READER NOTE: This is the second chapter from my new book, **Dr. Mercola's TOTAL HEALTH Cookbook & Program: 150 Delicious Grain-Free Recipes & The Proven Metabolic Type Plan to Prevent Disease, Optimize Weight and Live Longer.** This book presents my entire health and dietary program that took over two decades to develop and has literally helped tens of thousands of patients at my clinic, The Optimal Wellness Center, overcome chronic disease, optimize their weight, prevent premature aging and disease, and live longer. You'll find this book -- which is guaranteed to improve your health or your money back for life -- is compelling to read and easy to understand and implement into your life. Plus, you'll get over 150 brand-new low-carb grain-free recipes designed by a professional chef/nutrition expert to be delicious, highly nutritious and easy to prepare! Look for this book -- including the special offer -- on the homepage of Mercola.com today!

Chapter 2: The Dangers of Grains and Sugars

If you made no other adjustments to your diet but eliminating or vastly reducing grains and sugars it is likely your health would rapidly improve and within days you'd start losing weight. Within weeks you'd have a very noticeable improvement in both areas. Within months, in addition to the dramatic health and weight improvement, you'd also be experiencing a tremendous increase in your energy, mental acuity, and positive focus. Continue with the program beyond that and you will significantly extend the amount of time you spend on this planet.

No matter what your health condition or metabolic type, you are strongly advised to eliminate or restrict your grain and sugar intake, particularly processed grains and sugars. Eliminating grains is especially necessary for those who are Protein Metabolic Types. Carbohydrate and Mixed Types can get by with consuming a limited amount of grains. In all cases, any grains you do consume should be whole grains (95% of the grains consumed in the U.S. are processed, which strips them of what limited nutritional value they do have). Those with celiac disease and gluten-sensitivities have an obvious additional need to avoid grains, particularly gluten which is found in wheat, spelt, rye, barley, and oats. For those with diabetes and other signs of elevated insulin such as obesity, high blood pressure or high cholesterol, it is crucial to eliminate grains and sugars.

Avoiding grains and sugars has been popularized by the recent low-carbohydrate dieting rage. Although low-carb dieting is effective for weight loss, the low-carb approach misses the fact that you need carbohydrates in your diet, to varying levels depending on your metabolic type. Every recipe in this book has been created around the principle that grains and sugars should be eliminated or severely restricted, and the processed forms of both in particular. There are good carbohydrates that should compose most of your carbohydrate intake, and they are found mostly in high fiber vegetables that grow above the ground. Your body prefers these complex carbohydrates because they slow the release of simple carbohydrates like glucose and decrease your insulin levels. Insulin is the fat-building hormone in the body; therefore, increases in insulin cause weight gain. On

the other hand, there are " troublesome" carbohydrates that you need to reduce or eliminate from your diet, and they are found in grains, sugars and sugary foods, as well as starchy vegetables like potatoes. These carbohydrates will increase your insulin levels and tend to promote weight gain and illness.

With that important point in mind, let's take a look at some basic human physiology so you can begin to understand why grains and sugars should be avoided.

You are What They Ate

For over five hundred generations, humans have existed primarily on a diet of wild animals and vegetation. It was only with the advent of agriculture a mere 6,000 years ago – an extraordinarily small period in evolutionary time -- that humans began ingesting large amounts of sugar and starch in the form of grains and potatoes in their diets. Indeed, nearly all of our genes were set before the advent of agriculture; so, in biological terms, our bodies are still those of hunter-gatherers.

While the shift to agriculture produced other indisputable gains for man, societies where the transition from a primarily meat/vegetation diet to one high in grains show a reduced lifespan and stature, increases in infant mortality and infectious disease, and higher nutritional deficiencies. Keep in mind that these ancient societies used entirely unrefined and organic grains. Today over 90% of grains are highly processed, making the negative consequences of grains far worse.

The physiology of contemporary humans has not changed much from our distant ancestors, and our bodies have never adapted to the excessive amount of carbohydrates from grains and sweets in our present-day diet. In fact, in a nation whose diet is still largely based on the severely misguided USDA Food Pyramid, which recommends an atrocious 6-11 servings of breads, cereals, rice and pasta per day, this surplus of insulin-spiking carbohydrates is the main reason for the overweight epidemic and the scourge of related chronic diseases like diabetes.

It is primarily your body's response to the overindulgence of grain and sugars, not your intake of fat, which makes you fat. Consuming sugar also impairs your white blood cell function and thereby decreases your body's immune system, making you more vulnerable to disease. Your body has a limited capacity to *store* carbohydrates, but it can easily *convert* those excess carbohydrates, via insulin, into body fat, which means the more excess carbohydrates, the more body fat. When a government recommends that its population consume 6-11 servings of grains per day, plus four servings of fruit (which is high in simple sugars), an overweight epidemic is the logical and inevitable result.

The fact is that any meal or snack high in carbohydrates from grains or sweets generates a rapid rise in blood glucose. To adjust for this rise, your pancreas secretes the hormone insulin into the bloodstream, which lowers your blood sugar. Insulin is essentially a storage hormone, developed over millions of years to help you store the excess calories from carbohydrates in the form of fat in the case of famine. Throughout most of our biological history, and certainly in many areas of the world today, there were frequent periods of mass starvation caused by droughts and other natural occurrences that depleted the availability of vegetation (containing the complex carbohydrates that are the carbs you should eat) and therefore the game animals that relied on this vegetation. The

body gradually developed defenses against this starvation so it could convert any excess carbohydrates to fat so it could use its fat stores for energy over time. You are, in other words, walking around in a body well designed to pull you through potential starvation. The problem is, we live in a time and a place with the extreme opposite situation – we don't experience times of famine and instead we have an overabundance of grains, starches and sweets, and food companies are marketing them endlessly to us.

To make matters even worse, high insulin levels also lower two other important hormones - glucagon and growth hormone - that are responsible for *burning* fat and sugar and promoting muscle development. In other words, insulin produced from consuming excess carbohydrates found in grains and sugars promotes fat, and then wards off your body's ability to lose that fat and build muscle!

Additionally, insulin also *causes* hunger, and it's usually a hunger for sweets. As blood sugar increases following a carbohydrate meal, insulin is secreted to lower the blood sugar. The lowered blood sugar results in hunger, often only a couple of hours or less after the meal. If ignored long enough, the hunger turns into feeling ravenous, shaky, moody and ready to "crash" as a result of hypoglycemia or low blood sugars. In order to raise your blood sugars, your body will naturally crave high sugar foods like sweets or grains, which leads to a vicious roller coaster ride of high and low blood sugars. You progressively convert to a sugar and grain addict and this causes you to become increasingly fatter, fatigued, depressed and sick.

But now back to the good news. You have this book, and it provides you with a practical solution. By eating according to your unique and specific biochemistry, you'll find the craving for these unhealthy but tempting foods disappears. If there are any emotional barriers you encounter when making the transition, you'll learn in Chapter 6 about a powerful psychological technique that is profoundly impressive in overcoming psychological resistance. Furthermore, you will have all the healthy recipes to put your insight into action for every day of the year.

Beware the Unfamiliar Grain, Corn

Most people can easily name the common grains such as rice, wheat, oats, barley, and rye, but forget that corn also belongs in that category, as they perceive corn to be a vegetable.

Corn is a grain, and it has all the negative health impacts of a grain. According to recent research, the demise of certain Native American Tribes in earlier centuries can be mainly attributed to corn. Their eating patterns shifted away from the primarily meat and vegetation diet of a hunter-gatherer society to a homogenous diet based almost entirely on corn with the arrival of the Spanish. The research shows that the bones of the Native Americans during and after this transition show much higher evidence of anemia, dental cavities, osteoarthritis, infections and other health issues than those who lived prior to this transition.

Corn is relatively high in sugar, which is one of the main reasons it's America's number one crop, consuming over 80 million acres of U.S. land and sneaking its way into an endless array of food (and other) products. In its unprocessed or "whole" state, corn offers negligible health benefits at best; sweet corn, for instance, contains vitamin C.

However, you are far better off avoiding the corn's negative health impacts on your health and obtaining higher quantities of vitamin C and many other antioxidants from real vegetables such as broccoli and asparagus.

You are best served by avoiding corn in its processed state. Food with labels containing corn derivatives such as corn syrup, fructose, high fructose corn syrup, corn oil, cornmeal, cornstarch, dextrose, monosodium glutamate, xanthan gum, and maltodextrin, have no place in your grocery cart. Corn sweeteners are actually now the most widely produced of all sweeteners, accounting for 55% of sweeteners on the market. This is primarily high fructose corn syrup, which is the dominant ingredient in soft drinks, fruit drinks, cookies, candies and other popular grocery store items. Consumption of high-fructose corn syrup increased from zero in 1966 to a whopping 62.6 pounds per person in 2001, and is a key culprit in the diabetes and overweight epidemic.

There is one more "hiding place" for corn that you must be aware of: in your beef. Most of the beef you'll find in grocery stores, and virtually all the beef used in fast food and other restaurants, is from cattle that were force-fed diets high in corn.

There are two more factors you should know about corn. First, corn is only second to soybeans as the most genetically modified (GMO) crop in the U.S. GMOs, which were first introduced in 1995, are a potential disaster waiting to happen, as no studies have been done with humans to show what happens when genetically modified foods are consumed. The Food and Drug Administration (FDA) has assumed that these modified foods are equivalent to the original foods, and therefore, does not require any studies to have them approved. This is despite the fact that: 1) this technology has never before existed in the history of the world, and 2) the United State's track record on genetically engineered safety is terrible.

Second, as you can read in detail in Doug Kaufmann and Dr. David Holland's excellent book, *Infectious Diabetes,* corn is one of the foods highest in mycotoxins (wheat and several other grains are high as well), which are toxins from fungus that can lead to cancer, heart disease, diabetes and a wide host of other serious diseases.

Nevertheless, there is hope! One of the most profoundly important changes you can make immediately in your diet is to switch to consuming healthy meat. Atop this list is choosing nutritious and safe alternatives to corn-fed beef, such as grass-fed beef or grass-fed bison, which are discussed in detail in Chapter 4 and used in some of the recipes in this book.

Sugar, The Nemesis To Optimal Health

Most people are addicted to sugar, and along with grain addiction, the over-consumption of added sugars -- whether they are high-fructose corn syrup, fructose, glucose, dextrose, or the sucrose from sugarcane and sugar beets -- is one of the major health problems facing our nation today.

For just a *partial* idea of the ill health effects of excess sugar consumption, consider that sugar has been cited as a contributing factor to:

- Overweight and obesity
- Immune system suppression, inviting infection and disease
- Premature aging
- Cancer of the breast, ovaries, prostate, and rectum
- Decreased absorption of calcium and magnesium
- Diabetes
- Fatigue
- Decreased energy and reduced ability to build muscle
- Heart disease
- Crohn's disease and ulcerative colitis
- Osteoporosis
- Yeast infections
- Depression
- Dental decay and gum disease

Sugars are simple carbohydrates processed by the body in the same manner as grains. That is, any excess sugars in the body are converted by insulin into fat – and just like grains, we're consuming an enormous surfeit of sugar. In the past two decades in the U.S., sugar consumption has increased by over 30%. In fact, the average per-person sugar intake is now 175 pounds per year! That's 300,000 calories per year, or 800 calories per day, from sugar! This is asking for serious health trouble even by the ill-advised USDA standards, which states that the average American, who should be consuming about 2,000 calories per day, can eat up to 10 teaspoons of added sugars per day. The average American is consuming well over 3000 calories per day, including over 20 teaspoons of added sugars.

The majority of these added sugars are coming from soft drinks, which the average American drinks an estimated 56 gallons of each year. That's an average of 600 cans of soda pop per year *each!* Just one can of this soda has about 10 teaspoons of sugar and 150 calories, along with 30 to 55 mg of caffeine. Soda also contains harmful additives including phosphoric acid, which can interfere with the body's ability to use calcium, leading to osteoporosis or softening of the teeth and bones. Phosphoric acid also neutralizes the hydrochloric acid in your stomach, which can interfere with digestion, making it difficult to absorb nutrients. Eliminating soft drinks from the American diet – a distant but noble dream – would alone vastly reduce the rate of obesity and add years to our average lifespan.

Moreover, there are high-sugar culprits disguised as "healthy" by food marketers such as: "fruit drinks," "fruit beverages" and "fruit punch," such as Snapple, which contain anywhere from 1% to 40% of fruit juice but which all contain loads of sugar, usually high-fructose corn syrup.

But even the sugars in 100% real fruit juice can quickly add up: real fruit juice, whether store-bought or freshly squeezed, has about eight full teaspoons of sugar per eight-ounce glass. This sugar is typically a fruit sugar called fructose, which is every bit as dangerous as the regular table sugar sucrose since it will also cause a major increase in insulin levels.

This doesn't mean that you should avoid fruit, just fruit juice. When the fruit is intact and whole, its fiber will moderate the release of fructose and secondarily insulin into your bloodstream. However, if you are overweight, have high blood pressure or high blood sugar levels, you would be wise to avoid most fruits and just stick with vegetable carbohydrates until you have these problems under control. This is especially true if you are a Protein Metabolic Type. Carbohydrate types are generally better designed to handle the carbohydrates in fruits, especially citrus fruits.

On a different note, sugar substitutes such as saccharin (Sweet-N-Low), sucralose (Splenda) and aspartame (Equal and Nutrasweet) should be avoided. Their negative health effects can easily exceed the sugars they are replacing. Some scientists, for instance, believe aspartame might cause altered brain function and behavior changes. The FDA has also been inundated with consumer complaints about aspartame, including fibromyalgia symptoms, multiple sclerosis symptoms, dizziness, headaches, and menstrual problems. You can use the search engine on my site for further details on aspartame and its brand names like Nutrasweet.

You should also avoid the latest sugar substitute rage, sucralose. First of all, few human studies have been published on the safety of sucralose. Second, in animal research studies, sucralose was shown to cause a decrease in the size of thymus glands, to cause liver and kidney enlargement, reduce growth rate, decrease red blood cell count, and decrease placenta and fetal body weights – and this is only a partial list. Sucralose also has the potential to contaminate your body with pesticides, heavy metals such as lead, arsenic, and more, as it has been found to contain small amounts of these dangerous substances. Finally, if you are trying to lower your weight, there is no clear evidence that sucralose – or any artificial sweetener – is even useful in weight reduction. In fact, there is evidence that these substances may actually *stimulate* your appetite.

For many people, sugar is an authentic addiction, akin to cigarette dependency. And it is affecting their health as severely as cigarettes would, if not more so. The solution is not to keep hunting for ways to "safely" maintain the addiction, such as artificial sweeteners, which are kind of like the equivalent of "Light" and "Ultra Light" cigarettes -- that is, equally as devastating to your body. The solution is to overcome the addiction. Fortunately, you'll find that by adopting this dietary plan, including eating the foods meant for your metabolic type and utilizing the tools to overcome emotional barriers described later in this book, you won't have to "fight" the craving, because it will naturally disappear. This has been the case for thousands before you, and if you stick to the principles in this book, it will be the case with you.

Read more about my new book, "Dr. Mercola's TOTAL HEALTH Cookbook & Program," including a sampling of all the recipes you'll get and more with this book that is guaranteed to improve your

health and weight or your money back – for life! Go to the Mercola.com homepage now.