

# FIGHTING BODY POLLUTION



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## **STAYING HEALTHY IN AN UNHEALTHY WORLD**

How nutritional supplements, natural foods and simple lifestyle changes can protect your body from the toxic environment we live in

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## What is Body Pollution?

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Let's do a little time travel - back millions of years to the dawn of intelligent life on this beautiful planet. See how pristine and unspoiled the world is. Notice the untouched environment and the bountiful earth. Take a deep breath of wonderful pure, clean air as you look around you. Can you believe the beauty?

Nothing is artificial or unnatural, and the environment has the ability to sustain itself. People drink clean water from natural sources and diets consist mainly of uncultivated fruits, vegetables and lean meats.

There are no plastics, food additives or chemical sprays and no cars or factories to pollute the air. Asthma, heart disease, diabetes and cancer are unheard of because they simply don't exist. These modern-day chronic illnesses are the high price we pay for the conveniences of modern life.

Okay, now let's return to the present and look at our world as though we were travelers from ancient times. Suddenly, it's difficult to breathe. Smog-filled cities choke us and our lakes are too polluted to swim in. Drinking untreated water is unthinkable. We don't recognize the 'foods' which are highly refined with added colors and preservatives that many people are eating. The diet seems to consist mostly of saturated fats, salt and/or sugar with a shortage of fresh fruits and vegetables.

We see people eating a large meal of fatty foods and then spending the evening in front of the television set as their children play video games on the computer. The next day, the kids are driven to school as the parents go to work which means sitting in front of the computer once again. Although people aren't exercising much, they seem chronically tired.



### **Health Tip**

*Indoor air pollution can be worse than outdoors. To reduce indoor air pollution levels in your home, open windows regularly.*

Shocking, isn't it? It leaves you wondering about the intelligence of a species that damages its own environment. There's no doubt that our ancient ancestors would be really confused by our behavior.

Although the first environmental damage likely came from hunters who burned down forests in order to scare the animals out, we can trace the beginnings of irreversible and sustained ecological damage directly back to the Industrial Revolution some 250 years ago, and all the trappings that came along with it.

Since then, there's been a race to 'succeed' with little thought to the damage we're doing along the way. For centuries we got away with this short-sighted view. As long as there was still plenty of forest and farming land and the water was more or less clean, we didn't worry.

It's time we did. Think about it. For roughly two million years, human beings lived essentially the same way with the same basic requirements to sustain life. In the very small space of only 250 years, we've undergone massive lifestyle changes in terms of what we eat, drink and do in our spare time. Yet somehow we expect that our bodies will magically adapt to all these changes.

Not without protesting! And the protest can take the form of asthma, heart disease, cancer, etc. All of these diseases are on the rise; even diseases we thought were conquered are making a chilling comeback. Think of illness as your body's way of protesting the artificial modern lifestyle.

Since we eat, breathe and live in this modern environment, ingesting these toxins is inevitable. Many of these pollutants end up being stored in our bodies. I think of this build up of contaminants as "body pollution". Our bodies were simply never designed to metabolize and digest these modern adulterated foods and our systems struggle to detoxify such overwhelming amounts of pollution.

Here's how body pollution works. Once a foreign substance enters the body, it has to be detoxified and made water soluble so that it can be safely eliminated. The liver and the kidneys are the main organs responsible for detoxification while the lungs, skin and intestines also play an important role. But even with all these powerful allies on our side, our bodies simply can't detoxify and eliminate all the chemicals we ingest. It does its best but we're still left with a damaging residue.

When the main organs have more toxins than they can handle, the still active or partially deactivated chemicals are stored in the fatty tissues - possibly even in the brain and central nervous system. Slowly, these reactive and toxic compounds can be released into the bloodstream, disrupting the systems of the body and causing premature aging and disease.

So this is what we call progress! Overloading our bodies with unnatural and harmful substances. It's a step forward all right - a step forward into premature aging and chronic illness.

While we're well aware of the damage that pollutants can cause to the environment in terms of global warming or chemical spills, somehow we don't make the leap in logic when it comes to our own build-up of body pollution. Most of us know that carbon monoxide emissions damage the trees and stunt their growth but rarely do we realize that all this pollution is also doing internal damage to us.

It shows in how much energy we have, in our outlook on life, in our capacity for enjoyment. It shows in terms of how well we feel and how well we actually are. We've come to think it's normal to feel exhausted after a full work day since we don't know any other way of living.

## **The Air We Breathe**

Thankfully, there is another way and I'm going to reveal it to you as you read on. First, I'm going to ask you to do a little research of your own. Next time you are dropping your children or grandchildren off at school, see how many kids have inhalers to help them with asthma-related breathing problems. Then think back to when you attended school and the magnitude of the problem will hit you. The level of pollution has overwhelmed children's natural ability to fight back and deactivate the toxic overload. In certain countries, 30-40% of asthma cases and 20-30% of all respiratory diseases can be directly linked to air pollution.



### ***Fast Fact***

*Air pollution killed about 7 million people globally in 2012, making it the world's greatest environmental health risk. Respiratory ailments have increased by 30 percent in 2014, according to records from Metro Manila hospitals.*

## **The Water We Drink**

For a good barometer of the quality of our current water supply, we need to look at the effect pollution is having on marine life. A dead orca whale recently found off the Washington coast appears to be the most toxic mammal ever tested (so far) with levels of polychlorinated biphenyls (PCB's) so great that the assessment machines had to be reset in order to be able to measure the levels.

## **The Food We Eat**

So much for our water. Now think about the food you eat and the fact that over 10,000 food chemicals and additives are currently in use in your food supply. All of these chemicals are used to make processed and packaged food look and taste better and, of course, last as long as possible on the store shelves. Many of the chemicals end up being stored in your body.

Food chemistry became an essential science as society developed and people began to move from the rural areas to the cities. Food had to be distributed over longer and longer distances before reaching the consumer so somehow it needed to be preserved.



### **Health Tip**

*Using only organic based cleaners in your home can reduce your exposure to chemicals considerably.*

Our modern food supply has become a mixture of chemicals and additives with the emphasis on appearance and taste as well as shelf life, rather than on the nutritional value. The food industry is being driven by people's reliance on convenience foods that fit in with busy lifestyles. The invention of the TV dinner, fast food restaurant drive-through, pre-packaged ready-to-serve foods and super-sized meals have all contributed to more calories and more chemicals with fewer essential nutrients.

### **Body Pollution Affects Every One of Us**

After doing your research, if you're still not convinced that modern society is not conducive to a healthy lifestyle, consider this:

Back in 1976, the U. S. Environmental Protection Agency began a program of collecting and analyzing human fat tissue samples - looking for toxic compounds. They searched for and studied 54 different environmental toxins. What they found was alarming! 100% of the people they studied had toxic chemicals stored in their bodies and at least 76% of all people had more than 20 different chemicals stored. Think about it! Every single person had some toxins in their bodies - undeniable proof that body pollution is a very real concept and a threat to your health.

Let's look at another famous study of particular interest. It took place in Biosphere 2 which was intended to be a self-contained, self-sustaining greenhouse and colony in the Arizona desert. This was as pristine an environment as humanly possibly in today's polluted world - almost mimicking how we used to live.

Participants followed a low calorie, nutrient dense natural diet, drank pure water and breathed clean air - in other words, they lived in an environment free of body pollution. Results of this study were both revealing and provocative. Over the two year study, participants demonstrated substantial weight loss, a remarkable fall in blood cholesterol, blood pressure and fasting glucose. In other words, they became healthy again.

Even more amazing is that when their blood was measured for common insecticides and pollutants such as DDE and PCB's, researchers found levels of these fat soluble toxicants initially increased and then decreased.

What does this mean? Well, as I mentioned, toxins are stored in fat tissues. So, as these people burned fat and lost weight, toxins stored in this body fat were released causing blood levels to initially rise. It's a process many natural health care practitioners call cleansing and it happens as your body begins to get healthier and sloughs off poisons. As the body was able to clear and excrete these pollutants, blood levels fell dramatically - proving once again the fact that body pollution exists in every one of us.

## How Does Body Pollution Affect You?

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Coal mines have always been dangerous places. Before modern technology was available, one way of testing whether the mine was safe was for one miner to go in ahead of the others, carrying a canary in a cage. If the mine was emitting toxic gases, the canary would become sick or die – serving as a warning to the miners.

I think of that canary when I hear of whales that lose their navigational abilities and wash up on shores because they're so polluted or when I read about PCB exposed marine life with both male and female sexual characteristics. I'm further reminded when I read that the number of childhood leukemia cases are on the rise along with many other diseases. These days, there are a lot of 'canaries' serving as our warning.

I'm also hoping that you get the message because it's a very powerful one. The first step toward making a change is to become informed. That's often difficult when the information is alarming. It's worthwhile though, because once you're informed, you'll have a lot more control over your health and your family's health. Think about it - the animals and marine life that we're polluting have no say in the matter. They don't get a vote. You do, so why not use your information to your advantage?



### ***Fast Fact***

*Doctors of environmental medicine estimate that 25% to 50% of the current population suffers from some sort of environmental related illness.*

### **How body pollution affects your health**

Still with me? Great! We know that, wherever we live, we have inherited a toxic environment that leaves us with a burden of body pollution. Think of body pollution as a toxic waste dump that your vital organs do their best to cope with. These foreign chemicals that you take into your body need to be deactivated. While your body has the ability to detoxify, often it becomes overloaded and becomes less and less able to deal with body pollution.



This can create permanent organ damage and also produce harmful by-products which remain active and stored in your body tissues. Every living creature has measurable levels of toxic chemicals stored in the body which when released can cause cellular damage. This damage may result in organ damage, a weakened immune system, and more susceptibility to disease.

At best, these stored toxins place your body under incredible stress. You simply were never intended to handle the massive load that you ingest on a daily basis. It's like walking around a landmine - sooner or later, you're bound to trip over it! No wonder you feel tired for no apparent reason...your body is working hard to clean out toxins. If it is overwhelmed for a long stretch of time, sooner or later, you'll get sick.



### **Health Tip**

*The herb dandelion can help detoxify and cleanse your liver – one of the main organs needed to rid the body of toxins.*

## **Immune System**

The body's immune system can't possibly operate effectively under this strain. It wasn't until AIDS (Acquired Immune Deficiency Syndrome) came on the scene in the 1970's that the immune system's complexity and interactions began to be thoroughly examined and understood. Quite simply, the immune system is the body's army against illness. This militia is composed of organs, cells and communication equipment that organize efficient search and destroy missions.

The main soldiers, known as white blood cells, go to battle every day against a host of viruses, bacteria and other foreign invaders. These soldiers are in constant battle - guarding the organs and cells of the body, fighting off disease and maintaining optimal health. Of course, like a real army, if the soldiers are overworked and tired, they lose their ability to fight the enemy. When your immune system is overworked and weak from body pollution, poor nutrition or stress, it can't keep up with the elimination of foreign invaders.

The rise in cancer can be attributed to the fact that almost everything we come in contact with daily - free radicals, hormones, pesticides - is carcinogenic. Your body does its best to repair the damage caused by these foreign elements that it was never designed to handle. But in the process of cellular repair, the risk for error or mutations (i.e. cancerous cells) increases. A buildup of these mutations can cause cancer or birth defects.

## Heart Disease

While cancer is a word that strikes fear in our hearts, we need to keep in mind that it's still heart disease that is the number one killer. The average 50 year old woman is three times more likely to suffer from heart disease than breast cancer during her lifetime. Heart disease alone contributes to one third of all global deaths. Not surprising when you consider that one in every two men will develop heart disease.

Sadly, researchers are finding that coronary heart disease can begin to show up in children as young as five to eight years old. Imagine - by the time a child is five years old, he or she could be showing early signs of heart disease. This rarely has anything to do with genetics and everything to do with our modern environment and diet.

Although we know that diet is a major factor in heart disease, we still eat obscene amounts of artery clogging foods. And once you've consumed those fries, the oxidized oils cause free radical damage to cells all over your body - including your blood vessels, a major factor in heart disease. That thought makes them a little less tempting!

Taking a quick look at the body pollution diagram found at the end of this chapter will show you clearly just how you can be affected by body pollution. It impacts every aspect of health and leads to premature aging by placing a strain on virtually every system in the body. Body pollution is, unfortunately, very real and there's no avoiding it, but you can take control of how it affects your health.

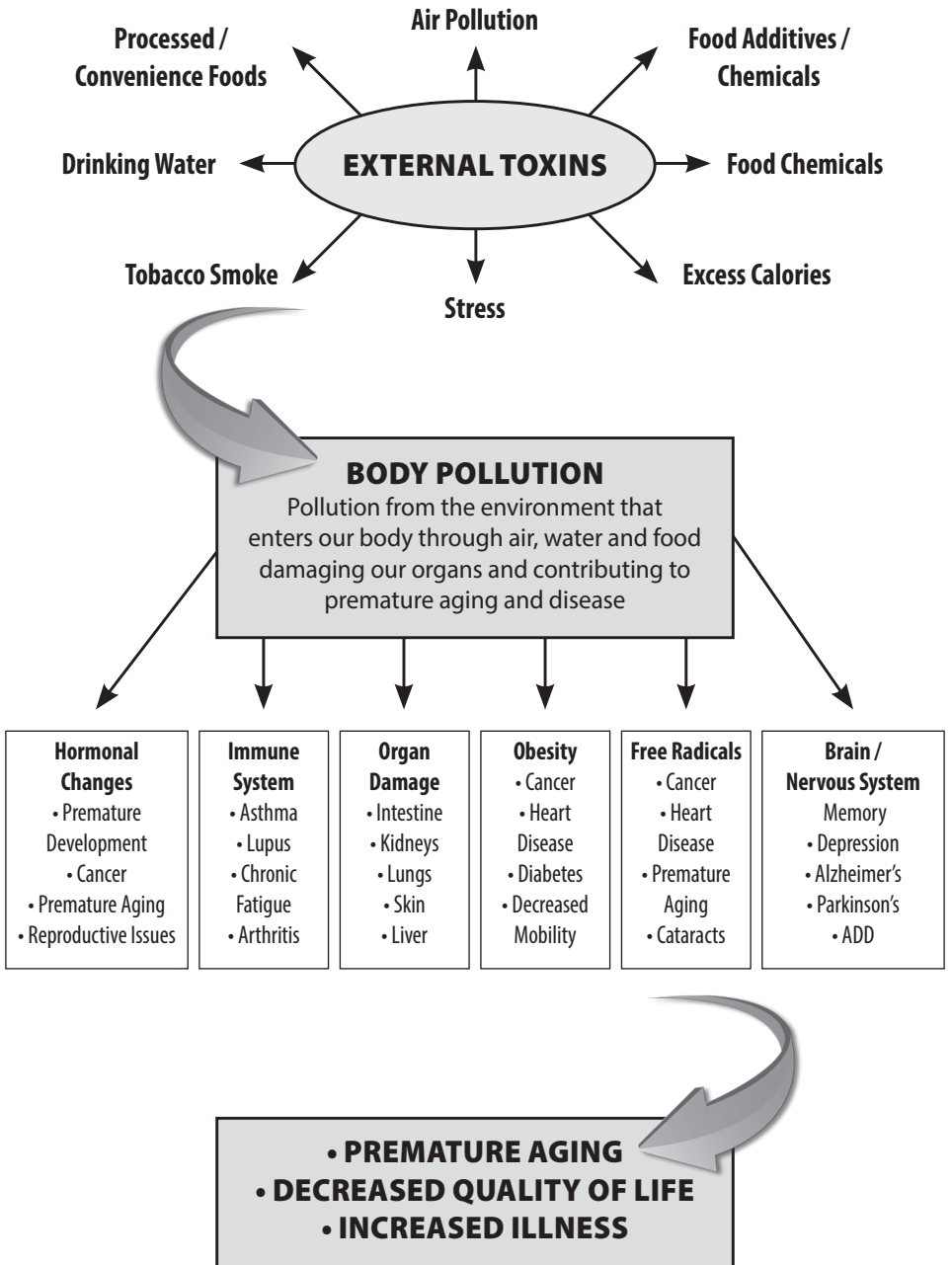


### **Health Tip**

*Fish is an excellent food source, filled with nutrients, but unfortunately, they suffer from body pollution too and can be a source of heavy metals – limit consumption to no more than twice a week.*

The first step is learning to be responsible for your own health. While modern medicine is excellent when it comes to dramatic life-saving interventions and engineering feats such as replacement hips and knees, it drops the ball when it comes to prevention. Physicians are kept so busy trying to keep illness under control they rarely have the time (and sometimes not the training) to consider prevention. We're much more focused on treating the symptoms or the illness after the fact rather than the root cause.

**Diagram 2-1: Body Pollution**



## Fighting Back with Good Nutrition

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So far, I've given you a clear picture of the body pollution that every living being is confronted with today and the long term impact as well as the ripple effect it can have on you and your health. The entire point of this book is to prove to you that you can put yourself back in charge of your health and your future.

One of the most important actions to take to live a healthy life is to be informed about nutrition. These days, that's not easy. The whole subject is complex enough to make your head spin. *'Eat this, don't eat that. No, that's okay, but avoid this. Whoops! We were wrong. Start all over.'* It's no wonder people get confused and simply throw up their hands in defeat. You'll get contradictory advice from anyone you talk to, including many nutritionists.

That's because the study of nutrition is still fairly new and more information comes out every day. While all of this information is quite complicated, it leads us back to the simple concept that to maintain health and prevent disease, we must return to a more nutritious diet. As you read this book, and become well-informed, you'll find that staying healthy can actually be fairly simple and straightforward. So hang in there! The returns are well worth the effort.



### ***Fast Fact***

*You have to eat 8 oranges today to get the same level of Vitamin A that your grandmother got from just one orange.*

### **Our Changing Diet**

Over the past few centuries there have been dramatic changes in our modern diet thanks in part to food processing techniques, soil depletion, food chemicals and the growing popularity of high calorie fast foods with little nutritional value. While we will never rid our diet of these changes, it is important to be aware of what we are consuming and what healthy alternatives are available to us.

As the use of white flour became widespread, nutrient deficiency diseases such as beriberi, pellagra and anemia became so prevalent, health officials urged the milling industry to return the bran and germ to the flour.

Refined white flour is missing up to 80% of the nutrients found in the original wheat kernel. Vitamins and minerals are reduced by approximately 75% and the fiber content is only 7% of what it used to be. The tiny bit of vitamin E left after refining is destroyed through the bleaching process. The ‘enriching’ process, although not the same in every country, only adds back a few of these missing nutrients, sometimes as little as four of the 13 essential vitamins and one mineral. Makes you wonder how they can call this ‘enriched’. So, next time, reach for whole wheat when you’re buying flour or bread.

**Table 3-2: Nutrients lost when wheat flour is refined**

<b>Nutrient</b>	<b>% Lost</b>	<b>Nutrient</b>	<b>% Lost</b>	<b>Nutrient</b>	<b>% Lost</b>
Cobalt	88.5	Zinc	77.7	Copper	67.9
Vitamin E	86.3	Thiamin	77.1	Calcium	60.0
Manganese	85.8	Potassium	77.0	Pantothenic Acid	50.0
Magnesium	84.7	Iron	75.6	Molybdenum	48.0
Niacin	80.8	Vitamin B <sub>6</sub>	71.8	Chromium	40.0
Riboflavin	80.0	Phosphorus	70.9	Selenium	15.9
Sodium	78.3	Fiber	93		

**Processed Oil**

With modern processing techniques, oil can be pressed in high quantities much more easily than ever before. This increase in accessibility has caused a dramatic rise in the amount of fat our diets contain. These days almost anything can be fried.



**Health Tip**

*Olive and canola oil are the best choices for cooking oils because they contain the highest levels of polyunsaturated fats – the healthiest fats.*

Some unsaturated fats or healthy fats are necessary for good health. The trouble is, although we're consuming a high fat diet we're still deficient in essential good fats.

One of the unhealthiest modern oil processes is called hydrogenation which involves a reaction that adds hydrogen to fats. The advantage of fully or partially hydrogenating an oil is that it protects against oxidation (prolongs shelf life) and alters the texture of foods. As an example, vegetable oils can become spreadable margarine.

The average person consumes 12g per day of hydrogenated fats even though guidelines suggest that no more than 2% (approximately four grams) of our fat intake should come from this source.



### ***Fast Fact***

*Four or five grams of trans fat a day over a period of 14 years will increase your heart-disease risk by 100 percent.*

Not only is this consumption of processed fats a risk factor for disease, in addition to this, don't forget that consuming too much of any fat increases your storage area for toxins. The fat we carry around then becomes our own customized toxic waste dump!

## **Sugar**

Refined flour and processed fats are not the only culprits in today's diet. Excess sugar is another. Sugar in its raw form, or how it used to be consumed by our ancestors, was nothing like how it is today. Again, processing has depleted it of any nutritional value leaving us with the sugar we regularly consume so much of today.



### ***Health Tip***

*Eating a small amount of protein at each meal will help stabilize blood sugar levels and prevent sugar cravings.*

Sugar is added to almost any packaged food you buy today, not to mention the vast amounts of sugary sweets and beverages available to satisfy our 'sweet tooth'. The average person now consumes roughly 20 teaspoons of added sugar per day - twice the amount recommended by health experts. Let's see, that adds up to 34 pounds or 15 kilos per year and if you multiply that by 80 years, then the average person consumes a staggering amount of 2,720 pounds (1236 kgs) - over one ton - of sugar in a lifetime. In our frenzy to cut back on fats, we've substituted sugar.

## Food Chemicals

We've seen what's been taken out of our food now let's look at what's being added through modern food processing techniques. Food chemicals/additives are used to enhance flavor, color, and shelf life. That's fine so far - but the trouble is they add a lot more than we bargained for!



### ***Fast Fact***

*More than 10,000 food chemicals are approved for use in our food today.*

In the past, food additives were so costly only the rich could afford them. Recently, new substances have been discovered which are relatively inexpensive. Along with that, new developments in technology make additives easier to produce. So now they're everywhere in every imaginable form! Ever wonder how food can travel halfway around the globe and still look and taste good? Chemicals are the answer and they're very definitely a mixed blessing.

Like many of our modern conveniences, we can't completely avoid food additives. What is important is to be aware of them, give your body the nutrients it needs to minimize the effects of this form of body pollution.

## Fast Foods

Fast food consumption is on the rise around the world. In the 1960's, there were only a few fast food restaurants – today there are tens of thousands in existence with thousands more opening up each year. Obviously there is demand to support this booming industry. We are all guilty of the occasional fast food meal, but when it becomes a regular part of the diet, it is hardly the fuel your body needs to stay healthy.

What people don't realize is that fast food meals include all aspects of modern food processing. These meals are typically high in calories and contain little nutritional value. Most fast foods are made of refined ingredients making them devoid of vitamins, minerals and fiber. Fried foods are high in artery clogging fats, and your super sized soft drink is loaded with little except sugar. It's definitely fast, and cheap but not exactly your ideal fighting body pollution diet.



### ***Fast Fact***

*Carbonated soft drinks are the single biggest source of refined sugar in the modern diet.*

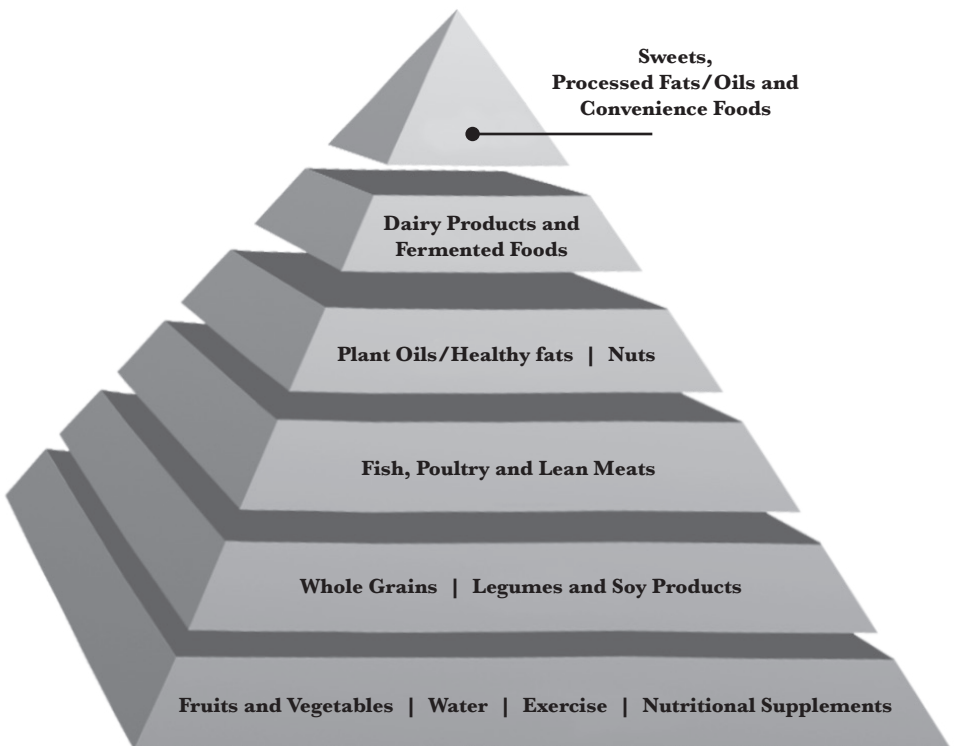
## Fighting Body Pollution Lifestyle Pyramid

Maybe you do your best to follow a balanced diet. While this is a good start, there is much more you can do to provide your body with the fuel it needs to function at peak performance.

There are many theories put forth by nutrition experts about what we should and shouldn't eat. What is perhaps most simple, is to look at what our ancestors ate. In other words, what the human body was programmed to eat – a natural, balanced diet consisting of lean meats, healthy fats, fruits and vegetables and clean water. In addition to a good diet, a healthy lifestyle including exercise can also encourage a disease free, active life.

With this in mind, I've designed the ultimate fighting body pollution lifestyle pyramid. Using this as a guideline, you will find that eating right and living a healthy lifestyle is actually quite simple. Choose foods and activities that fall near the bottom of the pyramid most often, and limit those that are close to the top. You'll notice that fruits, vegetables, pure water, exercise and supplements form the foundation of the pyramid – this is because these are essential components in the fight against body pollution.

**Diagram 3-1: Fighting Body Pollution Lifestyle Pyramid**





## **Fruits and Vegetables:**

- Research has shown that a diet rich in plant foods helps to prevent chronic disease
- Fruits and Vegetables are a rich source of vitamins, minerals, antioxidants and plant nutrients – all vital in fighting body pollution
- A diet supporting optimal health should contain at least 5 – 10 servings of fruits and vegetables per day
- Choose a variety of dark green and brightly colored fruits and vegetables

## **Water:**

- The human body is 90% water
- Replenishing the body with water assists with regulation, digestion and cleansing
- Drink at least 8 glasses of pure filtered water per day

## **Exercise:**

- Exercise is an equally fundamental part of optimal health. It is essential in weight maintenance, disease prevention and assists the body in its cleansing process
- Incorporate exercise into your daily routine. This should include both aerobic exercise and weight training

## **Nutritional Supplements:**

- It is impossible to get all the nutrients we need from diet alone. These days, even a well balanced diet, although still very important, is just not enough
- In order to fight body pollution, it is essential to arm your body with whole foods and supplements including, vitamins, minerals, botanicals, antioxidants and plant nutrients

## **Whole Grains:**

- Whole grains are an excellent source of fiber, vitamins and minerals – excellent tools in fighting body pollution
- Fiber works to assist the body in cleansing, and promotes satiety
- Choose whole grain products rather than “white” or enriched

## **Legumes:**

- According to research, increasing legume intake (Chickpeas, lentils, kidney beans, fava beans, peanuts, navy beans, lima beans, string beans, and split peas) may be an important dietary intervention to reduce chronic disease
- Legumes are an excellent source of both fiber and protein

## **Lean Meats, Poultry and Fish:**

- Protein is an important part of a healthy diet for tissue growth, repair and maintenance
- Lean meats and poultry can be an excellent source of protein. Always remove skin from chicken
- Fish is a good source of protein and healthy fats. Salmon, herring, and mackerel are excellent sources of healthy fats (omega-3 fatty acids)

## **Plant Oils and Healthy Fats:**

- Not all oils or fats are bad. In fact, some fats are quite essential to good health, especially the heart. These are found in many plants as well some fish
- When choosing cooking oils, stick to mono and poly-unsaturated fats. The leading choices are olive and flax oils, followed by canola oil for cooking

## **Nuts:**

- Nuts are an important source of fiber, and they are loaded with essential minerals and vitamins — especially the antioxidants vitamin E and selenium
- Nuts also contain protein necessary for normal growth and development
- Consuming nuts in moderation can be an excellent high energy addition to a healthy diet

## **Low fat Dairy and Fermented Food Products:**

- Low fat dairy products can be an excellent source of many vitamins and minerals, especially calcium
- Fermented foods and beverages such as yogurt, kefir and soft cheese can be excellent food sources for healthy digestion by restoring healthy intestinal bacteria
- These healthy bacteria are an important line of defense against invading viruses, yeasts, parasites and pathogenic bacteria

**Processed Fats:**

- Although all fats should be eaten in moderation, trans and saturated fats should be avoided whenever possible
- Processed fats (heated, hydrogenated etc.) should be strictly limited in a healthy diet
- Limit butter, margarine, mayonnaise etc. and other high fat products
- Limit frying of foods. Try steaming or sautéing instead

**Sweets and Convenience Foods:**

- Sweets and convenience foods can form part of a healthy diet if consumed in limited amounts
- Limit fast foods and highly processed food. Choose whole foods instead
- Limit intake of sweets, soft drinks and refined sugars

## Vitamins: What's in a Name?

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Plenty, as it turns out. For the history buffs among you, the origin of vitamins is a fascinating story. By the 18th century, scientists were starting to realize the relationship between vitamins and health. They had discovered that adding citrus fruits to a diet would prevent scurvy.

British sailors turned out to be the unwitting guinea pigs. After three months on a long ocean trip, eating nothing but meat and cereals, the sailors began coming down with strange symptoms such as bleeding and swollen gums, swollen legs and arms, bleeding in the eyes, very dry skin, shortness of breath and hair loss. Some men were incapacitated and many died.

Once British ships were supplied with lime juice and marmalade, their illness – *scurvy* – disappeared and they became known as ‘limeys’. What they didn’t realize is that they were replenishing their bodies with vitamin C. Interestingly, another term for vitamin C is ‘ascorbic acid’, which happens to be Latin for ‘without scurvy’.

Vitamins fall into two categories - water soluble and fat soluble. Water soluble vitamins aren’t stored by the body for very long and so they need to be eaten regularly. Vitamin C and the B vitamins are water soluble - excess amounts aren’t stored but excreted through urine instead.



### **Health Tip**

*Vitamin C helps in the absorption of non-animal forms of iron such as the iron found in fruits, vegetables and nuts.*

Vitamin A, D, E and K are the fat-soluble vitamins. Your diet needs to include some good fats in order to transport and store these vitamins. Excess amounts of vitamin A and D can be toxic if consumed in extremely high doses because they are stored and can build up to unhealthy levels. Most people, though, get too little, not too much. Refer to the vitamin chart at the end of this chapter to learn about specific vitamin roles and doses.

The sad truth is that many people all over the world don't even meet the minimal levels outlined in the RDA guidelines. Each person is unique with different nutritional requirements at different times in their lives, so even the most conscientious and well-informed person might not be getting everything that his or her body needs.



### **Health Tip**

*Men and Women over the age of 50 should avoid excessive levels of iron in their supplement. Look for a multivitamin & mineral supplement with less than 5 mg of iron.*

## **Vitamin Supplements**

The fact is that most people don't get an optimal amount of all the vitamins they require by their diet alone and need to take supplements as a safeguard.

Things get confusing pretty quickly when you go to purchase a multi-vitamin. So here are some tips for choosing a good multi-vitamin:

1. Choose a vitamin as close as possible to the original food source – look for natural sources
2. Find a multivitamin as close as possible to the RDA for each nutrient
3. Look for a supplement that's age and gender specific – men and women have different nutritional needs
4. Make sure vitamins and minerals are combined in your supplement
5. Look for a supplement that contains additional non medicinal ingredients that help absorption of vitamins such as bioflavonoids

## **Antioxidants**

While all vitamins are important for health, certain vitamins act as antioxidants and are essential for protecting the body from the damages of body pollution. Antioxidants are compounds found in foods and supplements that neutralize free radicals.

You'll recall from Chapter Two that free radicals, when produced in excess cause damage to your cells and contribute to premature aging and disease. In order to defend against these damaging molecules, your body has a very complicated antioxidant defense system that uses antioxidants from the diet to clear out free radicals and prevent damage.

Antioxidants do this in three ways: they reduce the energy of the free radical, stop it from forming in the first place or interrupt the chain reaction which minimizes the damage. While the jury is still out on whether antioxidants can prevent or treat specific diseases, their importance in maintaining good health is indisputable.

Researchers believe that even the healthiest diet may not provide sufficient amounts of antioxidants, especially considering the assault we're under on a daily basis from body pollution. Each time antioxidants are used to neutralize free radicals, the body's supply diminishes – it is very important to keep it replenished.

So good nutrition and optimal health also means getting enough antioxidants from your diet. While most antioxidants are concentrated in brightly colored berries, fruits and vegetables – you'll find that many different compounds can act as antioxidants including vitamins, herbs and minerals to mention a few.

## Minerals: Salt of the Earth

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### Why You Need Minerals

In their most elementary role, certain minerals such as sodium, potassium, calcium and magnesium act as electrolytes. Electrolytes are your body's own electrical system which relies on minerals to generate and conduct billions of tiny electrical impulses. Without these impulses not a single muscle, including your heart, could function. Neither could your brain. Your cells wouldn't be able to balance your water pressure or absorb nutrients. In other words, without minerals to manage your body's basic functions, it's lights out!

In general, minerals act as triggers, activating both enzymes and vitamins for the body to use. These hard working elements also help stabilize your cells, construct tissue, produce energy, synthesize hormones and repair some of the damage done to your cells on a daily basis.

Vitamins often get the limelight, but the truth is minerals might play an even more vital role. If you had no vitamins, your body would still be able to access some minerals. But if you had no minerals, your body couldn't access a single vitamin!



#### **Health Tip**

*Almonds contain more calcium than any other nut (190 mg per ½ cup/125 ml).*

While vitamins are like chameleons, changing shape and substance in the body as needed, minerals always retain their identity. Iron might combine with other molecules, but it will always be iron. Minerals are inflexible in the sense that they can never change into something else. So they never suffer from an identity crisis!

There are two types of dietary minerals – the ‘macro’ or major minerals and the ‘micro’ or trace minerals. Not surprisingly, you need more of the macro minerals such as calcium, magnesium and phosphorus, but that doesn’t mean you can overlook the importance of the micro minerals. A glance at our chart at the end of this chapter will inform you about minerals and their individual role in your health.

## Mineral Deficiencies

I’ve shown you how important minerals are, yet multiple mineral deficiencies have been found in a large percentage of the world’s population. This is not too surprising when you consider our current soil quality and recall from your previous reading that our food has a number of nutrients, including minerals, processed right out of it.



### ***Fast Fact***

*In Philippines, only 45% of households consume iodized salt and 1.2 million infants remain unprotected from iodine deficiency disorders. 32% of the population is at risk for insufficient zinc intake. And about 29% of Filipino children suffer from iron deficiency.*

Now let’s take a close look at the role of certain minerals in your health:

## Calcium

It won’t surprise you to learn that calcium is the most abundant mineral in the body. Males carry about three pounds and females carry about two pounds of calcium - most of it in bones and teeth with the rest found in the soft tissues and watery parts of the body where it regulates the normal body processes. That’s the kind of weight you want to fortify, not lose!

Calcium provides a great example of exactly how minerals work synergistically with vitamins, enzymes and other minerals. About 10-40% of the calcium you get from your diet is absorbed in the small intestine with the help of vitamin D. (Calcium can’t be absorbed well without both vitamin D and hydrochloric acid). Magnesium is also a member of this powerful team that helps to fortify bones.

If you don’t get enough calcium in your diet, the body will begin to dip into its reserves – your bones. If the deficiency goes on long enough, you’ll suffer from osteoporosis. While this disease can strike at any age, older people are more vulnerable. One in four women and one in eight men over the age of 50 have osteoporosis. 80% of women are deficient in calcium and this world-wide health problem costs billions of dollars to treat. This condition is much more than just a nuisance, it’s a serious health problem that is



easily preventable. Here's a red flag for caffeine lovers -too much caffeine can reduce your calcium levels. A recent Harvard University study of 84,000 middle-aged women found that those who drank more than four cups of coffee a day were three times more likely to suffer from hip fractures than women who had little or no caffeine.



### ***Fast Fact***

*More women die each year as a result of hip fractures than from breast and ovarian cancer combined.*

## **Zinc**

Zinc has amazing healing properties and forms part of more than 300 enzymes needed to repair wounds. Zinc helps maintain fertility in adults and growth in children. It also synthesizes protein, helps cells reproduce, preserves vision, boosts immunity and protects against free radicals, just to name some of the most important functions. Zinc ointment is often topically applied to heal skin abrasions and is also used to soothe a baby's skin.

While it is great to know the many functions zinc performs, it is alarming to realize that an estimated 48% of the globe's population don't get enough zinc. Zinc deficiencies are common in HIV patients. Even a small deficiency in this critical mineral can have a huge effect.

## **Selenium**

Selenium is a powerful antioxidant mineral being tested in exciting and groundbreaking studies around the world for its anticancer and heart disease prevention properties.

A study conducted by Dr. Larry Clark, published in the Journal of the American Medical Association (JAMA) created quite a stir when it showed that over 1,300 people given 200 mcg of yeast-based selenium per day for 4.5 years had a 50% drop in the cancer death rate compared to the placebo rate. Another study compared men who consumed the most selenium to men with the lowest levels and found that those who consumed the most had 65% fewer cases of advanced prostate cancer than the other men tested.

The Selenium and Vitamin E Cancer Prevention Trial (SELECT), sponsored by the National Cancer Institute and covering the next ten to fifteen years, is currently investigating 32,000 men to look at the role of vitamin E and Selenium in the prevention of prostate cancer. It is anticipated that these extensive long term tests will confirm what other studies have found; that selenium is associated with a significantly reduced risk of prostate cancer.

Selenium is also essential for healthy immune functioning. And supplements have reduced cases of viral hepatitis in selenium-deficient populations. Even in a non-deficient population of elderly people, selenium supplementation has been found to stimulate the activity of white blood cells – the primary components of the immune system. Selenium also activates thyroid hormones. In a double-blind trial, selenium supplementation of infertile men improved the mobility of sperm cells and increased the chance of conception.



***Fast Fact***

*Dr. Larry Clark's research recommends 200 mcg of selenium. To get this from diet alone, a person would have to consume over one pound of shrimp (approximately 85 medium sized shrimp) per day.*

Your body can best use selenium when it is in an organically bound yeast-based form – this way, even in high doses, it is not toxic.

## The Healing Power of Herbs

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Herbs have been known and used for their healing powers for centuries. The next time you pop a piece of licorice in your mouth, consider that you've just joined forces with one of the earliest cultures on earth. The Sumerians (one of the world's first civilizations) were very familiar with medicinal herbs such as licorice and thyme, according to ancient clay tablets that date, to around 4000 BC.

Traditionally, many cultures have used and still use herbs to effectively maintain health as well as to heal ailments as diverse as eye infections, stomach aches, impotence and headaches. In fact, one of the first things the Pilgrims did when they got off the boat in Plymouth, Massachusetts in 1630 was to transplant the herbal seedlings they'd lovingly transported across the Atlantic. They also soon began to explore the native North American healing plants such as cascara sagrada and goldenseal, adding them to their repertoire.



### ***Fast Fact***

*Europe's oldest surviving writing about herbs dates from the first half of the 10<sup>th</sup> century and includes remedies sent by the patriarch of Jerusalem to the King*

Herbs contain nutrients that are often not found in any other foods we eat. While our ancestors used to consume herbs as part of their regular diet, we rarely find ourselves 'chewing on a piece of bark' – nor would we want to. Still, the nutrients found in botanicals are unique and of great value to our health. An herbal supplement is our modern day alternative.



### ***Health Tip***

*Regular use of ginseng has been shown to boost the level of white blood cells – a sign of increased immune system functioning*

**Fast Fact**

*30-40% of all medical doctors in France and Germany rely on herbal preparations as their primary medicines.*

While countries such as China, Japan, Korea, France, and Germany are prescribing herbal remedies for a wide variety of complaints, in North America, herbs are still viewed with suspicion by the medical community and are often bypassed in favour of treating illnesses with either drugs or surgery.

One problem is that herbal remedies are not as profitable as drugs. A drug can be patented which gives the manufacturing company exclusive rights to it, while herbs are readily available to most consumers and are rarely patented.

If a company invests millions of dollars in researching and proving the effects of a certain herb, another company, who hasn't paid for the research, can put the herb on the market at a lower price. For the first company, it is a losing proposition.

Today, we seem to think it is perfectly fine to take drugs for the rest of our lives, treating the symptoms rather than the cause of a disease. Unlike herbs, drugs not only cost a lot, they can extract a high cost from our bodies as well. Masking symptoms without addressing the root cause of an illness can be dangerous since symptoms are the body's way of signaling to us that all is not well.

It seems modern medicine is recognizing this truth and coming full circle, back to its roots. The latest cancer and aids experimental trials involve stimulating and boosting the body's immune system so that the body can heal itself! It is not such a radical thought after all.

**Fast Fact**

*The World Health Organization estimated, in 1985, that roughly 80% of the world's population relies on traditional medicines, including herbs, for primary health care needs.*

You may however, find yourself confused when making a purchase. There's such a variety of makes and models of herbal remedies with each one claiming to be exactly what you need. How can you choose what's best for you and what provides the best value?

Let me help you sort through the confusion. Herbal preparations can be found in four basic forms - extracts, tinctures, decoctions or teas, all of which can be very effective providing a quality product is chosen.

- ❑ **Extract** can be either in a solid or a liquid form. The active ingredients are concentrated by low temperature distillation so that the chemical nature of the extract is not altered. Or the extract can be made by mixing the herb with an alcohol or water solvent. The solid extracts are made by evaporation.
- ❑ **Tinctures** are typically made by using an alcohol and water mixture as the solvent. The herb is soaked in the solvent for a specified amount of time, depending on the herb. The solution is then pressed out, yielding the tincture.
- ❑ **Decoctions** are made by leaving a plant in water for a certain amount of time before removing it. This disperses the active ingredients in the water.
- ❑ **Teas** are made by boiling the herb in water.

## Active Ingredients in Botanicals

Active ingredients provide the health benefits in botanicals and each herb has its own particular active ingredients, such as ginsenosides in ginseng, cascariosides in cascara bark and flavonoids in licorice root, to name just a few. The concentration of active ingredients found in an herb will vary according to growing conditions, soil conditions, how they've been harvested and preserved as well as how long they've been in storage.



### ***Health Tip***

*Garlic can help reduce blood pressure and cholesterol – use it daily.*

If you grow and harvest fresh herbs yourself to use in salads or teas, you have control over the quality. In the retail store, it is a much different story. You're faced with a multitude of choices and not enough information to make an informed decision. All the bottles facing you contain the same herb...but herbs without a high level of active ingredients are like yogurt without an active culture. In other words, useless!

## Standardization

Fortunately, recent advances in extraction processes, coupled with improved analytical methods, have ensured that companies who use standardized methods of extracting and measuring the active ingredients have the highest level of quality control.

Standardization is the ability to accurately measure the active ingredient in each botanical. For example, in the case of ginseng, the active ingredient ginsenosides would be the compound measured and standardized to a specific concentration, to ensure quality product.

So no matter what form the herb is in or how it is been processed, standardization guarantees that the active botanical ingredient is at the specified level. In other words, only buy herbs from a company you know and trust.

## **How Botanicals help fight Body Pollution**

Botanicals taken on a regular basis can provide unique nutrients that help keep the body in top condition. When fighting body pollution, certain specific bodily systems require additional support. Many botanicals target these systems specifically. Let's take a look at a few in detail:

### **❑ Immune System**

Certain herbs, such as astragalus, which has been used in China as an immune booster for 400 years, directly assist the immune system. Reishi mushroom, Siberian ginseng and licorice root also work to stimulate and support the immune system.

### **❑ Antioxidant System**

Other botanicals such as German chamomile, Chinese pearl barley and licorice root act as antioxidants and fight against free radical damage. German chamomile, with particularly potent flavonoids has documented antioxidant properties known to protect skin from the ravages of free radicals induced by pollution, overexposure to the sun, poor diet or a host of other disease-causing agents.

### **❑ Digestive System**

Ginger root, chicory and capsicum all help support the digestive system. Ancient Greeks used to wrap ginger in bread to aid with digestion and today ginger tea is often used to sooth a nauseous stomach.

### **❑ Energy System**

Several botanicals are thought of as health tonics or energy boosters. Tonics are used to enhance general health and can be safely taken for a long period of time. Rose hips, Siberian ginseng, reishi mushroom and schisandra berry are some of the herbs considered tonics.

### **❑ Detoxification System**

Herbs act as excellent detoxifiers. Aloe vera, schisandra berry, dandelion root and milk thistle are all herbs that help to cleanse the systems of the body. As we are exposed to more and more body pollution, our bodies need assistance in cleansing the by-products of this pollution

**Table 6-1: Herb Chart**

Herb	Active Ingredients	Action in Body	Focus of Current Research / Traditional Use	Antioxidant Activity
Alfalfa	Saponin Glycosides	Mild diuretic, tonic	High cholesterol, Menopause, Poor appetite, Arthritis, Diabetes	
Aloe Vera	Antraquinone Glycosides, Polysaccharides	General tonic, Detoxifier, Immune Function	Chrone's Disease, Diabetes, Peptic Ulcers, Psoriasis, Wound Healing, Immune support	
Astragalus	Flavonoids, Polysaccharides, Triterpene glycosides	Immune function, Tonic, Antiviral, Antioxidant	Common cold/infection, Immune support, Diabetes, Aids, Hepatitis, Heart Attack	✓
Bee Pollen	Vitamins Minerals	Anti-infectant, Anti-allergic, Liver support, Provides energy	Cancer risk reduction, Rheumatoid Arthritis, Hay Fever	
Capsicum	Capsaicin	Circulatory Stimulant, Tonic, Anti-inflammatory, Analgesic	Diabetes, Arthritis, Psoriasis	
Cascara Bark	Cascariosides	Mild laxative, Tonic	Constipation	
Celery Seed	Glycosides Flavonoids	Digestive aid, Muscle relaxant, Anti-inflammatory	Arthritis, Gout, Bronchitis, Blood Pressure	✓
Chicory Root	Inulin Coumarin Glycosides	Tonic, Digestive Aid	Digestive problems, Liver/gallbladder ailments	
Chinese Pearl Barley	Coixol, Coixans	Antioxidant, Anti-inflammatory, Tonic	Painful Joints, Rheumatism, Swelling	✓
Dandelion Root	Triterpenes, Phenolic compounds, Carotenoids	Tonic, Mild diuretic, Liver support, Blood purifier	Constipation, Gallstones, Indigestion, heartburn	✓
Fenugreek	Saponins, Flavonoids	Digestive aid, Tonic, Expectorant, Antioxidant	Diabetes, High triglycerides, Constipation, Atherosclerosis, Arthritis, Bronchitis, High Cholesterol	✓
German Chamomile	Flavonoids, Volatile oils	Anti-inflammatory, Mild sedative, Tonic, Antioxidant	Colic, Eczema, Gingivitis (periodontal disease), Wound healing, Irritable bowel syndrome	✓

Herb	Active Ingredients	Action in Body	Focus of Current Research / Traditional Use	Antioxidant Activity
Ginger Root	Volatile Oils, Gingerols	Digestive aid, Anti-inflammatory, Anti-nausea, Detoxicant	Nausea, Indigestion, Atherosclerosis, Migraine Headaches, Rheumatoid Arthritis	
Juniper Berry	Volatile Oils, Flavonoids, Sterols, Catechins	Mild diuretic, Anti-inflammatory, Antioxidant, Digestive aid	Edema (water retention), Indigestion, Kidney and bladder infection, Gout, Cancer protection, Blood Pressure	✓
Licorice Root	Flavonoids	Antioxidant, Detoxicant, Expectorant	Asthma, Chronic Fatigue, Bronchitis, HIV support	✓
Passion Flower	Flavonoids, Volatile Oils	Anti-anxiety, Antioxidant	Anxiety, Insomnia, Pain	✓
Pipsissewa	Hydroquinones, Flavonoids	Tonic, Astringent, Kidney Support, Antioxidant	Inflammation, Urinary tract infection	✓
Reishi Mushroom	Sterols, Coumarin, Polysaccharides	Immune function	Blood Pressure, High cholesterol, Immune support, Cardiovascular Disease	
Rose Hip	Flavonoids, Vitamins	Astringent, Diuretic, Tonic	Blood purifier, Infections	✓
Sarsaparilla	Saponins	Anti-inflammatory, Tonic, Detoxicant, Liver protectant	Psoriasis, Rheumatoid Arthritis, Gout	
Schisandra Berry	Lignans	Immune Function, Liver support, Activation of antioxidant enzymes, Tonic, Antioxidant	Common cold/sore throat, Fatigue, Hepatitis, Infection, Liver support, Stress	✓
Siberian Ginseng	Eleutherosides, Polysaccharides	Immune Function, Energy, Adaptogen	Fatigue, Common cold, Fibromyalgia, Infection, Diabetes	
Thyme	Volatile Oils, Flavonoids	Anti-tussive, Expectorant, Antioxidant	Bronchitis, Cough, Indigestion	✓



## The Phenomenal Power of Phytonutrients

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Since you may not be aware of the amazing benefits that phytonutrients provide, let me introduce you to these underappreciated allies in the fight for good health - with the hope that you may soon become well acquainted! The truth is, what you don't know can hurt you.

In my opinion, phytonutrients are one of nature's strongest partners in the battle against body pollution. You may also see them being called phytochemicals, as the terms are often used interchangeably. If you want to be vibrantly healthy, you'll need to know all about them and the great benefits they provide. It is a very worthwhile education! The word 'phyto' means plant in Greek and the word phytonutrient refers to a multitude of beneficial chemical compounds naturally found in plant foods. There are literally thousands of different individual phytonutrients many of which you may already know - carotenoids, bioflavonoids, lycopene, and sulforaphane to name a few.

Nature clearly has a master plan in place that we're just beginning to figure out since phytonutrients are most often found in plants that we eat on a regular basis - generally speaking, fruits, vegetables, nuts and grains, etc. - and are often what give these foods their particular colors and flavors. Nutritionists frequently advise clients to eat a wide variety of fruits and vegetables so that they benefit from the different phytonutrients found in these foods.



### ***Fast Fact***

*People who eat five or more servings of fruits & vegetables every day have 1/2 the risk of developing cancer as those who eat only one or two servings per day.*

More importantly, there is growing scientific consensus that these nutritional powerhouses play a crucial role in the prevention of chronic degenerative disease including many cancers. Phytonutrients have also been linked to lowering cholesterol, reducing blood pressure, detoxifying blood and relieving allergies.

While these potent agents are an extra element in preserving health, they're not directly linked to our survival the same way that carbohydrates, fats, proteins, vitamins, minerals and water are, simply because we can survive without them. Survival is one thing, thriving is another. Phytonutrients are essential to thriving and maintaining optimum health. If your definition of health includes the absence of disease, then you'll realize their true importance.



### **Health Tip**

*All fruits and vegetables are most nutritious when served raw. The best cooking method is steaming with very little water.*

## **Eating your fruits and vegetables**

The prestigious National Academy of Sciences would applaud your choice to increase fruits and vegetables on a daily basis. They emphasized the importance of including fruits and vegetables in one's daily diet in a landmark report released back in 1982. The value of citrus fruits, carotene-rich fruits and cruciferous vegetables such as broccoli, cabbage and cauliflower for reducing cancer risk was specifically highlighted. Since this ground-breaking study, evidence has been piling up.



### **Fast Fact**

*Filipinos should consume at least 270 g of fruit and vegetables daily to meet the 5-a-day requirement. A survey showed that an average Filipino consumes only 163 g of fruits and vegetables a day and is short 107 g in order to meet the 5-a-day recommendation.*

Below is a list that illustrates how powerful an ally phytonutrients are in protecting us from body pollution and chronic disease.

Today we know that phytonutrients have these functions:

- Reduce the risk of cardiovascular disease by reversing high cholesterol and triglycerides and helping to reduce free radical damage, platelet stickiness and degeneration of blood vessel walls.
- Reduce cancer risk by activating the body's defense mechanisms and blocking the action of carcinogens.
- Detoxify cancer promoters and free radical inducers
- Modify hormone levels, reduce the risk of cancers from excess hormone action

- Act as potent antioxidants
- Influence metabolic enzymes to benefit the entire body
- Boost immune response by activating different classes of immune-system components
- Inhibit bacterial, viral, fungal and parasitic attack
- Protect the body's structural components



### ***Health Tip***

*The nutrients in fruits and vegetables are often concentrated just below the skin – avoid peeling whenever possible.*

That's an impressive list! But just in case you're not completely motivated to increase the fruits and vegetables in your daily diet, let's look at the current research.

### **Fruit and vegetable research**

- The men and women who eat the most fruits and vegetables are 20% less likely to have heart disease, according to recent research at Harvard University. Adding just one fruit or vegetable a day cuts heart disease risk by 4%
- In a recent Dutch study of male smokers, those who ate the most fruit were only half as likely to die of lung cancer as those who ate the least
- Women who ate 2 1/2 servings of fruits and vegetables daily were 65% less likely to have colorectal cancer than women who ate 1 1/2 servings, according to Swedish research
- Eating more fruits and vegetables is more effective at combating excess weight than eating less high-fat, high-sugar food, according to recent research at the State University of New York, Buffalo
- Women who eat at least five daily servings of fruits and vegetables reduce their risk of diabetes by 40% compared women who don't, according to a study by the federal Centers for Disease Control and Prevention

If you double the amount of fruits and vegetables that you eat, you'll increase the antioxidant power of your blood between 13 and 25 percent. Now that's incentive! The vitamins, minerals and phytonutrients contained in these rich foods work together to help you fight body pollution.



### ***Health Tip***

*Phytonutrients are more powerful when consumed with the antioxidants vitamin C, vitamin E and the mineral selenium.*

Here are some of the powerful phytonutrients and how they work in the body.

**Table 7-2: Phytonutrient Chart**

Class	Phytonutrient	Food Source	Focus of Current Research	Antioxidant
Carotenoids	Lycopene	Tomatoes, watermelon, grapefruit and guava, red peppers	Macular degeneration, Cardiovascular disease, Immune function, Cancers risk reduction	✓
	Lutein	Green vegetables like Spinach, kale, collard greens, romaine lettuce, leeks, peas, kiwi fruit	Macular degeneration; cataracts; lung cancer	✓
	Zeaxanthin	Eggs, citrus, corn, spinach	Eyesight	✓
Flavonoids	Resveratrol	Red grapes, wine, peanuts	Atherosclerosis Cancer risk reduction	✓
	Anthocyanins	Cherries, berries, eggplant skin, red cabbage, kiwi fruit,	Cataracts Cancer risk reduction	✓
	Quercitins	Citrus, apples, onions, parsley, green tea, red wine, cherries, broccoli, garlic, kale	Atherosclerosis, Peptic Ulcer, Retinopathy, Hay fever, High cholesterol, Diabetes, Asthma, Cancer risk reduction, Inflammation	✓
	Catechins	Tea, grapes, wine	Atherosclerosis, Cancer risk reduction, Gingivitis (periodontal disease), High cholesterol, Immune Function	✓
Phytoestrogens	Isoflavones: Genistein and Daidzein	Soybeans, and soy based products	Heart Disease, Cancer risk reduction, High cholesterol, Menopause, Osteoporosis	
	Lignans	Flax or sesame seeds, whole grains and some berries	Cancer risk reduction, High triglycerides, High cholesterol	✓
Allium Compounds	Allyl methyl trisulfide and Diallyl Sulfide	Garlic, onions, leeks, shallots, chives	Antimicrobial, Immune function, Cardiovascular protection, Activate liver detox enzymes, Cancer risk reduction	✓
Glucosinolates	Sulforaphane	Broccoli, cauliflower, cabbage and kale	Activate liver detox enzymes, Cancer risk reduction, Immune function	✓
Limonoids	Limonene	Citrus peels/oils	Cancer risk reduction, Activation of detox enzymes	✓

## The Marvelous Benefits of Fiber

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For centuries, fiber was considered a throw-away. After all, it was indigestible, didn't provide nourishment and had to be useless...or so the thinking went. So apples were peeled, flour was processed, bread crusts were thrown out and everyone lived happily ever after. Well, not quite – there was trouble in paradise. A number of perplexing diseases such as diabetes, certain types of cancer, chronic digestive problems, and heart conditions increased in both incidence and severity. Something was clearly wrong. The modern world and its refined diet - a state of the art diet in the richest parts of the world - based on meat and processed food wasn't working. Fiber, it turns out, was one of the major missing elements.

While a few voices in the wilderness were proclaiming the importance of fiber, it wasn't until 1971 that its true value was confirmed unequivocally. British physician Dennis Burkett found a surprisingly low incidence of certain diseases such as hernias, hemorrhoids, diabetes, diverticulitis (small pouches in the large intestine), heart disease and bowel disease among the people he worked with in rural Africa. He attributed this to native diets rich in whole grains, seeds, roots, vegetables and nuts and blamed the modern world's high incidence of these disorders on a lack of dietary fiber. Burkett's 'Bran Hypothesis' swept around the world and was enthusiastically adopted. Since that time, the link between good health and dietary fiber has been reconfirmed over and over again.



### ***Health Tip***

*Adding a high fiber supplement to your diet is a convenient and effective way to increase your daily fiber intake.*

Fiber is finally recognized for the essential health tool it truly is. Let me begin by defining it - fiber is an indigestible complex carbohydrate found only in plant food such as grains, vegetables and fruit. It actually forms the skeletal basis of plants and without it, no plant or tree would stand upright.

Some nutritionists believe that virtually every meal we eat should contain some fiber. It turns out that the meat that was once thought to be so essential to life actually isn't and the fiber that was once thought to be so unimportant actually is. Now that's true progress!



**Fast Fact**

*The National Cancer Institute recommends adults consume between 25 and 35 grams of dietary fiber a day.*

Fortunately, the role of fiber in our diet is becoming much more apparent. Fiber acts as nature's scrub brush for our intestine. With our fast-paced lifestyles, polluted environment and poor quality diet, we often accumulate waste matter in the lining of the intestinal tract which prevents the absorption of nutrients and causes toxic overload.

The buildup of toxins in the intestines is one of the end results of body pollution and can lead to a multitude of problems including poor nutritional status, low energy levels and disease. Thankfully, we have fiber to 'scrub' this waste away, encourage regular bowel movements and maintain a healthy intestine.

Another benefit of fiber is that it provides no calories. Since we lack the enzymes to break it down, it is not absorbed and is simply passed through the digestive system.

**Soluble vs. Insoluble Fiber**

There are two different kinds of fiber - water soluble and water insoluble - and we need both. Each functions differently in the body providing unique health benefits.

Most foods contain both types of fiber in varying ratios so don't worry about what kind you're getting, just make sure you get lots of it! You really can't go wrong here.

<b>Soluble Fibre</b>	<b>Insoluble Fiber</b>
<ul style="list-style-type: none"> <li>• May lower blood cholesterol and help control blood sugar.</li> <li>• Plays a role in cancer prevention and heart health</li> </ul> <p>Sources include: Oat products (oatmeal, oatbran), legumes (dried beans, peas and lentils) and pectin-rich fruits (apples, strawberries and citrus fruits)</p>	<ul style="list-style-type: none"> <li>• Helps promote bowel regularity</li> <li>• Prevent and control bowel problems and certain cancers.</li> <li>• Acts as a natural cleanser, moving solid waste through your intestines.</li> </ul> <p>Sources include: Wheat bran, whole-grain foods, beans and the skin, stems leaves and seeds of vegetables and fruit</p>

## Health Benefits of Fiber

### Heart Disease

Soluble fiber helps keep your heart healthy and participants of the Smart Heart Challenge in the U.S. proved it. During the 30-day challenge, participants volunteered to eat a bowl of oatmeal daily to prove to themselves that a simple lifestyle change could reduce cholesterol levels. The results were dramatic. After 30 days, 70% lowered their cholesterol.

The American Heart Association also reports that soluble fiber binds with serum cholesterol and helps prevent it from being absorbed into the bloodstream. Reducing serum cholesterol is one of the most effective defenses against heart disease. In clinical studies at the University of Kentucky, adding just 3 1/2 ounces of oat bran to the daily diet reduced cholesterol by an average of 13% over a period of just 10 days.

So your grandmother was on the right track - eating your oatmeal is a really good idea. In fact, the FDA awarded the first-ever food specific health claim to oat products because of their heart-healthy benefits. This was because three grams of soluble fiber from oatmeal daily, in a diet low in saturated fat and cholesterol, may reduce the risk of heart disease.



#### **Health Tip**

*High fiber snacks between meals will help you feel full until your next meal so you avoid snacking on junk foods.*

### Diabetes

It seems soluble fiber may also play a role in preventing and controlling diabetes. Diabetics who add more high-fiber fruit, vegetables and grains to their diet can improve their blood sugar levels and may reduce their need for medicine, researchers report in the New England Journal of Medicine.

The binding action of soluble fiber helps slow the entry of glucose into the bloodstream. Recent studies by the American Diabetes Association prove that high fiber diets consistently improve glucose tolerance and lower insulin needs.

Here's how it works – soluble fiber absorbs many different toxic materials from the intestinal tract and it also helps regulate the absorption rate of nutrients, especially sugar, spreading it over a longer period of time. The result is a slower rise in blood sugar level and a less rapid subsequent drop which is very important to diabetics.

## **Cancer**

Insoluble fiber also known as roughage, helps promote bowel regularity and prevents and controls bowel problems and certain cancers. It acts as a natural laxative, moving solid waste through the intestines. The fiber passes through the digestive system intact while the nutrients it carries get absorbed into the body.

The National Cancer Institute links insoluble dietary fiber to a reduced risk of colorectal cancer. In fact, some scientists estimate that by the turn of the century, more than 20,000 cases of large bowel cancer could be prevented every year simply by adding more fiber to the diet.

The current theory for these anti-cancer causing effects is that fiber either dilutes cancer-causing chemicals (from body pollution) in the colon, or that it ushers the chemicals out before they can have prolonged contact with the colon wall. Both insoluble and soluble fiber help to decrease cancer-causing effects. Soluble fiber helps to attract these chemicals to it and insoluble fiber aids in accelerating the movement of these chemicals out of the colon.

### **Summary of Fiber benefits:**

#### **✓ Fights Body Pollution**

Fibre is a miracle worker behind the scenes, cleansing toxins and waste material out the body before toxic buildup can occur.

#### **✓ Combats constipation**

The most undisputed advantage of insoluble fibre is its ability to soften and expand stool volume, speeding up fecal transit and elimination.

#### **✓ Improves diabetic control**

Soluble fibre from legumes, barley, oats, some fruit and vegetables can help regulate blood sugar control.

#### **✓ Heart Health**

Excess blood fats such as cholesterol may be reduced by soluble fibres such as pectin, bean and oat gums, and the types in legumes (lentils, chickpeas, navy, pinto or kidney beans).

#### **✓ Possible protection against cancer**

Fibre may dilute cancer-causing chemicals in the colon, or usher the chemicals out before they can have prolonged contact with the colon wall.



## Daily Recommendations for Fiber

Are you getting enough? Probably not. Most adults aren't. In spite of all of the health promoting qualities of fiber, the average adult is still only consuming between 10-15g each day - far short of the recommended 25-35 grams per day.

As discussed in chapter three, food processing strips much of our food of essential nutrients and fiber by separating the bran and germ (fiber), leaving only the endosperm and huge volumes of fine white flour.

Remember the entrepreneurial flour millers who developed a lucrative market for these "by-products" of the milling process. The bran and germ were being made into highly nutritious animal feed for chickens and cattle. The millers refused to return the bran and germ to the flour and chose instead to "enrich" certain products. But we all know what that means - the fiber content is not replaced.



### ***Fast Fact***

*A chicken sandwich made with white bread contains 1.5 grams of dietary fiber. The same chicken sandwich made on whole wheat bread has 5 grams of fiber.*

The lack of fiber in most diets concerns me since the benefits are so wide-reaching. Fiber is vital for people of all ages, including children. Children who eat a wide variety of food rich in fiber are likely to continue eating these foods in later years. Children over the age of 5 should gradually add more fiber to their diet.

The rule of thumb used to calculate the amount of fiber children need each day is the child's "age plus five". For example, an 8 year old child would need 13 grams of fiber each day ( $8 + 5 = 13$ ). After 18, the adult recommendation for fiber would apply.

Let me remind you that if you or your children are not used to high fiber foods, you need to gradually increase your intake to avoid bloating and cramps. Focus on a higher fiber breakfast for the first week and then make another change the following week, to give your digestive system a chance to adjust.



### ***Health Tip***

*When increasing your fiber intake, increase your consumption of water as well. Extra water will help the fiber to remove more toxins from the body.*

Okay, you're convinced that getting the right amount of fiber is essential to your health. Now what? I want to reassure you that changing your habits is not as daunting as it

may appear. Gradual changes soon begin to add up and if you persevere, you'll soon benefit from the wonderful bonus of reclaiming your health and energy.



***Fast Fact***

*Following the “5 A Day” recommendation of fruits and vegetables not only increases your phytonutrients but your fiber as well.*

**Here are a few simple tips to increase your fiber intake:**

1. Start your day with a high fiber cereal. Have fun combining a variety of cereals. Add 1-2 Tbsp. of psyllium, oat bran or wheat germ to your favourite.
2. Choose whole grain breads, rice, pitas, bagels, crackers, etc. (e.g. whole wheat, oatbran, pumpernickel, multi-grain).
3. Enjoy legumes (chick peas, beans, etc.) at least once or twice a week. Toss legumes into your soups, salads, pasta sauces or rice. Try bean spreads and dips.
4. Enjoy at least one or two servings of fruit or vegetables at every meal.
5. Enrich your diet with a high fiber food supplement.

## Obesity: A Global Epidemic

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If you were taught as a child, to clean off your plate, you're not alone. Almost all of us feel a little guilty about 'wasting' good food and not finishing off a serving. There's no doubt that it is wasteful to throw perfectly good food out. It would be very nice if somehow it could be mailed to someone who really needed it. But that can't be done and the fact is, for the first time in history, there are more of us in this world suffering the ill effects of overeating than there are people starving. So even if we could mail our leftovers, we'd quickly run out of people to mail them to. Return to sender might apply, I'm afraid!

The World Health Organization gives us some shocking statistics – they estimate that 300 million people worldwide are obese and 750 million more are overweight. With the rapid rise in obesity, the standards of what constitutes an abnormal level of body fat may have to be redefined. It seems that overweight is the new norm.

But no amount of adjusted standards can turn eating too much into a healthy activity. Eating more food than your body can use is worse than wasteful, it is actually harmful. At least what we throw out isn't hurting anyone. Next time you're at a fancy restaurant and feel that you've eaten all that you want or need, remind yourself that it is better to stop there than to overburden your body. Keep in mind that overeating, even if it is good food, can be another form of body pollution. If you consistently overeat, you're increasing your body's storage space in the form of excess fat.

### Obesity in Children

There are many ways that children can be harmed, both intentionally and unintentionally, but one of the worst things we can do to our children is to teach them bad eating habits. By doing this, we're handing our children bad health on a platter. Teaching them to eat poorly will affect every aspect of their lives – their appearance along with their emotional and physical health. These bad habits may well last a lifetime. At least half of obese children over age six and 70-80% of obese adolescents become obese adults.

When we indulge children by giving them junk food or neglect to teach them the principles of good nutrition from the very beginning, it can have serious repercussions. The International Obesity Task Force estimates that 22 million of the world's children are overweight or obese. In the U. S., 27% of 10 year olds are overweight or obese, the third highest percentage in the world behind Malta (33%) and Italy (29%). A recent survey done in the Philippines showed that 1 in 4 Filipino adults are overweight. In 2011, the prevalence of overweight (children under five) was 6%, but the FAO said the prevalence of obesity among children has increased fast, doubling from 6 % to 12% and the prevalence of overweight Filipinos is expected to increase significantly by 2015.



### ***Health Tip***

*When on a weight management program, never skip meals or allotted snacks – this often leads to overeating later in the evening.*

## **General Health Risks of Being Overweight or Obese**

The World Health Organization has predicted that obesity could soon have as great an impact on health as smoking. Obesity is a risk factor for four of the 10 leading causes of death in the world: heart disease, diabetes, stroke and cancer.

In the U.S., obesity accounts for more than 300,000 premature deaths each year and costs the health care system more than \$61 billion annually! Let's have a look at a few of the negative health implications obesity is related to.

### **❑ Heart Disease**

The risk of heart failure doubles in obese people and is one-third higher in overweight people, according to the New England Journal of Medicine. In addition to this, the life span for overweight people is shorter – on average, they develop heart disease seven years earlier than those of normal weight.

### **❑ Cancer**

As we age, the pounds tend to keep creeping up. Is this a cause for concern or should we accept it as a natural consequence of aging?

It is your choice – I would just urge you to make it an informed one. Before you answer this question, consider that as small a weight gain as half a pound per year or five pounds per decade can increase your risk of cancer.

We know that our risk of heart disease and diabetes rises right along with the scales, but very few people are aware that the cancer risk also increases. One quarter to one third of cancer cases around the world are linked to being overweight and physically inactive.



### ***Fast Fact***

*Fat cells can keep cancer causing chemicals trapped in the body, which can lead to the development of the disease.*

## **□ Diabetes**

As rates of obesity rise, so does the incidence of diabetes. Type 2 diabetes used to be called adult onset diabetes because it was so rare in children. No longer! Now children as young as 10 years old have been diagnosed with the disease and the number of children and adolescents with the condition (most diagnosed in their early teens) has skyrocketed within the last 20 years. No wonder the journal *Diabetes Care* calls it an ‘emerging epidemic’. In the U.S., experts estimate that 10-20 percent of all cases of childhood and adolescent diabetes are now Type 2, compared with only two to three percent a few years ago.

As for a link to obesity, nearly 80 percent of patients with type 2 diabetes are obese. This emerging epidemic could cause untold hardships and cost millions. Diabetes doesn’t tend to strike the same fear in our hearts as cancer does, maybe because it can be controlled. Or maybe because people just aren’t aware of the implications which can include amputation, blindness, kidney failure and much more. This is an illness that truly takes away the quality of life and often, it is easily preventable.

## **Reasons for Obesity**

Slow metabolism? Genetic legacy? These are very rarely causes of obesity and overweight. Our changing eating habits are a major contributing factor in the battle of the bulge. Most of us are time-starved and often opt for fast food which isn’t always as nutritious as a home-cooked meal. And restaurant portion sizes are also increasing.



### ***Health Tip***

*To maximize your body’s fat burning systems, eat smaller meals every three to four hours.*

Our sedentary lifestyles are also part of the obesity equation. While a super-active person can get away with consuming too many calories from time to time, someone whose work requires them to sit most of the day will find that any excess calories end up being stored as fat if exercise isn't part of their regular routine. The environment we're surrounded by today encourages us to overeat and gain weight. All of the above factors play a role in the global obesity epidemic as we'll soon see.

## Changing Diet Patterns

Our love affair with fast and processed food is growing almost as quickly as our waistlines and with good reason. In the 1950's, a typical fast-food meal was approximately 590 calories. Today it averages 1550 calories which is almost a full day's requirement with very few nutrients such as vitamins, minerals and fiber.

Let's look into this a little further as I think it is an important point. Per gram, fat contains more calories than sugar – but in the end it is the total number of calories that count.

**Table 9-1: Caloric content of Macronutrients**

Macronutrient	Calories per Gram
Fat	9 cal/g
Protein	4 cal/g
Carbohydrate	4 cal/g
Alcohol	7 cal/g

In practical terms, what does this mean? The can of coke, and the glass of wine, although they contain no fat, are actually the same in calories as the sliver of cheesecake we all try to avoid.

While most high fat foods are high in calories, don't be misled by high sugar foods as these can pack a powerful calorie punch too!

## Sedentary Lifestyle

An active, healthy person who is not overweight can over-indulge from time to time without paying too high a price for it. That person becomes harder and harder to find in a society that encourages us to stay at home and watch television along with its food-inspiring ads.

Our bodies end up being in a constant battle with our evolutionary ancestors who lead very active lifestyles and had to hunt for their food. Storing extra calories as fat was an evolutionary advantage for our Paleolithic ancestors since the fat helped them survive the inevitable famines. We, on the other hand, sit at computers all day and in front of the television at night. Hardly an active lifestyle.



***Fast Fact***

*60 – 85 percent of the global population is not physically active.*

**How to avoid the battle of the bulge**

We all know that being overweight is unhealthy but what can we do about it? When reading about dieting, you're bound to get confused about what works and what's healthy. There are low fat diets competing with low carbohydrate diets for your 'diet' dollar – one of them must be wrong but which one? It is difficult sorting through all the information.

Take another look at our Lifestyle Pyramid to refresh your memory on the basics of a good diet. In Chapter Three, I talked about the changing diet and what nutrients you need to fight body pollution. By following the Lifestyle Pyramid, you won't need to calculate what percentage of carbohydrates you've eaten that day, you just need to choose foods that fall at the bottom of the pyramid more frequently and limit those at the top.

Getting all the nutrients you need doesn't have to be complicated, it will just naturally fall into place. Don't be too hard on yourself if you slip now and again. It works just the same as a financial investment – it is what you do over the long term that counts.

## Staying Young at Any Age

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Getting older doesn't have to be a drag. In fact, it can be the best and most productive time of your life as long as you're healthy -- that's the catch. Staying healthy as you age means you have to work a little harder at it. You need to be vigilant and well-informed about health issues. You just don't have the margin for error you had when you were younger and could get away with late nights, skipped meals, junk food and so on.

Getting older is catch-up time and any bad habits you may have had in your youth begin to make themselves known. Still, it is never too late to turn things around and before long, you'll begin to reap the benefits of taking care of your health. You may find you're more fit and healthy in your fifty's than you were at the age of 20. Many people do.

Equipped with a healthy body and the wisdom you've accumulated over a lifetime, you now can look forward to a long and productive life.



### ***Fast Fact***

*In 2013, the life expectancy for women was 72.24 years and for men was 65.35 years in the Philippines.*

Life expectancy in Canada is higher than Philippines. In 2013, the life expectancy for Canadian women was 84 years and for men 80 years. Life expectancy is widely regarded as an indicator of a country's overall health.

Unfortunately, our quality of life hasn't kept pace with the progress on longevity. Far too many people are living medically extended lives that are compromised by chronic pain, immobilization, mental deterioration and prescription drug dependency.

When you're young, you have some slack. You can get away with little sleep, poor diet and other abuses from time to time. While we may be more resilient in our youth, it is important to remember that what you do when you're young can have an impact



on how you age. At any age, you simply can't take your health for granted. The price of ignorance is poor health.



### ***Fast Fact***

*The over-50 demographic accounts for 74% of all prescription drug purchases.*

## **What Causes Aging?**

There are two main theories currently in vogue. One is that the aging process results from genetically programmed changes. This is based on the premise that every cell in your body has an “expiry date” or preset life span. If this holds true, then even if we lived in a perfectly pristine “bubble” like environment, we would still have a predisposed lifespan. The question is, how long would that lifespan be? Under perfect conditions, how long could humans actually live? Many researchers think we could live well past 120 years under the right conditions.

The second theory is that aging occurs because of an accumulation of errors in cell functioning (damage to the DNA of the cell) that are caused by external factors. Smoking, poor diets, excessive alcohol consumption, drug use, exposure to environmental and occupational pollutants or what we collectively call body pollution, all contribute to the premature aging of a population that could otherwise live a longer and healthier life. So just living in today's toxic world can make you age more quickly than you need to.

The effects of body pollution on aging have not yet been fully acknowledged by researchers even though the available data certainly verifies the damage. Part of the problem is that pollutants are increasing so rapidly that scientists are scrambling to keep up with the research.



### ***Health Tip***

*Taking vitamin E with a small amount of fat increases its antioxidant protection dramatically.*

As we've already learned, body pollution causes an excess of free radicals. These free radicals eventually cause DNA damage which can lead to premature aging and chronic illness. This premise gained credibility with the scientific community after an ingenious experiment comparing fruit flies with and without antioxidant protection. The flies that were protected from free radicals lived up to 20% longer and remained physically

active far longer into old age. This research confirms the theory that body pollution and the production of excess free radicals are a major cause of premature aging and degenerative conditions.



***Fast Fact***

*Antioxidants have been correlated with life span in at least 20 species.*

**Optimizing Health – At Any Age**

Yes, it is true some of your physical functions will slow down or change in some way. Fortunately, there are many things you can do to ensure that you are, in fact, getting better rather than getting older. Here are some suggestions for optimizing your health – no matter what your age.

Any anti-aging program needs to start with a good diet as a foundation since over-eating or eating the wrong things can be a source of body pollution and part of an age-acceleration process as well. So keep an eye both on quality and quantity of the food you eat. Choose highly nutritious foods that meet but don't exceed your daily calorie requirements. Following my guidelines for a healthy diet and referring to the Lifestyle Pyramid will ensure that you're eating to maximize your health and vitality for the rest of your life.

**Supplements Can Help**

While diet and even calorie restriction can have great benefits as you age, alone they are not enough. You also need age-specific nutritional supplements to boost your level of nutrients. Included at the end of this chapter is a chart which outlines anti-aging supplements and the benefits they provide.



***Fast Fact***

*Gerontologists generally believe that the maximum life span is greater than 85 years and may, in fact, be closer to 120 years.*

There is an army of supplements that specifically help alleviate or prevent many of the problems associated with aging and improve quality of life. Many of these have been discussed in previous chapters and are outlined in the charts throughout this book.

Let's look at a few in detail as they relate to aging:

- Several anti-oxidants have been shown to help with age-related conditions. Blueberries for instance have been recognized for their ability to reverse short term memory loss and forestall other effects of aging
- Siberian ginseng is known to improve immune response and helps to fight diseases. It is also used in herbal medicine to help improve mental and physical performance after periods of mental and physical exertion
- Chicory root helps to improve the overall digestive function of the body and helps to cleanse the body. It promotes liver and gallbladder health. It may help the body resist gallstones and liver stones
- Rose hips have traditionally been used to treat and prevent respiratory infections. It is also reported may reduce osteoarthritis pain
- Astragalus is used as a tonic to help relief fatigue and lack of appetite. It is also used to help maintain a healthy immune system
- Passion flower is used for nervous restlessness. The British Herbal Compendium indicates its use for sleep disorders, restlessness, nervous stress and anxiety

## Stress and Exercise

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You're caught in a traffic jam, your cell phone is on the fritz, you're already late for an important 9 a.m. meeting at your office, you're starting to hyper-ventilate and your stomach is in knots. By the time you rush in at 9:20, you're so exhausted; you'd like to be ending your day, not starting it. What all this stress and anxiety does to you internally, you really don't want to know. Or maybe you do, because only when you know what's happening to your body can you begin to control or at least manage stress.

You've just experienced the same reaction your caveman ancestor had after being threatened by a raging animal (or other human). The difference is that he would have run away or fought to defend himself – what is known as the 'fight or flight' reaction. The caveman would never have heard of 'stress' – it is a modern-day phenomenon. Today we have the same adrenaline coursing through our bodies but seldom the opportunity to work it off physically.

Stress, as I'm sure you know from personal experience, takes a huge toll on the body, especially when it is recreated day after day on a long term basis. Work for someone you don't get along with? You probably don't even notice the anxiety build-up on a daily basis. Maybe you've gotten used to it, but it is ticking away, robbing you of energy and also of your youthfulness. Whatever happened to that great disposition you used to have? And the way you used to fall asleep so easily?

By taking a close look at stress, you can find ways to reduce it in your life and also learn ways to manage the kinds of stress that you just may have to live with. You can even find ways to make it work for you rather than against you. Let's start at the beginning with a definition.

### **What is Stress?**

Stress is basically the “wear and tear” our bodies experience as we adjust to our continually changing environment; it has physical and emotional effects on us that

can be either positive or negative. On the positive side, stress can give us the motivation and strength to get through difficult situations. On the negative side, stress can diminish our emotional and physical well-being.

Work deadlines, family concerns, pain, traffic jams, economic pressures, as well as job promotions, new homes and marriages are some of the many sources of stress affecting us on a daily basis. Even very positive changes in our life can be taxing. Change itself is stressful. Not to change is also stressful. There's no avoiding it - we need to learn to deal with it!



### ***Fast Fact***

*75% of the general population experiences at least some stress every two weeks.*

## **Stress as Body Pollution**

Back in caveman days, stress occurred on occasion and was literally a matter of life and death. The body was challenged, responded physically and was then given time to rest and recover. Today, stress has become a part of everyday life and we are in chronic states of “alert” so much of the time, we’ve come to think of this condition as normal. Stress has become our constant companion.

Mental stress, or simply the negative thoughts we all have from time to time, is also a kind of body pollution – perhaps we should call it mind pollution. Fuelled by media reports of the latest disaster, mind pollution can become the context for your life if you’re not careful. Then life becomes stressful in and of itself. Stress also leads to bad habits such as eating disorders, (eating too much or too little) and disrupted sleep patterns. Both conditions wear you down physically over time.



### ***Fast Fact***

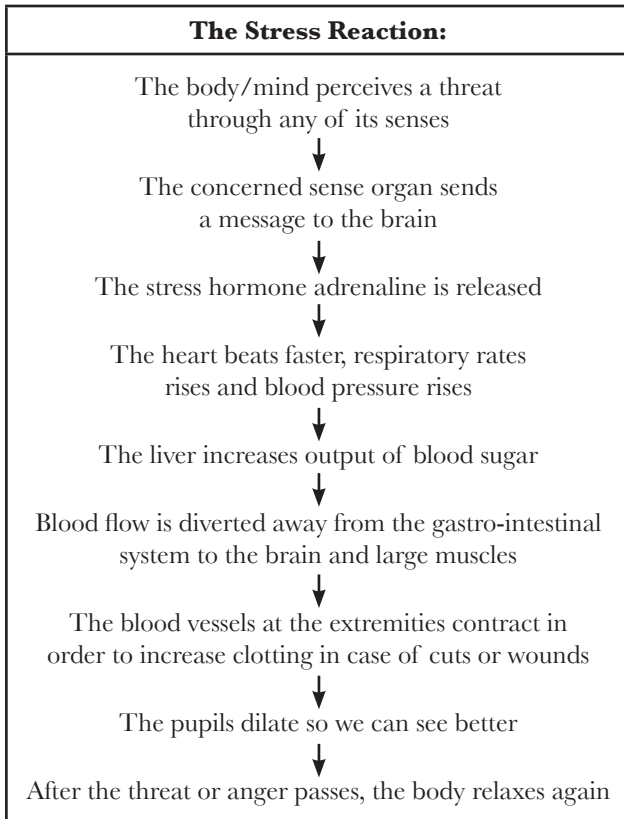
*Tranquilizers, anti-depressants and anti-anxiety medications account for one-fourth of all prescriptions written in the U. S. each year.*

## **The stress reaction**

No matter what the source of stress, it causes an automatic “fight or flight” response which affects virtually all bodily processes and organs. Adrenaline rushes in, blood pressure rises and muscles tense up. In an effort to produce lots of energy quickly,

the body increases its metabolism of proteins, fats and carbohydrates and excretes lots of nutrients including potassium, magnesium, calcium and amino acids. Digestion slows down which causes fats and sugars to be released from body stores, and also causes a rise in cholesterol and a decrease in the absorption of nutrients.

While you sometimes need the adrenaline that stress releases, a stressed out body is simply not a healthy body! Under sustained stress, certain functions shut down or work less effectively – here’s a summary of the stress reaction.



### **The Impact of Stress on your Health**

Stress, particularly if it is prolonged and intense, can increase the risk of developing serious medical conditions and can make existing conditions worse. Stress alone rarely causes disease, but physicians say it plays a crucial role in whether the body initially resists a disease as well as how that disease subsequently runs its course. Chronic stress can wear down your cardiovascular system, immune system and gastrointestinal system among others. It contributes to an increased risk or worsening of heart disease, migraines, asthma and several other diseases.

## Stress Management

The first step is to stop a moment and acknowledge the stress in your life. In choosing the right method for you to alleviate stress, ask yourself what the source of your stress is. If outside factors such as an important upcoming event or relationship difficulties are the cause, then a positive thinking technique may be effective. The events are not in themselves stressful, it is what you tell yourself about them that causes the stress.

If stress and fatigue are long-term, then lifestyle and organizational or dietary changes may be appropriate. Chances are good you'll need a combination of all these methods.

In order to manage stress in your life, you will have to do something differently that will either change the stressful situation in your life or change your attitude and reaction to it.



### **Health Tip**

*Power walking (walking at a very rapid pace while pumping your arms) is an exercise everyone can do – it improves cardiovascular health and helps the body burn fat.*

### **Here are some helpful stress reduction techniques:**

1. Take deep relaxing breaths frequently throughout the day.
2. Do a body check last thing at night and first thing in the morning to find out exactly where stress is showing up in your body.
3. Focus on goal-setting and regular planning.
4. Make reading positive books a daily activity.
5. Find more opportunities to laugh - even at your troubles!
6. Avoid negative influences as much as possible, whether that's a co-worker, the media, television violence, etc. It is debilitating!
7. Learn to meditate or to have quiet time on a daily basis.
8. Make time for positive interactions with the people you love.
9. Spend some time each week doing what you love - dancing, singing, reading, working out, whatever it may be for you.
10. Become more physically active.

During stressful periods, it is more important than ever to eat well to maintain a healthy body. Continuous stress can deplete vitamins, especially the B-vitamins and cause electrolyte imbalances. Stress also promotes the formation of free radicals that can damage cell membranes and body tissue.

And don't forget what we learned so far about the minerals and herbs known to boost the immune system, such as zinc, astragalus, reishi mushroom and licorice root. Phytonutrients and some vitamins act as antioxidants that help control free radicals. Excellent nutrition in general, helps to combat stress and keep it under control.



**Health Tip**

*Circuit weight training (moving continuously between different exercise machines) combines the best of aerobic exercise and weight training – it is one of the best overall exercise programs.*

**Benefits of Exercise**

Regular physical activity provides substantial physical, social and mental health gains. It's an outlet for stress and also protects against the risk of major chronic disease - in particular heart disease, hypertension, colon cancer, diabetes and osteoporosis.

Let's quickly review the many benefits of exercise...

✓ Reduces the risk of premature death	✓ Reduces feelings of depression and anxiety
✓ Helps control weight	✓ Reduces the risk of colon cancer
✓ Helps control diabetic blood glucose levels	✓ Helps older adults become stronger with greater mobility
✓ Helps control blood pressure	✓ Promotes psychological well-being
✓ Helps control blood cholesterol levels by increasing good cholesterol levels (HDL)	✓ Improves blood circulation and helps the heart, lungs and other organs and muscles work together more effectively
✓ Helps build healthy bones, muscles and joints (prevents osteoporosis)	✓ Helps relieve stress



## **Wow! Can you believe all the benefits? And it won't cost you a cent!**

What are you waiting for? Start lacing up those roller blades. Or at least begin walking up the stairs instead of taking the elevator. It's never too late to begin reaping the benefits of regular exercise.



### ***Health Tip***

*Exercise can turn your body into a fat burning machine because it continues to burn calories at an elevated rate for a minimum of 30 minutes after you exercise*

## **Adding Exercise to Your Life**

For the greatest overall health benefits, experts recommend at least 20 to 30 minutes of aerobic activity three or more times a week along with some type of stretching and muscle strengthening activity. This may seem a little daunting for those of us who aren't used to exercising or aren't the "athletic" type but there are easy and fun ways to incorporate activity into your life.

# CHAPTER TWELVE

## Now for a Brand New Life!

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We've come to the final chapter in this book which I fervently hope will be a new chapter in your life. A new chapter where you've made a decision to become well informed about your own lifestyle choices.

You've learned about body pollution and the profound effect it has on your health. Even more importantly, you've learned how to protect yourself from it.

I'm sure we agree that we wouldn't want to exchange our modern lifestyle with all its conveniences for a completely pure environment - even if we could! We do however need to realize that we must make some serious lifestyle changes in order to live a long, healthy and active life. The fact is, these days we all have to fight for our health - we can no longer take it for granted.

Thankfully, there's lots of evidence that taking a pro-active approach will not only add years to your life but also make those years more enjoyable. Who can argue with that? Not the Okinawans who eat a low calorie additive-free diet and have the world's largest number of centenarians. Nor the participants in Biosphere 2 with their low calorie, nutrient-rich diet and pure atmosphere. Let these two groups serve as inspiration and perfect examples - showing you that it is possible to transform your life. Applying the principles in this book will show you how to do just that - without leaving the city you live in!

Below I've listed the key concepts from each chapter along with a summary of the 'Take Action Today's' in a convenient step by step format. I must emphasize that every one of these steps is important. It won't do to get all the exercise you need and yet ignore your body's nutritional requirements. Neither will taking a daily vitamin be enough just by itself. There is no one magic bullet, but it's important to start somewhere.

The more positive steps you can take against body pollution the better. You don't need to do this all at once or in any particular order. Begin with small steps, following our 'Take Action Today' guidelines and keep adding new steps until your life has been totally transformed. Incorporating all of the action steps will provide you with an

almost foolproof recipe for a healthy, active life. Once you begin, you'll be amazed at how easy each step is and how much better you feel after doing it.

### **Step One: Identify and inform yourself about body pollution**

Inadequate diet, food additives, saturated fat and excess sodium, exposure to environmental and occupational pollutants, excessive alcohol, smoking, drug use, overeating, negative thoughts and poor drinking water are all sources of the body pollution that affects absolutely everyone who lives on this planet. Rich or poor, privileged or not, no one who breathes, eats and drinks can avoid body pollution and no one can control it, but we can all take steps to protect ourselves against it.

- Reduce your use of chemicals around the home - common sources include lawn and garden chemicals and home cleaning products.
- Be a responsible car owner and leave your car at home when you can. Look into alternative means of transportation.
- Do your part in protecting the environment by recycling as much as possible

### **Step Two: Realize how body pollution impacts your health**

Body pollution can and does impact every aspect of your health. It can lead to a diminished enjoyment of life, accelerated aging, and chronic disease. Thanks to our modern way of life, we must be prepared to make changes to our current lifestyles so we can continue to enjoy optimal health in our beautiful but increasingly polluted world.

- Become aware of what you put in your body - ask yourself “is this contributing to body pollution”?
- Realize that being healthy and active well into old age is a reality and that illness and disease don't have to be a part of living.
- Commit to learning about lifestyle changes that can help you take control of you health and fight body pollution.

### **Step Three: Follow the ‘Fighting Body Pollution Lifestyle Pyramid’**

Diet has changed in the past 150 years but our bodies haven't. We need to provide our bodies with the building blocks needed to maintain optimal health. Quality, unrefined whole foods, rich in nutrients along with supplements, are fundamental in the battle against body pollution.

- Revamp your daily diet according to the Fighting Body Pollution Lifestyle Pyramid.
- Go through your cupboards and throw out your junk food. Read the ingredients first - can you believe you actually ate that stuff?
- Drink plenty of purified water – hydration is important in the body’s cleansing process

#### **Step Four: Take a multi vitamin and mineral supplement daily**

Vitamins and minerals are essential for millions of intricate body processes. What we’ve now learned is that they play a major role, not only in disease prevention but in delaying disease progression. Modern food production and soil depletion don’t allow us to get the full complement of vitamins and minerals needed to fight body pollution -a supplement is essential for maintaining optimal health.

- Begin taking a multi-vitamin and mineral supplement daily - base your buying decision on our tips.
- Take your vitamin and mineral supplement with food containing protein to maximize bioavailability.
- Be sure that your supplement meets your age and gender specific needs

#### **Step Five: Go back to your roots - add herbs to your daily diet**

Roots, leaves, barks and berries - herbs or botanicals were once a part of our every day diet. Modern nutrition is missing these nutrients. Botanicals can support the systems of the body, giving us the strength and health to fight body pollution.

- Use herbs daily to support and strengthen the body in the fight against body pollution
- Whenever possible, use standardized herbal supplement to ensure a consistent level of active compounds
- Refer to the enclosed chart to use specific herbs for specific health issues

#### **Step Six: Eat a Minimum of five servings of Fruits and Vegetables Everyday**

Fruits and vegetables contain a host of disease-fighting phytonutrients. Yet very few people manage to eat a variety of fruits and vegetables on a daily basis. Plant nutrients are natural compounds found in the foods we have eaten for centuries and research is now showing that these phytonutrients provide a multitude of benefits, some of which are just becoming known. Phytonutrients are a strong ally in the fight against body pollution. Make sure you get lots of them.

- For the maximum in protection from body pollution, choose fruits and vegetables with the highest ORAC (antioxidant) value as outlined in our chart.
- Supplement your daily diet with a high quality fruit and vegetable extract supplement - ideally one with additional antioxidant vitamins and minerals added.
- Clean all fruits and vegetables of residues with a non toxic detergent

### **Step Seven: Increase your intake of dietary fiber**

It seems fiber just doesn't get the press that it should. Once thought of as a throw - away product for animal feed, we are now learning that fiber does much more than just keep us 'regular.' Fiber helps to cleanse the body of toxins, is a major player in the prevention of many chronic diseases and is an essential component in weight loss programs. Give it the credit it deserves - add more fiber to your diet.

- Start adding more fiber rich foods to your diet to help fight body pollution and cleanse your digestive system.
- Eat a wide variety of fiber foods to ensure you're getting the health benefits of both soluble and insoluble fiber.
- Add a high fiber supplement to your diet to make sure you're reaching the recommended daily intake of 25-35 grams (for adults).

### **Step Eight: Control your caloric intake - eat quality, not quantity**

Obesity has become a global epidemic. For the first time ever, more than 50% of the world's population is overweight - and this number is rising daily. Increased body fat is linked to a host of chronic diseases and is a major storage site for body pollution. Worse, fat tends to perpetuate itself - as we get heavier, exercise - or even movement - becomes more difficult and calorie-burning becomes inefficient as the metabolism slows down.

- Think of excess calories as a form of body pollution – consume only as many calories as you need to maintain your present weight or less to lose weight
- Follow the Lifestyle Pyramid in Chapter 3 and you will be assured a nutrient rich, balanced diet that focuses on quality not quantity.
- Use meal replacements and botanical supplements to help you lose weight faster.

### **Step Nine: Start now and reap the benefits later**

No matter how old you are, you've got aging ahead of you, that is the common thread every living being shares. Regardless of your current age, the action you take now will affect how you live later. Start fighting body pollution now to stay young – at any age!

- Even if you do not need to lose weight, limit your total calorie intake to prevent premature aging
- Use nutritional supplements daily as outlined to delay or prevent age related conditions
- Exercise regularly, focusing on weight bearing exercises to maintain muscle mass

### **Step Ten: Get Moving**

Exercise and state of mind provide invaluable benefits with no cost. How many things in life can you say that about? It does require a commitment though. Being physically active is an excellent outlet for much of the stress we hold onto day after day. Strengthening and training the body to be in top condition provides unparalleled defense against chronic disease and body pollution.

- Realize that stress is a form of body pollution and weakens your immune systems ability to protect you from disease
- Incorporate some forms of stress reduction techniques into your daily life. It could be as simple as listening to relaxing music
- Exercise is vital to health. Pick an activity that you enjoy and do it as often as you can

**So what are you waiting for? Staying healthy in an unhealthy world is within your reach – Start fighting body pollution today!**

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# FIGHTING BODY POLLUTION

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