

[CHAPTER 1]  
Conquer Your Carbs



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## Conquer Your Carbs



**O**f all the nutritional strategies that protect your health and improve your vitality, conquering your carbs reigns supreme. There are a host of compelling reasons learning to do your carbs right is particularly crucial on the healthy eating front, but two are especially important to grasp. First, we now know that the carbs you eat are the primary dietary determinant of your metabolic health. This is notable because your metabolic state transcends all aspects of your health and has a profound influence, for better or for worse, on your risk of many chronic diseases including cardiovascular disease, obesity, and type 2 diabetes. Second, most of the population is wildly off track with this all-important nutritional strategy. Indeed, we are currently consuming record amounts of the wrong carbs and not even remotely close to consuming optimal amounts of the right carbs. Based on my hands-on experience with vast numbers of people over the years, what seems to lie at the core of this dietary debacle is lack of knowledge and downright carb confusion. Is bread bad or good for me? Can I eat sweet potatoes if I want to lose weight? Beans are starchy and fattening, right? With all of the carb-focused diet plans made famous over the past decade and the seemingly endless media coverage about this famous food group—how could you not be confused?

Thankfully, when it comes to carbs and your health and carbs and your weight, the facts are very straightforward. We are going to cover these facts in their entirety so by the end of this section you will know exactly how to conquer your carbs—no more carb confusion!

First and foremost—forget low carb! Your simple task is to strive for the right carb diet. Have your carbs and eat them too, just be sure you choose the good ones. It makes absolutely no sense to eliminate foods that have been scientifically validated to help you manage your weight and stay healthy. Trust me, learning to do your carbs right is easy and delicious. It is also liberating and incredibly rewarding. In fact, if you succeed with this *Eat Right for Life*® command you can look forward to all of the following benefits: better weight control, less hunger, a lower risk of heart disease, type 2 diabetes, metabolic syndrome and dementia, cancer protection, more energy, and even less pain.

That is one dazzling destination that I want you to experience in all of its glory so let's go conquer our carbs.

Clearing Up Some Carb  
Confusion

For many decades, scientists have known that all carbs ultimately end up in your bloodstream as the same thing—namely glucose or blood sugar. In other words, the final common breakdown or digestive product of all carb foods is glucose. Whether you eat an apple, an orange, white bread, wheat bread, broccoli, carrots, French fries or sugar straight out of the bowl—it will all eventually end up in your bloodstream as the simple sugar glucose.

## The Bad Carbs

It's very simple to identify the bad carbs because they are all white. This notorious group of carbs includes white flour products, white rice, white potatoes and sugar. Scientifically, they are known as the refined, high glycemic carbs, but I refer to them as what they really are—the "Great White Hazards."

This particular group of carbs has been repeatedly linked to a long list of adverse outcomes, including weight gain, cardiovascular disease, type 2 diabetes and even some cancers. I am sure you are wondering, "Dr. Ann, how can it be that the great staple of the American diet is so bad for me?" Don't worry, I am going to tell you the story in its entirety and in a way I know you will really "get."

Having practiced family medicine for 15 years, perhaps the single greatest piece of wisdom I garnered in working with my wonderful patients was that the "why" behind my directives and recommendations was what ultimately motivated them to follow through. I learned that it is not enough to tell people what to do and what not to do. Indeed, a clear, thorough and understandable explanation of the "why" is absolutely required. I want you to understand exactly how the Great White Hazards can lead to weight gain and just how they promote certain chronic diseases.

## A Discovery That Changed How We Look At Carbs

In the early 1980s, a group of scientists made a truly revolutionary observation—one that sent a scientific shock wave through the nutrition science community, and one we are still reeling from. Specifically, scientists learned that, depending upon the chemical and physical structure of a given carb, there can be a vast difference in how long it takes to digest it. Some carbs because of their makeup are more slowly digested giving rise to a more gradual and lower blood glucose response, while others are more quickly digested giving rise to a more rapid and higher blood glucose response. The real shocker was learning that many "complex" carbs like white bread, white rice and white potatoes were the very carbs that were so easily digested thus sending blood glucose levels soaring. For years, we considered these white, complex carbs as benign, healthy and wholesome, but in reality they are quite the opposite because of their precipitous digestibility.

Because of their unique propensity to send blood glucose levels up high and fast, the Great White Hazards can predispose to several problems including weight gain, cardiovascular disease, type 2 diabetes, fatigue, and even some cancers.

As nutrition experts, we're not just randomly picking on this group of foods. Indeed, we discriminate against this group strictly due to its glycemic response, which has been proven to cause metabolic stress. Some of the Great White Hazards (like baked russet potatoes) have such a high glycemic response that they can enter your bloodstream as a pure cocktail of glucose faster than if you ate sugar straight from the bowl!

## See White: Think Fat

Now that you have scientific background on the glycemic response of the Great White Hazards, I can explain how they can make you fat. I'll use the popular fat-free white bagel (basically 100 percent white flour) to illustrate:

- You eat the white bagel and your digestive system quickly breaks it down.
- Glucose rapidly enters your bloodstream, sending your blood glucose level soaring.
- Your pancreas releases a corresponding surge of insulin—this is the point at which weight problems arise.

No matter what level of glucose enters your bloodstream, shortly thereafter a matching amount of insulin is released. Insulin is a fat-loving, fat-storing anabolic hormone. When insulin is released into your bloodstream, especially at high levels, it directs your body to store energy and deposit fat. To make matters even worse, high levels of insulin also block the hormone glucagon, which is a fat-burning and fuel-burning hormone. So, high blood insulin levels actually throw the body into obligatory fat-storage mode. Meaning, you cannot oxidize (burn) body fat when excessive insulin is in your system. When you eat the Great White Hazards, your body is primed to store fat and discouraged from burning it.

There is a second way the Great White Hazards lead to weight gain and it's even more powerful than the first. Let's go back to where we left off with the fat-free white bagel:

Eat white bagel ➔ blood glucose spikes ➔ blood insulin spikes

## Studies Show The Great White Hazards Lead To Gain

The Great White Hazards' propensity to boost appetite has been elegantly demonstrated in numerous controlled studies. Perhaps the most compelling was a study by Harvard's preeminent childhood obesity expert, Dr. David Ludwig. For this particular study, Dr. Ludwig and his team fed a group of obese 12-year-old boys identical breakfast and lunch meals on three separate occasions. The two identical test meals had a high, medium or low glycemic index. The high glycemic index test meals consisted of sweetened instant oatmeal, the medium index meals were steel-cut oats and the low index meals were veggie omelets with fruit. Although all of the different test meals had an identical number of calories, the study subjects ate 51 percent more food after the medium index meals and a whopping 81 percent more after the high index meals. The investigators clearly documented that the rapid rise in blood glucose levels after the high-glycemic meals induced a cascade of hormonal and metabolic changes that promoted appetite and subsequent food intake in this group of overweight study subjects.

A second study conducted to investigate the role carbohydrates play in obesity found that among 572 healthy study subjects, those who were heaviest reported eating the most refined carbohydrates. It's more than just coincidence that as waist lines have rapidly expanded, so too has the intake of refined carbs and sugars. In fact, we are consuming about 22 percent more calories than we did just 30 years ago and most of them—85 percent—are from the Great White Hazards, especially sugary foods and beverages. I have no doubt that America's refined carb overload is indeed a prominent driver of our explosive obesity epidemic.



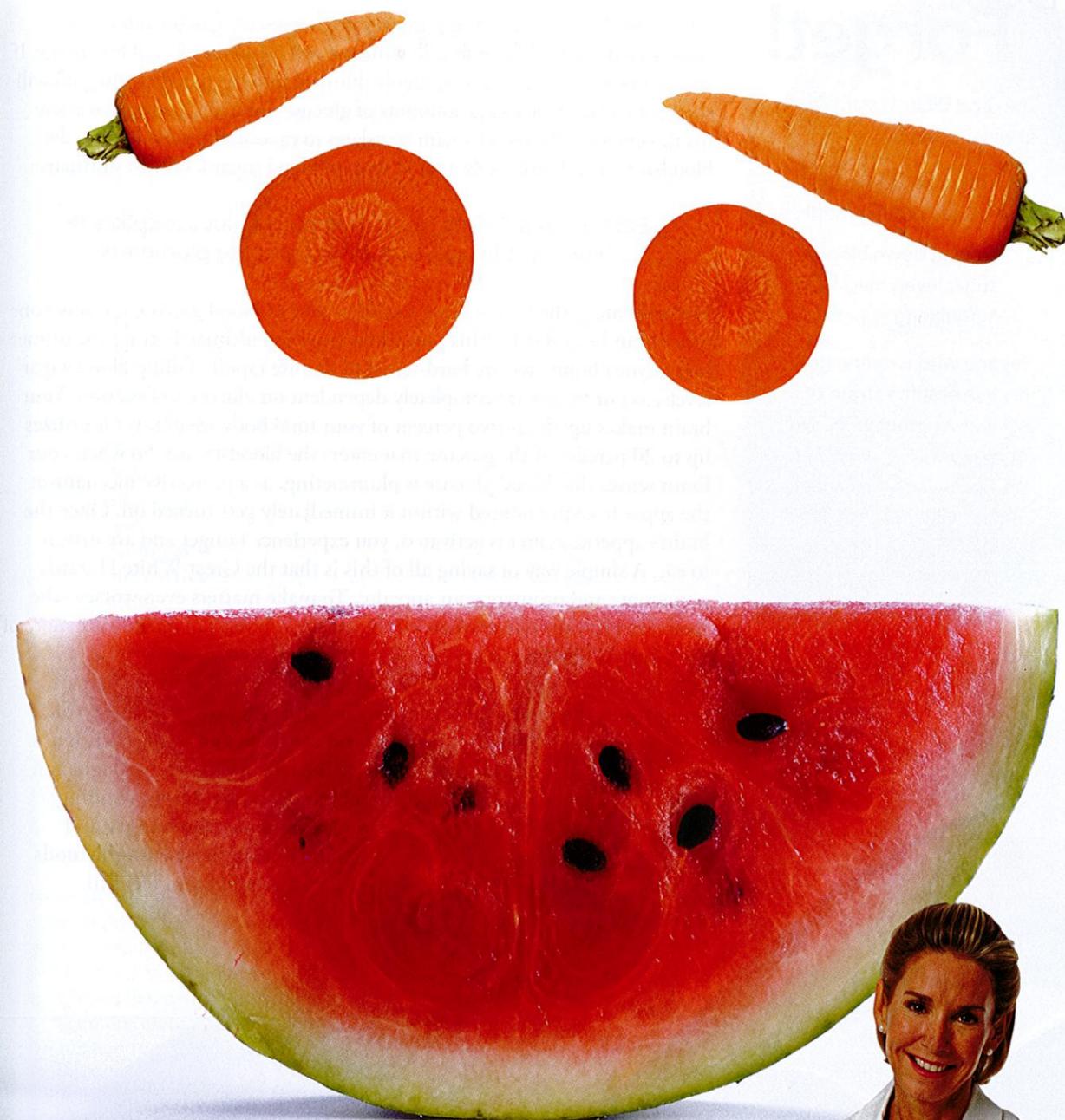
## The Acquittal Of Carrots And Watermelon

If you have been following the recent diet wars, you may have noticed that carrots and watermelon have gotten a bad rap. However, the verdict is in and these foods have been exonerated of all their “glycemic crimes.”

When researchers initially calculated the glycemic index ranking, it was based on how fast 50 carbohydrate grams of each food raised blood sugar levels. More recently, another factor called the glycemic load (GL) was added to the mix. The GL takes both the glycemic index and the average number of carbohydrate grams per serving into account. When it comes to certain foods, the glycemic load is a far more accurate measure of how the food will ultimately affect blood glucose levels.

Here’s how it works. Carrots have a relatively high glycemic index for a vegetable, based on how fast it takes for the 50 carbohydrate grams of carrots to raise blood sugar levels. One carrot, however, has only four grams of carbohydrates; you would have to eat a pound and a half of carrots to get 50 carb grams worth! Needless to say, few people are going to eat that many carrots. To counter these contradictions, researchers now multiply the number of carbohydrate grams in a serving times the glycemic index; the resulting number is the glycemic load. Clearly, the GL of carrots puts them into an acceptable range. I eat carrots daily!

What about watermelon? Although it ranks 72 on the glycemic index, there’s very little non-water substance in watermelon. If you eat a 120-gram serving (about 4.2 ounces) of watermelon, you’re getting about six grams of carbs, giving it a very low glycemic load of about four. And watermelon is a great source of the powerful antioxidant lycopene—so enjoy.



“An apple a day...and don’t forget to eat your carrots and watermelon, too.”

## Don't Forget!

The Great White Hazards lead to weight gain by:

1. Throwing the body into fat-storage mode.
2. Driving down blood sugar levels quickly and stimulating appetite.

Anyone who is overweight, inactive or suffers from type 2 diabetes or metabolic syndrome is most susceptible to this vicious cycle and should be especially vigilant in limiting the Great White Hazards.

Now, one of insulin's most important roles is to escort glucose out of the bloodstream and deliver it to cells, where it can be used or stored for energy. If large amounts of insulin are suddenly dumped into the bloodstream, you will shortly thereafter have large amounts of glucose suddenly leaving. Excessive insulin entering the bloodstream translates to excessive glucose leaving the bloodstream and ultimately a rapid drop in blood sugar levels. In summary:

**Eat the Great White Hazards → blood glucose spikes → blood insulin spikes → blood glucose plummets**

Unfortunately, the fallout from a sudden dive in blood glucose levels is none other than HUNGER. This precarious situation ultimately rings the dinner bell in your brain! We are hard-wired to despise rapidly falling blood sugar levels, as our brains are completely dependent on glucose to function. Your brain makes up about two percent of your total body weight, yet it utilizes up to 20 percent of the glucose that enters the bloodstream. So when your brain senses that blood glucose is plummeting, as a protective mechanism the appetite center housed within it immediately gets turned on. Once the brain's appetite center is activated, you experience hunger and are driven to eat. A simple way of saying all of this is that the Great White Hazards perpetuate and promote your appetite. To make matters even worse—the foods we typically desire when our blood sugar levels fall quickly are more of the Great White Hazards.

Simply put, the more you eat the Great White Hazards, the more you crave them and the more you eat them and so on. This is a critical point because the battle with body weight can often be fought and won by simply avoiding the foods that make you hungry and substituting them with the foods that make you feel full.



## Understanding The Glycemic Index

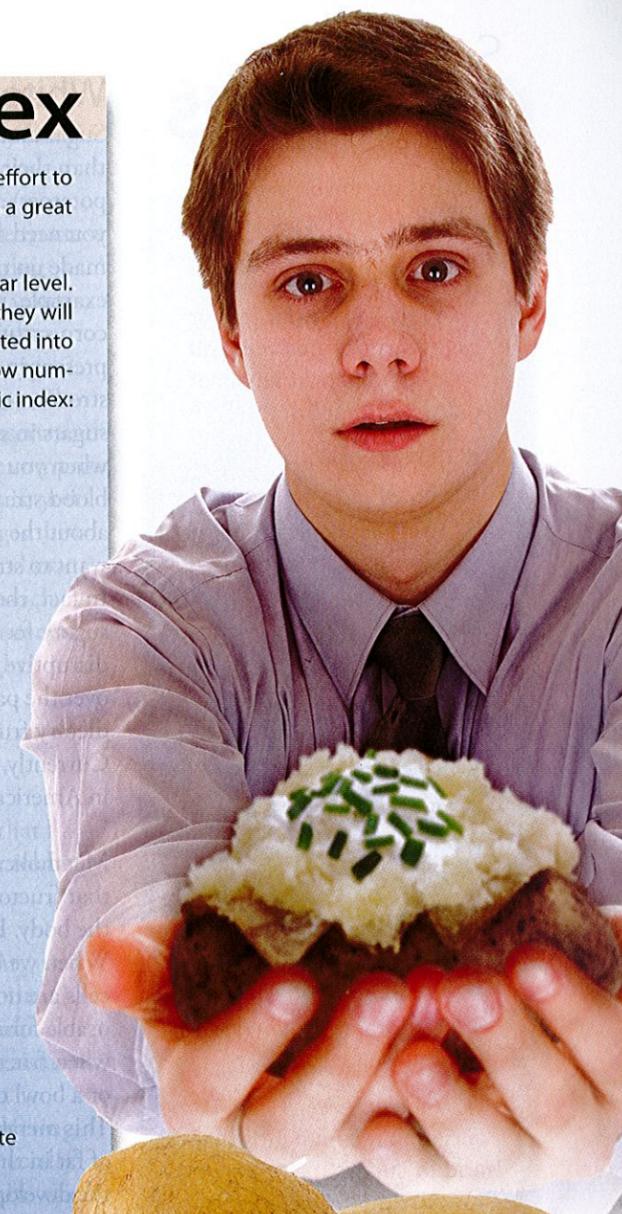
If you want to lose weight or maintain your weight, you must make an effort to eliminate or at least limit the bad carbohydrates. The glycemic index is a great tool that can help you do just this.

The glycemic index measures how various foods affect your blood sugar level. Foods are ranked on a scale from 0 to 100, according to the extent that they will raise blood sugar levels. Foods that are quickly digested or rapidly converted into sugar have a high number, while foods that are slowly digested have a low number. Here are some popular foods along with their ranking on the glycemic index:

Baked potato	95
White bread	95
Honey	90
Bagel	72
Milk Chocolate bar	70
Corn	70
White rice	70
Bananas	60
Jam	55
Oatmeal	55
Brown rice	50
Peas	50
Carrots	49
Whole grain pasta	40
Strawberries	40
Apples	38
Lentils/dried beans	30
Cherries	22
Soybeans	18
Broccoli	15
Tomatoes	15
Mushrooms	15

It's pretty clear that the white carbs and sweetest foods are at the top. To Eat Right For Life®, you must eat carbohydrates with a low to moderate glycemic index ranking—the right carbs. Your system will digest these carbs more slowly, thereby ensuring that your energy and blood sugar levels remain steady. Furthermore, foods with a lower ranking will not flood your system with insulin, so the cycle of blood sugar peaks and valleys will not occur.

It's impractical and unnecessary to memorize the glycemic index number of each and every food you eat. Just know that the Great White Hazards all have a high glycemic index ranking, and that the right carbs—beans, whole grains, non-starchy vegetables and fruits—largely have a low to moderate glycemic index number.

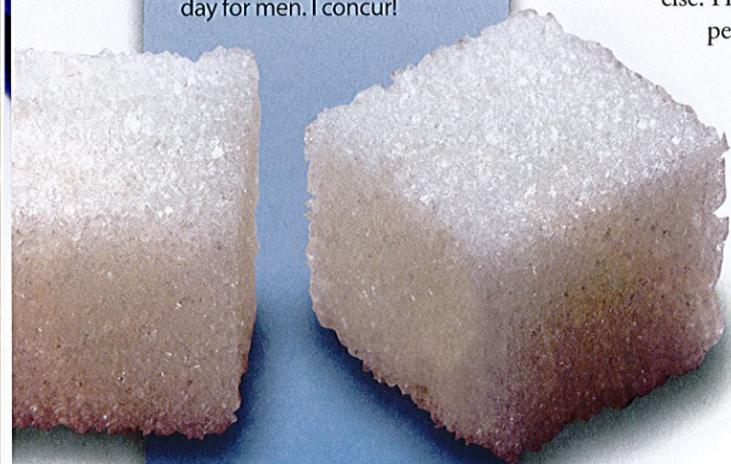


## Sugar's Aliases

Here is the lowdown on the names you will see on ingredient lists that indicate sugar is added. All of these sweeteners are sugar as far as your body is concerned and will spike your blood levels of glucose and/or fructose.

- Table sugar
- Honey
- Fruit juice concentrate, ex: apple juice or grape juice concentrate
- Maple syrup
- Molasses
- Raw sugar
- Crystalline fructose
- Agave syrup or nectar
- Brown sugar
- High-fructose corn syrup (HFCS)
- Dextrose
- Corn syrup
- Evaporated cane juice
- Evaporated brown rice syrup

Now, the American Heart Association recommends that added sugars make up no more than 100 calories a day for women and 150 calories a day for men. I concur!



## White Sugars: Not A Sweet Deal For The Body

Sugar and sugary foods and beverages are even more fattening and unhealthy than their Great White Hazard relatives (white flour, white rice, white potatoes) and it is very important for you to understand why. The first thing you need to know is that all sweeteners, despite their various names, are all made up of the same two simple molecules, namely, glucose and fructose. For example, table sugar is equal parts glucose and fructose while high-fructose corn syrup is 55% fructose and 45% glucose. Because these simple sugars are present in a form that can bypass digestion and zip directly into your blood stream, we refer to them as “rapidly absorbable sugars.” Virtually all of the sugars in sweet foods and beverages are present in this form which means that when you consume them you will get both a flash flood of glucose in your blood stream and a flash flood of fructose. You learned earlier in this chapter about the adverse consequences of sudden blood glucose spikes, and what I want to stress now is that rapidly absorbable fructose is far more ominous. In fact, the rapid increase in blood fructose that ensues after consuming sugary foods and beverages has emerged as one of the most metabolically disruptive and uniquely fattening effects of any type of food. Unfortunately, over the past 20 years there has been a dramatic up tick in the consumption of dietary fructose (mainly from high-fructose corn syrup and other sweeteners). Currently, fructose accounts for about 12 percent of all the calories consumed in America while experts consider a safe level around 3 percent.

Metabolically, fructose is a highly unique molecule. For starters, we know that fructose blocks the oxidation (burning) of fat in the peripheral areas of the body. But the really scary thing about fructose is what it does in the liver. When we consume fructose, it's immediately delivered to the liver because our cells are not capable of using it. However, the liver can convert fructose into a usable form of metabolic currency—either glucose or fat. The problem is that when fructose hits the liver, especially in large amounts (think a can of soda or a bowl of fruit loops) it becomes a potent stimulator of liver fat production. This metabolic property of fructose is highly significant because the buildup of fat in the liver (even very small amounts) appears to be a potent driver for the development of insulin resistance. This is highly significant because insulin resistance is arguably killing more people in this country than anything else. Having insulin resistance (which currently affects 40 to 50 percent of the adult population and a growing number of kids) increases the risk of heart attacks, high blood pressure, type 2 diabetes and cancer death. It also makes it very easy to gain weight and accelerates the aging process.

New research has also recently documented that this stealth, yet tenacious fat builder prompts our desire for food. Unlike glucose, the metabolism of fructose in the brain produces by-products that directly arouse and stimulate appetite. To make matters even worse, high intakes of fructose can impair the hormone

leptin. Leptin is produced by the body's fat cells and is one of the body's most powerful appetite suppressive hormones. To maintain a healthy body weight, leptin must work properly.

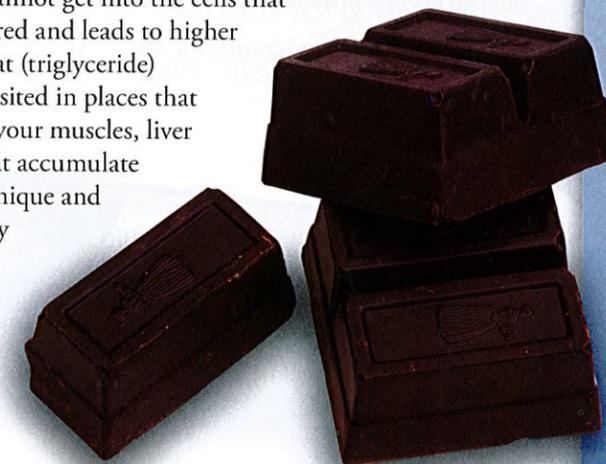
As you can see, there are many powerful ways that rapidly absorbable fructose in sugary foods and beverages can readily cause weight gain. Restricting your intake of fructose-rich foods and beverages is paramount if you want to avoid weight gain and stay healthy. In addition to obesity and weight gain, dietary fructose has been associated with metabolic syndrome, type 2 diabetes, kidney disease, gout, high triglycerides and fatty liver disease. The greatest dietary sources of fructose are sodas, fruit drinks, sweets/desserts and sugary cereals. For optimal health, experts recommend that fructose comprise no more than three percent of your total daily calories. To achieve this, you really need to avoid or restrict the aforementioned foods and beverages. Just as with the other Great White Hazards, those who are overweight and/or inactive need to be especially attentive in staying away from fructose-rich foods and beverages. Studies show that the adverse metabolic consequences from consuming fructose are exacerbated in those who are overweight.

## Insulin Resistance: What It Is And Why You Don't Want It

I have referenced insulin resistance many times and I think it's time that I fully educate you about this growing health issue that is so needlessly robbing people of their energy and good health.

In your body, insulin functions as the “CEO” of fuel management. At the cellular level, it is insulin that's responsible for the storage of fuel, the partitioning of fuel, and the use of fuel to produce energy. When insulin becomes impaired, we define the condition that develops as insulin resistance.

Insulin resistance turns the body into a metabolic train wreck, interfering with all aspects of fuel storage and energy production. Fat cells, especially belly fat cells, turn into fat magnets, which makes it very easy to gain weight and difficult to lose it. Excess fuel (glucose and fat) builds up in the blood stream and cannot get into the cells that need it. This makes you tired and leads to higher blood glucose and blood fat (triglyceride) levels. Lastly, fat gets deposited in places that it normally shouldn't like your muscles, liver and heart. The fat cells that accumulate in these areas are highly unique and dangerous. They essentially spew out nasty chemicals called adipokines. Adipokines are potent, pro-inflammatory



## Sweet News About Dark Chocolate

This delectable, truly healthy treat has been shown to boost brain power, elevate mood and improve cardiovascular health. Intriguing research shows that dark chocolate may provide a greater feeling of satisfaction and satiety than other sweets. Researchers speculate that dark chocolate's potent “bittersweet” taste conveys stronger and more robust signals from the taste buds in the mouth to the satiety center of the brain. For many, this same intense flavor also means that less chocolate can do the trick. Additionally, the bit of fat in dark chocolate provides quick appetite suppression and can also hinder the absorption of its sugar, blunting those hunger-promoting spikes of blood glucose sweets typically generate.

For the healthy icing on the cake, dark chocolate may even trick your body into burning more fat. The active ingredients in dark chocolate are a class of super-potent antioxidants called flavanols. Flavanols have been shown to enhance the action of insulin and boost metabolism. They also have heart-protective benefits when eaten in moderation.

So make dark chocolate your sweet of choice! Here's my advice for doing so in a healthy and responsible way:

- Limit your indulgence to a prudent portion; no more than one ounce daily.
- Aim for high cacao content—60% or higher is optimal. The higher its percentage of cacao, the more beneficial flavanols it contains and the less sugar it provides.

## Do I Have Insulin Resistance?

Only your doctor can confirm whether or not you have insulin resistance, but here are several reliable markers that signify its presence:

- High blood pressure
- High triglycerides
- Low HDL (good) cholesterol
- A waist size greater than 35 inches in females and 40 inches in males
- Tendency to gain weight in the mid-section
- Elevated blood glucose
- Difficulty losing weight
- Lack of energy/fatigue

Remember that the Great White Hazards, especially beverages and sweets that are fructose-rich and sugary, are particularly damaging foods for those who have insulin resistance.

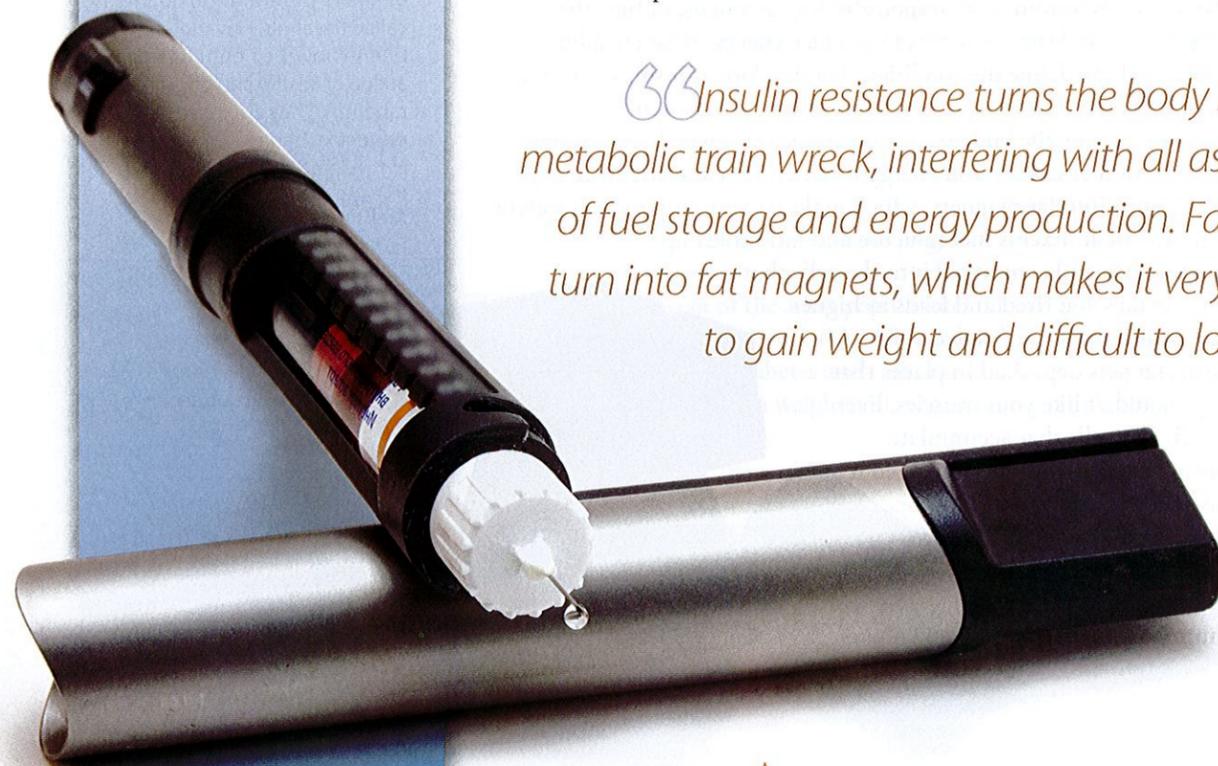
substances that ignite a fire of dangerous inflammation throughout the body. Scientists now believe that adipokines released from the unnatural fat that builds up in the liver, muscles and around the heart explain the direct relationship between overweight/obesity and disease. Adipokines essentially drive the development of our biggest killers: high blood pressure, abnormal blood lipid levels, type 2 diabetes and heart disease. What's especially scary is that adipokines directly impair insulin activity. This means that insulin resistance progresses further which perpetuates the whole cycle like this:

**Insulin resistance → unnatural fat builds up → adipokines → more insulin resistance → more unnatural fat builds up and so on**

This can become a truly deadly vicious cycle.

As previously mentioned, insulin resistance is currently an epidemic in America, affecting 40 plus percent of the adult population and a growing number of children. There are a host of behaviors that lead to insulin resistance, including gaining excess weight (especially within the belly and chest), not getting enough physical activity, and eating an unhealthy diet. Genetic factors can also contribute, but in America most people have it because of dietary and lifestyle choices. The good news is that avoiding or reversing insulin resistance is almost completely under your personal control. There are numerous things you can do to prevent insulin resistance. And if you currently have it, these very same strategies can help reverse it. The dietary prescription for the prevention and reversal of insulin resistance is provided in its entirety within this book. If you follow my *Eat Right For Life*® plan, you will be adhering to all of the nutritional strategies that science has shown can prevent and reverse insulin resistance.

*Insulin resistance turns the body into a metabolic train wreck, interfering with all aspects of fuel storage and energy production. Fat cells turn into fat magnets, which makes it very easy to gain weight and difficult to lose it.*



## The Link Between Bad Carbs And Disease

Restricting the Great White Hazards is not just about body weight—your good health also depends on it. Too much glucose, fructose and insulin pumping through your arteries not only promotes weight gain, but it can also have devastating effects on your health. People who eat the most Great White Hazards seem to more readily develop heart disease, type 2 diabetes and even cancer. The following takes a look at just how closely these bad carbs are linked to these potentially deadly diseases.

### HEART DISEASE

Excess glucose and insulin are toxic to the cells that line our arteries. These cells are called endothelial cells, and they maintain the smooth and continuous blood flow so vital for life. Having too much glucose and insulin in the bloodstream interferes with the function of these important endothelial cells, and can increase blood pressure and make your blood more likely to clot. High levels of glucose and insulin also incite inflammation and promote the buildup of plaque. The Great White Hazards also have a tendency to increase blood triglycerides (a bad blood fat) while lowering good cholesterol (HDL) levels.

The literature clearly demonstrates the ill effects refined carbs have on heart health. For example, a study that followed over 75,000 adult women for a period of 10 years found that those consuming the highest glycemic diets were twice as likely to get cardiovascular disease versus those who ate the lowest glycemic diets. Women in this study who were overweight showed the strongest associations between eating refined carbs and getting heart disease. In a second study that included almost two million adults, those consuming the highest glycemic diets were 25 percent more likely to develop cardiovascular disease than those with the lowest glycemic diets. Again, keep in mind that the Great White Hazards are the worst for those who are already overweight or obese, but ultimately everyone should stay away from these foods.

### TYPE 2 DIABETES

There has been an explosion in the occurrence of type 2 diabetes over the last two decades and it remains America's fastest growing epidemic—affecting about 12 percent of the population. Risk factors for this deadly disease include:

- Overweight/obesity (especially abdominal obesity)
- Physical inactivity
- Family history
- An unhealthy diet

If you have any of these traits, it is imperative that you restrict the Great White Hazards to maintain your health and vitality.

Results from the highly esteemed Harvard-based Nurses' Health Study confirm refined carbs are the foods eaten most commonly by people who develop type 2 diabetes. A study performed by a group of Australian

## Don't Let Yourself Get Hungry

It takes fewer calories to prevent hunger than it does to deal with it once it occurs. Be sure to include three meals a day, along with a mid-afternoon snack to avoid ravenous hunger. Regularly including breakfast with a nice dose of protein is particularly valuable for reining in appetite, so do not skip this morning feeding. My top rated mid-afternoon snack is a handful of nuts. Other excellent snack choices include:

- Pumpkin seeds or sunflower seeds
- Cut fresh veggies (carrots, celery, bell peppers, broccoli, cauliflower etc.)—dip in hummus/bean dips, guacamole, salsa, or olive oil and vinegar.
- Fresh or frozen fruit
- Soy nuts, dried wasabi peas
- 100% whole grain crackers like AK-mak, Triscuits or pita chips with reduced-fat cheese, peanut butter, hummus, salsa, guacamole, sardines or smoked salmon
- Stone ground tortilla chips (I love "Food Should Taste Good" brand) dipped in hummus, salsa or guacamole
- Low-fat plain yogurt with some fresh cut up fruit
- Part-skim mozzarella or other reduced-fat (2% milk) cheeses (try convenient cheese sticks)
- Homemade fruit smoothies with some ground hemp seed powder
- Trail mix (avoid dried fruit if overweight, diabetic or insulin resistant)
- Dried whole grain cereals
- Granola bars (Kashi is my favorite brand)
- Hard-boiled omega-3 eggs
- Dark chocolate—60% or more cacao—in moderation!

## How To Curb Your Cravings

I am frequently asked, "How can I overcome my cravings for white breads and sugars?" Here is my best advice:

- 1. Consciously recognize sugar cravings** as a convenient reminder of how important it is to eat a healthy diet.
- 2. Restrict the foods that precipitously drop your blood sugar.** Namely, the Great White Hazards—white flour products, white rice, white potatoes and sugar/sweets. Sugar cravings are a good indicator that you are consuming too many Great White Hazards.
- 3. Eat three meals daily** with a mid-afternoon snack to avoid over-indulgence later in the day. Deprivation or marked hunger can increase cravings for sweet foods. It's especially important to eat breakfast, as skipping breakfast has been associated with increased food cravings.
- 4. Have a healthy protein at each meal.** Protein provides a stable and more prolonged blood sugar level.
- 5. Regularly include the "slower carbs"**—whole grains, beans, fruits and non-starchy veggies.

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investigators followed 36,787 adults over a four-year period, and found those who ate the most white bread were 30 percent more likely to develop type 2 diabetes. Finally, a systematic review of 37 prior studies found that those who consumed the highest glycemic diets were 40 percent more likely to develop type 2 diabetes than those consuming the lowest glycemic diets.

The underlying metabolic problem in type 2 diabetes is largely insulin resistance. Victims of type 2 diabetes typically suffer some degree of insulin resistance for many years prior to fully developing the disease. If your insulin doesn't work well and you eat the Great White Hazards, your pancreas has to work extra hard and is forced to release more insulin to get all of the blood sugar into your cells. Repeating this scenario over time eventually outstrips the supply of insulin the pancreas is capable of producing. As a result, you develop insufficient blood insulin levels, and your cells are not able to absorb the blood glucose they need to survive. Blood glucose levels then rise abnormally high, signifying the development of full-blown type 2 diabetes.

### CANCER

The defining feature of all cancers is uncontrolled cellular growth. Anything that promotes cellular growth in the body can increase the likelihood that a cell will become cancerous. Consuming the Great White Hazards may just be such a factor. In fact, many studies have shown a link between America's "typical western diet" and some of the most life-threatening cancers. Of course, the westernized diet is often high in refined, high glycemic carbohydrates. Although the exact relationship between eating lots of refined carbs and increasing your cancer risk has not been fully elucidated, many scientists speculate the answer lies with the high blood insulin levels refined carb diets generate. The hormone insulin is a trigger for the release of a second hormone called insulin-like-growth-factor-1 (IGF-1). Both insulin and IGF-1 stimulate cells to divide while simultaneously blocking cell death (a very bad combination in terms of cancer risk).

Laboratory studies have specifically shown that cells of the prostate, colon and breast respond to insulin-like-growth-factor-1. High blood insulin levels can lead to excessive IGF-1 production. Too much IGF-1 may lead to excessive cellular proliferation in these tissues, and ultimately to cancer itself. A study published in the *Journal of the National Cancer Institute* reported that women who consumed the highest glycemic diets were nearly three times more likely to develop colon cancer compared to women with the lowest glycemic diets.

Another scientific finding suggests that elevated blood insulin levels promote cancer. This study was published in the *New England Journal of Medicine* and found that overweight/obesity accounts for 20 percent of cancer deaths in women and 14 percent of cancer deaths in men. That is a total of 90,000 U.S. cancer deaths annually attributed solely to being overweight. Investigators hypothesize that an elevated blood insulin level, common in those with excess body fat, may very well be one of the reasons for their observations.

## How To Curb Your Cravings

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- 6. Avoid artificially sweetened foods and beverages.** Artificial sweeteners are exquisitely sweet substances that exploit our highly developed taste for sweets and keep our taste buds in overdrive. The good news is that you can easily train your tastes. In other words, the less sweet foods you eat, the sweeter they taste when you have them—and vice versa.
- 7. Recognize that there are healthier ways to satisfy your sweet tooth** and keep these alternatives conveniently on hand:
  - Dark chocolate (60% or more cacao)—my top rated sweet
  - 100% fruit sorbets, sherbets and/or low-fat yogurt
  - 100% frozen fruit bars
  - Granola bars
  - Dried fruit (apricots, raisins, prunes, apples, etc.) You can even freeze them, which gives them a gummy bear-like consistency
  - Fresh fruit topped with low-fat plain yogurt blended with a little maple syrup
  - Hot chocolate made from skim milk and 100% real cocoa powder
  - Sweetened 100% whole grain cereals. Choose those with 10 grams or less of sugar per serving.

## It's Time To Break Up With The Bad Carbs

No matter how much you love your white carbs and sweets, you need to curtail and limit your intake of them. Simply put, if you don't restrict or eliminate the Great White Hazards, losing or maintaining weight will almost be insurmountable. Believe me, once you cut these foods from your diet, you will barely miss them. Instead of craving the wrong carbs like baked potatoes, a big hunk of white bread or a bottle of soda, you will begin to crave the right carbs like beans, whole grains, non-starchy vegetables and fruits. And just wait—once you feel and experience what the right carbs can do for your health, energy level and physique, you will be hooked for life.

### The Right Carbs

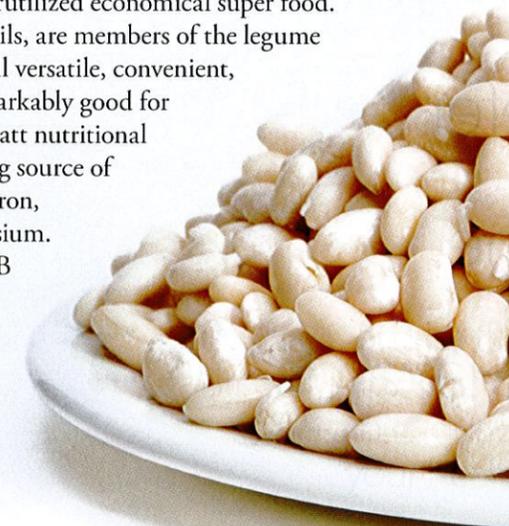
When it comes to maximizing your state of wellness and increasing your chances of successful and permanent weight loss, learning how to do your carbs right is one of the most powerful nutritional strategies you can incorporate into your daily life. Now that we have tackled the wrong carbs, we can start discussing the four delicious categories of right carbs: whole grains, beans, vegetables and fruits. These carbohydrates contain a bounty of health-promoting agents including vitamins, minerals, fiber and those amazing, disease-busting phytochemicals. Plus, unlike the Great White Hazards, they are digested slowly, resulting in a more gradual and gentle blood glucose and insulin response.

We will discuss veggies and fruit at length in the following section, so at the moment, I want to introduce you to the two other right carbs: beans and grains. Replacing the Great White Hazards with these good carbs provides an enormous opportunity to safeguard your health. Relish these good-for-you foods because they can lower your risk of heart disease, improve your gastrointestinal health, lower your risk of many cancers, protect against type 2 diabetes, and help you lose weight!

### The Wonderful Benefits Of Beans

I consider beans the most underutilized economical super food. Beans, along with peas and lentils, are members of the legume family of vegetables. They are all versatile, convenient, cheap, tasty, satisfying and remarkably good for you. Indeed, beans have megawatt nutritional power. Beans are an outstanding source of several key minerals including iron, magnesium, calcium and potassium. They provide the full family of B vitamins, including more folate than any other food. Folate is the B vitamin famous for its heart-healthy and cancer protective properties.

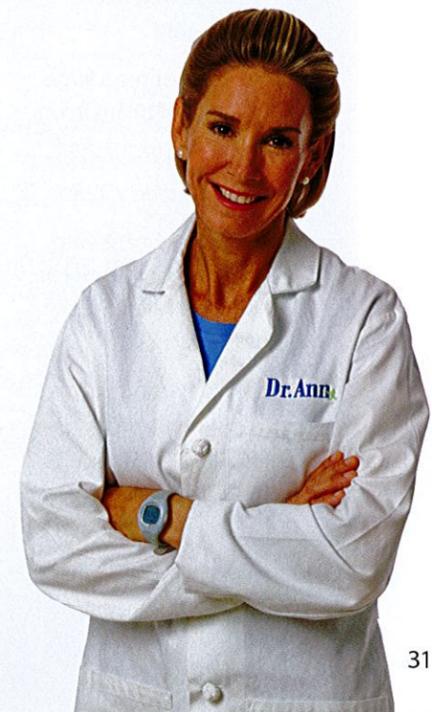
(Continued on page 32)



It's very simple to identify the bad carbs because they are all white. This notorious group of carbs includes white flour products, white rice, white potatoes and sugar. Scientifically, they are known as the highly refined, high glycemic carbs. However, I refer to them as the "Great White Hazards."



"Don't let the Great White Hazards take a bite out of your health."



## The Side Effect Of Beans

Some people suffer from gas when they eat beans. When your digestive enzymes are unable to break down all of the starch contained in beans, the bacteria in your colon will often ferment the remnants. Gas is a natural by-product of this fermentation process. If you are one of the unfortunate individuals who experience this uncomfortable (and occasionally embarrassing) situation, try these gas-troubleshooting tips:

- Consume the beans/legumes known to cause the least amount of gas—lima beans, anasazi, black eyed peas, chick peas, mung beans, split peas and lentils.
- Discard the cooking liquid and rinse beans in fresh water before consuming them.
- Rinse canned beans thoroughly.
- Don't consume a large quantity of beans in one sitting.
- Use a pressure cooker.
- Cook your beans with a little ginger, fennel or anise—all are natural gas-reducers.
- Consider using Beano or another over-the-counter digestive enzyme product.

## The Greatest Source Of Fiber

Beans are chock full of fiber, providing more than any other food. A single cup of beans provides a whopping 12 grams of fiber. This single serving is the amount of fiber the average American gets in an entire day! Beans are especially high in soluble fiber, a type of fiber that has powerful cholesterol-lowering effects. Beans' soluble fiber also makes them especially useful for those with insulin resistance and type 2 diabetes. Soluble fiber forms a gelatinous mass within the gastrointestinal tract that slows the absorption of glucose into the bloodstream. This helps keep blood sugar levels lower and steadier. Beans also provide a nice dose of insoluble fiber. This is the kind of fiber that promotes regularity and prevents digestive problems like diverticulitis.

## Unparalleled Appetite Control

Beans are unmatched in their ability to control appetite and body weight. With their unique high protein, high fiber make up, beans can fill you up without filling you out. Moreover, beans have more protein than any other plant food, and protein is nature's diet pill—giving rise to longer lasting appetite suppression than any other macronutrient. Beans' hefty dose of zero calorie, yet “filling” fiber plays a starring role in appetite control too. Even with their starchy makeup, beans will not increase your blood sugar levels. To the contrary, with the exception of non-starchy vegetables, beans have a lower glycemic response than any of the right carbs.

## An All-Around Super Food

Like other plant foods, beans are also teeming with antioxidant phytochemicals, including flavanoids. Of the foods with the most antioxidant power, four different beans make it into the top 20 list. Beans' stellar nutritional profile and rich supply of antioxidants qualify them as true health champions. It is no wonder that people who eat more beans tend to be leaner, get less heart disease, high blood pressure, type 2 diabetes, and colon and breast cancer.

A study including nearly 10,000 U.S. adults found that those who consumed beans four or more times a week were 22 percent less likely to get heart disease than those who had them less than once a week. A second study involving over 64,000 Asian women found that those consuming the most legumes, including soybeans, were 38 percent less likely to develop type 2 diabetes.

Canned, fresh, frozen or dried—all beans are great for you. Enjoy all beans any way you want: Bean dips, bean soups, beans in your salads, beans in your whole grain burritos, beans in your stews, beans in your rice, beans in your chili, beans in your stir-fry—just eat more beans!



## The Greatness Of Whole Grains

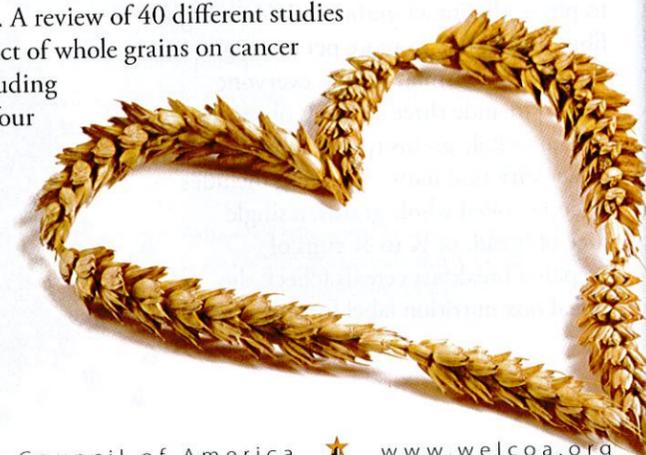
Let's move on to the second group of healthy, right carbs—whole grains. True whole grains are among the most powerful, disease-fighting foods nature has given us. Unlike their refined, Great White Hazard counterparts, whole grains retain all of their dazzling nutritional goodness. When whole grains are refined and processed into products like white flour and white rice, their outer bran coat and their inner germ portions are removed. Unfortunately, these are the two areas that house virtually all of a whole grain's nutritional power. So a refined grain is nothing more than a whole grain with all of its nutritional goodness removed. This is an especially disheartening reality given that the average American eats more than five servings of refined grains and less than one serving of whole grains a day. In fact, only seven percent of Americans are eating the daily recommendation of three or more servings of whole grains.

Whole grains are a virtual treasure trove of nutrients. They are excellent sources of vitamin E, B vitamins, fiber, and the minerals zinc, iron and magnesium. Like other plant-based foods, they are abundant in health-boosting phytochemicals, including polyphenols and phytoestrogens. They contain cholesterol-lowering phyosterols and an abundance of gut-friendly insoluble fiber. In summary, whole grains offer a unique and powerful constellation of nutritional attributes.

People who eat the most whole grains weigh less, and are less likely to develop heart disease, type 2 diabetes, cancers, metabolic syndrome and digestive diseases. When it comes to studies on whole grains and health, whole grains are rapidly approaching fruits and vegetables as nature's most life-preserving foods.

## Great For Disease Protection

A review of seven major investigations found that study subjects who consumed just 2.5 servings of whole grains daily reduced their risk of cardiovascular disease by 25 percent. The Nurses' Health Study found that non-smokers who ate three servings of whole grains a day were 50 percent less likely to get heart disease than those who rarely ate whole grains. Another study found that those consuming the most whole grains had lower BMI's (body mass index), smaller waists, lower cholesterol levels and healthier blood glucose levels. A review of 40 different studies evaluating the impact of whole grains on cancer risk found that including as little as three or four servings of whole grains weekly can provide protection from many different forms of cancer.



## Whole Grains Have Lots Of Antioxidants Too!

In a first-of-its-kind evaluation, scientists found that many of the popular whole grain breakfast cereals and even whole grain snack foods provide “surprisingly large” amounts of antioxidant polyphenols—gram for gram, levels on par with those in fruits and veggies! Of the whole grain snack foods tested, popcorn came out on top. For cereals, those made from wheat were the antioxidant winners followed by corn, oats and then rice. (*Journal of Agricultural and Food Chemistry*, July 2009).

## Choosing A Healthy Cereal

Cereals offer a tasty and convenient way to get in your whole grains. Yet, not all cereals are created equal. In fact, some cereals have more sugar per serving than soda! Here are two simple rules to help you make a healthy and wholesome choice. Check the cereal's nutrition facts box.

- Make sure the cereal contains five grams or more of fiber per serving.
- Be sure it contains 10 grams or less of sugar per serving.

Thankfully, there are upwards of 30 different varieties of cereal available that fit this bill.

## Switch Out The Bad For The Good

I want everybody to replace the Great White Hazards with the right carbs, and a powerful report published in the *American Journal of Clinical Nutrition* beautifully sums up why this is so important. The report comprised the most definitive review to date of the impact sugar and refined carbs have on disease risk. In this combined analysis of 37 forward-looking studies, scientists found that high glycemic diets “independently increased the risk of type 2 diabetes, heart disease, gall bladder disease, breast cancer, and all diseases combined.” A key finding of this evaluation was that diets heavy in sugar and refined carbs are demonstrably bad for you. In fact, removing these foods from your diet provides the same or even more health protection than simply including more whole grains and fiber in your diet.

To give you perspective, regularly eating whole grains provides a 20 to 40 percent reduction in heart disease and a 20 to 30 percent reduction in type 2 diabetes versus sparse consumption. You can potentially more than double that protection by simply replacing products high in sugar and refined carbs with whole grains. That’s now easier than ever to do!

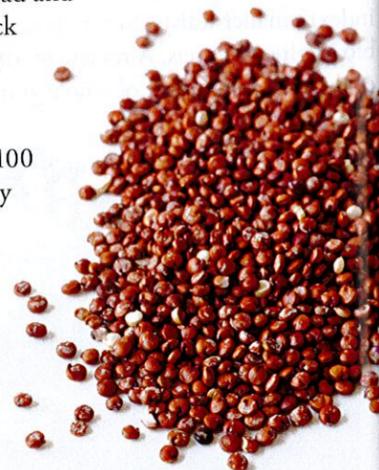
## Great For The Waistline

In stark contrast to the Great White Hazards, whole grains can help you achieve and maintain a healthy body weight. Because whole grains retain all of their natural fiber and have not been processed, they are more difficult to digest. Your system has to work longer and harder to break down and absorb their starch (glucose). This means that whole grains, especially physically intact varieties like oats and brown rice, have a much lower and more favorable glycemic response. Additionally, scientists believe whole grains’ abundance of magnesium, antioxidants and plant fibers facilitate insulin’s action, which helps keep your metabolism running smoothly and effectively. The Nurses’ Health Study found that women who ate the most fiber-rich whole grains gained significantly less weight over time than those getting the least.

## Great Tasting

There are many different varieties of great tasting whole grains to choose from, including traditional American favorites like oatmeal and whole wheat bread to exotic grains like quinoa and triticale. When you are selecting your whole grain foods, always be sure they are 100 percent whole grain varieties. Look for “100 percent whole grain” or “100 percent whole wheat” on the label. Just note that labeling laws can be very tricky with whole grain products. If “most” (i.e. 51 percent or more) of the grain in the product is whole, it can be labeled “whole grain” or “whole wheat” (but you will not see “100 percent”). Look for “100 percent” on the label and double check for the word “whole” listed before any grain in the ingredients list. If you see “wheat flour,” “enriched wheat flour” or any other grain listed without the word “whole” in front of it, it’s nothing more than refined flour disguised as the healthier option.

Choose what you enjoy, but strive for physically intact grains and dense high fiber cereals as your first choices. Although 100 percent whole grain or 100 percent whole wheat breads are good carb choices, the physical processing that occurs in these products means they are much easier to digest and can bump up blood glucose more readily than intact whole grains. For this reason, I prefer you choose oatmeal, barley, quinoa, bulgur, brown rice and high fiber cereals over whole grain or whole wheat breads. For those who have insulin resistance, (diabetics, pre-diabetics and those with metabolic syndrome) I recommend you forgo all bread and bread products completely and simply stick to physically intact grains and dense high fiber (five grams or more per serving) cereals. For optimal health, everyone should include three servings or more of 100 percent whole grains (preferably physically intact varieties) daily. A serving includes ½ cup cooked whole grains, a single slice of bread, or ¼ to ¾ cups of prepared breakfast cereals (check the cereal box nutrition label for specifics).



Use the following *Do Your Carbs Right Plan Of Action* to guide you in replacing the wrong carbs with the right ones.

### PLAN OF ACTION

## Do your carbs right.

### 1. MINIMIZE THE GREAT WHITE HAZARDS

These quickly digested, high glycemic carbs spike your blood glucose and insulin levels, which promotes weight gain, cardiovascular disease, type 2 diabetes, certain cancers and macular degeneration. Sugar and sugary foods and beverages also spike your blood fructose levels.

- Avoid foods made from white flour. This includes white breads, cakes, cookies, pasta, pastries, bagels, biscuits, rolls, crackers, pancakes, waffles, dumplings, sugary junk cereals, pretzels and pizza dough. Choose 100 percent whole grain or multigrain varieties instead. If you love pasta, the multigrain varieties like Barilla Plus taste like regular pasta and are acceptable.
- Avoid white rice—Choose brown rice instead. Brown rice is a physically intact whole grain. If white rice is a must, then converted or basmati brands are a healthier choice as they have a more favorable glycemic response.
- Avoid white potatoes in any form—baked, mashed, French fried or boiled—Baby red (new) potatoes and purple potatoes with skin are acceptable in moderation. Sweet potatoes are fine.
- Restrict sugars and sweets—Choose a prudent portion of high quality dark chocolate (60 percent or higher cacao) or fresh fruit as your dessert/sweet of choice.
- Strictly avoid sugary beverages—soda, fruit drinks, dessert coffees, sports drinks, energy drinks, sweet tea and tonic water.

### 2. ENJOY BEANS REGULARLY

- Strive to have at least one serving (½ cup) every day.
- Any variety of beans is fantastic—black beans, edamame, kidney beans, lentils, field peas, cannellini beans, navy beans, chick peas, white beans, pinto beans, anasazi beans, crowder peas, split peas, etc.
- Any form of beans is fine—canned (low sodium best), fresh, frozen or dried.

### 3. ALWAYS CHOOSE 100% WHOLE GRAIN OR WHOLE WHEAT VARIETIES FOR ALL GRAIN PRODUCTS

- Look for “100 percent” on the label or package.
- Strive for three or more servings a day. A serving is ½ cup cooked whole grains like brown rice or oatmeal or a single slice of bread.
- Physically intact whole grains are the healthiest choice—oats (oatmeal), brown rice, quinoa, barley, bulgur, etc.
- If you are overweight, diabetic, pre-diabetic or have metabolic syndrome, it is best to stick to physically intact grains and high-fiber cereals and avoid all flour-based or bread products (even the 100 percent whole grain ones).

