Nutrition 101 The How-To's

By: Douglas D.

This book is intended to provide information to help you make healthy choices to optimize your health, fitness level and longevity. Life is enjoyed so much more when we have optimal health. We can accomplish so much more when we feel healthy and full of vibrant energy. This knowledge, when applied, can do just that.

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INTRODUCTION

Cotton Fitzsimmons, who passed away in 2004, was a legendary American college and NBA basketball coach whom we've had the honor of getting to know and work with for over a decade. Here is what he had to say about the information contained in this book:

"I've personally been involved in training and coaching thousands of professional athletes through the years.

"I've seen the difference in the athletes' health based on the nutrition choices that they make, but with all the confusion and hype in the marketplace, it's hard for them or anyone else to really know what to do. That's why I'm truly excited to introduce you to this booklet and to Douglas D.

"He has not only been the athletes' answer, but also my answer for nutritional education for years. Doug is uniquely qualified because he was the only endorsed nutritionist for the National Basketball Conditioning Coaches Association. Doug has also trained thousands of doctors and health professionals across the nation. So hang onto your seats as Doug teaches **Nutrition 101: The How-To's.**"

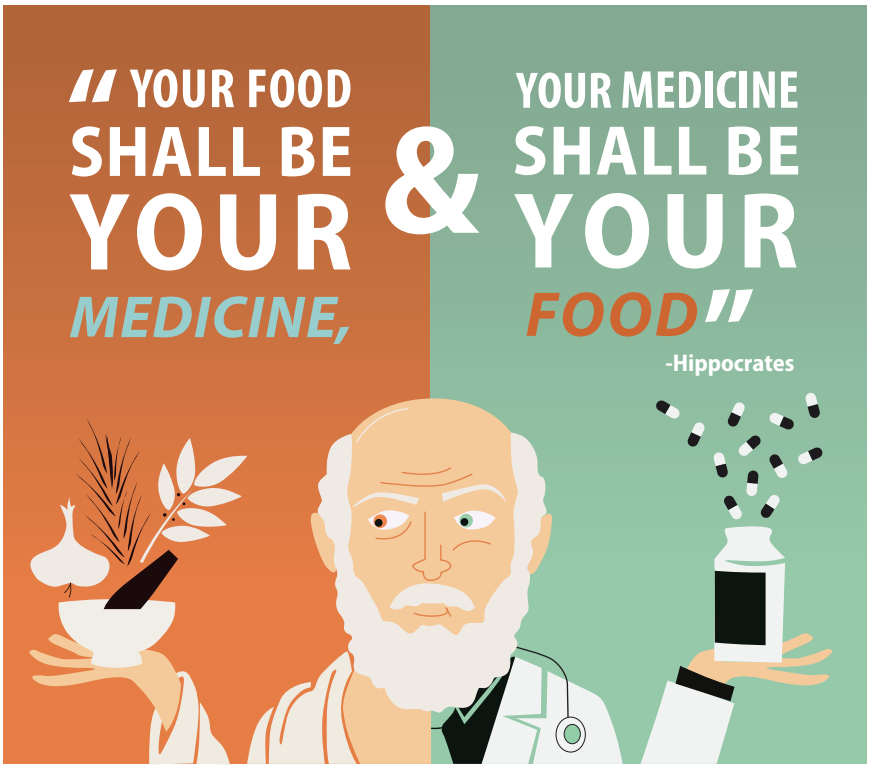
AND HERE WE GO!

There's a lot of confusion in the marketplace about nutrition. With all of the fad diets to choose from, it's hard to know what you should do nutritionally to reach optimal wellness. There is so much misinformation, and yet nutrition is so important to your overall health.

AS REPORTED IN THE LANCET JOURNAL IN 2019, POOR NUTRITIONAL CHOICES NOW RANK #1 AS THE LEADING CAUSE OF DISEASE AND EARLY DEATH TODAY.

The father of medicine, Hippocrates, said thousands of years ago, "Your food shall be your medicine, and your medicine shall be your food." This book is going to dispel the myths and hype about nutrition.

It will not only educate you on what to do but also give you simple tips that are easy to implement in your life. So, welcome to Nutrition 101: The How-To's.



A NOTE FROM THE AUTHOR

16th-century philosopher Jean Anthelme Brillant Savarin once said, "The destiny of countries depends on the way they feed themselves." That has proven true for us here in North America. A past Surgeon General, C. Everett Koop, told us that eight out of ten top killers today are created in large part due to what we eat or don't eat. Other government reports tell us that millions of deaths each year could be prevented with lifestyle changes.

Nutrition is the study of all interactions that occur between people and food. It involves understanding which nutrients we need, where to find them in which foods, how our bodies use them, and the impact they have on our health. There are over forty nutrients that are essential to human life. We need to obtain them via our diets because they cannot be made by our bodies or they cannot be made in large enough amounts to optimize health.

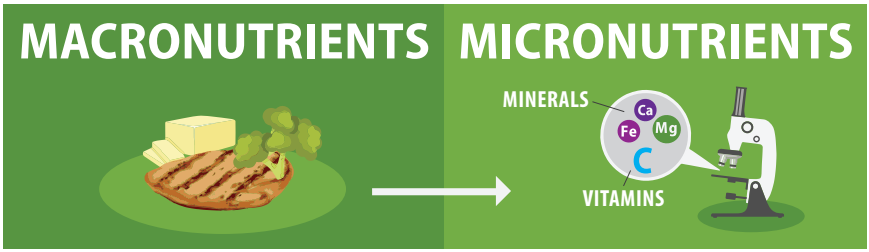
NUTRIENTS PROVIDE THREE BASIC FUNCTIONS: ENERGY, STRUCTURE, REGULATION

Each nutrient performs one or more of these functions, and all nutrients together are needed for growth, repair and maintenance of the body, and to allow us to reproduce. Food provides the energy your body needs to stay alive, move, and grow. This energy keeps your heart pumping, your lungs inhaling and your body warm.

In 2010, nearly 400,000 Americans under went heart bypass surgery for blocked coronary arteries. As of writing this book in 2020, there were over 1 million bypass surgeries performed in the U.S. alone. Most patients believe surgery will correct the problem. However, it's an immutable law of biology that a disease caused by a detrimental diet cannot be corrected by surgery. Obesity now ranks as one of the top causes of disease in North America. Since the cause of most diseases is poor nutrition, the answer to most diseases is balanced nutrition.

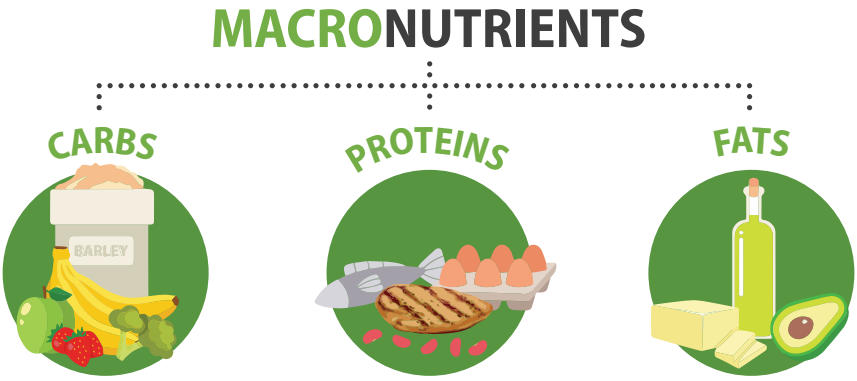
When it comes to nutrition, there are two terms you'll want to get familiar with: macronutrients and micronutrients. Macronutrients (macros) are the items you see on your plate, like chicken, broccoli, and butter. The micronutrients are your vitamins, minerals, enzymes,

and probiotics contained within your macros and generally require a microscope to see.



While this book could just list what foods to eat regularly, and which foods to limit as sparing treats, getting into the nitty-gritty of Nutrition 101 will help you understand why you should choose certain foods more often than others. The more informed your decisions and the stronger your "why," the better your diet.

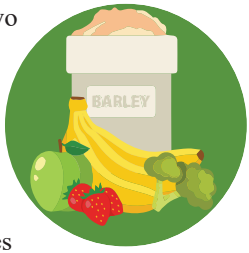
For the purpose of this book, your macronutrients are broken down into three different food groups: carbohydrates, fats, and proteins. You'll focus mainly on just these three things for the sake of simplicity, which will grow easier over time. Your growing awareness of what's on your plate and what's inside each piece of food will enable you to eat just the right amount out of habit, and when you do indulge, you'll enjoy every moderated bite and sip without guilt or shame.



SO, LET'S GET INTO THE SCIENCE AND NUTRITION BEHIND THESE MACROS.

CHAPTER 1:
Carbohydrates (Carbs)

Carbohydrates (carbs) are something you see and usually eat every day. Carbs are fruits, vegetables and grains. That hamburger bun? Carbs. An apple? Also carbs. Your favorite soda? All carbs. These types of foods can be broken down into one of two categories: simple and complex carbs.



Simple carbs are foods your body breaks down quickly to be used as energy. Complex carbs take longer for your body to break down and often get stored as energy to be used for later. An example of a complex carbohydrate is steel cut oatmeal. It takes longer to digest and provides fiber and many nutrients. White bread, however, is a simple carbohydrate because it quickly turns into sugar and doesn't have much in the way nutrients or fiber.

Carbohydrates are defined as a food made up of sugars, starches, or cellulose, and are typically broken down in the body to perform various tasks, mainly for storing and providing energy, but also for immune and reproductive health. To fully understand this takes a bit of delving into the chemistry behind carbohydrates. This can get as dense as a loaf of bread without yeast, but I'll do my best to keep it light.

Understanding the basic structure and how carbs perform in your body will create an awareness that will help you tremendously for life. This awareness will help you understand how these types of foods affect your body at the molecular and cellular level. It will help you understand why some carbs consumed in high amounts are essentially poison to your body, yet others almost literally breathe life into the very fibers of your being, for not all carbs are created equally.

MOLECULAR STRUCTURE

Every carbohydrate molecule is made out of three atoms: carbon, hydrogen, and oxygen. The type of carb simply depends on how these atoms are arranged and bound together. It's a bit like playing with Legos. Arrange the pieces one way and you build

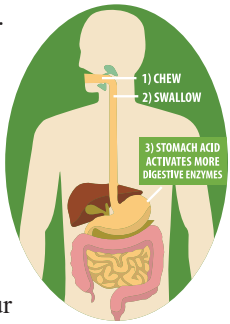
a castle. Arrange them another way and you build a dinosaur. Either way, you've built two very different things with the same pile of pieces. In carbohydrate talk, if you arrange the molecules one way, you get a sweet potato. If you arrange them another way, you get a peach.

These carbon, hydrogen, and oxygen Lego pieces are divided into three chemical groups that also describe how big the molecule is. Size matters in the world of biochemistry and understanding how a food affects you when you eat it. The smaller the molecular composition, the faster it gets to the cells, where energy is produced.

The structure also determines how quickly and easily your body can break down the molecule. It's not so much the size of the carb as it is how the carbon, hydrogen, and oxygen atoms are linked together. A hard candy has small sugar molecules and a simple structure, which is why it is easy to become hyper for a short time after eating it. Beans are a bigger, complex chain of molecules that keep you nice and full without the crazy energy spike and following crash.

So, small molecules and simple structure means simple carbs and a quick energy spike. Larger molecules and complex structures means complex carbs and a steady stream of energy. That's how your body uses carbs.

The bottom line is your body can't use foods until they're properly broken down into small enough pieces. Your body doesn't use whole apple slices as nutrients. That would eventually kill you because your body cannot get any energy from it and you would starve. It has to break those slices of carbs into sugar molecules called glucose, which would then be properly used at the cellular level.



BREAKING CARBS DOWN INTO NUTRIENTS

Understanding how carbs are broken down into nutrients helps show you what needs to happen in order to keep your body going. It also teaches you what can go wrong and at which stage of the digestion process. This knowledge will assist as you help your body fix the digestion problems, instead of suppressing them within your stomach and gut. Digesting carbs is pretty involved but here is the process it goes through to eventually turn them into energy.

Step 1: Chew your food.

Your saliva secretes a digestive enzyme (called amylase) to begin the process of breaking food down into smaller, more manageable pieces. The more thoroughly you chew your food, the easier you make the next two steps. Grandma was right! CHEW, CHEW, CHEW!

Step 2: You swallow your food and it travels down your esophagus and into your stomach.

Nothing major here but things can still go wrong, which we'll explain in a moment.

Step 3: Stomach acids allow certain digestive enzymes to do their thing.

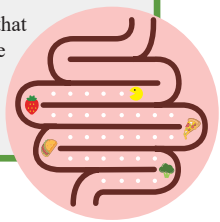
Your stomach uses its acids to activate more digestive enzymes to continue a thorough breakdown process. If you begin to feel tired after eating, this means enzymes are being stolen from other parts of your body to aid digestion as your food moves into the intestines, where most digestion occurs.

These thieved enzymes mean other important processes have come to a halt, until food is properly digested. The process of turning food into fuel takes precedence over all other processes. So, if eating didn't make you tired, then so far you're doing well.

Step 4: The gut activates enzymes to break down food into usable molecules if the enzymes are not present in food.

The ideal turnout is that nothing but smaller, simpler molecule chains make it into your lower gut. Bigger, more complex chains can still be present, depending on how enzyme deficient your stomach is. If this happens, your body sends water to your stomach in one last attempt to break food down. You know this is happening when you feel bloated.

The intestines are equipped with more digestive enzymes that finish breaking down food into usable molecules for energy. The enzymes also extract vitamins and minerals, carefully sending them through your intestinal wall and into your bloodstream for immediate use.



**Pacman is illustrated as an enzyme.*

WHAT HAPPENS WHEN THE DIGESTION PROCESS ENCOUNTERS PROBLEMS

All four steps are equally important for different reasons. The end result needs to be completely digested food so energy and nutrients are delivered to the rest of your body. Proper digestion can be sabotaged by something as simple as not thoroughly chewing your food. The rest of your digestive system will do its best to pick up the slack, but it has only so many resources at its disposal.

If you don't properly digest carbs, you experience bloating, gas, and more. You bloat and cramp from all that water in your large intestine, and get gassy from bacteria in your gut giving off methane due to working overtime. You also develop diarrhea and dehydration due to your body trying to expel the water and undigested foods.

Let's use milk as an example. It's mainly a carbohydrate with some protein and fat mixed in, but we're going to focus on the carb aspect.

Step 1: THE MOUTH'S BREAKDOWN

Milk carbs get a quick amylase enzyme bath in your mouth and start getting broken down into smaller chains called disaccharides, like lactose. Lactose is not yet small enough for your body to use.

Step 2: THE STOMACH'S BREAKDOWN

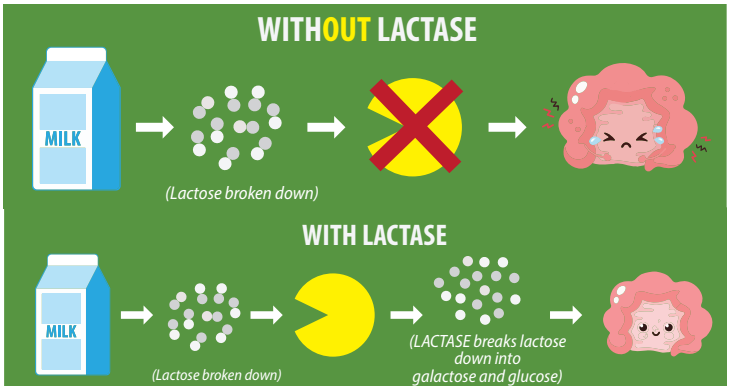
From here, your stomach uses acids and more digestive enzymes. However, since milk is typically pasteurized (meaning it's been cooked), one of its own key digestive enzymes, called lactase, isn't present. If the milk was raw, lactase and other enzymes would be present.

The human body doesn't have any lactase available until the milk reaches your small intestine. This makes it all too easy for you to experience digestive discomfort, like nausea, coughing, upset stomach, gas, bloating, and allergy problems. This is the root of lactose intolerance.

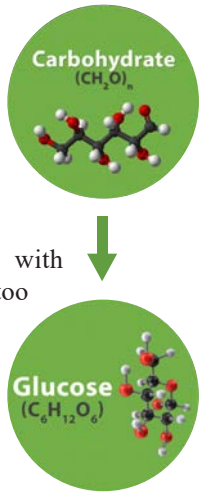
It's also why some people just don't feel great for a little while when they drink milk. Sometimes people react to milk (lactose intolerant) until the body can finally break it down properly. Others still can't digest it because their small intestines don't have any lacatase enzymes, which is where lactose intolerance comes from.

Step 3: THE FINAL RESULTS

With lactase finally present (hopefully), milk (lactose) can be thoroughly broken down into molecular structures called galactose and glucose, the forms your body can use. However, since your stomach wasn't able to do much to the milk, water may have already been called over to flush it out and you find yourself in dire need of a trip to the bathroom.



GLUCOSE

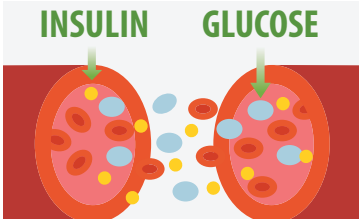


Glucose is the main molecule that carbohydrates are broken down into. Your body's most critical cells rely almost exclusively on glucose for energy. Brain cells and red blood cells must have a steady stream of energy or they'll die. If these cells die, you die.

Does this mean you should go glucose crazy with your diet? Absolutely not. You can actually have too much glucose in your system. When this happens, it concentrates in your bloodstream and damages your eyes, kidneys, circulatory, and nervous systems. This damage manifests as diabetes, poor vision, swollen legs, poor circulation, and sensitivity to touch. In the end, a chronic state of too much glucose leads to death.

This is why you hear about something called insulin. Your body releases insulin when glucose in the blood is too high. Insulin lowers it before damage occurs. The problem is that we abuse the insulin

response by constantly consuming too many simple sugars, and the aforementioned problems occur.

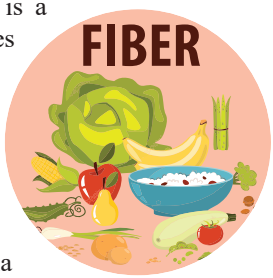


On the other end of the spectrum, too little glucose creates fatigue, foggy thinking, and poor memory. If glucose levels drop low enough, you can pass out and even slip into a coma, and suffer brain damage if your glucose levels stay too low for too long.

Now, your body has a system in place to carefully monitor and regulate glucose levels, which want to stay between 60 to 100 mg per 100 ml of blood. Your body accomplishes this primarily through the hormones insulin and glucagon. However, these hormones aren't infinite and all-powerful. What you eat affects both your hormones and glucose levels for better or worse.

THE IMPORTANCE OF PAIRING FIBER WITH CARBS

Fiber is a funny thing. It's a type of carb the human body can't actually digest. The body tries every time. This is a good thing. Fiber helps regulate how your body uses sugars, which means keeping hunger pangs under control and blood sugar levels at a happy medium.

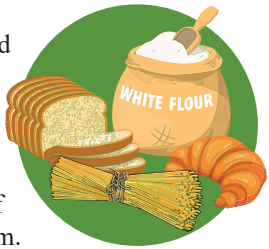


Fiber comes in two forms: soluble and insoluble. Soluble fiber dissolves in water and can help with keeping glucose levels down and lower blood cholesterol. It even fuels the friendly bacteria in your gut. Insoluble fiber helps move food through your digestive system, which is why fiber powders were created to help with constipation.

The exclusion of fiber, like drinking sugary, processed juices instead of eating the fruit, comes with a lot of health risks. Making sure to include enough of this one little thing in your daily diet can help you in so many ways, especially with avoiding weight gain and developing heart disease.

Weight gain and heart disease stem from a domino effect of respective early signs. Not getting enough fiber can make you constipated, increase hunger, pack on the pounds, spike cholesterol levels, develop nutrient deficiencies or diabetes, and you may become chronically tired. Those are a lot of issues you can avoid just by adding a healthy dose of fiber every day. Berries, beans, dark greens and even bananas are a great source of fiber.

EMPTY CARBS



Let's talk about the culprit, the bad foods, and what to do about them. They are white flour, processed sugar, and processed fats (which we'll cover in chapter two).

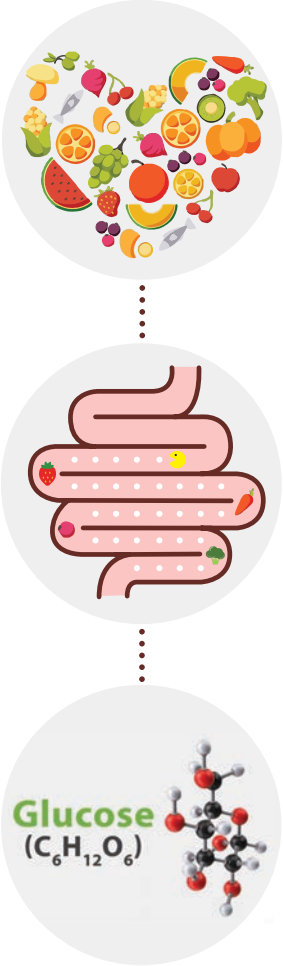
When it comes to white flour, the milling of wheat into white flour removes 60% of the calcium. In addition, eating white flour steals minerals from your body. At least 25 different nutrients are lost during refining. Research states that white flour causes widespread complications and diseases, ranging from stomach disorders, cancer, and even heart disease. White flour is found in almost all breads, pasta, crackers, pizza, hamburger buns, and pancakes, but as you'll see, you can still have all of these foods by making the right choices.

In addition to white flour, table sugar has no nutrient value. It is one of the leading degenerative factors in our diet today, yet the average American consumes 170 pounds of processed sugar per year. It is found in sodas, most cereals, pastries, candy, ketchup, and salad dressings, to name just a few. Does this mean the end of sweets? No, there are healthy ways to add sweets into your life.

The World Health Organization states that carbohydrates are extremely important in our diet, but its own study shows that 90% of our carbohydrates come from white flour and sugar, instead of from healthy grains, fruits and vegetables.

CARBS IN A NUTSHELL

Carbs come in many forms and use various enzymes to break them down into usable nutrients. The right carbs load you up with vitamins, minerals, and antioxidants, can give you a quick or delayed energy boost, can help you feel satisfied, reduce food cravings, and make you healthier. The wrong carbs will do the opposite. It all depends on the types of carbs you eat and whether the necessary digestive enzymes are present. A great goal is to take in less than 50 grams of sugar a day without counting natural sugars in fruits.



CHAPTER 2: Fats

Poor fats. They get such a bad rap, yet are a critical part of your diet and a key component of optimal health. Like carbs, not all fats are created equal. However, unlike carbs, it's not black-and-white. People generally know fats as lard, butter, canola oil, olive oil, nuts, and the gristle and marbling on meat.

To digest fat, your body undergoes the process of breaking fats down into glycerol and fatty acids. From there, the final step is to break down fatty acids into energy for immediate use, or putting glycerol through a complicated process that stores energy for later.

There are four types of fats. They all affect your body in different ways. Understanding the different types of fats will show you why some fats help your body thrive while others slowly destroy you from the inside. It all comes down to molecular structure. Even some of the heavily demonized trans fats are actually beneficial if in the right form. Still, no matter the type of fat, it must be broken down into fatty acid molecules for your body to use it as nutrition and energy.

FATTY ACIDS

Under the umbrella of fatty acids you find omega fatty acids (oils from fish, eggs, avocado, nuts, etc). They typically fall under the category of saturated and unsaturated fats, which describes their molecular structures. The molecular structure of saturated fatty acids are typically solid at room temperature (like animal fats), while unsaturated fats are typically liquid at room temperature (like oils).

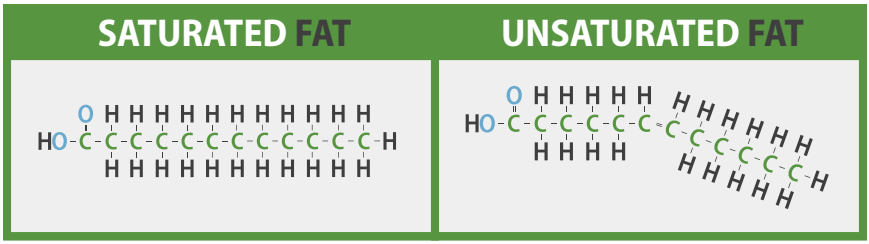
Oils high in unsaturated fat include oil made from peanuts, canola, corn, soybean, and safflower. Saturated fats are typically found in meat, milk, and cheese, along with healthier options like extra virgin olive oil, avocado oil, and coconut oil.

Saturated fats are the type you want to make a point to eat sparingly because they raise LDL cholesterol levels and increase your risk of heart disease and stroke. These types of fat molecules have a tendency to get stored just beneath your skin, around your organs, on your muscles, and in breast tissue.

They get stored because molecules are so tightly packed together that our bodies have a hard time breaking them down. Storage is the path of least resistance, and is a survival tool. All that potential energy is available to dip into in times of famine, and you do want some protective insulation around your organs. However, since humanity's hunter-gatherer days are behind us, excess saturated fat builds up to obesity epidemic proportions, slowly crushing organs and clogging up arteries.

Saturated fats have some health benefits: help with satiety, part of the building blocks of cell membranes, help carry fat-soluble vitamins around your body, and play a role in helping you avoid developing certain illnesses. It's just that your body doesn't need a lot to reap these benefits, which is why so many experts and stylized diets push you to avoid them and just stick with other fats.

Unsaturated fats have a lot more health benefits but should still be eaten sparingly. Some types help lower LDL cholesterol, which in turn helps lower your risk of heart disease. Others are linked to a healthy heart by helping reduce inflammation, which helps keep your arteries open and blood flowing.



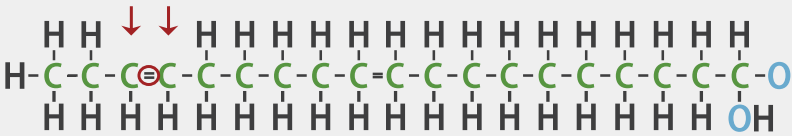
You might have heard mention of something called essential fatty acids (EFAs) and how they're great for your health. Thankfully the hype is true. They're called "essential" because your body can't make them on their own. You have to supply your body with EFAs through what you eat. If you don't, you die.

Your body uses EFAs for various health needs, including reducing your risk of heart disease and stroke, minimizing menstrual and joint pain and more. If you don't have enough in your system, it can manifest as abnormalities in the liver and kidneys, poor immune function, depression, dry skin, and a whole lot more. And just like sugars, too much

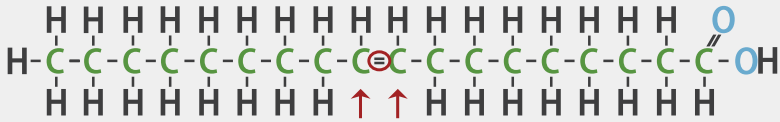
in your system creates other health problems, namely cardiovascular disease and an increased risk of colitis. Your body is very efficient at letting you know what it has too much or too little of nutrition-wise.

ESSENTIAL FATS ARE KNOWN AS OMEGA 3, OMEGA 6 AND OMEGA 9. THE LOCATION OF THE DOUBLE BOND DETERMINES WHICH TYPE OF FATTY ACID IT IS.

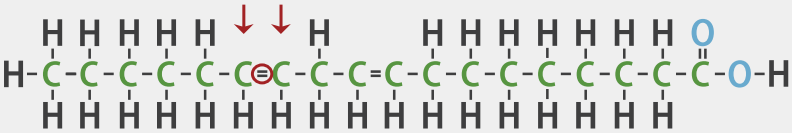
OMEGA 3: FIRST CARBON LACKING A HYDROGEN IS THE 3RD CARBON.



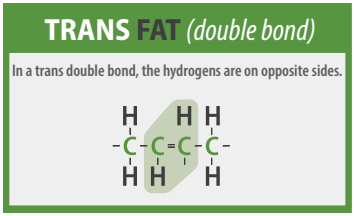
OMEGA 9: FIRST CARBON LACKING A PAIR OF HYDROGEN IS THE 9TH CARBON.



OMEGA 6: FIRST MISSING HYDROGEN IS AT THE 6TH CARBON.



TRANS FATS



Trans fats are identified by having hydrogen atoms on opposite sides of something called a double bond in a molecular structure. Usually atoms just share one electron but a double bond means they're sharing two, thus are harder to pull apart.

Trans fats operate similarly to processed saturated fats by raising LDL cholesterol and increasing your risk of heart disease. They also lower HDL cholesterol, the molecules that help remove cholesterol from arteries. Trans fats also go under the names of "shortening," "partially hydrogenated vegetable oil," and "hydrogenated vegetable oil." Hydrogenation creates trans fats, and it's how oils are made into margarine and shortening.

Now, there are two types of trans fats: ones naturally found in animal fats and dairy products, like butter. Then there are the lab-created ones found elsewhere. Your body is equipped to handle small amounts of the natural forms but the lab-created versions pose a real challenge when digesting them. There are no known health benefits with the latter.

HYDROGENATED FAT

Hydrogenation has been called the worst stage of oil processing because it drastically changes natural oils by saturating them with hydrogen atoms. Though proven to render these fats extremely harmful, the food industry continues to use this process because it allows manufacturers to create cheap, spreadable and marketable products, like margarine, vegetable spreads, and shortening.

Though this may be a benefit for manufacturers, it's certainly not for consumers. There are healthy alternatives to these bad fats. Choose butter over margarine and choose extra virgin olive oil and cold process canola oils. The closest to raw is always the best when it comes to butters, spreads, and oils.

WHY MODERATION IS SUCH A BIG DEAL

While your body has tools at its disposal to purge excess carbs, this is not the case with fats. Your body stores fats because they're so calorie-rich, a whopping 9 calories per gram, more than both carbs and proteins. Your body happily stores fats because it's programmed to survive.

Excess fat means an emergency energy supply to survive through lean times. Now, does this mean you should completely eliminate fats from your diet if you're overweight? No. Every day, you need to steadily resupply your body with the right fat nutrients (in the right amounts). This balanced approach will actually encourage your body to loosen its death grip on unwanted body fat. Just one nutrient deficiency can push your body into survival mode and slow your metabolism, which is one of the last things you want to happen.

The bottom line is fats actually improve your health. It's the processing of fats that can cause disease. Studies show that groups of people that consume mainly raw fats in their diets have a lower risk of heart disease, and other related health issues, but people who consume processed fats, like fried foods and hydrogenated processed oils, have a much higher incidence of heart disease.

How the Body DIGESTS FAT

1. The liver produces bile
2. Bile is sent to the gallbladder
3. The gallbladder sends bile to the small intestine
4. Bile breaks down fats
5. Meanwhile, the pancreas releases digestive enzymes
6. Bile and enzymes emulsify fats for digestion
7. Nutrients are absorbed in the small intestine
8. Bile is recycled from the intestines back to the liver for reuse

RAW HEALTHY FATS	PROCESSED HARMFUL FATS
•Coconuts	•Fried Foods
•Avocado	•Margarine
•Extra Virgin Olive Oil	•Anything with "Hydrogenated" on Label

CHAPTER 3: Proteins

Usually when you hear the word protein, you think "bring on the meat!" People often recognize protein as beef, poultry, fish and eggs. It's also found in nuts, beans, whey, and dairy products. You can find it in trace amounts in other foods too, but for most people meat = protein.

PROTEINS

- Proteins are made up of 100+ amino acids
- Polypeptides are 4 to 99 amino acids
- Tripeptides is 3 amino acids to bound together
- Dipeptides is 2 amino acids bound together
- Single amino acid (glutamine, arginine, etc.)

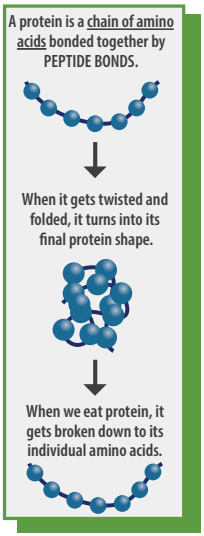
There are a lot of big, fancy words surrounding proteins but the bottom line is its structure dictates its function. There are a few key words that'll help you understand which types of proteins help you reach optimal health. This information won't settle the debate as to whether humans should be vegetarians or omnivores, but your newfound understanding will arm you against misinformation and misconceptions surrounding protein.

Proteins perform critical functions that keep you alive and well. They're involved in hormone secretion, metabolic processes, forming body structures, immune function, regulating mineral storage and use, transporting nutrients to cells, playing gatekeeper for what enters and exits individual cells and regulating your heartbeat. This is why eating the right protein and making sure to get enough—but not too much—is so important to your overall health.

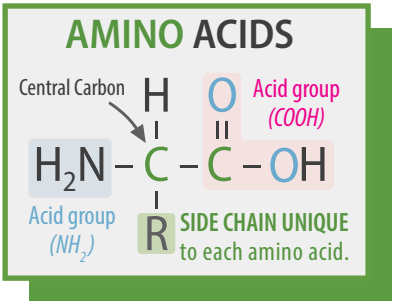
AMINO ACIDS

The most common term when it comes to understanding proteins is amino acids. All proteins are formed by a chain of amino acids, the building blocks of protein. A protein's chain structure determines its chemical makeup, therefore its purpose in your body. Your body is made up of a lot of different proteins.

Now, your body can't store protein like it can store fat. Not getting in enough protein on a daily basis is a common reason why people struggle to lose or maintain a healthy weight. Since there are 23 types of amino acids, it's ideal to

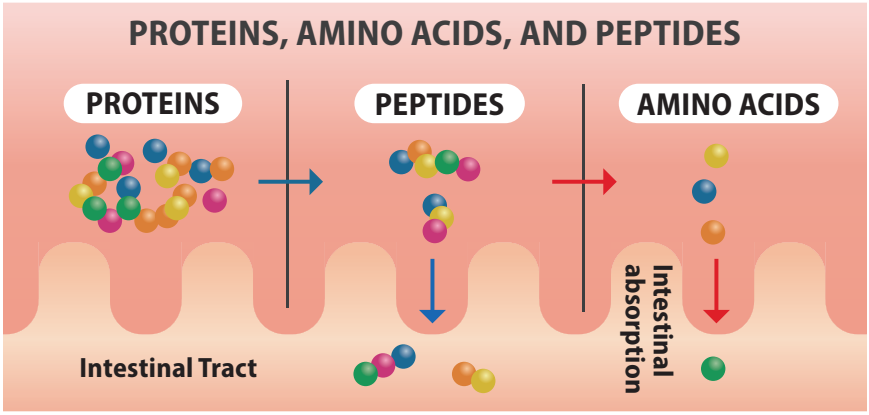


eat a variety of protein sources to make sure you supply your body with all the ones it can't make on its own. If you don't, your body starts eating away at its own muscle mass to fill in the amino acid gaps. On the flip side, eating too much protein can overwhelm your system and you can develop kidney problems, diabetes, food allergies, cancer, and more.



The balance: adults need .5 grams of protein per pound, or .8 grams per kilogram. The most you need is 1 gram per pound, and that's only if you're an active athlete lifting weights with the idea of building muscle. The other catch is you need to pace yourself. The human body can properly digest only 25 grams of protein per two hour period. More can be digested over time but—if not properly digested—can cause health problems, which is where conditions like auto-immune concerns come into play. The solution is to eat protein from multiple sources.

It's also important to understand that every protein has different amounts of amino acids present, and every protein has higher and lower levels of certain amino acids. To ensure that all the protein is utilized, you must ensure that the content of any particular amino acid is not too low. If there is just one that's too low, the entire protein will be compromised.



PLANT PROTEIN

Plant protein is packed with fiber, antioxidants, and phytonutrients. Fiber helps fill you up, properly digest food, and stay fuller longer, and the other two help you avoid getting sick. Plant protein also contains healthier carbs that don't spike sugar levels. On the flip side, they take eating a bit more variety to replenish all 23 amino acids. Combining two to three plant proteins will more often than not cover all your amino acid needs.

ANIMAL PROTEIN

Animal protein tends to contain a more complete array of amino acids than plant protein. However, it's devoid of fiber, antioxidants, and phytonutrients. Animal protein - especially red meat - is harder to digest, thus overworks your pancreas. Many studies show that the lower the animal protein in the diet, the lower the risk of most diseases, including heart disease and cancer.

PROTEIN PRODUCTION & PROCESSING

This is where things get controversial when it doesn't need to be. Decades of research and accrued data have made clear which proteins are healthy and safe to eat, and which ones are not. The answer is what goes into your protein before it reaches your plate.

Although limiting animal meats (especially red meats) can be a healthy choice, there are some things you can do whenever you choose to eat them. The trick to healthy animal meats is avoiding antibiotic-fed animals stuffed in unsanitary conditions.

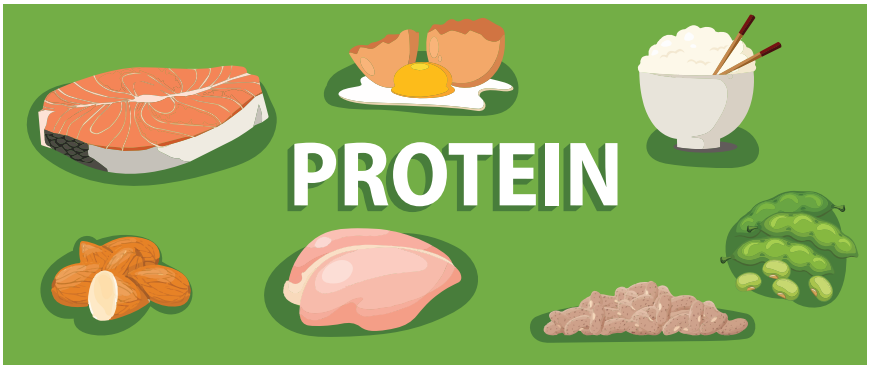
Those antibiotics make it into your body in doses too weak to kill pathogens, which in turn leads to the creation of super-germs and a need for stronger antibiotics for when you actually need them. Half of all antibiotics produced go to animals slaughtered for human consumption. These small doses of antibiotics make it into your body and act as a vaccine for the bad bacteria present, making them grow stronger and resistant to other antibiotics.

These become super-germs. Pathogens from the farm often also make it into your home and whatever surface your uncooked meat touches. You know this happens whenever you get food poisoning.

Also, the methods of caring for and butchering animals is important. Animals living and dying under high stress conditions produce poor quality meat that spoils quickly and doesn't taste all that great. Also, poorly fed and nutrient-deficient animals produce equally poor meat.

SAFE, HEALTHY PROTEIN

So, it sounds a bit like we should all just throw in the towel and join an Amish community. While the food would be quite fresh and tasty, and perfectly safe to eat, you don't have to give up life as you know it, or start your own farm to eat well without risk. Instead, make the best choices you can whenever you consume meat. Choose cuts from the butcher and ask for antibiotic-free meats when available.



CHAPTER 4: Digestive Enzymes

The main reason for all the **DISEASE** we have today is the processing and low nutrient value of our food choices. The secondary reason is the depletion of enzymes in our food.

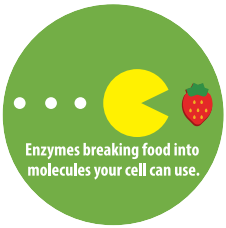
Enzymes are something that hardly anyone outside the nutrition field talks about. The truth is the general population should understand their importance even better than the need to eat enough fruits and vegetables every day. Without enzymes, you'd die. They're that important to your health.

They're overlooked because we live in a world that's in the habit of treating symptoms, instead of the cause. Once you understand the basics of how enzymes keep you healthy, you can easily protect yourself from developing countless health problems, minimize trips to the doctor, and keep medical costs to a minimum. And yes, maximize muscle building and fat burn.

Enzymes are small protein molecules naturally found in food, both plants and animal. The catch is they're contained only in raw, unprocessed foods. Anything cooked over 118° F destroys enzymes. These protein molecules are catalysts that make possible the chemical reactions that digest our food and break it down into usable, absorbable nutrients. Enzymes are the life force that is found in foods and then transferred to our bodies to keep every system functioning optimally.

Food must be digested and the nutrients must be absorbed for them to provide the body with nourishment. While becoming big and strong, or slim and healthy starts with what you eat, the next most important part is digestion. Even if you eat well, all that nutrition does nothing for you if you don't digest it properly. The transformation process from meal to nutritious energy involves a lot of working parts and just as many steps.

To put it simply: enzymes break food into molecules your cells can use, much like a blender pureeing bananas and strawberries into a smoothie. Most of the digestion and absorption of nutrients occurs in the small intestine. Absorbed nutrients are

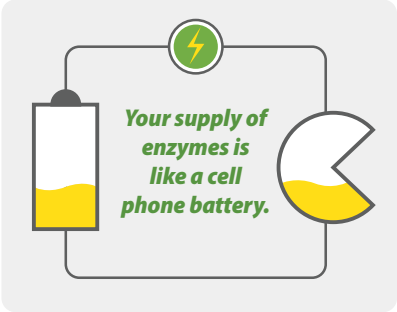


transported via the blood to cells. Anything that is not absorbed passes into the large intestine and is expelled from your body.

Two of the best things you can do to ensure nutrients are delivered to the cells for energy, fat loss and longevity are: 1) Include raw foods in your diet, and 2) Supplement a balanced blend of enzymes when you eat cooked and processed food.

Processed foods are completely devoid of enzymes. We are able to eat cooked and processed foods because our bodies contain enzymes, too. However, these enzymes are needed to perform thousands of other functions, like releasing hormones, tissue repair and improving immune function. The human body was not made to do all the work of digestion on its own. That work is supposed to be delegated to raw food enzymes.

What's important to understand is that we have a limited supply of enzymes. Your enzymes supply is like a cell phone battery. You can use enzymes like you do a battery to the point where you run out and need to recharge. If you don't recharge your phone's battery, it dies. If you don't recharge your supply of enzymes, you die. However, unlike your phone, it's permanent.



There are things you can do on your phone to speed up battery usage, and there are dietary habits that create the same demand on your enzyme supply. The reverse is also the same for both. For humans, that means eating raw fruits and vegetables—the key word here being raw. You know how your phone battery doesn't work as well after being used and charged up too many times? The same holds true with your enzyme supply. They can only digest food so many times and that is why raw foods or supplementing with plant enzymes are so important.

When enzymes are depleted, the body is unable to produce enough metabolic enzymes to repair the body and help fight disease. When enzymes are not present in the foods we eat, the body mobilizes its immune system to finish digestion. As a result, the number of chronic degenerative diseases are escalating and the quality of life is in decline.

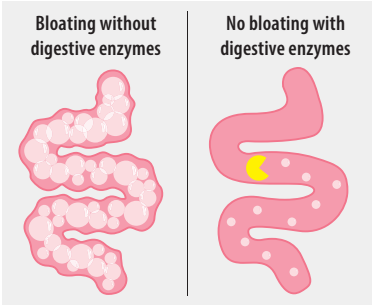
If your body uses up the sugar digestive enzymes because you've eaten a lot of processed sugar, then you become diabetic. If you deplete the enzymes that digest milk because of drinking pasteurized milk, you become lactose intolerant. When you use up your fat digestive enzymes because of eating fried or fatty foods, you become obese. Plus, much of the fat circulates undigested in the bloodstream, eventually causing an obstruction.

If that obstruction reaches the brain, you have a stroke. If that obstruction reaches the heart, you have a heart attack, the number one killer in the world today. In order to maintain your health and keep from getting degenerative diseases, you must effectively digest your foods.

EARLY WARNING SIGNS OF ENZYME DEFICIENCY

You might be surprised to learn that indigestion is your first clue that your body is lacking digestive enzymes. Gas, heartburn, bloating, excessive burping, upset stomach, diarrhea—any symptom you'd normally address with an antacid or acid blocker are all warning signs you're not digesting your food properly. You're not antacid or acid-blocker deficient; you're enzyme deficient.

Antacids and acid blockers stop digestion to get rid of pain but cause major issues because of blocking digestion, like opening your body up to major bacteria overgrowth and toxin buildup. When you react to indigestion by adding back digestive enzymes, the pain goes away, you gain energy, vitality, increase fat loss, and experience optimal health.



The last thing you want is to halt the digestive process. This vicious cycle manifests as other health problems over time, like weight gain, difficulty losing weight, frequent sickness, and premature aging as your body slowly runs out of alternate ways to break food down into usable molecules. Eventually, you become unable to digest certain foods at all and develop food allergies.

Holistic nutritionists and organic chemists have a saying that goes, "The dose makes the poison." For example, nitroglycerin in small amounts saves your life if you are having a heart attack, but will kill you if you take too much.

Many foods can be poisonous if the dose is too high, which is why it's imperative you have a healthy supply of digestive enzymes.

Your body can't use protein until the digestive enzyme protease breaks them down into amino acids. Imagine eating an 8 oz. steak for dinner every day. That slab of cooked, juicy protein is devoid of any digestive enzymes to turn it into usable amino acids.

Now, your body does everything in its power to digest that steak because it wants to keep you alive. However, every day of compounded steak eating steadily puts your body farther and farther behind. Your body will either eventually digest all that protein, or undigested pieces get stored in tissue and cause damage (most often recognized as gout), or gets sent out of your system.

LATE WARNING SIGNS OF ENZYME DEFICIENCY

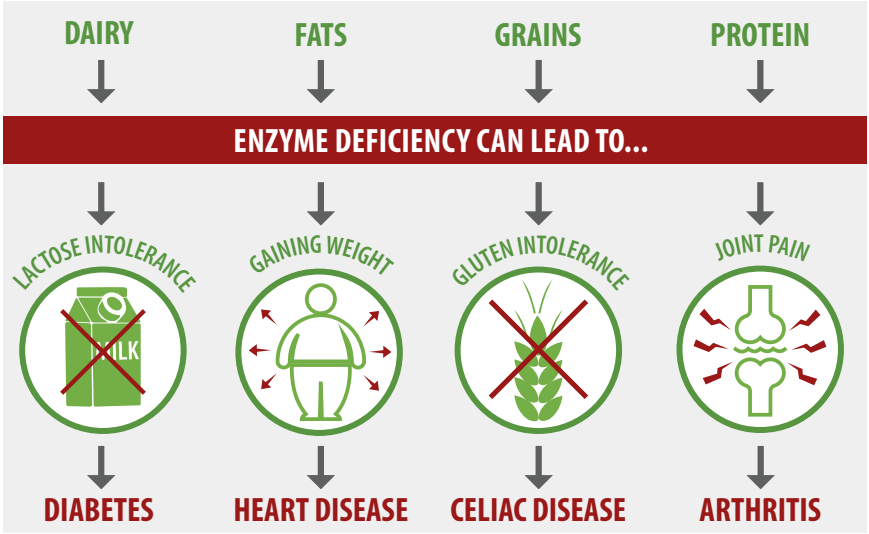
You know you've had a serious digestive enzyme deficiency for a while once you've developed an autoimmune disease. Now, most people think we're talking about vague, rare things with crazy names you have a hard time pronouncing. The truth is autoimmune diseases are things as common as arthritis and diabetes.

Arthritis can develop due to undigested proteins gathering in joints. Your body recognizes there's something up in your joints but the molecular structure between the food proteins and your cartilage have become too hard for your body to tell the two apart, so it indiscriminately attacks both.

Same goes with diabetes. Undigested proteins (mainly from milk) mimic pancreas tissue. Your body senses your insulin is out of whack and sends white blood cells out to go fix things. Once again, indiscriminate destruction occurs and your body can no longer regulate insulin levels on its own.

And just think: all these health issues stem from what you eat, followed by what you're not digesting properly. Enzymes truly are life savers.

If you choose to eat more raw food, then you don't have to worry about supplementing with lots of digestive enzymes. However, if you eat cooked or processed food, you have the choice between experiencing digestive and health issues, or adding them back via plant enzyme supplementation.



CHAPTER 5: The Dreaded Trip to the Grocery Store

It's one thing to be educated about the problem. It's another to have the simple tools to do something about it. Food companies generally don't want you to have these tools; they want to persuade you to spend money on their products. Let's take a look at the challenges you face at a grocery store.

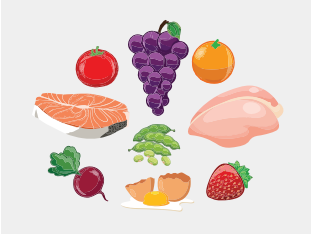
There is a lot of confusion today about what you should eat regularly and what you can eat sparingly without dire health consequences. The truth lies in the research: your body craves nutrients, not calories.

So many "experts" claim a calorie is just a calorie, so it's calories in, calories out. The type of calories don't matter. This was touted as the truth for years since it makes mathematical sense. You'll gain weight if you eat more calories than you burn and you'll lose weight if you burn more calories than you eat. This is true to a point, but only to a point.

If it were all about calories in, calories out, then theoretically, you could live off just ice cream and never get sick or overweight. Yes, you wouldn't get overweight if you stuck to a calorie count that fits your lifestyle, but how healthy would you be?

Reading up on macronutrients and micronutrients in chapters two and three, you learned about all the nutrients we need in balance to reach and maintain peak health. Ice cream doesn't contain all the nutrients you need. It's loaded with unhealthy fats, along with sugars that wreak havoc on your gut flora, which weakens your immune system. Your body shape will become floppy and flabby because you're not eating enough protein on a daily basis to prevent your body from eating away at its own muscle. And because you're eating so much fat and carbs, you will store the excess.

NUTRITIONAL VALUE



NUTRITIONAL DEFICIENCY

Not such a pretty picture, is it? Sure, it's unrealistic to find a person living just off ice cream but so many of us maintain a dietary equivalent of the "ice cream-etarian." We just don't realize it.

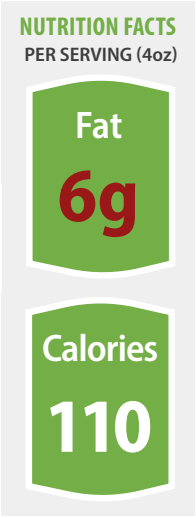
Too much of the food industry treats humanity like expendable livestock, tempting us with tasty treats that give us nothing nutritionally in return. We have been well trained to eat for instant gratification; not health and longevity. It's killing us. We see it in the rising disease statistics, expanding waistlines, surge in gym memberships, a growing list of banned ingredients, an increasing number of food allergies, rise in health bills and healthcare costs, and so on. As I've said earlier in this book, your health starts with what you eat. Food hasn't always been this perilous.

FAT CONTENT

It is important to not just count fat in calories or grams. Most people tracking fat intake don't eat enough protein or carbs, causing them to store fat because the percentage of fat in their daily caloric intake is way too high. We recommend eating foods containing no more than 20% fat.

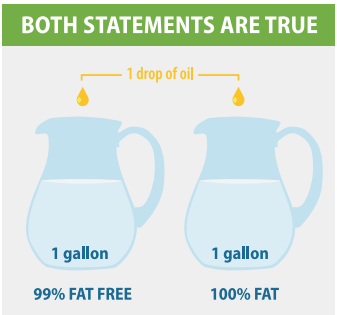
Okay, hold on there. Let's learn a bit of math here.

Take for example tuna fish packed in oil. The first number you need is how many calories are in each serving. In this case it is 110 calories. The second number you need is the grams of fat, which is six. Multiply six gram of fat by 10 and you get 60 calories. That's how many calories of fat are in that serving. So 60 calories of fat in a 110-calorie serving. That's 60 divided by 110 (fat calories divided by serving calories). That 54% of the calories coming from fat. Remember, we want to keep that below 20%.



You're going to find foods like these that claim to be 98% fat-free. Based on the above example this can be misleading. Advertisers can get away with such things because they make claims based on volume (grams) instead of calorie count breakdown.

To understand how this works, picture a glass of water. If you were to add one drop of oil to that water, you may have one drop of oil to 99 drops of water. In this case, you can say that your water was 99% fat-free, by volume. However, in reality, if you were to look at the calorie content, every one of the calories comes from fat. That would make it 100% fat calories.



Let's go one more time with tuna fish, but this time packed in water. This drops it to 1 gram of fat per serving, therefore 10 fat calories. 10 fat calories divided 110 serving calories = 9% fat calories. Well within the safe zone of 20%.

Just to add a little note about finding out the fat percentages in food, a new labeling law states that you have to list how many calories from fat are in that food right next to the total calories per serving. This makes it far faster and easier to determine the fat percentage. Math saves health and waistlines.

PRODUCE

Studies show that we consume less than one fifth of our daily requirements of fresh fruits and vegetables. In fact, according to clinical studies performed by Dr. Joel Robins M.D., most Americans will go up to 10 days without consuming one fresh fruit or vegetable. The smartest thing anyone can tell you is to load up on food from the produce section.

Now, the most nutrient-dense food on the planet is the orange potato. You might know of it as the sweet potato or yam. If you haven't done it before, slice it up like an apple and eat it raw. You'd be surprised at how great it tastes.

Elect to buy fruit that still needs to be peeled and chopped over prepackaged, canned and processed. The fresher the better, and the less done to it before you eat it the better. Even fruit chopped up and dipped in water is in a fight between staying fresh and beginning the breakdown process. Want a real-time example of just how fast enzymes work? Chop an apple or peel a banana. They start turning brown within minutes. The healthiest, most energetic people in the world eat 10 servings or more a day of fruits and veggies.

BREAD

Breads made from white flour versus whole wheat can have a devastating impact on your health. Wheat flour or wheat bread is also better absorbed and improves your mineral flow in the body. Eat whole wheat or multi-whole grain breads and avoid white or enriched blends.

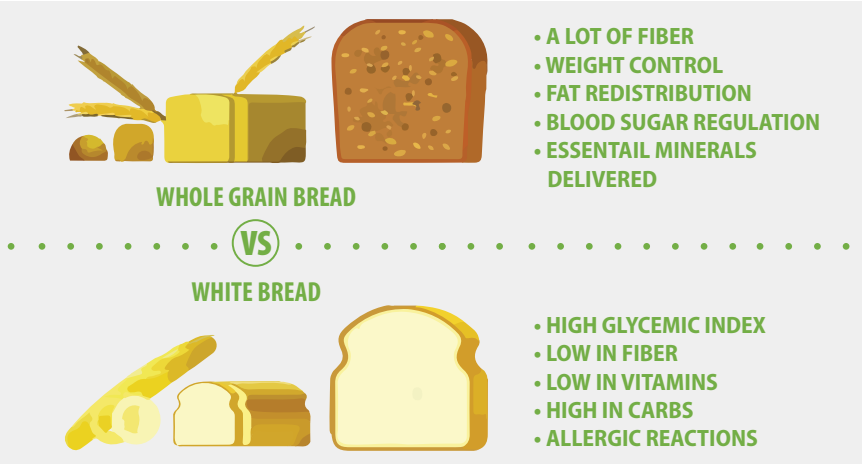
Enriched or fortified breads are just a poor attempt at making processed white flour products a little healthier. The simple rule of thumb for bread buying is pick the one with the fewest ingredients. Stick with whole wheat or other whole grains as the main ingredient or if you have gluten concerns.

Fortified/enriched means a synthetic version of vitamins and minerals were added to replace what was lost during processing. For example, whole wheat flour is the whole food version. It contains more vitamins and fiber, and is gentler on blood sugar levels. White flour is the processed version that has been "fortified and enriched." However, the nutrition facts look almost identical. How can this be? How can white flour affect your body so differently from whole wheat flour?

It's all about processing.

Whole wheat flour uses the whole berry. When society stopped making bread from scratch in every home and instead snatched a loaf off a shelf, companies ran into some issues. First, whole wheat flour's shelf life is terrible. It wasn't cost effective. So what did they do?

Yep, started making white flour.



Wheat flour uses all three major parts of the berry: bran (where all the fiber is), endosperm (mostly starch), and germ (where all the nutrients are packed). Creating white flour involves stripping away the bran and germ so only the endosperm remains.

In order to create white flour, wheat goes through up to two dozen refining processes. During this, nutrient-poor, starchy material is extracted. The nutritious seed at the center—the wheat germ—is discarded. The mineral-rich wheat bran that makes up the high-fiber shell is also disposed of. At least twenty-five different nutrients are lost during refining. The result is high-calorie, low-nutrient white flour.

The government took a closer look at white flour and other refined grains and began requiring that they be enriched or fortified, meaning nutrients had to be added back before they could be sold to the public. However, the government only required that B1, B2, B3, and iron be replaced, out of everything on the list.

Roger Williams, author of the *Physicians' Handbook of Nutritional Science*, set out to show the difference between a complete bread source and the standard enriched grocery store varieties that are so prevalent. He found that after 90 days on the commercial bread diet, approximately 2/3 of the study animals had died of malnutrition, and those that were still living were severely stunted. On the other hand, practically all of the rats that had eaten bread with all the nutrients still intact were alive and growing.

Numerous studies have shown similar negative effects on humans. White flour has been shown to "ball up" in the system, much like a piece of white bread forms a gummy ball when you roll it between your palms. Highly refined grain products actually draw minerals out of the body, depleting important nutrients. Recent studies also show that white flour (along with sugar) caramelizes in your system, leading to premature aging and clogging arteries. In addition, white flour has been shown to contribute to cancer, high cholesterol, gallstones, urinary bladder stones, and ulcers.

To put it simply: turning wheat berries into white flour strips out all the nutrients no amount of fortifying and enriching can fix. Companies made white flour because of its superior shelf life, not because it had any nutritional value. White flour is dead, whereas whole wheat flour is still alive. Don't believe me? Go smell the difference.

MEAT

For those of you who get your protein from meat, let's look at which ones are the healthiest. A lot of you know that white meats are more desirable than red meats, but that's not necessarily always true. Research shows that in most cases, the more active the animal, the lower the fat content. That's why pork and cow meat are the poorest choice while ostrich and buffalo—although red meat—are healthier.

The best choices of white meat are chicken, turkey, and fish, with the fat percentages being chicken and turkey at 20 to 30% and fish at 15%. Another problem with most of the red meat is that they contain certain acids that other meats do not, and thus they can provide additional challenges. Alternatives to meat are made from things like nuts, beans and grain mixes.

CHIPS

This is where many struggle the most, but the good news is you can still enjoy snacking by making healthier choices.

One of the most popular snacking foods are potato chips. Remember, this can be one of the biggest mistakes you can make if you choose wrong, so remember to look at the labels. One bag says that one serving has 150 calories and 10 grams of fat. This means that two thirds of the calories are from processed, unhealthy fat. And then there's the bag of baked chips at 100 calories and 0.5 grams of fat per serving. You could eat 10 bags of the healthier baked chips and still not consume as much fat as the fried version (obviously don't do that because of the excess calories). The key is to buy baked chips that contain very few preservatives. And remember: always stay away from the fake fats (ingredients with way too many syllables).

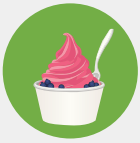
Amount per serving	
Calories	**120**
	% Daily Value *
Total Fat 3.5g	**4%**

Amount per serving	
Calories	**280**
	% Daily Value *
Total Fat 18g	**28%**

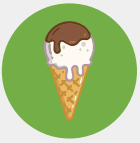
ICE CREAM

Another popular snack is ice cream. Some of you think this is a food group within itself, so we have got to give you some healthier alternatives. Store-bought ice cream has over 1,600 additives (not food in any sense of the word), most of which are not listed on the package. We want you to steer clear of them as much possible.

A healthier choice is frozen yogurt sweetened with fruit and fruit juices. Also, look for some made with soy and other alternatives. Along the same lines are popsicles made from fruit juice without artificial colors



FROZEN YOGURT
LOW-CALORIE.
LOW-FAT.



ICE-CREAM
HIGH-CALORIE.
HIGH FAT.

and sweeteners. The ultimate popsicles are the ones you make yourself by pouring fruit juice into popsicle molds.

Some other healthy snack choices include raw nuts for their healthy fats and proteins that you won't get from the processed and cooked kind. Buying real, unsweetened yogurts and adding in fruits makes for a sweet and healthy snack. And the ultimate snacks are to have fresh fruits and veggies available all the time.

SODAS

The biggest problem is definitely sodas and other sugar-sweetened drinks. Soda pop sales soared from 192 servings per person in 1960 to 493 in 1976. And that number translates to over 20 lbs of sugar a year.

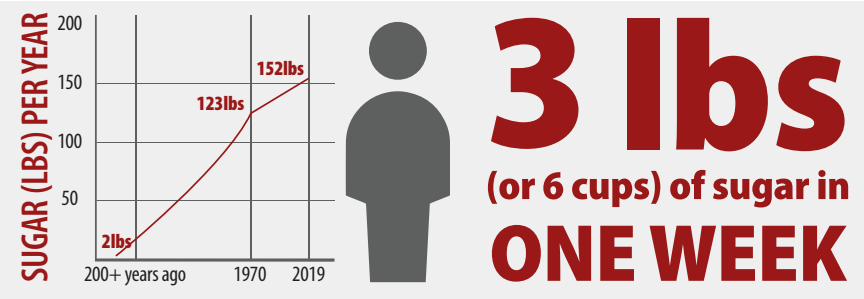
According to the Department of Health and Human Services, 200 years ago, the average American ate only 2 pounds of sugar a year. In 1970, we ate 123 pounds of sugar per year. Today, the average American consumes almost 170 pounds of sugar in one year. This is equal to 3 pounds (or 6 cups) of sugar in one week.

We're taking in tons of sugar, as well as truck loads of caffeine, artificial dyes, flavors and preservatives. However, even more harmful than sugar and caffeine is the acid, in carbonated drinks. Soft drinks contain carbonic and malic acid, and others. These acids change the pH of the digestive system, thus significantly interfering with digestion.

Sugar is essentially a poison to the human body. It's acidic, addictive, and offers no nutritional value. It's just a quick boost of energy that digests so fast that you get hungry more frequently, which can easily lead to weight gain, especially if you're drinking a lot of liquid sugar. Beverages don't trigger satiety signals like foods do. High sugar food items are typically loaded with carbs and lacking in protein, fiber, vitamins, and minerals, yet high in calories.

Companies tried to answer the rising awareness surrounding sugar and its health risks by manufacturing artificial sweeteners. Society jumped on the concept of being able to eat or drink something sweet with zero calories, only to learn that artificial sweeteners are just as deadly. They can cause temporary reactions, like headaches and

migraines, to more serious ones, like cardiovascular disease, obesity, type II diabetes, kidney damage and more.



The serious reactions occur because artificial sweeteners are just as addictive as sugar. Your body starts craving sweeter and sweeter food, making it progressively harder to reverse the damage as your metabolic function suffers and you're always feeling hungry. This is the exact opposite of what you want, especially if you're trying to lose weight. Artificial sweeteners, like sucralose, wipe out your friendly flora in your gut. Stay away from artificial sweeteners even more than sugar.

Remember that the purpose of food is to fuel the body with nutrients and oxygen. Carbonated drinks do the opposite. Since they interfere with the very process that allows food to be broken down and delivered where it is needed within the body, carbonated drinks drain the body of potential energy. By drinking sodas with meals, even the most balanced healthy menu can be sabotaged because nutrients are not digested and absorbed. The acids in sodas also rob the body of minerals and contribute to osteoporosis and other diseases.

The thing to do is eliminate sodas from your diet and switch to fresh juices and drink a lot more water. Take your body weight and divide it in half. Drink as many ounces of water daily. As you wean yourself off of these detrimental drinks, it's okay to get some of the popular juices that might have some sugar in them, so long as you work your way to the healthiest choices as you go. Work towards drinking only water and healthy raw juices.

THE BOTTOM LINE

The food industry is in the business of staying in business. It's nothing personal. They have no secret vendetta to destroy your health. The drive to keep production costs low and profit margins high has led to the use of ingredients that research has proven to be extremely addictive and harmful to human health.

It's up to the individual to break free from allowing junk food to control their life and destroy their health. It's up to the individual to either remove junk food from the list of edible options, or limiting it to occasional treats.

CHAPTER 6: Eating Out Without Pigging Out

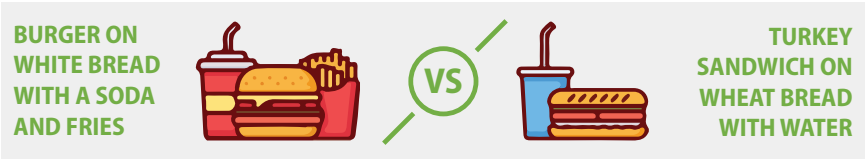
When going out to eat or planning your meals at home, let's take a look at how to order and how to make those meals based on the healthy eating guidelines.

OPTION 1 VS OPTION 2

You're at a Mexican food restaurant. Your first choice is a deep fried beef chimichanga with sour cream and refried beans soaked in lard and fried chips. Based on the incredibly high fat content, you know these are unhealthy options. Your second choice is steamed corn tortillas and fresh guacamole with steamed rice, a white meat chicken fajita, a dinner salad with extra virgin olive oil, and salsa. It's a mix of those direly-needed raw foods, along with healthy fats from avocado and olive oil. It will fill you up nicely.

Now, let's go to an Italian restaurant. Your first choice is a sausage ravioli with cream sauce and a Caesar salad covered in cheese and in fatty, heart-stopping dressing. Your second choice is spinach spaghetti with marinara sauce, a garden salad with a great extra virgin Italian olive oil and vinegar, and a piece of lightly grilled chicken. Once again, the ratio of fats to proteins and carbs evens out nicely without leaving the restaurant hungry.

What about fast food choices? You can hit the drive-thru at one of many burger joints or something like Subway. Yes, you can make some unwise choices by picking the southwest steak sub on white bread with regular chips and a soda, or you can order a turkey on whole wheat with baked chips and water. There are healthier options out there. The trick is getting in the habit of choosing healthy over easy and greasy.



CHAPTER 7: Supplements

Humans stayed healthy long before the days of pill popping, so why should you start taking whole food supplementation in this day and age? Because things are not like they used to be. Instead of foraging in the wild, we browse the shelves at our local grocery store. Instead of farmers rotating crops, they work the fields to death and try to stretch the life of their fields by adding chemicals to the soil—the farming version of enriching or fortifying food. These nutrient deficiencies carry into the very foods we eat, so chances are that even your colorful salad isn't forking over the nutrition you expected.

It takes only one nutrient deficiency to damage your entire metabolism. Conditions created just by minor deficiencies in nutrients like vitamin B, C, D, magnesium, chromium, and calcium can cause a slew of health issues. Signs and symptoms include low immunity, fatigue, depression, weight gain, heart disease, cancer, and far more.

The most common nutrient deficiencies are calcium, folate, iron, magnesium, potassium, vitamin D, vitamin B12, vitamin E, vitamin K2, and zinc. However, you can find a supplement product for every essential vitamin and mineral.

Studies out of many sources, including the Journal of the American Medical Association, show that 9 out of 10 Americans have essential nutrient deficiencies, even as young as in their thirties. Can you change your diet so it contains all your nutrient needs? Yes, but, according to a 2010 study by the International Society of Sports Nutrition, it would come at the steep price of over 27,500 calories and gaining 3 lbs. of fat per day.

You can make dietary changes that will improve it—in fact, we recommend reaching for the right choices. It will greatly improve your health and wellbeing, and minimize what kind of supplementation you need.

NOT ALL SUPPLEMENTS ARE CREATED EQUAL

The supplement industry has been around for well over 100 years but quality is suffering. Companies went out of their way to make supplements more affordable but it has come at the cost of quality and efficacy. Even though a USDA study showed that over 70% of Americans take a multivitamin, the AMA still concluded that almost all Americans are deficient in vitamins and minerals.

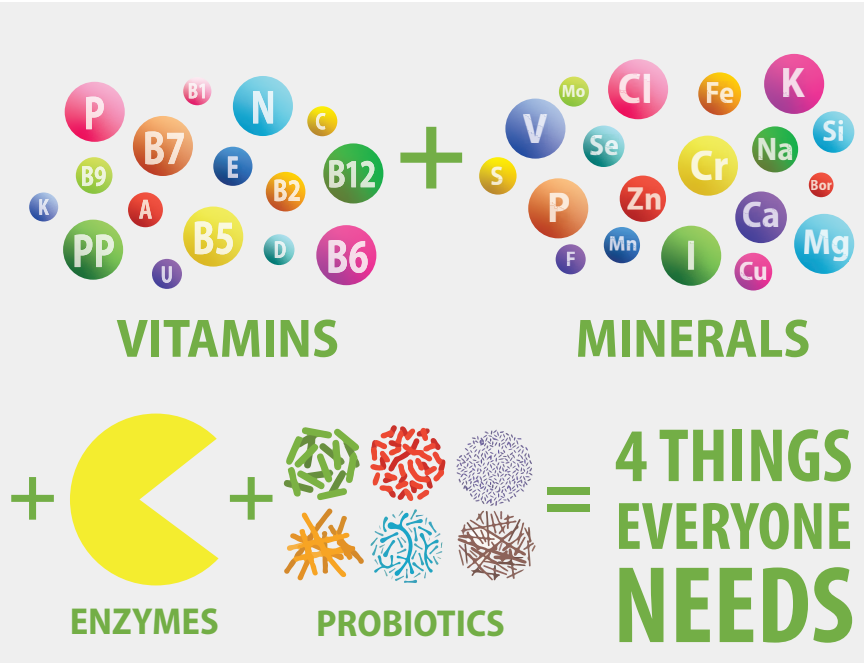
People are taking multivitamins comprised of synthetic ingredients. Our bodies don't recognize said ingredients as anything useful. Even worse, synthetics are almost always incomplete versions of the real deal. Our bodies rob nutrients from all over our systems as it tries to fill in the gaps and make multivitamins useful.

Let's use vitamin C as an example. Good sources of vitamin C mainly come from citrus fruits. The complete chemical form of vitamin C consists of ascorbic acid, rutin, J & K factor, and bioflavonoids. However, typical synthetic supplements contain only ascorbic acid. Your body has to provide the rest in order to use the supplement. It is nothing more than corn syrup and HCl that's gone through nine steps of processing. Not one drop of citrus was involved.

If you look on the label of any vitamin C product on the market today, you will most likely see "ascorbic acid" as one of the main ingredients. Contrary to what most health and supplement companies want you to believe, ascorbic acid is not vitamin C. Rather, it is only a small fraction of the nutrient. The incomplete form forces the body to use its own reserves to complete it. This actually depletes vitamin C from the body and can cause your arterial walls to thicken and other fatal effects. In one study, cited in a *Los Angeles Times* article, the research showed that consuming vitamin C supplements in the form of ascorbic acid may actually lead to heart disease.

This is why you need the whole food form of vitamins and mineral supplements to be chelated which is the scientific term for "bound to an amino acid." The whole food form of vitamin C is very beneficial as an antioxidant, assisting in collagen formation, boosting the immune

system, and is necessary in the synthesis of stress hormones.



CORE SUPPLEMENTS FOR EVERYONE

There are thousands of supplements out there, all of them touting their necessity in everyone's lives. The truth is there are only four things everyone needs no matter who you are. The degree of need will vary from person to person based on diet and activity level. All the other supplements generally boil down to genetic and lifestyle factors, along with pockets of high stress. The four things everyone needs are vitamins, minerals, enzymes and probiotics.

VITAMINS & MINERALS

There are 13 vitamins your body needs to grow and develop properly. They are organic compounds found in foods, each vitamin filling different roles that are essential to life. Your body cannot

synthesize them on its own, so you absolutely have to eat the right stuff to stay in good health. Most people do not eat healthy enough to get all their essential vitamins strictly from their diet.

Mineral experts and proponents of mineral supplementation remind us that, "lacking vitamins, the system can make some use of the minerals, but lacking minerals, the vitamins are often useless. While our bodies can manufacture some of the vitamins we need, they must rely completely upon outside sources for an adequate supply of minerals."

Macronutrients are like your computer and minerals are like electricity. Macronutrients are great and all but nothing happens without electricity to run it. Essential minerals are essential in that they directly or indirectly function in supplying energy, aid in growth and maintenance of body tissue, and assist in the regulation of body processes. There are 17 essential minerals.

We can't get essential minerals just by eating dirt and rocks. Obvious problems aside, our bodies wouldn't know what to do with minerals in that form. We need plants to transform minerals into a form we can use.

When we drink or eat fruits and vegetables, we take in minerals that were once in the soil. In this natural form, minerals are bound to amino acids. In this form they are referred to as chelated, pronounced "key-lateed." What happens is plants bind amino acids to the minerals, making it possible for minerals to travel from your gut, to cells, and penetrate cell walls so they can do their work.

Un-chelated minerals are not absorbed or used. This puts additional strain on the body as it attempts to supply the necessary amino acids required for the chelation process. Your body will attempt to chelate minerals itself, but this overtaxes the system and robs amino acids that should be used for other processes. So yeah, don't eat dirt or oyster shells.

Supplementing with whole food vitamins and organic minerals is a must due to nutrient deficiency in overworked soil, the way food is produced and the fact that it is heavily processed. Synthetic vitamins and commonly marketed forms of minerals often create more problems than solutions. Only vitamins in the whole food form contain what is needed for those vitamins to be broken down and used. Synthetics literally pull nutrients from the body because they contain only a portion of the entire nutrient.

PROBIOTICS

Probiotics are living organisms—also known as bacteria or flora—that colonize and flourish in the healthy intestine. These friendly bacteria are vital to health and the proper function of the intestinal tract. In fact, a healthy intestine contains approximately 3 lbs of friendly flora.

These bacteria strains function as a backup to our body's immune system. It's why the gut is often referred to as your second immune system. They promote health by secreting antibiotic-like substances, such as lactic acid, acetic acid, hydrogen peroxide, and others. Although these substances are produced in tiny amounts, they perform a wide range of activity against salmonella, pseudomonas, E. coli, and other harmful food-borne bacteria.

When the intestine is flourishing with friendly bacteria, there is no room for the harmful, disease-causing strains to implant and grow.

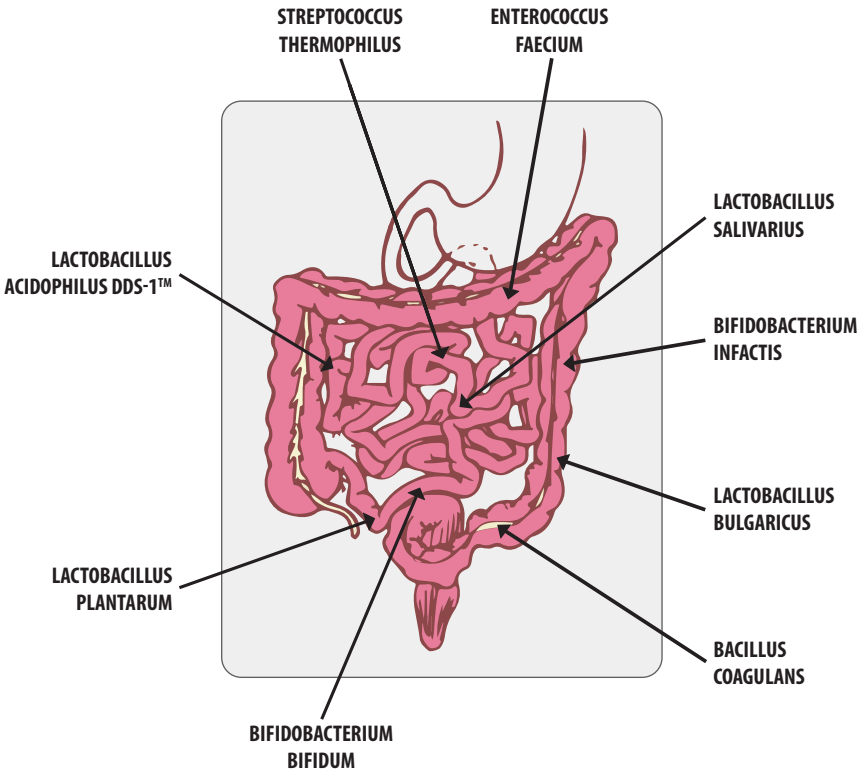
Not only do probiotics help to detoxify and suppress pathogens, they also promote proper digestion. What isn't widely known about probiotics is that there are many strains, each designated to different parts of the digestive tract. You need all of them to maintain optimal health. The Acidophilus family lives in one area and helps with immunity. The Bifidus family resides in another. When you're lacking in natural probiotics, you're more susceptible to disease and illness.

Gut bacteria have also been implicated in a range of conditions that affect mood, especially depression and anxiety. Yes, emotions are generated in your brain but the bacteria in your gut are able to influence you in ways your five senses don't. What research has discovered so far is that there are bacteria that can make you feel good and bacteria that make you feel bad. Gastrointestinal complaints have long been associated with

depression, anxiety, insomnia and many other diseases we previously thought of as solely "mental" illnesses.

We need to supplement with probiotics because of all the cooked and processed food we eat. We starve our good gut bacteria when we eat junk, which is a feast for bad bacteria. By adding back the good guys, you build up an army to beat back the bad guys and keep your immune system strong.

In fact, I have used probiotics for years as a secret weapon to help athletes and the public overcome cravings and stick with their healthy eating goals. Check out the 21 Day Blitz Challenge for detailed information on this precise, probiotic-heavy protocol that reprograms your cravings.



CHAPTER 8: Putting It All Together

While short, this book is packed with information. We've laid out some guidelines to keep things simple and give you a nutritious path to follow. We hope this information empowers you to start making small changes in your diet that will make phenomenal changes in your health and wellness.

Remember to always stick with the foods as close to their natural state as possible. A.J. Cronin, a noted novelist, said, "The virtue of all achievement is victory over oneself. Those who know this can never know defeat." Education is the key starting point from which to build upon.

We also invite you to utilize our 21-day jump-start. This 21-Day Jump-Start is an excellent tool created for Nutrient Rx users, as it optimizes results by making small and effective diet changes, encourages regular exercise and creates a habit to take daily essential nutrient supplements. If followed closely, this 21-Day Jump-Start will allow Nutrient Rx users to form these healthy habits effectively and quickly achieve their health goals. Research proves that if you change a habit for 21 days, it is much easier to keep that new habit for life.

Following the 21-Day Jump-Start chart is easy. All you need to do is be sure that each day you: do not consume carbonated beverages, white flour or fried foods, limit sugar intake to 50 mg per day, consume more raw vegetables, get regular exercise and take Nutrient Rx or other dietary supplements as directed. Take extra care to mark off each box when you have completed the tasks on each day to track your progress. Whether or not you are utilizing the Nutrients Rx custom pak or other supplements with the 21 day challenge, you will need to make sure you digest your food to eliminate gas, bloat, indigestion and to improve the metabolism of foods. That's why we recommend taking Optimal 1 Digestion while completing this chart.

As you do this, you will feel the true energy and vitality that comes from making these positive changes in your lifestyle. Optimal health is ready for you if you choose to make it happen.

Aristotle said that, "In the arena of human life, the honors and rewards fall to those who show their good qualities in action."

More information is provided on the next page if you are not familiar with Nutrient Rx or Optimal 1 Digestion.

NUTRIENTS RX

Although you may already be taking a vitamin and mineral supplement regimen of some kind, you may not know whether or not what you're taking is actually what your body needs. Even though every individual has the same nutritional needs (macro and micronutrients), we all have different diets, environmental stressors, genetics, and so on that affect our unique nutritional needs.

Nutrients Rx is a program in which you can test your body's unique needs through blood and lab work. By analyzing a blood and lab sample, the experts at Nutrients Rx will determine the nutrients you may be deficient in, issues with digestion, hormone imbalances, and so on that you may not even realize you are dealing with. Once your results have been received, Nutrients Rx provides a customized monthly shipment of whole food based nutrients that you need to move closer to optimal health. You will then have the ability to retest your blood and lab work periodically to make sure you're continually getting the nutrients you need.

OPTIMAL 1 DIGESTION

Digesting food isn't the same as it used to be. Modern day food growing and processing techniques are causing foods to change at a molecular level, rendering our body's natural digestive system useless in most cases. While our food might look and taste the same or even better than it did years before, it's not as good for our bodies as it used to be. This is because our bodies are no longer equipped to digest foods that have undergone such changes. In addition, undigested macro-nutrients roaming in our bloodstream are the main cause for most diseases we battle throughout the world.

For this reason, we created Optimal 1 Digestion. It contains all of the enzymes, minerals, and patented probiotics needs to fully digest the foods you eat, allowing your body to absorb and utilize the nutrients within those foods. Because you are able to digest the foods you're eating, Optimal 1 Digestion also helps rid the body of gas, bloat, acid reflect, heartburn, and other side effects of indigestion.

We recommend taking 1-2 capsules of Optimal 1 Digestion with each cooked or processed meal you eat to ensure complete digestion and absorption.

21- DAY JUMP START

HERE'S A CALENDAR TO HOLD YOU ACCOUNTABLE & MOTIVATED.

1. NO CARBONATED BEVERAGES
2. NO WHITE FLOUR
3. LIMIT PROCESSED SUGARS TO 50 GRAMS A DAY
4. NO FRIED FOODS
5. EAT MORE RAW FOODS
6. GET REGULAR EXERCISE
7. NUTRITIONAL SUPPLEMENTS
8. TAKE OPTIMAL 1 DIGESTION

	No Carbonated Beverages	No White Flour	Limit sugars to 50g	No fried foods	More raw foods	Exercise for at least 30 minutes	Take Nutritional Supplements	Take Optimal 1 Digestion	Other
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CONGRATULATIONS

ON FINISHING THE 21 DAY CHALLENGE AND MARKING OFF THE BOXES EACH AND EVERY DAY.

Now you have reset your body's chemistry and are ready to continue a healthy lifestyle that will create more energy, vitality and a stronger immune system. This Jump-Start program has allowed you to rapidly make improvements that otherwise would have taken months to achieve. We urge you to maintain the healthy lifestyle you have begun because as you continue, your overall health and wellbeing will continue to improve.

TO LEARN MORE ABOUT THE PROGRAMS CREATED BY DOUG AND HIS COMPANY OPTIMAL HEALTH SYSTEMS

CALL 1-800-890-4547

OR SEND AN EMAIL TO

INFO@OPTIMALHEALTHSYSTEMS.COM