not make it to the cell and there is a breakdown in the system.

The best example of this is those of you who have classic signs of low thyroid – fatigue, constipation, cold hands and feet, unexplained weight gain or dry skin and hair loss – but when you have your blood drawn, the lab work comes back telling you your thyroid levels are “within normal limits.” You are told there is nothing wrong even though you *feel* there is something terribly wrong.

This tells me your thyroid is doing its job just fine, secreting the hormones, but the cells are not receiving the message – the hormones are not converted to their active form and you continue to feel poorly for no apparent reason, other than toxicity. You see, many toxins alter the cell membrane or bind with hormones, rendering them ineffective.

I have seen many people improve PMS, menopause symptoms, adrenal or thyroid stress by simply correcting their diet and digestion and helping their body clear the toxicity. I am not saying toxicity is the only cause of endocrine imbalances, but I firmly believe cleaning up toxicity will improve overall endocrine function.

The Lymphatic System

- Auto-immune (Lupus, Multiple Sclerosis, Scleroderma, Rheumatoid Arthritis)
- Allergies
- Cancer
- Frequent colds
- Lymphedema

Your lymphatic system is more commonly known as your immune system. It is your body's defense system against infections, excess damage and disease. It produces many cells designed to attack anything that invades your body and threatens its ability to function. Toxicity is definitely a threat to your body.

When looking at blood samples under the microscope, it is not uncommon to see several white blood cells (microphages) attached to a large cluster of toxins, trying to break it down so it can be flushed from the system. This is not necessarily a bad thing, but I have to point out that if the toxicity was not there, those white blood cells could be protecting you from something much worse. I would rather you proactively manage your toxicity so your immune cells are free to fight more serious battles.

I remember a client with rheumatoid arthritis who could hardly walk when she first came to see me. She had been managing her condition with traditional anti-inflammatory medications that were creating serious digestive problems, and she was looking for digestive enzymes to help with that. We did a complete assessment including diet history, dark field analysis, biological terrain and body composition analysis. Everything pointed to excess toxicity, oxidative stress and severely compromised health. Her body was in inflammation overload.

To say I was intimidated by her condition is an understatement, but we started with the only thing I knew to do – clean up the diet and GI tract, increase water and improve elimination – then we watched her body heal. She is still taking the enzymes and even takes the stairs to our office on the second floor when she comes to pick up her supplements.

The Muscular System

- Stress, injury, repair – improved recovery

We all know what our muscles are and what they do, but we may forget that they need the right kind and amount of nutrients to stay healthy and work properly. We need to feed the muscles carbohydrates for energy and proteins for building. But remember, supplying nutrients (fuel and building blocks) to your muscles results in metabolic waste that, if not eliminated quickly, becomes toxic buildup.

I cannot say I get the chance to work with a lot of athletes, but when I think of this system those are the clients I think of first.

Their focus is always on improving their nutritional intake to improve their performance, not necessarily toxin removal. But when I explain toxicity in the form of pain and sore muscles, they get a better understanding of the importance of keeping their system clean.

Basically, we support healthy digestion and improve circulation, and their post-workout recovery takes place faster. That means their next workout is more effective, which is huge to an athlete who is competing. Combined with proper training, I can also make the argument that this approach reduces the risk for injury by keeping the muscles healthier.

The good news is you do not have to be a competitive or professional athlete to see the results. Even you weekend warriors will see the benefits!

The Nervous System

- Anxiety
- ADD
- Autism
- Alzheimer's
- Parkinson's
- Fibromyalgia
- Eye (glaucoma, Age-Related Macular Degeneration, cataracts)

THE RIPPLE EFFECT OF TOXICITY

- Headaches
- Multiple Sclerosis

This is a very important system to keep free of toxins because this system is your brain, your spinal cord and all of your nerves. It also includes chemicals called neuro-transmitters which are messengers that connect nerve signals throughout your body. Without proper digestion and detoxification, your nervous system does not function correctly and you may experience brain fog, forgetfulness, abnormal behavior or uncontrolled movements. It still astounds me that nutrition and toxicity can have such a profound effect on your life, so it is no wonder I have several memorable stories to share here.

I have worked with several MS patients in the past and am currently working with a Chiropractor who regularly treats patients with MS. One of the most common characteristics I see in MS is toxicity. The people I have seen either have a history of constipation, have mercury fillings or have been exposed to some type of environmental toxin. Upon doing clinical assessments, I consistently saw heavy toxicity in their blood samples under the microscope, their biological terrain assessment showed high oxidative stress and the body composition indicated poor cell membrane integrity.

First and foremost, we addressed their diet and supported digestion and elimination to help reduce the toxic load. At times the results were immediate and other times slower, but overall the MS patients I have worked with have all seen improvement in their energy, digestion and elimination.

I think this next story is a perfect example of how proper diges-

tion positively impacts the nervous system. I recently talked to the mother of an autistic child. Her husband is an MD and they live in San Antonio. I have not personally worked with or seen her son but she shared their story about nutrition and enzymes with me. The young boy is 9 years old now and he was diagnosed with Autism several years ago. His Mom began working on his diet, omitting processed food and others like wheat and dairy that she knew were difficult to digest and could contribute to toxicity in his system.

Just by doing this, she saw improvements in his behavior. Then she started giving him digestive enzymes and probiotics and he got even better. His concentration and awareness has improved, he takes direction without a struggle and he follows through on tasks. She was even called to his school for a parent-teacher conference where she was pleasantly surprised to hear how much better he is doing. "He is much happier and there is a definite difference for the better!"

Your nervous system includes your sensory organs, and my next story is a personal one. I am legally blind and have a condition called Stargardt's which impairs central vision and usually manifests in your early teens. I discovered it at 29 and was not affected by it until after I was 40. Now I have to admit I did not begin learning about nutrition until I was 20 and did not learn about the importance of enzymes until my mid-30's, but I firmly believe my sight was prolonged by my healthier choices and so far it is not progressing. I remain completely independent and even still drive!

I do not want to mislead you into thinking these things are a cure for any disease. However, I do believe giving your body the nutri-

tion it needs and clearing away the toxins will help it function at an optimal level and slow down the degenerative process.

The Reproductive System

- Infertility
- Healthy pregnancy
- Endometriosis
- Fibrocystic breasts
- Uterine fibroids
- Benign Prostate Hyperplasia (BPH)

I think when a woman is pregnant she is probably the most compliant to a healthy diet as she will ever be, and we can all agree nutrition is a top priority for a healthy pregnancy and healthy baby. But what about getting pregnant? The story I am going to share is about a couple who was having trouble doing just that.

This is a couple who appeared healthy with no complications they were aware of. They both led typical lives, busy with professional and personal obligations. They began trying to conceive but could not get pregnant. They were both checked for physical abnormalities and discovered her fallopian tubes were severely blocked. Surgery was done to correct this problem but they still did not get pregnant. They tried in-vitro fertilization several times but it was not successful. So, they decided to take a break, clean up their diet and their life (minimize stress and toxins) and support a healthy nutrition plan with digestive enzymes.

Guess what? They had a beautiful baby girl, went on to have a second, and their third child is on the way. I love that story! And it doesn't stop there. He is a health care professional and has since helped several of his clients with similar challenges follow the same program for a successful pregnancy.

The Respiratory System

- Asthma
- Allergies
- Sinus congestion

Did you know that your digestive system and respiratory system are actually very similar? They are both responsible for acquiring nutrients and eliminating waste. Your digestive system retrieves nutrients from the foods you eat, and your lungs retrieve oxygen from the air you breathe. It's pretty clear that without these two systems and the nutrients and oxygen they deliver to your cells, you would not survive.

The respiratory and digestive systems, along with your skin and kidneys, are also responsible for detoxification. Simply put, their purpose is "nutrients in, waste out." When these systems work together to feed the cells of your body and eliminate toxins, your overall health will be better. Many times when you choose foods that are not the best for you, the consequences manifest in respiratory congestion, excess mucous, coughing, wheezing and sinus / allergy type symptoms. That's because when you challenge one system, the others take a hit. So it makes sense to support a healthy digestive system when respiratory health is a concern.

Asthma is a condition that can be either aggravated or helped by what you eat or what is in your environment. I have had the pleasure of knowing a bright, beautiful young girl since she was just a baby. She was breast fed initially, but when she began taking commercial formula she developed a runny nose, congestion and asthma-like symptoms. The pediatrician treated her symptoms with anti-histamines that did not work and made her agitated.

When she started taking digestive enzymes and probiotics, the congestion decreased. At eight and a half months, the pediatrician diagnosed her with asthma and she began a series of breathing treatments. By 18 months, she had completed two series of breathing treatments and she no longer had the deep rattle in her chest. She continues with her enzyme regimen and has not had a recurrence of asthma in over ten years. She is now 14, is a leader on her soccer team and has no breathing problems at all.

There are many more successes to share but over the years I found one of the most frequent comments I hear from allergy patients is, “Since I have been eating healthier and taking digestive enzymes, I do not have the seasonal allergies or those recurring coughs or colds.” It is very rewarding to know they no longer need anti-histamine or anti-inflammatory medications.

The Skeletal System

- Scoliosis
- Osteoarthritis
- Osteoporosis

I am sure you know how important calcium, magnesium and phosphorus are to your bone health, but do you know how the rest of your diet and even your environment affect your bones?

If you are eating (and poorly digesting and eliminating) processed foods, refined sugars and starches, large amounts of animal protein and poor-quality fats, then you are damaging your bones. These foods increase toxicity and create a very acidic environment in your body. Your bones pay the price for this because they are your body's go to source for the minerals that buffer the acidity. Over time, this weakens your bones.

In the clinic, I used the Biological Terrain Assessment (BTA) system to monitor pH balance and mineralization of the body. When my clients corrected their diet and began supporting “nutrient in, waste out,” I saw favorable pH shifts and sparing of minerals. My protocol for healthy bones is to improve your diet and digestion and clean up your “terrain.” That way the minerals you are consuming will actually be used by your bones instead of as buffers to acidity.

The Skin

- Acne
- Eczema
- Psoriasis
- Rosacea

Your skin is your largest detoxifying organ, so it's no wonder that when you are toxic, you see the effects on your skin. What's great

is that when you are digesting and detoxing – healthy on the inside – your skin is vibrant and glowing outside.

The majority of skin conditions I have seen are food and digestion related. Acne is not only related to poor fat choices but also poor digestion of any kind of fat, and also the liver's inability to use that fat or manage hormones properly. So supporting the liver with digestive enzymes and promoting healthy detoxification usually clears up the acne fairly quickly.

Likewise, eczema and psoriasis are related to poorly digested fats and carbohydrates, usually eaten in the form of highly processed foods like chips, French fries, breads and pastries. Please read the diet section to learn what foods (along with plenty of water) are best for supporting health and minimizing toxicity. Your skin will thank you!

The Urinary System

- Gout
- Renal insufficiency
- Urinary Tract Infections (UTI)

The role of your kidneys in detoxification involves the removal of toxins, chemicals and metabolic wastes. Urea, uric acid and creatinine are the three most common protein-derived metabolic wastes found in the blood. Obviously we cannot avoid metabolizing proteins, but we can support clearing the by-products from the body. Excessive proteins in the blood regardless of the source (dietary, metabolic waste or toxins) can pose an unneces-

sary challenge on your kidneys that will affect your health in the long run. Through better digestion of proteins, carbohydrates and fats with digestive enzymes and better circulation with additional proteases, we can help alleviate this stress.

I saw one of the most positive outcomes of this with a gentleman in his early 70's who was showing the signs of poor kidney function. The first time he came to the clinic he was short of breath, tired and his ankles and feet were swollen with fluid. He said he had recently been hospitalized because he "just felt terrible." His doctors discovered that his kidneys were not working at full capacity and toxins were building up in his blood.

I gave him a few key suggestions for improving his diet and we started him on an aggressive digestive and protease enzyme protocol with a few additional herbs. He immediately felt better and over the course of 3 months we saw his lab values improve and his symptoms of fatigue, shortness of breath and fluid retention all diminished. That was about 8 years ago and he still comes by to get his enzymes.

Your kidneys have a daunting task, that's for sure, as they are responsible for collecting and excreting waste products in the urine. That means they are constantly filtering our blood, communicating with the other systems and assessing what to keep and what to discard, all the while striving to maintain the balance of our pH, fluid and blood volume.

Cellular Nutrition and the 11 Systems

I hope this review of the 11 Systems of the body has highlighted the important roles that digestion and detoxification play in the

health of your cells, each of your systems and ultimately in your overall health.

As I have progressed through the 11 Systems, I am reminded and amazed by how miraculous the human body truly is. All of our cells are individual factories working within organs that form a system, all working together to keep us alive and well. All we have to do is feed them properly and keep them clean!

How Often Should You Do a Detox Program?

That is a very good question and the answer depends on your diet, lifestyle, environment and your current health status. I suggest the average healthy person can do an active detox program twice a year, perhaps in the fall and spring.

If you are dealing with several health challenges that you and your practitioner suspect have toxicity at the root cause, then working with your practitioner you can detox once per quarter depending on how long your detox plan is.

It is very important to work with a health care professional as there are risks to detoxing too much, too fast and for too long. Prevention is always the best policy so eating a healthy diet and establishing chemical-free habits for your home will go a long way in assisting your body to maintain healthy detoxification on a daily basis.



Toxicity has a “Ripple Effect”
that impacts the whole body!
Good health begins here...

ASSISTING THE BODY

Excess toxins can be stored in your body's tissues and fat cells. As you begin a detoxification program, it is important to make sure you are ready to handle the filtering and elimination of these toxins. To help your body stay ahead of the waste, there are several things you can do:

1. limit your exposure to toxic chemicals
2. support your body's digestive and elimination pathways
3. support your body's detox organs

For example, if you clean out your closet, you do not leave the items you are getting rid of in your bedroom or hallway. You bag them up and put them on the curb or take them to a donation center, right? The same holds true in your body.

As you clear the toxins from the cells and tissues, you want to make sure they are completely removed from the body. Otherwise, you will simply re-circulate the toxins and create congestion in other areas of the body. This is often what causes people to feel sluggish during a detox program. Thus, it is important to make sure your liver, lungs, kidneys and colon are ready to handle the load effectively.

Effective detoxification involves dietary and lifestyle changes which reduce intake and production of toxins as well as improves elimination. Additional support can come from various supplements and treatments that are discussed later in this book.

DIET – What You Eat Makes a Difference

You want to eat a well-balanced diet that includes ample amounts of fresh fruits, vegetables, whole grains, legumes and moderate portions of lean animal protein, nuts, seeds and healthy fats. Some programs will recommend omitting animal and dairy products during a detox, but I feel these foods are important and when consumed in moderation, and organic, they are acceptable.

Choosing organic foods as much as possible is important in order to minimize exposure to toxins from pesticides, herbicides, insecticides, hormones, antibiotics and genetically modified organisms. Please refer to *The Importance of Eating Organic* on pg. 53 for more information on organic foods.

A healthy diet is comprised of carbohydrates, proteins and fats. These foods supply the nutrients that feed your cells and support energy, building and repair.

Carbohydrates

The foods that supply the best energy source for your body are those that are made up mainly of carbohydrates. Fruits, vegetables, whole grains and legumes are the healthiest choices. Sweets, desserts and refined breads and crackers are also carbohydrates that supply energy but the calories are lacking nutrition. The healthy carbohydrates are your body's main energy source and they also supply essential vitamins, minerals, antioxidants, and fiber.

Fruits are an excellent source of vitamins, minerals, fiber and antioxidants. In other words, they are nutrient-dense carbohydrates supplying “clean” energy to the body. Citrus fruits (oranges, lemons and limes) are high in vitamin C and aid in the production of glutathione, a powerful antioxidant made by the liver. Other really good choices are Kiwi, strawberries (all berries actually), pineapple, apples, grapes and melons, and that is just few to choose from. I recommend at least 2-4 servings of fruit each day. They make the perfect pre-packaged snack!

Vegetables are another very good source of fiber, phyto-nutrients and antioxidants. Dark green and leafy vegetables contain magnesium which is a key mineral used by the liver for toxin breakdown. Sulfur-containing vegetables such as onions, garlic and red peppers aid the liver in eliminating toxins through one of the liver’s main detoxification pathways. Cruciferous vegetables such as broccoli, cauliflower, Brussels sprouts, kale and cabbage are well known for their high concentration of sulforaphane which helps the liver convert fat-soluble toxins into water-soluble compounds, making them easier to remove from the body.

Other vegetables that aid in the secretion of bile and liver detoxification are artichokes, asparagus, beets and dandelion. Sea vegetables such as arame, nori, wakame, kelp, kombu and dulse are packed full with more vitamins and minerals than any other vegetables and can easily be added to beans and soups for increasing the nutritional content. My recommendation for vegetables is 6-8 servings of each day.

Note - The skin and peel of many fruits and vegetables are a good source of dietary fiber, vitamins and minerals. How-

ever, if not grown under organic conditions, they may also be a source of unwanted pesticides, fungicides, herbicides and other chemicals trapped under a wax coating. An all natural wash or mild soap can be used to remove oil-based, water-insoluble residues such as dirt, soil and wax. Then rinse with water.

Whole Grains and Legumes are an excellent source of fiber as well as, you guessed it, carbohydrates and energy. They are a nice source of plant proteins supplying various essential amino acids and when eaten together, beans and rice for example, they supply all the essential amino acids and make a complete protein. Oats, millet, chickpeas and brown rice have B vitamins that are essential to the liver's detoxification processes. A word of caution – wheat, barley and rye are grains often omitted due to their association with gluten intolerance and the fact that they are harder to digest for many people.

Legumes, aka beans, are wonderful sources of fiber, plant protein, minerals and antioxidants. In fact, red beans now top the list of the best antioxidant food because of the compound that gives them their unique color. Black beans, lentils, limas and chick peas are very good choices that can be added to soups, casseroles and ground meat dishes to increase the fiber content and make the dish more nutrient dense. I suggest 4-6 servings (½ cup each) of whole grains and legumes each day.

Are you wondering if I forgot about potatoes? Yes, they are a vegetable, as are corn and peas. They do supply fiber and nutrients and can be eaten in moderation. However, in terms of detoxification, they do not directly support the body's detoxification efforts and therefore do not make my list for supporting healthy detox.

Proteins and Fats

That's your list of carbohydrates. Now let's talk about proteins and fats. Lean proteins are made up mainly of amino acids, which are your body's building blocks. You probably know proteins are necessary to build and maintain muscles, but did you know they are essential for making white blood cells, hormones, DNA, RNA and all your enzymes? Proteins are vital to your health and survival.

Fats, although often referred to unfavorably, are also essential to your health and survival. It is the type of fat, or its source, that is important to understand. First of all, any fat consumed in excess is not healthy. Likewise, your traditional "bad" fat, when consumed occasionally and in small amounts, can be acceptable. But for the purpose of supporting a detox plan, I will focus on the better choices because they supply omega 3 and 6 essential fatty acids, vitamins, minerals, fiber and antioxidants.

You will want to notice several of these foods can be considered both a protein and a fat. Another interesting fact, your body prefers carbohydrates for fuel, but when carbohydrates are not available, it will use proteins and fats for energy. However, that process is not as efficient and may add to the toxic load.

Lean Animal Proteins, in addition to amino acids, are a good source of B12 and iron as well as other B vitamins and minerals. Unfortunately, animal products can also be a source of antibiotics, hormones, pesticides and unwanted chemicals. Buying organic, or at least antibiotic and hormone free, is a must. Chicken (white meat without the skin) and 95% lean ground beef or buf-

falo are my first choices. Fish like orange roughy, mahi mahi or tilapia are good choices too. Wild Alaskan or sockeye salmon is good because of its high omega 3 fatty acid content. Some fish can be high in mercury and other toxins so shop wisely and ask questions if you are unsure of its source. Pork and other cuts of beef are also a part of this group, so look for the leaner cuts or trim the fat carefully if these are part of your diet.

Moderation is important here, so I recommend approximately 6-8 ounces daily depending on your body size. Some of you will think this is too much and others will think it is not enough. Remember, I am trying to find a happy medium for detoxification and general wellness.

Dairy products like milk, cheese and yogurt are your best sources of calcium in the proper ratios with many other vitamins and minerals. They supply a combination of carbohydrates, protein and fat. However, the healthier low-fat versions are mainly protein, so they are found in this category. Dairy is often a food group that is excluded during a detox program due to the increased mucus it sometimes causes that can hinder the detoxification process. If you do include dairy, consider goat and use only organic sources. My recommendation is limit to 1-2 servings per day.

Healthy Fats include nuts, seeds and avocados as well as olive oil and flax seed oil. Seeds like pumpkin, sesame, sunflower and flax seeds supply beneficial omega 3 and 6 essential fatty acids, vitamins and minerals as well as add fiber to the diet. Sprinkling almonds, walnuts and a variety of nuts or seeds in cereal, soups and salads is an excellent way to incorporate them into your diet.

A small handful of nuts also makes a great snack. Try to eat 2-4 servings daily.

The Importance of Eating Organic

“What is organic food? *Organic food is produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation. Before a product can be labeled ‘organic,’ a Government-approved certifier inspects the farm where the food is grown to make sure the farmer is following all the rules necessary to meet USDA organic standards. Companies that handle or process organic food before it gets to your local supermarket or restaurant must be certified, too.”*

*Consumer Brochure, USDA National Organic Program
(www.ams.usda.gov/nop/Consumers/brochure.html)*

According to the Organic Trade Association’s website, “Growing crops in healthy soils results in food products that offer healthy nutrients. There is mounting evidence that organically grown fruits, vegetables and grains may offer more nutrients, including vitamin C, iron, magnesium and phosphorus, and less exposure to nitrates and pesticide residues than their counterparts grown using synthetic pesticides and fertilizers.”

THE RIPPLE EFFECT OF TOXICITY

You can find a list of specific studies relating to the health and environmental benefits of organic agriculture at www.ota.com/organic.html. I think you will find the growing scientific evidence continues to support the fact that organic foods are a much better choice for you and your family.

Additional evidence shows that our environment is getting more and more toxic. According to the US Environmental Protection Agency's website, world pesticide expenditures totaled more than \$35.8 billion in 2006 and more than \$39.4 billion in 2007, with the US accounting for 32% of the worldwide total. The amount of pesticides used worldwide was approximately 5.2 billion pounds in both 2006 and 2007. Herbicides accounted for the largest portion of total use, followed by other pesticides, insecticides and fungicides (www.epa.gov).

Another area of concern is the introduction of genetically modified organisms (GMO's) into our food supply. Genetically modifying our food means changing its protein structures by adding other modified proteins. Food organisms that are genetically modified become a food that is not actually nutritious. If you want to, you can search for patents on the manipulation of animal, virus, bacterial, insect and human genes into our seeds and food at the US Department of Agriculture's website (www.usda.gov).

The real concern is no one can be assured that these modified proteins can be controlled once they are part of the system. Genetically modified organisms in pharmacology for the treatment of disease is certainly appropriate, but that science used in the adaptation of our food puts us in nutritional jeopardy.

Most major food markets offer some organic produce and meats and have a designated area for organic grains, breads, cereals

and condiments. The produce should also be coded. Commercially grown produce has a 4 digit code and Organic produce has a 5 digit code that begins with the number 9. Genetically modified produce also has a 5 digit code but it begins with the number 8. The grocery store I shop at color codes its signs and labels, green for organic and brown for commercially grown. Also, to be certain you are getting organic, look for the Certified Organic Seal and when all else fails ask a store employee or talk to a manager.

While we may not be able to control the air we breathe, we do have a choice over the foods we consume. I recommend organic foods whenever possible to provide the most nutrients while avoiding harmful pesticides, herbicides, hormones and GMO's. However, when organic produce is not available, it is helpful to know which fruits and vegetables are the least toxic and which ones are the most heavily treated with chemicals and pesticides.

Least Contaminated Produce

- Asparagus
- Avocados
- Banana
- Broccoli
- Cabbage
- Eggplant
- Kiwi
- Mango

- Onions
- Pineapple
- Sweet corn
- Sweet peas

Most Contaminated Produce

- Apples
- All Berries
- Bell Peppers
- Celery
- Cherries
- Lettuce
- Nectarines
- Peaches
- Potatoes
- Spinach

Needless to say, I believe the benefit of eating organic foods is pure and simple – nutrition, safety and environmental protection. In spite of what seems totally obvious, there is a lively and ongoing debate concerning the health benefits of organic as opposed to commercially-grown foods. I encourage you to investigate for yourself and form your own opinion.

Antioxidants

Antioxidants are molecules that protect our cells from the damaging effects of toxins. In this context, toxins are often referred to as free radicals. Free radicals are unstable molecules that steal electrons from stable molecules. The problem is, that once stable molecule is now unstable, so it must then steal an electron. When this cycle continues, it becomes more and more damaging to the cells of your body. The beauty of antioxidants is they stabilize the free radical without becoming one themselves, so the damaging cycle is stopped.

It is important to understand that you cannot completely avoid free radicals, nor do you want to. During your bodies metabolic processes of converting food to energy, free radicals are produced. Luckily, your cells have a back-up system for protection in the form of glutathione and super oxide dismutase (SOD) which are powerful antioxidants made by the body for self protection. However, this is not always enough and your body could use some outside help. This is where your food choices can make a huge difference in the protection of your cells and your health. Additionally, your body may sometimes use the free radicals to its benefit as they can help you get rid of unhealthy cells or harmful bacteria and viruses.

The key thing to remember is that antioxidants are very beneficial to your health. They protect your cells' structure and function and can promote healthy aging. Yes, that's right, who doesn't want to age less? The good news is you can get many of these wonderful antioxidants in your diet. You have control!

THE RIPPLE EFFECT OF TOXICITY

Antioxidants have many names. Some of our familiar vitamins and minerals have antioxidant properties. Vitamin C is a great example. Vitamin C has several very specific roles in human health that include collagen production, iron uptake and red blood cell production. It has been determined that 60 mg of vitamin C daily is the amount needed to perform these roles adequately. So, doses of vitamin C higher than 60 mg can be used toward antioxidant protection. Other vitamins and minerals that offer antioxidant protection are Vitamin A and E, selenium and zinc.

In addition to these well known nutrients, compounds called bioflavonoids, carotenoids, lutein, zeaxanthin and lycopenes are also antioxidants. The best food sources for these naturally occurring antioxidants are fruits, vegetables, legumes, nuts and seeds.

Without getting overwhelmed by the details here, I think the best advice I can give you is to think about the color of the food you are eating. Blackberries, blueberries, strawberries, raspberries, cranberries and goji berries are some of the best antioxidant sources you can choose. Oranges, clementines and tangerines are loaded with vitamin C. The nutrient that gives black olives, black grapes and black beans their unique color is also the one that gives it a powerful antioxidant punch. Dark green leafy vegetables like Kale, spinach, mustard greens and Swiss chard are excellent sources of lutein and zeaxanthin. Nuts and seeds may be the exception to the “color” factor but make no mistake they too can supply great antioxidant protection. My top picks are flaxseed, pumpkin seeds, sunflower seeds, walnuts and almonds.

Please refer to *Appendix C* in the back of the book for a more complete listing of foods and the antioxidants they provide.

FIBER – Simple Ways to Up Your Fiber

Including fiber in the diet is an essential component to a detoxification program because it carries the toxins out of the body. Additional health benefits include improved feelings of fullness and timely bowel movements as well as the fact that high fiber foods are loaded with vitamins and minerals.

A good goal would be 30-40 grams of fiber per day. Here are some simple ways to meet your fiber intake goals:

- Whole grain, minimally processed cereals such as Kashi® GOLEAN® or oatmeal
- Brown rice and quinoa are excellent grains and gluten free
- All beans, legumes and lentils are very good high-fiber choices
- Just about all fresh fruits and vegetables
- Ground flax seeds can be added to just about anything, giving it more fiber and healthy EFA's (omega 3 essential fatty acids!)

Suggestions for Your Grocery List

The focus of the following list of recommended foods is to minimize the toxic burden while supporting healthy detoxification by providing fiber, antioxidants and specific nutrients that help the liver and other organs do their jobs. Luckily, it is a long list with many choices but that might be overwhelming. As you review the list, put a star next to your favorites in each category as this will give you a starting point. Another idea might be to choose based on a variety of colors. It's fun to see your grocery cart full of vibrant colors!

Note – grapefruit is specifically omitted because it can inhibit the liver's clearing of certain medications. Other fruits or vegetables that are not listed is simply because they do not make the frequently recommended list, but that does not necessarily mean they are prohibited.

Fruits

Apples

Berries – black, blue, raspberry, strawberry, cranberry, goji

Lemons

Limes

Grapes – black and red

Oranges

Kiwi

Mango

Papaya

Pomegranate

Pears

Peaches

Plums

Melons – watermelon, cantaloupe, honeydew

Bananas

Vegetables

Alfalfa

Artichoke

Asparagus

Beets

Blue green algae

Broccoli

Broccoli sprouts

Brussels sprouts

Cabbage

Carrots

Cauliflower

Chard

Cilantro

Dandelion

Garlic

THE RIPPLE EFFECT OF TOXICITY

Greens, mustard, turnip

Kale

Kelp

Onions

Peppers

Sea Vegetables

Spinach

Spirulina

Squash

Tomato

Wheat grass

Yams

Whole Grains / Legumes

Amaranth

Brown and wild rice

Quinoa

Mung beans

Garbanzo beans

Black and red beans

Lentils

Chickpeas

Lima beans

Protein (organic, lean, moderate portions)

Buffalo

Beef

Pork

Poultry

Fish

Eggs

Healthy Fats

Almonds

Avocado

Chia seeds

Flax seed / flax oil

Hemp seed / hemp oil

Olive oil

Pumpkin seeds

Sesame seeds

Sunflower seeds

Walnuts

Spices & Herbs

Cilantro

THE RIPPLE EFFECT OF TOXICITY

Cinnamon

Garlic

Ginger

Parsley

Pepper

Sea Salt

Turmeric

Beverages

Almond milk

Coconut milk

Green tea

Water (filtered or bottled)

Sweetener

Honey

Molasses

Stevia

WATER – Proper Hydration is Key

The importance of water to our health cannot be overstated and this is even more true during a detoxification program. It should constitute the majority of liquid consumed daily. For recommended intake, the rule of thumb is one-half your body weight in ounces daily. However, this number is just the minimum and should be increased during a detoxification program.

In most cases, filtered or bottled spring water with a pH of 7.3-7.5 is preferred (see page 75 for information on water filters and bottles). The table below will help you determine the adequate intake for your body size. I encourage you to measure your water intake closely, as the ideal amount is likely more than you are actually consuming on a regular basis. You will be amazed at how much better you feel by simply drinking enough water every day!

Weight	Minimum H₂O	Ideal Detox H₂O (+20%)
100 lbs	50 oz (6.25 cups)	60 oz (7.5 cups)
120 lbs	60 oz (7.5 cups)	72 oz (9 cups)
140 lbs	70 oz (8.75 cups)	84 oz (10.5 cups)
160 lbs	80 oz (10 cups)	96 oz (12 cups)
180 lbs	90 oz (11.25 cups)	108 oz (13.5 cups)
200 lbs	100 oz (12.5 cups)	120 oz (15 cups)
220 lbs	110 oz (13.75 cups)	132 oz (16.5 cups) = 1 Gallon!

The Dangers of Processed Foods

In addition to the healthy benefits of eating organic, it is also important to eat “whole” foods rather than refined foods. An easy tip to help you while shopping is to purchase those foods located on the outer perimeter of the store, as these are typically your fresh, whole food items. Here are some examples of whole foods vs. refined foods.

Whole Foods

- Fresh potatoes
- Brown rice
- Whole grain, sprouted bread
- Fresh fruit
- Steel-cut or rolled oats

Refined Foods

- Potato chips
- Minute rice, white
- White bread
- Canned fruit
- Instant flavored oatmeal

Minimize your use of processed, prepackaged foods. They not only put a nutritional demand on the body because they are lacking in nutrients, but they also contain chemicals that the body does not recognize that adds to the toxic load. Read the label. If you cannot pronounce it, you do not want to eat it. Some of the most common examples are:

- high fructose corn syrup and corn syrup solids
- hydrogenated oils and partially hydrogenated soybean oil
- colors (red 40, blue 1, yellow 5)
- preservatives such as butylated hydroxytoluene (BHT)
- monosodium glutamate (MSG) or artificial flavors
- sodium caseinate, sodium acetate, sodium citrate, disodium inosinate and disodium guanylate

Keep in mind when looking at the ingredients, the shorter the list, the better. And if it is truly natural, like fresh fruits and vegetables, it doesn't need a nutrition label and that is even better!

Alcohol in excess can be very challenging on the liver. It not only is a chemical that must be broken down and processed by the liver, it also depletes several nutrients including vitamins A, B3 (niacin), B1 (thiamine) and folate along with the minerals iron, magnesium and zinc. Alcohol also affects our processing of essential fatty acids, needed for healthy cellular metabolism.

Caffeine consumption has pro's and con's. Recent studies are finding caffeine to be supportive to liver function. However, caf-

THE RIPPLE EFFECT OF TOXICITY

feine as a stimulant has also been linked to hypertension, insomnia, anxiety and irritability. Coffee is a heavily sprayed crop and can be a source for unwanted chemicals, so organic is definitely the way to go. Organic green tea is also an acceptable source. Moderation is the key with a limited amount of two cups daily, and no sugar or cream should be added.

If you are going to drink decaffeinated coffee, be sure that it is one that uses a non-chemical based method of decaffeination. The “Swiss Water Process” is a patented method and is the best choice. Most of the major brands are chemically decaffeinated, even if it says “Naturally Decaffeinated” right on the container. If you are unsure of the methods, contact the manufacturer.

Note - If you use a “drip” coffee maker, be sure to use non-bleached filters. The bright white ones, which most people use, are chlorine bleached and some of this chlorine will be extracted from the filter during the brewing process.

Sodas and soft drinks are another source of caffeine but are not recommended due to their high sugar or artificial sugar content. The additional chemicals and carbonation are a source of toxins as well.

Sodium / Salt - Excess salt can cause fluid retention that will impede your efforts to clear toxins from the body. Limit the salt added during cooking or at the table and avoid processed foods, as they contain sodium in the form of monosodium glutamate, sodium nitrite, sodium saccharin, baking soda (sodium bicarbonate) and sodium benzoate. These are ingredients in condiments and seasonings such as Worcestershire sauce, soy sauce, onion salt, garlic salt and bouillon cubes.

Sodium is necessary for the body to function properly. It regulates blood pressure, blood volume and is critical for the functioning of muscles and nerves. Obviously you will not want to omit it completely, and since sodium occurs naturally in most foods, following the recommendations given so far will supply you with healthy amounts to meet the body's needs.

Sugar in moderation is a preferred choice when addressing toxicity concerns. Sugar (sucrose) is a natural molecule that is metabolized by the body and does not directly create a toxic burden. However, when consumed in large amounts, sugar can create an environment favorable to pathogenic organisms, and these organisms can produce toxic substances.

Additionally, excess sugar (not needed for energy) will be stored as body fat which is also a storage place for toxins in the body. The best choices for natural sweeteners are honey, agave nectar, molasses and stevia.

Artificial Sweeteners - Any molecule that is not recognized or metabolized by the body has to be dealt with and removed. This could be detrimental, even if it provides zero calories. Artificial sweeteners have many different names. The following should be avoided:

- **Splenda®**, also known as Sucralose, is a manufactured substance made up of sugar (sucrose) chemically combined with chlorine.
- **Neotame** is a synthetic derivative of aspartic acid and phenylalanine combined and is toxic to people with

phenylketonuria (PKU).

- **Sugar Alcohols** are also known as sorbitol, xylitol, mannitol, maltitol, lactitol, isomal, erythritol and hydrogenated starch hydrolysates.
- **Tagatose**, also known as Naturlose, is a “mirror image” form of sugar manufactured from lactose.
- **Aspartame**, also known as Equal®, NutraSweet® and NatraTaste®, is a synthetic derivative combining the amino acids aspartic acid and phenylalanine.
- **Saccharin**, also known as Sweet ‘N Low®, is a synthetic chemical that has been linked to cancer in various studies.
- **Acesulfame**, also known as Sweet One®, Sunett® and acesulfame potassium, is a synthetic chemical and not recommended.

Putting It All Together

I am often asked for help with sample meal plans. I understand how helpful it is to see just what all this information looks like in real life and on your table. So, here is my example of what a day of eating might look like when following my suggestions. Please do not mistake this for exactly what to eat. There are many foods to choose from, so be creative and remember to be colorful!

Sample Meal Plan

Breakfast

- Begin your day with a cup of warm water with the juice of ½ lemon.
- Organic eggs with chopped tomatoes, onions and bell pepper or topped with a black bean salsa
- Fresh squeezed orange or grapefruit juice OR mixed berries with almonds

Lunch

- Organic Spinach Salad with roasted beets
- 3-4 oz organic baked chicken
- Garlic quinoa

Dinner

- Black beans and brown rice topped with avocado and cilantro
- Mustard greens

Snacks

- Fruit, vegetables with humus or salsa, nuts and seeds

Water

- Remember to drink water throughout the day!



Detoxification starts with YOU!
The choices you make have a
“ripple effect” on your health.

LIVING A HEALTHY LIFE

Making healthy changes to the food choices you make on a daily basis is a huge step forward in your efforts to limit exposure to chemicals and assist the body to eliminate them. Other important factors to address are exercise, your home environment and daily lifestyle habits.

Exercise

We are all aware of the health benefits of a regular exercise program to the cardiovascular and musculo-skeletal systems. Exercise is also another excellent way to promote detoxification because it gets the blood pumping, the lungs exhaling and the skin sweating.

If you have not exercised in some time, it may be wise to seek the advice of a personal trainer to help develop a program suited to your physical abilities. Otherwise, a routine that includes cardiovascular workouts such as walking, running or biking and resistance training with weights four times a week is a good place to start.

The bottom line is – get moving, breathe deeply and sweat more. It's not an option!

Cleaning Up Your Home Environment

There are many sources of toxins in the home that many of us may not be aware of. Some of the most common of these include cleaning supplies, laundry detergents, fabric softeners, dry cleaning chemicals, tap water for drinking as well as for bathing and showers, cookware / dinnerware and food storage containers, cosmetics and personal hygiene products.

Cleaning Supplies -Choose environmentally and human friendly “bio-green” cleaning supplies, soaps, detergents, air fresheners and fabric softeners. You want to look for biogreen cleaners with no ammonia, alcohol, chlorine, phosphates, chemical solvents, petroleum products, bleach, hydrogen peroxide, fragrances or perfumes.

A few resources you may want to research are Biogreen Systems, Inc. (www.envirosafehealth.com) and www.biogreenclean.com. There are even simple recipes you can make yourself that include natural ingredients and essential oils such as citrus, peppermint or lavender depending on your preference.

If you dry clean your clothes often, I would recommend finding a chemical free dry-cleaner. If a healthy alternative is not available, then minimize your trips to the dry cleaner and remove your clothes from the plastic bags as soon as you get home and allow them to “air out” in a large open room (not your closet) or in the garage or outdoors.

Water Filters - When at all possible, install a whole home water filtering system to ensure clean water not only for drinking and cooking but also for bathing and showering. Studies show that we absorb as much or more harmful chemicals from bathing and showering as we do from drinking.

Home test kits are available so you can test for bacteria, lead, pesticides, nitrates, nitrites, chlorine, and fluoride just to name a few of the more than 140 contaminants found in drinking water. Some environmental groups are even reporting evidence that prescription and over the counter pharmaceuticals are now showing up in our water supply.

Additionally, if you are monitoring pH, you can test for this. The ideal pH of drinking water should be 7.35 – 7.50, similar to that of our blood. Others may advocate more alkaline water or distilled water. These are acceptable for short term therapeutic purposes but are not recommended long term. Also testing your water will give you the information you need to select the best filtering system for your home.

Consumer Reports is a great place to start looking for recommendations and buying guides on filtering systems. After a quick online comparison, I found the average price range to be \$1000-1500. If you add up the dollars spent on bottled water each year, the whole home filter will more than pay for itself not only for healthier drinking water but your other household water needs as well. If that is not in your budget, I encourage at least looking into a filter for your kitchen sink.

Last but not least, many of us are drinking bottled water and it has come under scrutiny lately. The plastic that is used is not always safe and can be leaching chemicals into the water it con-

tains. Look at the recycle code – 1 is the best; 2, 4 and 5 are acceptable; the larger 3 and 5 gallon containers use a much harder plastic with recycle code of 7, and this is the worst; 3 and 6 are not recommended either.

Cookware - The best choices for cookware, dinnerware and storage of food are those made from glass or ceramic material, and pots made from stainless steel. If the dishes are decorated, check to ensure the paint or glaze is lead free. I do not recommend cookware with non-stick “Teflon” coatings or aluminum pots and pans as they can contaminate food, especially acidic foods like tomato sauces or soups. Aluminum foil, plastic wrap, Styrofoam™ and Tupperware® are not recommended as they can leach chemicals into the food especially when foods are reheated in them. Never microwave food in plastic or Styrofoam™, but instead use paper or glass.

Cosmetics – Ladies (and gentlemen), your makeup, creams, lotions, perfumes, deodorants, toothpaste, shampoos, conditioners and hair care products may be a daily dose of toxins you want to avoid. This is sad, but true. Your skin absorbs what you put on it, so whenever possible choose more natural products free of dyes, fragrances and chemicals. Read the labels and avoid common chemicals such as sodium laurel sulfate, sodium laureth sulfate, all “parabens”, petroleum, diethanolamine DEA, cocamide DEA, Lauramide DEA, hydroxyl acids, talc, lanolin, phthalates. Purchase aluminum-free deodorants, fluoride free toothpaste and consider essential oils for your fragrance options. And lastly, replace aerosol sprays with pump spray bottles when available. There is increasing awareness for safe, chemical free, non-toxic,

organic cosmetics and body care products. A few online sources I recently found are www.safecosmetics.org, www.nochemicalcosmetics.com and www.hallgold.com.

Carpets, Paints and Furniture – Believe it or not, even the carpets, drapes, fabrics, furniture and mattresses in your home and the paint on your walls can emit harmful chemicals called volatile organic compounds (VOC's) into the air you breathe. I realize it would not be realistic for any of us to do a complete overhaul of our homes and I am not suggesting that you do. But when you do remodel, repaint, buy new carpet or furniture, it is important to be informed and ask for low VOC paint, carpet and fabrics and consider purchasing an organic mattress that does not contain fire retardant chemicals. A helpful resource is www.greenbuildingsupply.com.

Electronics – Microwaves, cell phones, computers, TV monitors and even your digital alarm clocks are a source of electro-magnetic frequencies (EMF's). There are devices that can be attached to phone and computers that neutralize or lessen the EMF's in your environment. Other ways to minimize EMF exposure is to not wear your cell phone or carry it on your body, turn your computer off when not in use, thaw food naturally rather use the microwave and do not stand directly in front of the microwave when in use. I recommend replacing your digital alarm clock or place it across the room rather than next to your bed.

Mold – Mold can grow in dark damp places in your home and some forms, like black mold, can produce mycotoxins which can be very detrimental to your health. You can check your home for

mold by looking under sinks, near pipes, around toilets, around the foundation, in the basement or attic and around window sills and air vents where condensation collects with changes in temperature. If you find sources of mold I would recommend hiring and environmentally friendly cleaning service as you don't want to trade one toxin for another.

Lead Pipes, Paint and Mercury Dental Fillings - Heavy metals like lead and mercury can stay stored in our tissues and organs long after we have removed the source. If you grew up in an older home that was built before the 1960's or live in a renovated one, it is possible the original pipes or paint contain lead. Even if you no longer live in the home, previous exposure to these heavy metals can be an underlying source for some unexplained health challenges.

Mercury amalgam dental fillings can also be a source for heavy metal toxicity. If you have fillings in your teeth and you did not specifically request mercury-free materials, chances are you have mercury in your mouth. Many dentists will still argue that mercury fillings are not harmful, but there are just as many that prefer not to use them and will assist you to remove them. If you suspect this could be a source of toxicity for you, I would encourage you to find a practitioner to test you and assist with heavy metal detoxification.

Your Vehicles – Use the same cleaning supplies on your cars as you would in your home. Avoid using air fresheners especially in this small space. Plastic mats are easier to clean and less likely to be contaminated with soil, bacteria and chemicals. During the

summer months, a parked car can become very hot, and chemicals in the dashboard and console can emit toxins.

Roll down the windows, open the doors and allow the air conditioning to run for a few minutes before getting into the hot car to disperse the chemicals and reduce your exposure.

Quick and Easy Steps to Improve Your Home Environment

That was a lot of information, wasn't it? I do not want this to be overwhelming or unapproachable, so here are some quick tips from *The Healthy Home* by Myron and Dave Wentz. Many of these suggestions have been mentioned above, but here is a review of those that can easily be done with little effort or expense.

1. Make your own fabric softener and cleaning supplies with baking soda, distilled vinegar, water and essential oil. You can search online for specific recipes and directions.
2. Purchase organic cotton bedding and pajamas to allow your body to be wrapped in natural fabrics at least 1/3 of the time.
3. Unwrap and air out your dry cleaning for 2 days in an open area like your garage.
4. When laundering your sheets, open the windows and allow your mattress to air out for a few hours or for the day.
5. Unplug your electronics when you are not using them.
6. Choose one cosmetic that sits on your skin all day and switch to an organic, chemical free alternative.

THE RIPPLE EFFECT OF TOXICITY

7. Wash your face as soon as you get home to lessen the time makeup is on your skin. A few hours each night can add up over a lifetime.
8. Wash your hands with organic soap rather than anti-bacterial versions containing triclosan.
9. Maintain a safe distance between you and the microwave when it is on.
10. Never use plastic containers or covering in the microwave; choose paper or glass instead.
11. If you are unable to convert to chemical free cleaning supplies, please wear gloves!
12. Mix citrus or lavender essential oil with water and put in a spray bottle for a natural air freshener.
13. Cut down on wireless internet and cell phones when good old fashioned wiring and land lines are available.
14. Select the outside air option on your car's a/c and allow the car to air out on hot days.
15. Test your water and begin researching the best water filter system for your home.

Is Stress a Toxin?

Remember, in the beginning of the book I defined a toxin as anything that interferes with the healthy functioning of our cells. I have talked a lot about chemicals in our food and environment, but what about the “chemicals” we produce as a result of worry, stress and negative thoughts?

Chronic stress causes increased levels of hormones that suppress our digestive and immune function. This can be overcome and dealt with on a short term basis, but long term it causes serious health challenges. Richard Couey, Ph.D., a retired professor at Baylor University often speaks about his experience studying the cell. Using a very powerful electron microscope, he has actually observed positive changes in the cell membrane and its contents in persons who are praying or thinking happy thoughts.

Be aware that stress and worry are toxins too. Instead of taking a drug or alcohol to relax, which adds even more toxicity, consider going outside for a walk, saying a prayer or repeating some positive affirmations. Funny enough, as I was writing the previous section of this book, I encountered a “little” stress. I really wanted a glass of wine, and then I got to this section! I am proud to say I took my own advice and took frequent walks outside to calm my mind. Try it, it really works!

And if you get creative you can incorporate many healthy habits at once. I love it when I find something that takes care of several things in one fell swoop. Mine is mowing the yard. First, it is rewarding to do something and see the fruits of your labor immediately – the yard looks great. Second, it is wonderful exercise, my heart gets pumping and I sweat a lot. I might do it every day if my neighbors wouldn't think I was crazy. And third, it is one of the best mind clearing, stress relieving things I do for myself. My neighbors wonder why I still mow my own yard – now you know!



The first step involves eating a healthy diet. The next step is making sure you digest it!

SUPPORTIVE THERAPIES

As a Registered Dietitian, my priority and focus has always been food first. However, fifteen years ago I attended a seminar and heard Dr. DicQie Fuller and Dr. Richard Couey speak about the benefits of healthy digestion and the importance of cellular health. I quickly understood that even the healthiest of diets was underutilized by the body and that most if not all of my clients needed digestive support. I knew then I could no longer assume a healthy diet was all that was needed to get well.

Eating healthy meals and cleaning up your environment and lifestyle is the first step in achieving wellness. Supplementation with digestive enzymes, probiotics, herbs, vitamins and minerals is the next step in supporting your body to detoxify and heal.

Think about it – we are continuously being advised to take various supplements, herbs, and vitamins or to eat a certain diet in order to improve health. And yet no focus is placed on ensuring that whatever is being taken is also being digested and absorbed. The assumption is made, even by nutrition experts, that we all digest equally and completely but this simply is not the case.

Because of genetics, diet, lifestyle, processed foods, and a toxic environment, we are all at risk for compromised digestion. This often leads to weakened immune function, fatigue, hormone imbalance, digestive disorders, and disease. A healthy diet and lifestyle, along with supplemental digestive enzymes, are the key to prevention and/or correction of such conditions.

Digestive Enzymes

Digestive enzymes are the catalysts which allow us to break down foods into absorbable nutrients such as vitamins, minerals, glucose, amino acids and fatty acids. Once your food is broken down into simple nutrients, the body can use them for energy, growth and repair. Probiotics also support digestion and help maintain a toxin-free environment in the lower GI tract. By taking digestive enzymes and probiotics, the body is ensured that it will get the necessary nutrition it needs for optimal health.

A good digestive enzyme supplement will contain a blend of enzymes to digest carbohydrates, proteins and fats. I prefer products that use fungal enzymes because they are active throughout the entire digestive process as opposed to pancreatic enzymes that are only active in the small intestine.

The carbohydrases or polysaccharolytic enzymes I use are amylase, glucoamylase, alpha galactosidase, beta gluconase, cellulase, hemi-cellulase, phytase, macerage, invertase, lactase, diastase, pectinase and xylanase. These are the enzymes that will help you digest all types of starch, fiber, sugar, grains and legumes. Look for a product that contains a variety of these carbohydrases and not just amylase.

The enzymes that digest proteins are called proteases and they include protease, peptidase, di-peptidal peptidase (DPP IV), trypsin and chymotrypsin. You may see bromelain and papain in some digestive formulas but I think they are better used in

other applications. DPP IV is an enzyme specific for digestion of the wheat proteins gliaden and glutinen. Those who have gluten intolerance are familiar with this one or will want to learn more about it. Trypsin and chymotrypsin require a special coating in order to pass through the stomach and therefore are limited to action in the small intestines. I prefer a product that uses a blend of acid, alkaline and neutral proteases so that you are getting digestive action on proteins throughout the GI tract.

The third category of enzymes is called lipase. These enzymes are responsible for digesting fats. At times you may see “ox bile” listed as support for fat digestion. It is not an enzyme, but the bile helps emulsify the fat and gives the lipase better access to the fat molecules. I have not used products with ox bile since the fungal lipases I use do not need it.

So there you have it – carbohydrases, proteases and lipases blended in one product and taken with meals promotes optimal digestion, nutrient availability and cellular health. Giving your body digestive help each day not only takes the stress off of the digestive organs, it also reduces oxidative stress and toxicity which improves overall health.

Here are just a few of the most common comments on digestive enzymes I have received over the years:

- Digestion without discomfort – reduced gas, bloating, burping, indigestion and constipation
- Better energy and more restful sleep
- Stronger immune system with fewer colds or infections
- Reduced food intolerance, allergies and sinus congestion

Probiotics

Probiotics are the beneficial bacteria that are naturally present in your GI tract. Supplemental probiotics help replace or restore the bacteria that often become depleted by antibiotic use or imbalanced by poor diet and lifestyle choices. When the good bacteria are gone, the bad tend to take over and further complications can arise. When these unfriendly bacteria feed off of undigested food, the result can be discomfort in the form of inflammation, irregularity, gas, bloating and the release of toxins into the bloodstream.

There are many types and species of bacteria available as probiotic supplements. I prefer encapsulated or powdered products as opposed to those in food form such as yogurt or fermented juice because the colony forming units (cfu) are more controlled and guaranteed. I recommend various levels of cfu depending on your health needs. This may vary anywhere from 5-6 billion cfu to as much as 50-100 billion cfu per day. I also use refrigerated probiotics rather than those that have been coated for shelf stability. Probiotics in general are taken at bedtime, but may also be taken first thing in the morning or with meals depending on your needs.

The specific species of bacteria I have the most experience with are *Lactobacillus acidophilus*, *L. casei*, *L. plantarum*, *L. salivarius*, *Bacillus coagulans*, *Bifidobacterium bifidum* and *B. Longum*. Others you may see are *L. bulgaricus*, *L. rhamnosus*, *L. brevis*, *L. reuteri*, *B. lactis* and *B. infantis*. You certainly do not need all of

these in one product as a blend of 5-10 should be plenty.

Any bacteria that has been identified and isolated for use as probiotic supplements are very safe and GI stable. While residing in the intestines they produce acid and antimicrobial substances that inhibit the growth of unfriendly bacteria. Probiotics also produce digestive enzymes lending further support to complete breakdown of food and nutrients.

The major benefits I have seen as a result of probiotic use in my clinical practice are:

- Better digestion, resulting in less bloating and regular bowel movements
- Stronger immune system with fewer infections including fewer urinary tract infections
- Healthier detoxification with timely elimination of waste

Proteolytic Enzymes

Earlier I talked about protease enzymes for digestion of protein, but proteases can also be taken between meals for other health benefits. These additional benefits are called “systemic benefits” because they help the circulatory system, the immune system, and the detoxifying organs.

Remember how I explained that the circulatory and lymphatic systems are very important to detoxification because they are the transportation systems? Well proteases improve circulation

and the better the blood flow, the better the detox. Also, proteolytic enzymes are very effective at helping reduce and control chronic inflammation, the underlying cause of most degenerative diseases. Taking proteases regularly is very proactive and supports your body's natural recovery and healing processes.

My experience and results have been with using fungal proteases that are acid, neutral and alkaline, and also require no coating for protection. Taken between meals (morning, mid-afternoon and at bedtime) they absorb into the blood stream very easily. My clients have told me they noticed:

- Improved circulation, better energy and concentration
- Less pain, inflammation and reduced stiffness in joints
- Much faster recovery and healing after injury or surgery
- Improved resistance to allergies, colds and infections
- Clear and healthy skin and hair

The benefits of digestive enzymes and probiotics to your health are clear and most people understand that. However, I am often still asked the question, "How long do I have to take them?" My response is that our bodies naturally produce digestive enzymes and the enzymes that run our metabolic processes. Keep in mind though, dozens of factors including genetics, lifestyle, diet, processed foods, prescription drugs and environmental factors all influence digestion on a daily basis. Although healthy food choices are a great start, a healthy digestive system is needed to benefit from all the nutritious components of our food.

Nutritional Supplements

In addition to a healthy diet and digestive enzymes, your doctor or nutritionist may determine you need additional nutrients. To me, it is very hard to isolate one vitamin or mineral as the most important because they all multi-task and provide so many benefits not only individually, but also synergistically. And while some are directly involved in the detoxification pathways, others may be necessary in supporting those pathways. This is why I put so much emphasis on dietary choices and optimal digestion. The best source for all your nutrients, in the appropriate form, is a variety of healthy foods. But for your reference, here is a short list of my top picks to support your health and detoxification.

Vitamins

(A, C, D, and E)

Vitamin C is my favorite for its antioxidant benefits. A, D, and E also have antioxidant properties and are fat soluble. This means they protect the lipid by-layer of every cell membrane in your body, assisting detoxification at the cellular level. Additionally, these vitamins are important to liver health.

Minerals

(Molybdenum, Selenium and Zinc)

Molybdenum is a component of enzymes responsible for alcohol detoxification and sulfur metabolism in the liver. Selenium is

necessary for the activity of the antioxidant enzyme glutathione peroxidase which protects and supports your liver's function and health. Selenium also joins Vitamin E in protecting cell membranes as well as binds with some toxins to assist them out of the body. Zinc is an essential mineral involved in over 200 enzyme reactions. Its detox benefits include production of metallothionein which protects our kidney when eliminating toxins.

Amino Acids

(Cysteine, Glycine, Methionine and Taurine)

These amino acids are necessary and play key roles in various liver detoxification pathways to remove chemicals and other toxins. Cysteine is necessary to make glutathione, a powerful antioxidant and Methionine protects glutathione. In the supplemental form you may see several variations such as N-acetyl cysteine (NAC), L-cysteine or L-methionine.

Others

Chlorella and kelp algae are often included in detoxification products because of their nutrient density. Algae's are well known for their high concentration of many vitamins and minerals, including chlorophyll, the well known green compound beneficial to detoxification.

Herbal Supplements Supportive to Detoxification

Liver Health

Dandelion, Milk Thistle and Ginger are key herbs that support glutathione and bile production and thus support liver detoxification pathways. Keep in mind that many of the foods already discussed like artichokes, beets and lemons are equally beneficial, if not more so.

Drainage and Flow

There are quite a few herbs that have diuretic-like properties supporting flow or drainage of blood, lymph and urine. These include Asparagus, Buchu, Burdock, Goldenrod, Juniper, Prickly Ash, Red Root, Red Clover, Stalingia, Uva Ursi and Yellow Dock.

Intestinal Health

There are many herbs used to support clearing toxins or balancing the intestinal microbes. The list includes Apple Pectin, Black Walnut, Caprylic Acid, Cascara Sagrada, Echinacea, Fennel Seed, Goldenseal, Grapefruit Seed, Garlic Bulb, Oregano Leaf, Pau d' Arco, Psyllium Seed husk and Senna.

Selecting a Quality Supplement

With so many supplements on the market, how do you begin to choose the best ones? First and foremost, it is best to work with your health care professional for the appropriate protocol and professional quality products. Additionally, here are a few rules of thumb that will help you as well as your practitioner.

Enzyme Supplements

When looking for an enzyme supplement, I prefer an “enzyme only” product. There are many supplements that may contain other ingredients that lower the cost but also lessen the overall enzyme support per dose. You also want to check the label for activity, not weight. The enzyme amounts should be listed in units of activity rather than milligram weight.

You want to know the potency, action or strength of the enzyme. This will be listed in FCC units such as DU, HUT, LU, LacU, CU, etc. I also prefer fungal enzymes from *Aspergillus* species as they are more stable, do not require an enteric coating and are active throughout the digestive tract.

The common alternative to fungal enzymes is pancreatic enzymes which are extracted from the pancreas of an animal. They must be coated to survive the stomach environment and only work in the small intestines. This limits the overall digestive support to you and the materials used for the coating could be a source of toxicity in some cases. If you are not certain of the

source or the activity, ask your health care professional or contact the manufacturer.

Nutritional or Herbal Supplements

I prefer combination products rather than single ingredients. As I have discussed, so many vitamins and minerals work synergistically with one another and too much of one may potentially negate another. If it includes digestive enzymes or you are taking it with digestive enzymes then the need for mega doses is less and the ingredients are more effective.

Other Ingredients

This is my big pet peeve. The Supplement Facts box contains the major ingredients that make up the supplement and we are trained to look at this information very carefully. But underneath the facts box or in some other discrete location on the label, usually in fine print, you will want to look for the “other ingredients.”

The shorter the list the better. It is acceptable to see cellulose and water or gelatin and water – that is the capsule. But if you see a long list of words you cannot pronounce, do not recognize or would not typically eat, then I suggest you do not buy the supplement.

Note - If you have any health challenge, I would strongly recommend you work with a health care professional as they have access to high quality, clinically tested products and they can monitor your care closely.

Therapies You Can Do at Home

There are a few techniques you can easily do at home that will assist the body's detoxification systems. For example, excellent ways to improve lymphatic flow are skin brushing, rebounding and taking showers alternating hot and cold water. You can also add Epsom salt and baking soda to a hot bath for a nice, relaxing soak that will cleanse toxins as well. If you have access to a gym, use the steam room or sauna to stimulate sweating which also supports lymphatic flow and removes toxins.

Additionally, if necessary, your practitioner can assist you in finding a licensed professional who does colon hydrotherapy, foot-baths or chelation therapy.

Treatments and Practitioners You Might Want to Consider

So how do you find a doctor that is more open to natural treatment? I have had the opportunity to work with many healing modalities that I feel should be acknowledged and considered. Often they are labeled as “complementary and alternative” practitioners, but I think that is very misleading.

Chiropractors (DC), Naturopaths (ND), Osteopaths (DO), Acupuncturists (Lac), Colon Hydrotherapists (CT) and some MD's have a more holistic and natural approach to treating their patients. They look for the root cause and help the body correct itself as opposed to simply chasing symptoms.

In today's internet world, many practices have a website that will explain their philosophy, treatment methods and approach to healing. I encourage you to do your homework and select a health professional that will work with you to achieve wellness.

THE RIPPLE EFFECT OF TOXICITY



CONCLUSION

I hope you have found this book informative and helpful. Maybe you learned something you didn't even know you didn't know! There are so many things we can do to help our bodies stay healthy, and yet so many of us are unaware. I can promise you – it is easier to maintain your health than to regain it. I encourage you to start with just one small change suggested in the book, either in your food choices or your home environment, and build from there.

You have read a lot about toxicity, its ripple effect and what you can do to minimize it and improve your health. The human cell is the fundamental unit of life. Your job is to feed it properly and protect it from toxins. Your daily choices in life – the foods you eat, the things you put in your home and the thoughts you think – will *always* have a positive or negative effect on you.

Please know that all your choices have a ripple effect – the good ones improve health while the bad ones can diminish health. It is so important to understand that, more times than not, you are in total control of your health. Take charge, educate yourself and make healthful choices.

Thank you for reading.

THE RIPPLE EFFECT OF TOXICITY

RESOURCES

Weston A. Price Foundation
www.westonaprice.org

Organic Trade Association
www.OTA.com

International Federation of Organic Agriculture Movement
www.IFOAM.org

Environmental Working Group
www.EWG.org

Supplements (General Public)
www.enzymeessentials.com

Supplements (Health Care Professionals)
www.transformationenzymes.com • www.mhpvitamins.com
www.USprobiotics.org

DicQie Fuller, Ph.D. *The Healing Power of Enzymes*. Forbes Publishing Co, New York, 1998.

Robin Jeep and Richard Couey, Ph.D. *The Super Antioxidant Diet And Nutrition Guide: A Health Plan for th Body, Mind and Spirit*. Hampton Roads Publishing, Charlottesville, 2008.

Elizabeth Lipski, Ph.D., CCN, CHN. *Digestive Wellness: Strengthen the Immune System and Prevent Disease Through Healthy Digestion*, 4th Edition. McGraw-Hill, 2011.

APPENDIX A: SUCCESS STORIES

The following are a few testimonies that I have received from clients. This first one is actually a plaque that was given to me by a very special man. I keep it on my desk as a reminder of his dedication to his health and the kindness he showed me.

To Lisa:

Your life is so busy... So many people depend on you for so much. There must be times when you wonder if anyone notices how much you do. And though I realize you take care of everyone because you want to. And not because of what's "in it for you." It means a lot to me to let you know that I can imagine how much better you make life for those around you.

The world is a more beautiful place because of the beautiful person you are. With never-ending gratitude for the extra years you helped me add to my life.

Joe

Carmen was a 54-year-old woman with high cholesterol who had recently gained 15 pounds when she came to me in 2002. I determined that she needed to reduce the carbohydrates in her diet and increase protein consumption. Despite her love of breads, pasta and potatoes, she was more than willing to make the necessary dietary changes. She also incorporated a basic

enzyme protocol into her daily regimen along with herbal support to help curb her cravings and support fat digestion.

“I felt a cleansing going on in my system and I was able to get rid of the gas. I can tell that I’m digesting and assimilating everything that I eat . . . even the carbohydrates that have always been problematic for me.”

Within 2 months, she had lost a total of 13.5 lbs and her cholesterol improved dramatically. Her triglycerides dropped from 265 to 148 mg/dL, her total cholesterol dropped from 241 to a healthy 165 mg/dL, and her TC/HDL ratio ended up at 3.3.

“My life in the early 1970’s was a series of stressful events that took a toll on my health. Within two years, I lost five close relative and friends and my eight-year-old daughter was critically injured in an accident. Through all of this, I suppressed my emotions and ignored my stomach problems as they became more symptomatic. In April 1974, things came to a head when I had a severe and debilitating pain that doubled me over and I was rushed to the hospital.

It was determined that I had many gall stones with one trapped in the common duct. I not only had gall stones, but my appendix had ruptured and my entire body was infested with gangrene. Both my gall bladder and appendix were removed. I was given less than 25% chance of survival. Ignoring stomach problems is a grave mistake. I could have avoided surgery and had a better quality of life had I listened to my body and its cry for attention.

THE RIPPLE EFFECT OF TOXICITY

In 1998 and '99, after the death of my mother and sister, I was unable to eat and lost weight, from 125 to 96 lbs. My gastroenterologist determined that my pancreas did not produce the amount of enzymes necessary to digest food and he insisted that I take Porcine Pancreatic Enzymes. I had become a vegetarian due to the difficulty I had digesting animal proteins so I asked if I could take plant enzymes instead.

He agreed and that's when I learned about fungal enzymes. They were and still are a life saving gift to me. I no longer suffer from the inability to digest my food, I have a remarkably strong immune system and I never have to take an antacid. I am 69 years old and feel better than I felt at 30 when my body was toxic and malfunctioning. Chicken and fish are now a mainstay in my diet.

I religiously take my enzymes with each meal to digest the food properly and I take the proteases between meals three times a day on an empty stomach as well as at bedtime. Ridding the body of toxins and enhancing its ability to heal itself is the role enzymes play in homeostasis. I believe that taking the proper protocol of enzymes is not only helping me to live longer, but is helping me to live a better quality life.”

I emailed to check on this next gentleman and here is his reply: “No, I haven't dropped off the planet! But, all of a sudden I got real busy - which may reveal a lot, as I am feeling better than I have in years. I added a couple of diet changes you recommended, and digestive enzymes and probiotics. In other words, small changes made a big difference!”

This next one is a very powerful testimonial. “Thank you for changing my life! After losing half of my stomach to cancer, I lost 24 lbs within two weeks. Following my surgery I went through three months of chemotherapy. I saw several doctors and a nutritionist and they were not able to help me. I spent countless months trying desperately to gain weight after my chemotherapy treatments.

Since I have been taking the enzyme protocol recommended, I have gained 24 lbs. and I am now at a weight of 115 and feel much better. As if this is not enough, you have helped me to regain control of my body in other ways. During my second visit after chemotherapy, a doctor came in and told me, ‘We can’t understand but your area in question is shrinking. Usually the area we are watching grows or spreads but this area is shrinking.’

This is something you hoped we could accomplish and we did... I want to thank you for your care. You have been very supportive and kind in this difficult time for me.”

Guess what? I saw this client in the office just this week picking up her supplements!

“My mother complained of extreme gall bladder pain and inflammation and had a referral to visit with a surgeon to have it removed. After only being on digestive supplements for a week, her pain was gone and the surgeon decided that surgery was not necessary. She was able to avoid losing a vital organ and the recovery time associated with surgery. And she felt so good, she told my Aunt who was taking two capsules of the highest strength

THE RIPPLE EFFECT OF TOXICITY

Nexium® daily for extreme acid reflux. After taking the same supplements for one week, she no longer needs Nexium® at all!”

“I suffered with severe Spring allergies for several years so I went to an allergist and began a treatment of allergy shots in February. The doctor advised me not to expect to see any results from the shots until the following year because it takes many months for them to take effect. However, at the same time I also started taking protease enzymes twice a day on an empty stomach. When allergy season arrived in April of that year my symptoms were reduced 90%. Since then I’ve found I can reduce my symptoms even more by taking protease three times a day during allergy season.”

“I am a professional football player and I injured my thumb in 2002. At that time I had to tape it up and take pain medicine in order to stay in the game. This injury lasted 3 months before it was completely healed. In 2004, I re-injured the same thumb in the same way. This time I began taking protease enzymes (5 caps of each 5xday) and I was playing without the need to tape up my hand in 48 hours. I have since retired from the NFL but I continue to take digestive enzymes and my knees and joints no longer creek and ache. I have my entire family on the enzymes now!”

“I have always tried to eat a healthy diet but sometimes it seemed that was not enough. I have faithfully been taking the enzyme and supplement protocol you recommended and I have some good news... my body fat is down to about 16%, I've gained a few pounds, but better than that I have been using my pilates machine for about 4 weeks now, tolerating it, even enjoying it.

The best part is that my massage therapist is amazed at how my muscles are actually starting to feel healthy (and that I actually have some)! So needless to say it's been 1 year and we're seeing progress! As always I want to extend my thanks. You have completely changed our lives by helping me with the fibromyalgia – really you have no idea by how much.”

“I have Multiple Sclerosis and I decided it wasn't going to slow me down. I started training for a marathon which I had never done before. Because of the MS, my recovery time seemed to take forever after a long run. I was just so fatigued and sore. I was getting ready to quit training when I tried your enzyme protocol. I immediately noticed a change. I rebounded a lot more rapidly after the long runs and could really get into training.

I have now run 7 marathons. I also fight against MS by riding in the MS150 bicycle tour from Houston to Austin each spring, pedaling my way over the 180+ miles in two days. Additionally, I've been incredibly fortunate in my disease progression. My daily enzyme regimen includes digestive enzymes with meals, proteases between and a probiotic at night.

I've been pretty much symptom free for most of the past decade.

Does my positive attitude help this? Could it all turn for the worst at any time? I think the answer is yes on both accounts, but I'm too busy enjoying myself to worry about what could go wrong."

"We had been trying for 2 ½ years to get pregnant with no luck. After an unsuccessful surgery to repair my severely blocked fallopian tubes, the reproductive endocrinologist suggested that we get the tubes removed because they were leaking fluid into my uterus. We then had 3 failed in vitro fertilization attempts in 2006. We were about ready to give up, but decided that I should get healthy and maybe try again with a new doctor. My husband found enzymes through a colleague in Connecticut and we went to a seminar in NYC in 2007. We immediately started on the nutrition and enzyme protocol.

I finally got pregnant with IVF cycle in May 2007. We put in 4 embryos and one survived. I continued the protocol throughout my pregnancy. Annika Grace was born in February 2008, just one week before I turned 39. She was two weeks late but her placenta was in perfect condition. She was alert, responsive and healthy. She weighed 9 pounds and 5 ounces. The number one comment that we get about Annika (after "she's so cute") is that she is "alert" for such a young baby. I am continuing the enzyme protocol and breastfeeding Annika."

"I take enzymes to be proactive and thereby prevent illness. I am 26 years old and I've been taking digestive enzymes for 6 years.

I've had no significant health issues. When I became pregnant 2 years ago, I had no doubt that I should continue taking my enzyme protocol. I felt great! I experienced no nausea, fatigue, indigestion, constipation, bloating, water retention, or any of the other common symptoms associated with pregnancy. I then gave birth to a beautiful and healthy baby girl.”

“My daughter was six months old when I stopped breastfeeding, at which time she developed a runny nose, congestion and asthma-like symptoms. The pediatrician treated her symptoms with anti-histamines that did not work and made her agitated. I then began the enzyme protocol, and the congestion she experienced after her bottle decreased after introducing digestive enzymes.

At eight and a half months, the pediatrician diagnosed Sara with asthma and we began a series of breathing treatments. With the breathing treatment came an increase in eczema. All dairy products were eliminated from Sara's diet and wheat products were limited. At ten months her enzyme protocol consisted of proteases morning and night, digestive enzymes with meals and probiotics at night plus extra herbs as needed for eczema.

By 18 months, Sara had completed 2 series of breathing treatments and she no longer had the deep rattle in her chest. She continues with her enzyme regimen with the exception of the herbs, as her skin has cleared. We reintroduced dairy products very slowly and wheat is no longer restricted. We have not had a reoccurrence of asthma in over ten years.”

“I just got off work and I feel Amazing!!! My arthritis is gone! Normally I’m in great pain after an 8 hour shift. Those days are GONE!! Enzymes Rock!!”

“While moving into my new office building I fell and shattered my ankle bone. I had to have reconstructive surgery and the orthopedic surgeon told me I would be on crutches for 6 months. As soon as I was out of surgery and able to eat, I began taking my enzyme regimen. I am happy to report I was off crutches in 3 months!”

“Ten years ago I had gone through some stress when I lost my Aunt to Leukemia. I developed a rash around my thighs inside and out, on my stomach and some on my arms. It was so itchy that I was unable to sleep at night. I scratched day and night. I had gone to see my GP, my allergist and a Dermatologist. They prescribed steroid pills, expensive cortisone creams and body washes to no avail. I was so tired of it.

I had just read *The Healing Power of Enzymes* and located the phone number to contact them. Lisa Helffrich answered my call. She asked me what the problem was and I told her. She said, ‘Well let’s see... how far away are you and how soon could you be here?’ She was kind enough to see me that day! She took a blood sample and began to help me understand what I needed to start taking. She told me it would probably take 3-4 weeks before I would feel relief. I started taking them that day and within 5-6 days I was already clearing up.

I felt immediate relief and my skin cleared as though I never had a problem with my skin. I felt so good that I had forgotten how miserable I had felt. Now I am a true believer of healing with enzymes. I still take some of the enzymes and can tell the difference when I stop taking them. When I get off of enzymes I begin to feel sluggish and tired. I feel much better when I am on enzymes.”

“I couldn’t wait for Monday to call you and tell you that my son’s acne is like 75% better. He had it all over his face. I am so happy and he is too. As excited as an 18-year-old boy can be. I just want to thank your clinic and the staff for being patient with me and all of my questions. I love being able to help share the knowledge and help people to change their lifestyles to live a healthier life, through prevention.”

“I started on the enzyme program after visiting your clinic. I started feeling better very quickly and my appetite improved noticeably. After 3 weeks my blood test showed that my kidneys were functioning much better. By Thanksgiving, my appetite was normal, and my doctors and nurses were surprised by my steady improvement without doing dialysis.

It is truly a miracle that my health has been restored, when doctors had basically given up hope. I am now able to drive, walk, visit friends, and enjoy life again. My quality of life now I owe to enzymes and the professionals at your clinic.”

APPENDIX B: ABOUT ENZYMES

	ACTION	APPLICATION
PROTEASES	hydrolysis of peptides and amino acids	digestion of all dietary proteins; fibrinolytic action (blood flow); immuno-modulation and anti-inflammatory agent
LIPASES	hydrolysis of triglycerides to mono- and di-glycerides, glycerol, fatty acids	digestion of all dietary fats and oils from plant and animal sources
CARBOHYDRASES	hydrolysis of carbohydrates (sugar, starch, fiber) to glucose, fructose, galactose, sucrose	digestion of carbohydrates in cruciferous vegetables, legumes, dairy, desserts
		digestion of starches in whole grains, cereals, breads, pasta, rice, etc
		digestion of fiber in fruits, vegetables, grains

ENZYME	SOURCE (controlled fermentation)	Effective pH Range
Bromelain	<i>Ananas comosus</i> (pineapple)	4.0 - 9.0
Papain	<i>Carica papaya</i> (tropical plant)	3.0 - 10.5
Peptidase	<i>Aspergillus oryzae</i>	3.25 - 7.5
Protease 3.0	<i>Aspergillus niger</i>	2.75 - 4.7
Protease 4.5	<i>Aspergillus oryzae var</i>	2.75-6.25
Protease 6.0	<i>Aspergillus oryzae</i>	2.75 - 7.0
DPP-IV (Dipeptidyl Peptidase)	select <i>Aspergillus</i> species	2.0 - 8.0
Lipase AN	<i>Aspergillus niger</i>	3.0 - 8.0
Lipase CR	<i>Candida rugosa</i>	3.0 - 8.0
Lipase RO	<i>Rhizopus oryzae</i>	3.0 - 8.0
Alpha-galactosidase	<i>Aspergillus niger var</i>	2.5 - 7.5
Invertase	<i>Saccharomyces cerevisiae</i>	3.5 - 5.5
Lactase	<i>Aspergillus oryzae</i>	3.0 - 8.0
Amylase	<i>Aspergillus oryzae</i>	3.0 - 7.0
Beta-glucanase	<i>Trichoderma longibrachiatum</i>	2.0 - 7.0
Glucoamylase	<i>Aspergillus niger</i>	4.0 - 6.0
Malt diastase	<i>Hordeum vulgare</i> (barley malt)	4.0 - 9.0
Xylanase	<i>Trichoderma longibrachiatum</i>	2.0 - 7.0
Cellulase	<i>Trichoderma longibrachiatum</i>	2.0 - 8.0
Hemicellulase	<i>Aspergillus niger</i>	3.0 - 5.5
Macerase	<i>A. niger</i> & <i>T. longibrachiatum</i>	2.0 - 5.0
Pectinase	<i>Aspergillus niger</i>	2.0 - 5.0
Phytase	<i>Aspergillus niger</i>	2.0 - 7.0

APPENDIX C: ANTIOXIDANTS

Foods and supplements containing antioxidants have been proven to reduce the risk of age-related diseases such as cancer, heart disease, macular degeneration and cataracts. Is your diet providing the benefits of these powerful antioxidants? Consider the color! (adapted from David Herber, MD, Ph.D., *What Color Is Your Diet?* Regan Books: New York, 2001)

COLOR

- Red-Purple

ANTIOXIDANT

- Anthocyanin

HEALTH BENEFITS

- Inhibit clot formation
- Improved circulation
- May reduce the risk of heart disease or stroke

FOOD SOURCES

- Blackberries
- Blueberries
- Cranberries
- Raspberries

- Strawberries
- Eggplant
- Plums
- Prunes
- Purple grapes
- Cherries
- Red grapes
- Red apples
- Red cabbage
- Red pears
- Red pepper
- Red wine

COLOR

- Red

ANTIOXIDANT

- Lycopene

HEALTH BENEFITS

- Helps fight cancer

FOOD SOURCES

THE RIPPLE EFFECT OF TOXICITY

- All tomato products
- Guava
- Pink grapefruit
- Watermelon

COLOR

- Orange

ANTIOXIDANT

- Beta Carotene

HEALTH BENEFITS

- Promotes healthy skin
- Protects eyes
- May reduce risk for certain cancers

FOOD SOURCES

- Apricots
- Cantaloupe
- Carrots
- Mango
- Pumpkin
- Sweet potato

- Squash

COLOR

- Orange-Yellow

ANTIOXIDANT

- Beta cryptoxanthin

HEALTH BENEFITS

- Protects cells from free radical damage

FOOD SOURCES

- Nectarines
- Oranges
- Papaya
- Peaches
- Pineapple
- Tangerines
- Yellow grapefruit

COLOR

- Yellow-Green

ANTIOXIDANT

THE RIPPLE EFFECT OF TOXICITY

- Lutein & zeaxanthin

HEALTH BENEFITS

- Eye protection
- May help fight cataracts and macular degeneration

FOOD SOURCES

- Avocado
- Corn
- Cucumbers
- Green beans
- Greens - collard, mustard, turnip
- Green peas
- Green peppers
- Honeydew
- Kale
- Kiwi
- Lettuce (other than iceberg)
- Spinach
- Zucchini

COLOR

- Green

ANTIOXIDANT

- Isothiocyanates

HEALTH BENEFITS

- Stimulate production of cancer-fighting liver enzymes

FOOD SOURCES

- Broccoli
- Brussels sprouts
- Cabbage

COLOR

- White-Green

ANTIOXIDANT

- Alicin and bioflavonoids

HEALTH BENEFITS

- Cancer fighter
- Protects against free radical damage

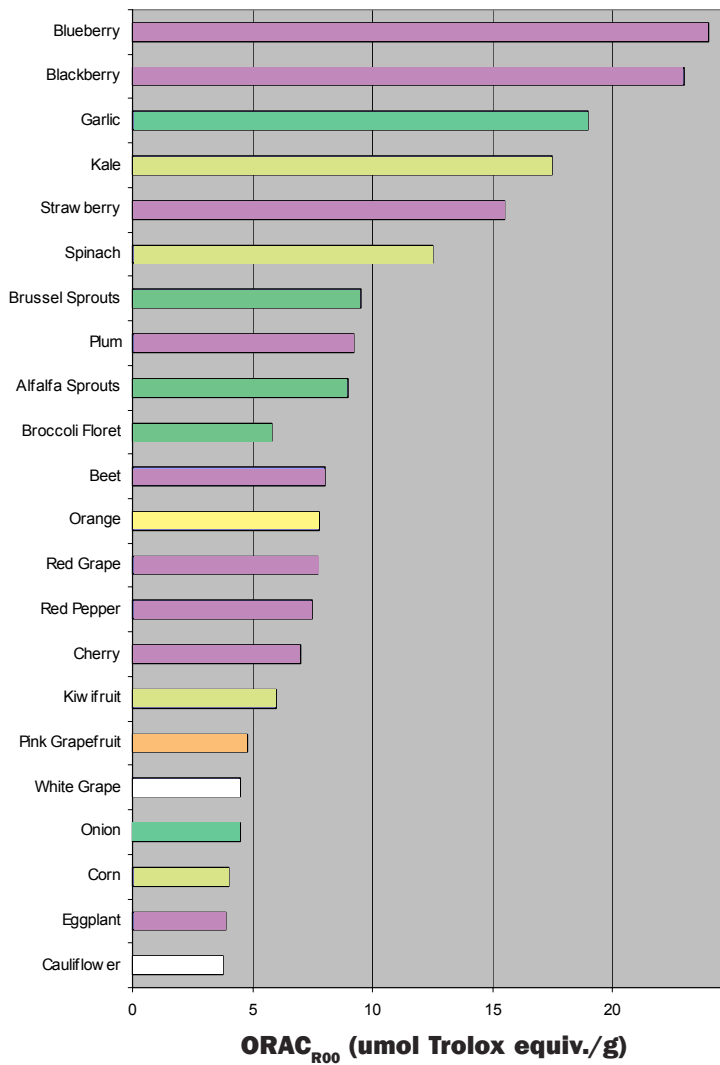
FOOD SOURCES

- Artichoke
- Asparagus

- Celery
- Chives
- Endive
- Garlic
- Leeks
- Mushrooms
- Onions

ORAC of Selected Fruits and Vegetables

ORAC (Oxygen Radical Absorbance Capacity) value measures the ability of food, blood plasma, and just about any substance to minimize oxygen free radicals in vitro. According to studies conducted by Tufts University in Boston, the following fruits and vegetables have a high ORAC value. Such foods raise the antioxidant power of human blood and prevent some loss of long-term memory and learning ability. They also maintain the ability of brain cells to respond to chemical stimulus and protects the capillaries against oxygen damage. These results, according to Ronald L. Prior, further suggests that “the ORAC measure may help define the dietary conditions needed to prevent tissue damage.” Additional evidence indicates that a high intake of these foods reduces the risks of cancer and diminished brain function along with other diseases associated with aging.



“Love this easy to read and understand book. Lisa is an excellent practitioner who really cares about her clients, I’m so glad she is sharing her knowledge with the public. I began her program prior to starting a weight loss program and found I felt so much better and I lost 3 pounds!”

Suzanne Espinoza, President, Transformation Enzyme Corp.

“The health of our cells is so easily ignored! We don’t look that deeply into our own bodies to see that a cleansing must take place before we can begin on the road to better health. Lisa Helffrich illustrates this point perfectly in her book. Everything that you need to make your start to a healthy transformation is discussed in a manner which you can easily understand.”

Renee Thompson, College Station, Texas

“*The Ripple Effect* brings a new perspective to toxicity and gives clear and simple suggestions to initiate change in your health, starting now. It is a must read for anyone and everyone as toxins affect us all! Lisa shares her years of experience in such a way that you won’t want to put it down.”

Kailey Harris, Denver, Colorado

“I love it! I need a copy for my office. Lisa does a great job explaining everything! It was an easy read for me and would be for my patients.”

Dr. Julie George, ND

“Whether you’re an experienced practitioner or you’re new to the world of detox, Lisa’s well-organized and highly informative book will both enlighten and empower you to take that next step to better health. Lisa shares a wealth of wisdom and experience in this book. It’s a ‘must have,’ and a ‘must read’ for both clinician and patient!”

Garretta Kipp, L.Ac.

\$12.95