

Your Guide to Living a

Low Glycemic LIFESTYLE

**Lose Weight, Boost Energy & Add
Years to Your Life with this Simple,
Slim-Down Guide**



www.HealingGourmet.com

Your Guide to Living a Low Glycemic Lifestyle

By Kelley Herring & the Editors of Healing Gourmet®

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What is the Glycemic Index (GI)?

If you're eating right—filling your plate with salad greens and colorful veggies, accompanied by lean organic proteins, wild fish, hormone-free dairy products and raw nuts and seeds—then you're already enjoying a low-glycemic lifestyle.

For those of you new to this healthy way of eating, you'll soon find it's a simple and effective way to lose weight, reduce cravings, increase energy levels, boost mood, quell inflammation, balance hormones and protect against chronic disease.



The glycemic index is based on one simple concept: how a food impacts your blood sugar.

You may remember when carbohydrates were primarily classified into two groups: simple and complex.

Simple carbohydrates included sugars—like fruit sugar (fructose), corn or grape sugar (dextrose and glucose) and table sugar (sucrose). Complex carbohydrates included anything made up of three or more linked sugars.

Conventional advice told us that complex carbs were “good”, and simple carbs were “bad”.

And while we knew that all carbohydrates get broken down into single sugar molecules which are then absorbed by the bloodstream and used as energy, we didn't know the rate at which this happens.

Enter the glycemic index.

This system, developed by Dr. Janine Brand-Miller at the University of Sydney and popularized by Harvard doctors, including Dr. Walter Willett, rates foods according to how fast and how high they push blood sugar.

Although the glycemic index is a helpful guide, there's an even better tool you'll learn about on the next page.

The Glycemic Load: The Big Picture



While the glycemic index serves as a good general guide, it fails to take one aspect into consideration: amount.

And that's really important because it's both quality (the GI rating) and quantity (serving size) of carbohydrate that impacts blood sugar.

While the glycemic index (GI) measures glycemic response after consuming a standard amount (50 grams) of carbohydrate from a particular food, the glycemic load (GL) ranks foods according to how much carbohydrate is in a regular serving of the food in question. So let's put this into practice.

Carrots, as you can see (p. 30) have a high glycemic index. But you would have to eat a bunch of carrots (literally!) to get to 50 grams of carbohydrate. And that's pretty unlikely.

Pasta, on the other hand, has a relatively low glycemic index (p. 34). But 50-100 grams of carbohydrate are easy to reach in a single serving of spaghetti (especially if it's a gigantic restaurant portion).

Here's the formula for calculating Glycemic Load (GL):

$$GL = \frac{(\mathbf{GI\ Value\ x\ Carbohydrate\ Per\ Serving})}{100}$$

In the next few pages you'll learn the numerous reasons why adopting the low-glycemic lifestyle is absolutely vital to your health and well-being.



On The Web: At *Healing Gourmet*, all of our recipes and menus are low glycemic. And you can also use our free **Personalized Recipe Search** to find recipes that fit your preferences and palette. In addition to finding low carb recipes (10 grams or less), low sugar recipes (5 grams or less) and gluten-free recipes, you can also find recipes high in more than 20 key nutrients.

Your Blood Sugar, Your Health

As you learned earlier, when you digest carbohydrates (unless they're fiber or 'sugar alcohols') it always leads to the same result. Sugar.

As sugar is released from your small intestine into the bloodstream, your blood sugar rises and your pancreas kicks into action by secreting the hormone *insulin*.

Insulin then shuttles blood sugar out of the bloodstream and into muscle cells where it can be used for energy.



So what happens when muscle cells have taken as much sugar as they can hold? They shut their doors. And then, sugar gets shuttled somewhere else...into your fat cells. And you guessed it...you gain weight!

While your body can easily deal with small amounts of sugar (like that found in half of a small apple), a sugar overload (20, 30 or 40+ grams) causes the pancreas to go into overdrive. And this is a slippery slope for a number of reasons.

Insulin increases blood pressure by retaining sodium in the kidneys. And high blood pressure is a big risk factor for heart attack and stroke.

As you tax your body with sugar, you force it to crank out more and more insulin. Over time, the beta-cells of your pancreas that produce insulin simply wear out. And when this happens, you need insulin injections to replace your body's supply.

But many problems happen before insulin even makes its entrance (which we'll discuss on the next page).



What's Your Number? Did you know that more than one-third American adults and two-thirds of people with heart disease have high blood sugar? What's more, over 6 million people in the U.S. have diabetes— and don't even know it. Take control of your health by getting control of your blood sugar. Purchase a blood glucose monitor—try OneTouch UltraMini Blood Glucose Meter for \$24.95—and follow the instructions to determine your fasting blood glucose.

Glycation: A Sticky Situation



The period of time when sugar pumps through the blood stream is time that your body is being severely damaged. And the more sugar you eat, and the more often you eat it, the more damage is done.

So what makes sugar in the blood so harmful? One reason is that it binds to red blood cells (as well as other proteins and fats) through a process called *glycation*.

Glycated compounds are “sticky”. Because of their adherent nature, they float along until they bind to a vascular wall or tissue—gumming up your pipes and hampering the integrity of tissues and organs too.

As the glycated globs grab on, your body’s defenses rush to the rescue to clean them up. This is no different than what happens when we get a cut—swelling, pain and redness are the signs that our body is doing its job to heal the wound. But a wound is small, and the body’s job is done quickly. The cut heals. The redness and swelling subsides.

But inside your body, it’s a different story.

Fueled by the constant supply of sugar you’re eating, glycated compounds float and stick, the body patches and repairs...and the cascade of chronic inflammation is set into motion.

Along with enjoying a low-glycemic lifestyle, the way you cook your food also plays a role in glycation (which you’ll learn about in ***Smart Cooks Age Better***).



Are You in a Sticky Situation? It’s easy to find out, but your doctor probably hasn’t performed this test unless you’re diabetic. It’s called the A1C (or glycosylated hemoglobin) test and it measures the glycation levels in your body. For optimal longevity, you want to strive for an A1C of less than 5%, which would represent an average glucose level of 90 mg/dL.

Don’t forget to see ***20 Lifesaving Tests Your Doctor Hasn’t Performed (And Should!)*** and ask for these tests at your next appointment.

Inflammation: Taming the Flame

You might be wondering how a process that's meant to heal us, can cause so much damage.

The same way a fire does.

When used properly, it offers many benefits, but un- controlled can be devastating.

Inflammation has a purpose in acute situations. However, chronic inflammation is the cornerstone of most degenerative disease and speeds up physical aging.



The good news is that the two primary causes of chronic inflammation—high blood sugar and excess body fat— are within our control.

So how does high blood sugar cause inflammation?

After eating a high-glycemic food, your blood sugar rises. This triggers the release of inflammatory *cytokines*.

In the past decade, researchers have found that cytokines—including *C-reactive protein (CRP)*, *C-peptide*, *interleukin-6* and *tumor necrosis factor (TNF)* are related to nearly every chronic disease and "lifestyle disorder" including insulin resistance, type 2 diabetes, cardiovascular disease, cancer and metabolic syndrome.

What's more, the higher your blood sugar, the more inflammation you'll have.

The ATTICA study found that people with diabetes (a blood sugar of 126 mg/Dl or higher) had 57% higher levels of C-reactive protein, 60% higher levels of tumor necrosis factor and 22% higher levels of interleukin-6 compared to non-diabetics.

But getting your blood sugar under control with a low-glycemic diet can greatly reduce inflammation and your risk for chronic diseases.

A study published in *Med Hypotheses* found that women who adopted a low glyce- mic, whole food diet, rich in soluble fiber saw a 28% reduction in levels of CRP.

Similarly, a *JAMA* study conducted on overweight or obese young adults (age 18- 40) found a low glycemic diet reduced levels of C-reactive protein, triglycerides and blood pressure, as well curbed hunger.

Keeping your blood sugar stable with a low-glycemic diet is imperative to quelling the inflammation that can spur disease. And there's something else you can do. *Lose weight.*

Less Fat = Less Inflammation

The more overweight you are, the more fat you have on your body. And the more fat you have on your body, the higher your level of inflammation.

That's because the fat on your body doesn't just sit there. Adipocytes, or fat cells, play a role in metabolism and shoot out cytokines too. The more fat cells you have, the more cytokines you produce.

The Third National Health and Nutrition Examination Survey (NHANES) evaluated 16,616 people over the age of 17. Both overweight and obese people in the study had higher levels of inflammation than their healthy weight counterparts. What's more, 27.6% of the participants had elevated CRP (0.22 mg/dL) and 6.7% had "clinically raised" CRP (1.00 mg/dL).



Do You Know Your CRP? According to recent statistics, most of us have dangerous levels of CRP. This factor tells us much more about our risk of heart attack and stroke than any of the standard tests your doctor typically gives you (i.e. – your cholesterol levels). Learn more about getting your CRP tested (including the optimal range) in ***20 Lifesaving Tests Your Doctor Hasn't Performed (And Should!)***.

Cool The Fire In Your Belly!

Where you carry your fat plays a big role in inflammation as well.

In a recent study published in the journal *Atherosclerosis*, 1,514 men and 1,528 women were evaluated to determine how inflammation related to body fat. Researchers also looked at where fat was stored on the body—either in a normal distribution or centrally (around the middle).

The researchers found that those with more central fat had significantly higher levels of inflammation including: 53% higher C-reactive protein, 42% higher interleukin-6, 30% higher tumor necrosis factor, and 26% higher amyloid A.

Now you know that keeping blood sugar levels low and achieving a healthy body weight are two of the most powerful weapons against deadly inflammation. Living a low glycemic lifestyle can help you realize both of these essential health goals, while pleasing your palette and satisfying your cravings too.



Get Out Your Tape Measure! While obesity is clinically determined by Body Mass Index (BMI), this test has plenty of faults. That's because BMI doesn't take into account the quality of mass (is it fat or muscle?). This will put some muscular athletes in the "obese" category and some elderly (who lack muscle mass) in a "healthy range". BMI also fails to look at distribution of fat.

But there is a more accurate predictor of risk. It's your waist-to-hip ratio (WHR). And remember—***you can be thin and still have too much fat.***

To determine your WHR, simply divide your waist measurement by your hip measurement. For example, a 22 inch waist and a 32 inch hip measurement gives a WHR of 0.69. Here is a general guide of WHR and disease risk.

MALE	FEMALE	RISK
0.95 or below	0.80 or below	Low risk
0.96 to 1.0	0.81 to 0.85	Moderate risk
1.0+	0.85+	High risk

"If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health."

-Hippocrates

Oxidation: Fueling Free Radicals

Inflammation and glycation - on their own - are certainly harmful enough.

But unfortunately, the negative effects of high blood sugar don't stop there. High blood sugar also causes free radical damage—or oxidation.

And free radicals have detrimental effects on the function of almost all of our cells including:

- ✓ Insulin-secreting beta cells of the pancreas
- ✓ Fat cells
- ✓ Muscle cells
- ✓ Nerve cells
- ✓ Sex (or germ) cells



What's more, as high blood sugar worsens, the insulin-producing beta cells of the pancreas steadily deteriorate, secrete less and less insulin, and lose function. The body produces more of those inflammatory compounds called *cytokines*, further deteriorating health.

It's a vicious cycle that can only be stopped by stamping out the causative factor—high glycemic carbohydrates that quickly turn to sugar.

But enjoying the top ranking free-radical fighting foods isn't enough to stop blood sugar's destructive forces. You *must* also ensure you're following a low glycemic lifestyle.



Power Up Your Antioxidant Artillery! In ***Your Guide to Antioxidant Superfoods***, you'll learn that the antioxidants we make are more important than those we eat. That's because glutathione—our body's "master antioxidant and detoxifier" is made in the liver. And to generate this vital sub-stance, you need to provide the right raw materials. Along with those liver-loving foods (grass-fed whey protein isolate, organic free range eggs, garlic and cruciferous veggies to name a few), you'll also want to make sure you're not depleting your body of this import defense substance. Read ***Depleted By Drugs?*** to learn about the over-the-counter and prescription drugs that can rob you of your health.

High Blood Sugar, High Risk

Chronically high blood sugar is the cornerstone for becoming overweight or obese. As more sugar gets shuttled into cells, you get fatter. What's more, the fatter you get, the less sensitive you are to the insulin your body does produce.

In addition to the risk of becoming overweight, you'll see that your blood sugar is directly linked to your risk of nearly every chronic disease including:

- ✓ **Diabetes:** Type 2, or adult-onset diabetes, is simply diagnosed by a fasting blood sugar level of 126 mg/dL or higher on two separate occasions.
- ✓ **Cancer:** Insulin promotes many of the most common cancers – especially the hormone-dependent cancers including those of the breast, colon and prostate.
- ✓ **Heart Disease:** You learned earlier that blood sugar makes your platelets "sticky" and also increases blood pressure. In addition, blood sugar oxidizes LDL cholesterol, increases triglycerides, reduces protective HDL cholesterol and increases an inflammatory factor called *C-reactive protein*—all of which are responsible for heart disease.
- ✓ **Cataracts & Macular Degeneration:** Blood sugar damages the microcapillaries in the eyes, leading to cataracts and peripheral blindness.



In the next few pages, we'll look at the research on how a low-glycemic lifestyle will help you prevent and reverse these chronic diseases... deliciously!



On the Web: This section is only an introduction to the many chronic conditions to which high blood contributes. Visit our website to learn about blood sugar and:

- ✓ **Physical Aging:** The process of glycation, and the creation of advanced glycation endproducts (AGEs) damages collagen and other important connective tissues that give us a youthful appearance.
- ✓ **Infertility:** Insulin resistance contributes to the primary cause of ovulatory infertility—Polycystic Ovarian Syndrome (PCOS).
- ✓ **Alzheimer's Disease:** A high glycemic diet promotes amyloid plaque— a substance that is associated with neurodegeneration and Alzheimer's disease.

Melt Fat & NEVER Go Hungry Again!

Think you need to go through the days hungry to lose weight? Think again.



That hunger signal is telling you something:
You're eating the wrong foods!

Eating high-glycemic foods doesn't just increase blood sugar and tax the pancreas to produce insulin, it also causes a cascade of hormones that tell your body "I'm still hungry".

But that's not all. High-glycemic foods also damage the appetite-suppressing cells in the brain.

Recent research conducted at Monash University found that neurons called (POMCs) are damaged by high-glycemic foods. And the more carbs and sugars you eat, the more damage is done. The result: You eat more.

In addition to killing these important appetite-control cells, high glycemic foods produce a cascade of hormonal changes in the body that affect hunger and metabolism. Let's take a look at the key hunger hormones and how they work:

- **Ghrelin (GHR):** This hormone has a powerful hunger stimulating effect on the brain. In animal studies, ghrelin injections boost appetite and cause weight gain.
- **Cholecystokinin (CCK):** The primary function of CCK is to stimulate the pancreas into releasing large quantities of digestive enzymes. A secondary function of CCK is to send an "enough now" signal to the brain, instructing the body to stop eating.
- **Peptide YY (PYY):** This hormone-like protein is released by the lower gastro- intestinal tract after meals. Studies show that PYY injections reduce appetite and food intake, resulting in weight loss.
- **Glucagon-Like Peptide-1 (GLP-1):** This hormone-like protein is secreted by the L-cells of the intestine in response to food. In addition to creating a feeling of satiety, GLP-1 also helps to ensure the insulin-secreting cells of the pancreas (called beta cells) stay healthy.
- **Leptin:** Leptin binds to the "appetite center" in the brain (the ventromedial nucleus of the hypothalamus). Leptin signals to the brain that the body has had enough to eat, or satiety. Many overweight or obese people develop "leptin resistance" as a result of consuming too much sugar. This requires the body to deliver more leptin to deliver the same feeling of satiety.

- **Adiponectin:** Adiponectin is a protein hormone produced and secreted exclusively by adipocytes, or fat cells. It has anti-inflammatory action, boosts insulin sensitivity, and weight loss efforts.

While we've only touched the tip of the iceberg in understanding how these hormones work together to create a metabolic milieu, it's clear that high-glycemic foods are the prime cause of insatiable hunger that leads to weight gain.

In fact, nearly every study conducted on the effects that carbohydrates have on your appetite shows that low-GI foods produce a feeling of satiety, or satisfaction, for a longer period of time than do their high GI counterparts.

Let's take a look at the recent research on how enjoying a low glycemic diet will keep you feeling full while boosting weight loss efforts and protecting against disease.

- A recent study published in the *European Journal of Clinical Nutrition* evaluated the effects of a high-GI and a low-GI diet on blood concentrations of glucose, insulin, cholecystokinin (CCK) and ghrelin (GHR). Researchers found that the low-GI group had significantly less hunger due to a 59% increase in CCK compared with the high-GI group.
- In a study published in the *Annals of Nutrition and Metabolism*, researchers measured the glucose, insulin and leptin responses to two different breakfast cereals: a high glycemic cereal (GI=125) and a low-GI cereal (GI=49). Researchers found the low-GI breakfast kept insulin levels lower and boosted leptin. Keeping insulin levels low discourages the storage of fat and leptin decreases hunger—two essential factors for weight loss.

New research shows there's yet another way elevated blood sugar encourages weight gain—through *leptin resistance*. Normally, leptin is secreted to tell the body "stop eating". But when your body becomes resistant to leptin (similar to the way insulin resistance develops) you keep eating without feeling full.

- A study conducted at the University of Florida separated animal subjects into two groups. Both groups had the same number of calories, but one group consumed large amounts of fructose. At the end of the study, researchers found that the animals fed fructose developed leptin resistance. To model the American diet, researchers then gave the rats a high calorie, high fat diet. The fructose-fed rats who were leptin resistant gained significantly more weight than did their fructose-free counterparts.



Turn Your Hunger Hormones OFF! In addition to feeling more satisfied—and having less cravings and binges—on a low-glycemic diet, here's another way you can flip your hunger switch to the "off" position: exercise! A recent study found that 60 minutes of aerobic exercise caused ghrelin to drop and peptide YY to increase, indicating the hormones were suppressing appetite. And eating less and exercising more is the only recipe for sustainable weight loss.

Reverse Diabetes

Have you been led to believe that diabetes can only be controlled with a prescription?

If so, it's time to fire your drug-dealing doctor.

Why? Because diabetes is simply classified by your blood sugar level. And a low glycemic diet coupled with an exercise regime for weight loss has been clinically proven— in countless studies—to transform a diagnosis of “diabetes” to...“diabetes-free” by bringing blood sugar back to a healthy range.



And best of all, you can do it deliciously with *Healing Gourmet*!

Let's take a look at the research:

- **A No-GI Diet Reduces Diabetes Meds in 95% of patients:** A 2009 study conducted by Duke university found that patients following a “no-glycemic diet” - classified by less than 20 g carbs/day— enjoyed significant reductions in the need for blood sugar medications and in some cases, elimination for type 2 diabetes medication altogether. In fact, after 24 weeks, 95% of patients following the no-glycemic diet reduced or eliminated medications. Dr. Eric Westman, MD, notes “We found you can get a three-fold improvement in types 2 diabetes... with a no-glycemic diet”. See pages 23-28 for zero glycemic impact foods.
- **Low GI Benefits Type 2...and Type 1:** A Cochrane review conducted this year found that a low glycemic diet helps people with type 2 and type 1 diabetes. The study found that A1c levels decreased significantly (by 0.5%) in participants following a low GI diet.
- **Grain-Free Low GI is Best:** Researchers evaluated the effects of a “low-glycemic/low-grain” diet compared to a “high-cereal fiber” diet on patients with type 2 diabetes. Diet 1 (the “low-glycemic/low grain diet”) focused on beans, peas, lentils, nuts, pasta, rice boiled briefly and low-GI breads (pumpernickel, rye, pita, flaxseed and quinoa). Diet 2 has the “high-cereal fiber diet” and included “brown” foods like whole grain breads, cereals and crackers; and potatoes with skin. At the end of the 6 month study, researchers found:
 - **A1c Reduction:** Those in Diet 1 had a greater reduction in A1c levels (0.5% reduction in Diet 1 compared with 0.18% in Diet 2)
 - **Lipid Changes:** Those in Diet 1 boosted their healthy HDL cholesterol by 1.7 mg/dL while those in Diet 2 decreased their protective HDL by 0.2 mg/dL. What's more those in Diet 1 showed a more favorable LDL/HDL ratio.

Fight Cancer



One of the most important elements in preventing and fighting cancer is to keep your blood sugar stable.

That's because high-glycemic foods fuel cancer's fire by elevating insulin, stoking cancer-promoting inflammatory factors and creating AGEs.

And there's plenty of research to back it up. Countless studies have found high glycemic diets are correlated with the most common and deadly cancers—those of the breast, colon and prostate.

Let's take a look at the research:

- The Women's Health Study followed 39,876 women for 8 years. Researchers found positive associations between dietary glycemic load (GL) and overall glycemic index (GI) and risk of colorectal cancer in women.
- Researchers tested blood samples from approximately 15,000 male doctors for *C-peptide*, a protein that indicates insulin levels. They found that men with the highest C-peptide levels - and therefore the highest insulin levels - were almost three times more likely to develop colon cancer than men with the lowest C-peptide levels.
- Researchers at Johns Hopkins pooled data from 23 studies and found that people with diabetes were 41% more likely to die of cancer than people who are diabetes-free. Specifically, there was a 76% increase in risk of death from endometrial cancer, a 61% increase for breast cancer and a 32% increase for colorectal cancer.
- The Nurses' Healthy Study II interviewed 47,355 women and found that a higher dietary glycemic index during adolescence was associated with an increased risk of breast cancer. Remember, cancer can take a long time to develop, so what you do now will affect you later!
- A Swedish study of 64,500 non-smoking, non-diabetic, cancer-free people found that both men and women with the highest blood sugar levels were more likely to have pancreatic cancer, urinary tract cancer, and malignant melanoma (the most deadly type of skin cancer) than those with the lowest blood sugar levels. What's more, endometrial cancer was most common among women with the highest blood sugar levels.
- Research shows that women may be more susceptible to the woes of sugar on cellular health than men. Women in the top 25% range of blood sugar readings had a 26% higher chance of developing cancer than the women in the bottom quarter.

Guard Your Heart

For years we've been led to believe many incorrect theories about heart disease—from the catastrophic - fat-free phenomenon (creating the “SnackWell” effect), to the anti-egg and beef campaigns and the “healthy halo” placed on omega-6 inflammatory fats (like soybean, sunflower and safflower oils).

Finally, the truth comes out. But unfortunately for many, not soon enough.



The truth about heart health is this:

Cholesterol does not cause heart disease. *Oxidized* cholesterol does. “Bad pipes” are not a manufacturer’s defect (i.e genetics), but rather a result of lifestyle choices. And high blood pressure isn’t only caused by salt in the diet.

Does this shock you? The truth is that all of these individual risk factors for heart disease and stroke have one thing in common: *Sugar*.

And as you learned on p. 7, sugar is the #1 promoter of the real cause of heart disease: *inflammation*.

Let’s take a look at the three diet-related risk factors for heart disease:

1. **Cholesterol:** This much maligned substance is absolutely essential to your health. It is a component of cell membranes which affect how your cells communicate and absorb nutrients. But cholesterol got a bad reputation from faulty analysis. You see, cholesterol only becomes dangerous when it is damaged. And it gets damaged by a high glycemic diet.
2. **Bad Pipes:** Your internal plumbing pumps thousands of gallons of blood per minute. And it does so effortlessly. But when we damage our tissues—when we break down the collagen that’s essential for the integrity of our vasculature—we get stiffness where there should be flexibility. And collagen is especially susceptible to damage from sugar! What’s more, damaged cholesterol in our blood combines with cellular waste products and blood clotting factors to form plaque. Over time, the plaque sticks to the damaged arteries and causes *atherosclerosis*. And when the plaque breaks off, it causes a heart attack or stroke.
3. **Blood Pressure:** It’s true that we have too much salt in our diet. But we’re also critically deficient in potassium—the mineral that balances sodium. And as you learned on p. 5, high blood pressure is also caused

by *insulin*, which is triggered by high-glycemic foods.

Let's take a look at the research on how your blood sugar affects your heart.

- Studies published in the *Archives of Internal Medicine* and *Lancet Neurology* found that hemoglobin A1c—or glycated hemoglobin—is an independent risk factor for heart disease and stroke in people with and without diabetes. On page 8 you learned the only way to reduce glycation is to follow a low-sugar diet.
- A study published in the journal *Circulation* found that high blood sugar acutely boosts levels of the inflammatory cytokines we discussed on p. 7. What's more, the researchers found high blood sugar does this through an oxidative mechanism—promoting both *inflammation* and *oxidation*.
- A recent study published in *Journal of the American Medical Association* found that six months of a low-glycemic diet (average GI=69.6) that was low in grain slashed A1c levels by 0.5 percentage points. The diet also boosted healthy HDL levels. The study lead, Dr. David Jenkins, M.D., notes that these levels of improvement have been found to reduce vascular complications by 21% to 37%.
- In the recent landmark CARDIA study, researchers used a monoclonal anti-body-based enzyme-linked immunosorbent assay (ELISA) test to determine levels of oxidized cholesterol in people with metabolic syndrome. The researchers found that LDL cholesterol was not associated with incident metabolic syndrome. But oxidized LDL was. That's because LDL must first be converted to its oxidized form in order to participate in the atherosclerotic disease process.



Is Your Cholesterol Oxidized? All of these years of getting your cholesterol checked may have been for naught. That's because the standard HDL/LDL test only measures levels of cholesterol—not oxidized cholesterol. Currently, Shiel Medical Laboratory (www.shiel.com) is the only lab offering The Oxidized LDL/HDL Ratio Test. While the test is reimbursed by most insurance companies, and only requires a prescription, it's likely your doctor hasn't pre-scribed this essential test. Be sure to **see 20 Lifesaving Tests Your Doctor Hasn't Performed (And Should!)**. If you don't have insurance, the test is still very affordable—only \$82.50 for Oxidized LDL or \$113.30 for the Oxidized LDL/ HDL Ratio test. Get your prescription for this essential test today!

Protect Your Vision



You learned earlier that blood sugar is enemy #1 to the vascular system. And the vessels in your eyes—the microcapillaries— are especially prone to damage.

The Age-Related Eye Disease Study (AREDS) analyzed dietary intake and lifestyle information from more than 4,000 men and women aged 55 to 80.

The researchers found that people eating the highest glycemic diets had a 49% increased risk for developing age-related macular degeneration (AMD) than those eating the lowest glycemic diets. What's more, the higher on the glycemic index the diet was, the more severe the vision loss.

But high glycemic foods don't just increase the risk for AMD, but cataracts too.

A recent study followed 933 people for 10 years. After accounting for age, gender, diabetes, and other factors that might influence the results, researchers found that people with the highest GI diets were 77% more likely to develop a cataract than people with the lowest GI diets.



Tasty Ways to Protect Your Peepers! In addition to enjoying a low-glycemic diet, several nutrients have been found to preserve eyesight and protect your vision.

- **Save Your Sight with Spinach:** Recent research published in the *Archives of Ophthalmology* cites lutein and zeaxanthin—two nutrients found in eggs, spinach and other leafy green vegetables—as nature's most potent peeper protectors. In fact, people getting the most lutein and zeaxanthin in their diet had 35 percent less chance of developing age-related macular degeneration (AMD) compared to those getting the least in this study.
- **Sip This to See Clearly:** A study published in the *Journal of Agricultural and Food Chemistry* gave green or black tea to animal subjects with chemically- induced diabetes. After three months, the researchers found that both green tea and black tea prevented diabetic cataracts.
- **Get Help from the Sea:** Omega-3 fatty acids—predominantly found in cold water fish like wild salmon—are essential for healthy eyes. In fact, a specific type of omega-3 called DHA, produces neuroprotectin D1 which guards retinal cells against damage. Learn more about these essential fats in ***Fats that Heal, Fats that Harm.***

Metabolic Power Ingredients

Now that you've learned about how carbohydrates affect your blood sugar, you may be wondering about the other macronutrients — protein and fat.

Low-carbohydrate, nutrient-packed veggies & fruits, healthy fats and proteins are the staples in your healthy, low-glycemic lifestyle.

And while fruits and veggies provide part of the equation—an abundance of anti-oxidants and phytonutrients that guard your health (see ***Your Guide to Antioxidant Superfoods***)- proteins and fats are the metabolic ingredients in your meals that help to keep blood sugar levels stable and reduce insulin.



But protein and healthy fats don't stop there when it comes to fueling a healthy human machine. They also stoke your body's metabolic furnace and encourage *thermogenesis*— or the burning of fat.

Why? Because protein stimulates fat burning directly. You see, a high protein, low glycemic diet is the best way to activate a compound called *glucagon*—the "weight loss hormone". Glucagon is essential for breaking down body fat. And the only way to encourage its production is to eat fewer carbs and more protein.

But not just any protein— clean sources of protein like wild fish, organic poultry, and grass-fed meats that you'll learn more about in ***Organics: Beyond Green***.

When choosing proteins and fats, make sure they come from organic sources, and in the case of animal products, opt for those raised on their natural diet (i.e.—grass-fed beef).

Here are the metabolic power ingredients in your kitchen that you'll learn about in the next section of the book:

- Grass-Fed Meats, Organic Poultry & Wild, Sustainable Seafood
- Healthy Oils & Fats
- Organic Grass-Fed Dairy
- Nuts & Seeds Health!



Time for a Kitchen Makeover! You don't need rubber gloves for this one. Just use ***Your Kitchen Makeover Worksheet*** to purify your kitchen of the high-glycemic and low-quality ingredients that are robbing you of your health!

Boost Fiber, Not Carbs



As you learned earlier in this book, getting enough fiber is imperative to keep inflammation at bay. It's also essential for a healthy digestive system (see ***Your Digestive Ecosystem***).

But don't be duped into thinking you need to load your bowl with cereal and fill your plate with rice to get the fiber you need in your diet.

You can get your fill of fiber—while packing more nutrients into your diet— without the blood-sugar implications of grain products. Here's how:

- **Make Chia Your Pet:** This miracle food was relied upon by the Aztecs and is considered the "running man's food" for the vast amount of energy it provides. One ounce of these tiny seeds (also sold by the name of Salba seed) offers a hefty 11 grams of fiber.
- **Fiber Up with Flax:** Two tablespoons of these nutrient-rich seeds provide 4 grams of fiber, plus an excellent source of omega-3 fats.
- **Use Your Head:** Brussels sprouts are a low-calorie, fiber-full food that's packed with cancer-fighting nutrients. One cup provides 3.5 grams of fiber.
- **Benefit with Beans & Love Your Lentils:** While high in carbohydrate, beans and lentils are packed with fiber. That's what makes these tasty parcels a low glycemic food with proven blood-sugar balancing benefits. A one-half cup serving of kidney beans or black beans offers 7.5 grams of fiber. And both top blueberries in their ability to fend off free radicals (see ***Antioxidant Superfoods*** for more).
- **Add Some Acacia:** One teaspoon of this "invisible" ingredient provides 2 grams of soluble fiber—the type most important for balancing blood sugar. Look for *Clear Fiber*.
- **Bite into Berries:** What better way to get your fiber than with sweet, succulent berries? One cup of raspberries or blackberries offers 8 grams of fiber (and under 70 calories!). A word of culinary caution—berries are on the top 12 most pesticided crops called "The Dirty Dozen". Always buy organic and learn more in ***Organics: Beyond Green***.
- **Try the Tropics:** While you may not think of avocados as a rich source of fiber, they are! In fact, one half cup of this silky fruit provides 5 grams of fiber. But the benefits don't end there. Avocados are rich in a heart-healthy monounsaturated fat that keeps you full and protects against heart disease (learn more in *Fats that Heal, Fats that Harm*)
- **Get a French Accent:** Packed with detoxifiers, these delicious delicacies offer 9 grams of fiber per cup of hearts. Add to salads, fold into omelets or toss with low glycemic, gluten free pasta.

Tasty Tricks that Reduce Glycemic Impact

Did you know that you can reduce the glycemic impact a food has on your body by eating “complementary” foods? It’s true!

Here are a few tips to reduce the glycemic index of higher carb foods. Remember, eat higher glycemic foods infrequently, and when you do, watch your portion size!



- ✓ **Nuts:** Recent studies show that almonds, pistachios, or peanuts, when eaten along with high glycemic index carbohydrates can reduce body's glycemic response by 30% to 50%! Nuts also decrease meal-induced oxidative stress, offering powerful antioxidant protection.
- ✓ **Fish Oil:** Fish oil reduces triglyceride levels after a meal by 16% to 40%! Researchers believe that some of the heart protective effects of fish oil can be attributed to these improvements in post-meal lipid levels. (Try Carlson’s Fish Oil)
- ✓ **Vinegar:** Recent studies show that 1 to 2 tablespoons of vinegar, when added to a meal containing high-glycemic-index foods will both: lower post-meal glucose levels by 25% to 35% and increase satiety by more than two-fold!
- ✓ **Cinnamon:** This tasty spice slows gastric emptying and reduces the body’s insulin response after a meal.
- ✓ **Red Wine:** In healthy individuals, one to two drinks immediately before a meal will significantly lower post-meal glucose and insulin levels. What's more, moderate alcohol also increases insulin sensitivity and glucose metabolism for the following 12 to 24 hours. Opt for organic red wine to get the most antioxidant and anti-inflammatory benefits and check out our [Organic Wine Cellar](#).
- ✓ **Dark Chocolate & Berries:** These antioxidant-rich treats are the perfect ending to a meal. That's because they help to protect the vascular endothelium from post-meal oxidative damage and inflammation.
- ✓ **Whey Protein:** A recent study found that adding whey protein to a pure glucose drink (GI=100) reduced the associated blood sugar spike by 56% and increased insulin response by 60%. (Try [The People’s Chemist Whey Advanced](#))

Put Dessert Back on the Menu!



Now that you've learned how damaging sugar is to your health, you may be thinking dessert is out of the question. *Certainly not!*

And that doesn't mean you need to turn to poisonous artificial sweeteners either. In fact, they're even more harmful than the "white devil" itself (learn more about the dangers of artificial sweeteners in ***Organics: Beyond Green***).

Thanks to a new line of all-natural, low-glycemic sweeteners, you can still enjoy your favorite desserts without worry of chemical contamination.

- **Erythritol:** It's hard to believe this "almost sugar" has zero calories and zero glycemic impact. What's more, this "sugar alcohol" is all natural and works perfectly in all of your favorite recipes. Pick up a bag *ZSweet* and *Wholesome Sweeteners Zero*. And check out [Wellness Bakeries](#) for delicious indulgences sweetened with this guilt-free sweetener.
- **Stevia:** Finally, this super-sweet, all-natural herb has received approval for use in food products. 300 times sweeter than sugar, a little goes a long way. Use it to boost the sweetness of your favorite foods and as a complement to erythritol. We like SweetLeaf.
- **Xylitol:** Another sugar alcohol, xylitol is most often found in gum, candy and mouthwash. While you can bake with it too, it has a "cooling effect", so we recommend using erythritol instead. The glycemic index of xylitol is 11, with a glycemic load of 1.
- **Agave Nectar:** Derived from the same cactus that gives us tequila, agave nectar is a unique low-glycemic sweetener touting a glycemic index of only 10, and a glycemic load of 1. Despite its low glycemic profile, it still has some sugar and should be used in moderation.



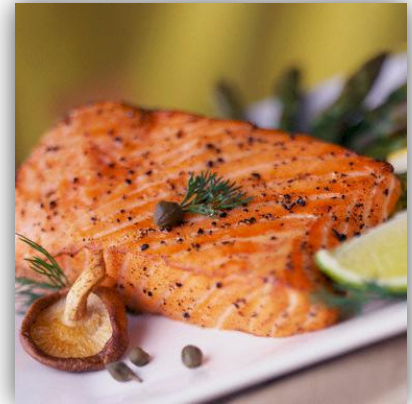
Sweet Surprises! In addition to enjoying delicious healthy desserts made with the sweeteners we just discussed, you might be surprised to learn that some of the sweetest foods have very low glycemic scores. That's because these foods have very little starch and a healthy supply of soluble fiber (which you learned about on p. 4). And they're teeming with antioxidants to boot!

- ✓ Cherries: GI=22, GL=3
- ✓ Blueberries: Estimated GL*=6
- ✓ Raspberries: Estimated GL*=3
- ✓ Cocoa: Estimated GL*=4

* Values are estimated.

Grass-Fed Meats, Pastured Poultry & Pork + Wild Sustainable Seafood

Packed with protein, meats are the #1 metabolic power ingredient. Not only do protein foods help to keep your blood sugar stable, they encourage *thermogenesis*—the conversion of body fat to energy.



It's important to note, however, that all protein is not created equal! In *Organics: Beyond Green*, you'll learn about the metabolic- disrupting contaminants found in "conventionally" grown protein foods like hormones, pesticides and PCBs. And in ***Fats That Heal, Fats That Harm***, you'll see how you can improve your ratio of healthy fats by choosing those wild, grass-fed and organic animal protein sources raised naturally.

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Grass-Fed Beef & Buffalo	0	0	0
Organic, Free- Range Poultry	0	0	0
Sustainable Shellfish	0	0	0
Wild Salmon + Other Sustainable Fish	0	0	0
Naturally Raised Pork	0	0	0



Got Grass? Grass is one of the most primitive of plants on the planet and a cornerstone of wellness for almost every living creature. Look at the animals grazing on global plains, the fish swimming in and out of an edible refuge and the birds plucking pieces for their nests. Grass is essential to life. And as omnivores, our bodies are prepared only to enjoy animal foods in their natural state. When we take grass away from the cow and the buffalo, it makes them more prone to disease due to abnormal bacterial growth (exactly like what happens to humans when our flora gets off track—see ***Your Body's Ecosystem***). That means it also changes the composition of their meat—shifting to inflammatory omega-6's from the feed of corn and grains. Ungulates (hoofed animals) natural diet is grass. And a diet of grass is very different from a diet of grain. In fact, grass-grazers produce more than double the amount of a tummy-trimming, cancer-fighting compounds called **conjugated linolenic acid (CLA)** than their feedlot counterparts. But the farm fable doesn't end there. See ***Organics: Beyond Green*** for more on why your body depends on pasture-raised meats.

Healthy Culinary Oils & Fats



Hooray for healthy fats! In addition to providing a glycemic index of zero, healthy fats are metabolic power ingredients— helping your body burn more calories.

What’s more, healthy fats provide an array of nutrients and help your body better absorb lipid-soluble antioxidants including lycopene, lutein and other carotenoids.

To learn more about boosting your absorption of nutrients and the safe cooking temperatures of oils see **Smart Cooks Age Better**. And to learn about the benefits of healthy fats (and dangers of unhealthy fats too!) go to

Fats that Heal, Fats that Harm.

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Organic Cold-Pressed	0	0	0
Extra Virgin Olive Oil	0	0	0
Coconut Oil	0	0	0
Avocado Oil	0	0	0
Almond Oil	0	0	0
Fish Oil	0	0	0
Walnut Oil	0	0	0
Sesame Oil	0	0	0
Flaxseed Oil	0	0	0
Borage Oil	0	0	0
Evening Primrose Oil	0	0	0
Wheat Germ Oil	0	0	0
Organic Butter	0	0	0



Were You a Victim of SnackWell Syndrome? You may remember counting grams of fat in the 1990s. And as you noshed on fat-free *this* and low fat *that*, you may recall the scale just kept creeping up, up, up! Many consumers made the logical leap that less fat in food meant less fat on the body. Of course, we now know this idea is fatally flawed. As manufactures squeezed the fat out of their products, they had to make them taste better. So they add more sugar (and salt!), leading to higher blood sugar levels... and ultimately more weight gain.

Organic Dairy

When it comes to dairy foods, those with added sugars (like ice cream) or those that naturally contain more lactose– or milk sugar– will be higher in carbohydrates and therefore higher on the glycemic index.



But what may really surprise you is that full fat milk products are lower on the glycemic index. The reason is two-fold: first, there's less milk sugar present and second, fat blunts the body's response to carbs.

Choosing organic dairy foods—preferably raw and from grass-fed sources– helps to reduce your exposure to hormones (including rBGH) and also boosts your intake of a metabolism-boosting, cancer-fighting fat called conjugated linolenic acid (CLA) in your diet. See ***Organics: Beyond Green*** and ***Fats That Heal, Fats That Harm*** to learn more.

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Organic Eggs	0	0	0
Organic Cheese	0	0	0
Organic Kefir	15	11	-
Organic Milk, Full Fat	39	27	3
Organic Skim Milk	46	32	4
Organic Yogurt	51	36	3
Ice Cream, Premium	54	38	3
Ice Cream, Low Fat	71	50	3
Ice Cream, Regular	87	61	8



Udderly Delicious! Buying organic, grass-fed milk is a great step to living a cleaner lifestyle. But opting for raw, grass-fed milk is even better. That's because pasteurization (the process of heating to kill bacteria) denatures proteins and creates harmful byproducts in the process like ***advanced-glycation endproducts (AGEs)***. These nasty byproducts do just what they say they will...and then some. The age you. They contribute to chronic disease. And they accumulate over time, meaning the more dietary damage you do, the tougher it is to wipe the slate clean. Because pasteurization is not selective, it kills all bacteria– including those that promote health. While heat can be a good thing for some foods (it unlocks lipid- soluble nutrients like lycopene and helps your body absorb them) in most cases it is a devitalizer, robbing foods of important enzymes needed for digestion and other components essential for wellness. To get real milk—RAW milk—that is, go to [Weston A. Price](#), [EatWild](#) or [RealMilk](#) to search for farmers in your area. Not only will you be helping yourself, but also supporting the growers of local foods—which travel less, taste better and benefit the earth.

Nuts & Seeds



Once maligned as “forbidden” foods, research proves that nuts and seeds are some of the most healthful, disease-fighting foods on the planet.

In fact, countless studies show that nut noshers have trimmer waistlines and less inflammation in the body. And as you might expect, those who enjoy these parcels of protection also have a lower risk of heart disease, diabetes, cancer and other lifestyle-related disease (learn more about how nuts and seeds fight the cornerstones of disease in ***The Food Cure***[™]).

Due to their high ratio of health fat to carbohydrate, nuts and seeds fall low on the glycemic index or have zero glycemic impact. Cashews and peanuts—neither of which are true “nuts—are the exception having a slightly higher carbohydrate count and glycemic impact than their shelled cousins. Still, they are an excellent low-glycemic food with low glycemic values that can be enjoyed without guilt.

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Almonds	0	0	0
Brazil Nut	0	0	0
Cashews	22	31	3
Chia Seeds	0	0	0
Coconut	0	0	0
Flax Seeds	0	0	0
Hazelnuts	0	0	0
Peanuts	21	15	1
Pecans	0	0	0
Pine nuts	0	0	0
Pistachios	0	0	0
Poppy Seeds	0	0	0
Pumpkin Seeds	0	0	0
Sesame Seeds	0	0	0
Sunflower Seeds	0	0	0



Nosh Nuts! A recent study published in FASEB found that 2 oz. of pistachios after a high glycemic meal (white bread, mashed potatoes, rice and pasta) reduced the glycemic impact of the blood-sugar spiking foods—by up to 20%. But that’s not all. Pistachios are also high in the amino acid *arginine* which boosts nitric oxide and relaxes arteries, helping to reduce blood pressure.

Leafy Greens & Non-Starchy Veggies

Unlike the foods that are primarily protein and fat (like fish, poultry, meats, oils, nuts, seeds and cheeses), leafy greens and non-starchy vegetables do contain some carbohydrate and therefore we've listed an approximate glycemic load score.



These low glycemic, nutrient-dense foods provide an array of anti-aging nutrients and should comprise the majority of your plate. Learn about how these foods guard against oxidation and help detoxify your body in ***Antioxidant Superfoods***.

Food	Serving Size	Estimated Glycemic Load (Per Serving)
Alfalfa Sprouts	1 cup	0
Artichokes	1/2 cup, hearts	2
Asparagus	1 cup	2
Avocado	1 ounce	1
Arugula	1/2 cup	0
Broccoli	1 cup, chopped	3
Brussels Sprouts	1 cup, chopped	3
Bok Choy	1 cup	1
Bamboo Shoots	1 ounce	0
Cabbage	1 cup, chopped	2
Cauliflower	1 cup, florets	2
Celery	1 stalk	0
Chicory	1 cup	0
Collards	1 cup, chopped	1
Cucumber	1 cup, chopped	1
Chard	1 cup, chopped	1
Dandelion Greens	1 cup, chopped	2
Eggplant	1 cup, cubes	1
Endive	1/2 cup, chopped	0
Fennel	1 ounce	1

Food	Serving Size	Estimated Glycemic Load (Per Serving)
Ginger	1 teaspoon	0
Garlic	1 clove	0
Green Beans	1 cup	3
Hearts of Palm	1 ounce	1
Kale	1 cup, chopped	1
Kohlrabi	1 cup, chopped	3
Lettuce	1 cup	1
Leeks	1/4 cup chopped	1
Mushrooms	1/2 cup, pieces	1
Mustard Greens	1 cup, chopped	1
Onions	1 ounce	1
Peppers	1 cup, slices	2
Purslane	1 cup	1
Radishes	1/2 cup, slices	1
Radicchio	1/2 cup, chopped	1
Spinach	1 cup	0
Summer Squash	1 ounce	1
Tomatoes	1 cup, cooked	4
Water Chestnuts	1 ounce	5
Watercress	1 cup	0



Power Up With Greens! Do you lack energy and feel “drained” most of the time? Then your *mitochondria*—the powerhouse of your cells that produce ATP (a.k.a- energy currency) — probably need a tune up.

In Dr. Mark Hyman’s brilliant new book “The UltraMind Solution”, he notes that our 100,000 trillion mitochondria consume 90% of our oxygen intake. While this oxygen metabolism is essential to life, it also create free radical byproducts. And these toxic compounds don’t just age us... but sap our energy too.

The good news is that you can re-energize your mitochondria by enjoying the potent detoxifiers found in nature. Make an energy-boosting salad of organic greens (especially those in the foods in the cruciferous family of veggies) including broccoli sprouts, collards, kale, cabbage, mustard greens, bok choy, arugula and watercress.

Need more ideas for fresh, delicious salads? Choose from hundreds at our website!

Legumes



Don't shy away from beans! Not only are most varieties very low glycemic (thanks to their high soluble fiber, high amylose content), but they're also packed with age-defying, disease-fighting antioxidants.

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Soy beans*	25	18	1
Black beans, soaked, cooked 45 minutes	28	20	5
Lentils, red	36	25	5
Kidney beans, boiled	39	28	7
Chickpeas	39	28	8
Lentils	41	29	5
Butter beans	44	31	6
Split peas, yellow, boiled	45	32	6
Lima beans, baby, frozen	46	32	10
Haricot/navy beans	54	38	12
Pinto beans	55	39	10
Chick peas, curry, canned	58	41	7
Black-eyed beans	59	41	13
Pinto beans, canned	64	45	10
Romano beans	65	46	8
Baked beans, canned	69	48	7
Kidney beans, canned	74	52	9
Lentils, green, canned	74	52	9



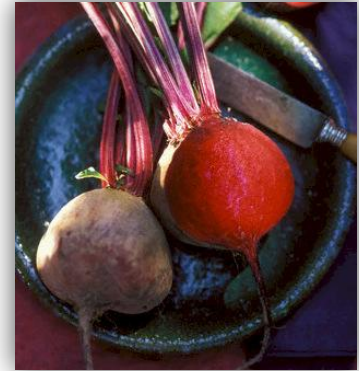
Fiber, Starch & Branches: These three factors determine the rate at which a carb-rich food will spike your blood sugar. Let's take a look.

- **Soluble Fiber:** The more soluble fiber a food has, the slower it will be broken down and the lower the GI value. Foods high in soluble fiber include legumes, berries, citrus fruits, acacia fiber.
- **Starch:** Foods containing less starch to gelatinize (or form a jelly) will have lower GI values.
- **Branches:** The ratio of a compound called amylose to amylopectin determines the rate at which a carbohydrate is broken down. Because amylopectin is branched, it is open to enzymatic attack by digestive juices and speeds digestion. Foods with a higher ratio of amylose to amylopectin—including beans, lentils, split peas and quick-cooking rice have lower GI values.

Root & Starchy Vegetables

While plain-old spuds get the boot in your low-glycemic kitchen, make sure sweet potatoes, beets, pumpkin, rutabagas and carrots keep a regular appearance at your table.

Why? Because despite their higher ranking on the glycemic index, they have a low glycemic load and also offer an abundance of health-promoting nutrients.



Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Yam	53	37	13
Sweet peas	68	48	3
Sweet potato (Canada)	69	48	16
Corn	78	55	9
Potato, new	81	57	12
Beets	91	64	5
Potato, steamed, peeled	93	65	18
Carrots, cooked	68	47	3
Rutabaga	103	72	7
Potato, boiled, mashed	105	74	15
Pumpkin	107	75	3
Potato, instant	118	83	17
Potato, baked (Russet)	121	85	26
Parsnips	139	97	12



Tasty Combinations... that Have Glycemic Merit! Concerned about the glycemic score of that baked organic sweet potato? Don't be. Just top it with some grass-fed organic butter or extra virgin coconut oil to deliciously slash its effects on your body's glycemic response. See p. 21 for *Tasty Tricks that Reduce Glycemic Impact* for more.

Fruits & Fruit Juices



When it comes to fruits, opt for organic berries, citrus and stone fruits (i.e– plums, peaches, apricots). Not only are these lower on the glycemic index, but they are also the highest in antioxidants and fiber, so you get more “bang” in each bite.

Love juice? You can still enjoy it. Just make a sparkler— mix 1 ounce organic juice with 7 ounces sparkling mineral water to reduce the glycemic impact, sugars and calories.

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Cherries	32	22	3
Grapefruit	36	25	3
Apricots, dried	43	30	8
Pear, fresh	53	38	4
Apple	54	38	6
Plum	55	39	5
Apple juice	57	40	12
Peach, fresh	60	42	5
Orange	63	44	5
Pear, canned	63	44	5
Grapes	66	46	8
Pineapple juice	66	46	15
Peach, canned	67	47	4
Grapefruit juice	69	48	11
Orange juice	74	52	13
Kiwi fruit	75	53	6
Banana	77	54	12
Mango	80	56	8
Apricots, fresh	82	57	5
Figs, dried	87	64	16
Raisins	91	64	28
Cantaloupe	93	65	4
Pineapple	94	66	7
Watermelon	103	72	4
Dates	147	103	42

Grains

Looking for the cause of the diabetes epidemic? The answer may lie at the bottom of the fatally-flawed USDA pyramid. Grains!

Cereal for breakfast, bread at lunch, rice or pasta at dinner. These quick-converting foods are not only nutrient devoid, but they also promote inflammation and encourage your body to store fat.

If that's not reason enough, grains cooked at high temperatures (like cereals, breads, snack bars, etc) contain a cancer-causing substance called *acrylamide* (see p. 18 of **Smart Cooks Age Better**).



Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Rye, whole kernels	48	34	13
Rice, long grain, boiled 5 minutes	58	41	16
Wheat kernels	59	41	14
Bulgur	68	48	12
Rice, parboiled (Canada)	68	48	18
Rice, parboiled, high amylose	50	35	14
Barley, cracked	72	50	21
Rice, long grain + wild rice (Uncle Ben's)	77	54	20
Rice, brown	79	55	18
Rice, wild, Saskatchewan	81	57	18
Rice, white	91	64	23
Basmati rice, white, high amylose	83	58	22
Couscous	93	65	23
Barley, rolled	94	66	25
Taco shells	97	68	8

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Cornmeal	98	69	9
Millet	101	71	25
Tapioca, boiled with milk	115	81	14
Rice, white, low amylose	126	88	38
Rice, instant, boiled 6 min	128	90	36
Amaranth	139	97	21



Label Lingo: A number of forward-thinking companies are formulating their products with lower-glycemic ingredients. And some are even testing their products on human subjects to ensure they have a minimal glycemic impact. Look for the “Glycemic Index Tested” seal of approval (to the left) and watch for the following natural ingredients you’ll see on product labels that help to drive the glycemic index down:

- **Oat Fiber**
- **Legume Flour (chickpea flour)**
- **Sprouting Grains**



Pick Up The Pace! Diet is only half of the equation when it comes to health and reversing diabetes. The other half involves some real work: exercise.

But you don’t have to be a gym rat or exercise for hours to get the benefits. In fact, you can improve your insulin sensitivity and blast fat in as little as two hours a week.

Our friends, Dr. Al Sears, M.D., “The People’s Chemist” Shane Ellison, and Craig Ballantyne have designed simple and effective workout plans tailored to melt fat... and all of the dangerous consequences that come along with it.

Exercise is not an option...it is a requirement. So get started and get off those meds with the help of these all-natural fitness experts:

- **[Dr. Al Sears: PACE Program](#)**
- **[The People’s Chemist: AM/PM Fat Loss](#)**
- **[Craig Ballantyne: Turbulence Training](#)**

Pasta

While pasta can make an *occasional* appearance in your low-glycemic lifestyle, you need to be smart about it.

When opting for pasta, reduce the glycemic index with some healthy fat (organic, cold-pressed extra virgin olive oil is the obvious choice) and watch your serving size.



Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Spaghetti, protein enriched	38	27	14
Fettuccine, egg	46	32	15
Mung bean noodles	47	33	-
Vermicelli	50	35	16
Spaghetti, wholemeal	53	37	16
Star pastina	54	38	18
Spaghetti, white, boiled 5 min	54	38	18
Ravioli, durum, meat filled	56	39	15
Spirali, durum	61	43	19
Spaghetti, white, boiled 10-15 min	64	44	21
Capellini (Angel Hair)	64	45	20
Linguine	65	46	22
Macaroni	67	47	23
Instant noodles	67	47	19
Tortellini, cheese	71	50	10
Macaroni and Cheese	92	64	32
Gnocchi	95	67	33
Rice pasta, brown	131	92	35



Lesser Evil Pasta...and The Best "Pasta" Option: Love pasta? Try Barilla PLUS. It's made with chickpea flour and flaxseeds, plus whole grains for a delicious, hearty pasta with a lower glycemic effect. Another great alternative – **Miracle Noodles** – the zero calorie noodle made with glucomannan – an indigestible fiber. Better yet, try baked spaghetti squash or steamed julienned zucchini—they're higher in nutrients, and you'll get an extra serving of veggies to boot!

Breads



The old adage “*The whiter the bread, the quicker you’re dead*” now has a scientific basis thanks to the glycemic index.

But the truth is, you should reduce whole-grain breads in your diet too. Less grains means better blood sugar balance, which equates to a leaner, more energetic you!

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Ezekiel 4:9 Sprouting Grain Bread	36	-	-
Barley kernel bread (coarse)	48	34	-
Multi-grain bread	61	43	6
Oat bran bread	68	48	9
Pumpernickel	71	50	-
Bulger bread	75	53	11
Cracked wheat kernel bread	76	53	11
Linseed rye bread	78	55	7
Pita bread, white	82	57	10
Hamburger bun	87	61	9
Semolina bread	92	64	-
Oat kernel bread	93	65	12
Barley flour bread	95	67	13
White bread, high fiber	96	67	-
Melba toast	100	70	16
Wheat bread, white	101	71	10
Bagel, white	103	72	25
Gluten free fiber enriched	104	73	9
Kaiser rolls	104	73	12
Bread stuffing	106	74	16
English muffin	109	77	11
Wheat bread, Wonderwhite	114	80	11
French baguette	136	95	15

Cereals

At a glance, it's quite obvious that cereal is not a "breakfast of champions". In addition to the high glycemic impact, cereals offer little more nutrition than fortified carbs and sugar.

Want a tastier and healthier way to start your day? How about an Anti-Aging Smoothie (made with whey protein and antioxidant-packed blueberries) or *Southwestern Scrambled Eggs*. Not only will these breakfasts keep you full longer, but they also kick up your body's antioxidant artillery (learn more in **Antioxidant Superfoods**).



Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Rice Bran	27	19	3
Kelloggs' All Bran	42	60	-
Kelloggs' All Bran Fruit 'n Oats	55	39	7
Kelloggs' Guardian	59	41	5
Porridge (made from rolled oats)	70	49	13
Bran Buds	75	53	7
Special K	77	54	14
Oat bran	78	55	11
Muesli	80	56	9
Kelloggs' Mini-Wheats (whole wheat)	83	58	12
Bran Chex	83	58	11
Kelloggs' Just Right	84	59	13
Quick Oats	94	66	17
Instant Oats	94	66	17
Life	94	66	15
Nutri-grain	94	66	10
Cream of Wheat	94	66	17
Puffed Wheat	105	74	-
Bran Flakes	106	74	13

Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Cheerios	106	74	15
Shredded wheat	107	75	15
Corn Bran	107	75	15
Total	109	76	17
Cocopops	110	77	20
Post Grapenut Flakes	114	80	17
Rice Krispies	117	82	22
Corn Chex	118	83	21
Cornflakes	119	83	21
Crispix	124	87	22
Rice Chex	127	89	23



On the Web: Visit our website and check out our healthy, low-glycemic, protein-packed [Breakfast Recipes](#). While a bowl of cereal averages a hefty 15 grams of sugar, you'll find dozens of quick, delicious breakfast recipes with less than five grams of sugar that boast age-defying nutrients to start your day off right including:

- *Southwest Scramble*
- *Low Glycemic French Toast with Blueberry-Agave Compote*
- *Open Faced Egg & Cheese Muffin*
- *Artichoke & Wild Salmon Eggs Benedict*
- *Chocolate & Peanut Butter Smoothie*
- *Anti-Aging Smoothie*
- *Sweet Potato Smoothie*

“Fake food – I mean those patented substances chemically flavored and mechanically bulked out to kill the appetite and deceive the gut – is unnatural, almost immoral, a bane to good eating and good cooking.”

- Julia Child

Sweeteners

If you think being healthy means giving up brownies, cake, cookies and ice cream, you're in for a sweet surprise.

With the latest all-natural, low glycemic sweeteners (including erythritol, stevia, xylitol and agave) you can have your cake and stay well too.



Food	Glycemic Index (White Bread)	Glycemic Index (Glucose)	Glycemic Load (Per Serving)
Erythritol	0	0	0
Stevia	0	0	0
Xylitol	11	8	1
Agave nectar, light 97% fructose	14	10	1
Fructose	32	22	2
Lactose	65	46	5
Honey	83	58	10
High fructose corn syrup	89	62	-
Sucrose	92	64	7
Glucose	137	96	-
Maltose	150	105	11



On the Web: At *Healing Gourmet*, dessert is definitely on the menu! But we promise you won't find a single cup of sugar on our entire website. In fact, most recipes have less sugar than what you'd get in half an apple. You see, we've become experts on this new breed of natural sweeteners (check out our ebook [Guilt Free Desserts](#) and our sister company [Wellness Bakeries](#) for the proof) and have transformed some of your favorite indulgences into decadent low-glycemic treats like:

- ✓ **Chocolate Soufflés** (3 grams of sugar/serving)
- ✓ **Pistachio Biscotti** (1 gram of sugar/serving)
- ✓ **Summer Berry Soufflés** (4 grams of sugar/serving)
- ✓ **Coconut Flour Brownies** (1 gram of sugar/serving)
- ✓ **Flourless Peanut Butter Cookies** (2 grams of sugar/serving)

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