



THE TOP 101

Foods that Fight Aging

*The best youth-enhancing foods to look and feel 10 years younger...
Protect your skin, organs, muscles, and joints to SLOW aging.*



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The Top 101 Superfoods That Fight Aging

The Best Youth-Enhancing Foods, Spices, Herbs, and Other Tricks to Look and Feel 10 Years Younger, Protect Your Skin, Muscles, Organs and Joints to SLOW Aging

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Contents

Introduction

- Chapter 1:** AGE's that Age Us
Minimize the Effects of AGE's
Foods that Combat AGE-ing
Supplements that Battle AGE's
- Chapter 2:** Blood Sugar, Insulin and Aging—The Damaging Effects of Sugar
The Trouble With Grains
Control Blood Sugar and Control Aging
Low Glycemic Foods
Herbs, Spices and Miscellaneous Foods that Lower Blood Sugar
Supplements to Lower Blood Sugar
- Chapter 3:** Inflammation—The Silent and Sneaky Partner of Aging
Fats and Inflammation
Anti-Aging, Anti-Inflammatory Foods, Spices And Nutrients List
Foods High in Anti-Inflammatory Fats
Anti-Inflammatory Herbs, Spices, Teas
- Chapter 4:** Oxidation and Free Radical Damage
Antioxidant Nutrients
Highest Antioxidant Foods List
- Chapter 5:** Fats Can Speed Up or Slow Down the Aging Process
Omega 3 Fats vs. Omega 6 Fats, It's All About the Ratio
Other Anti-Aging Fats
The Best Anti-Aging Fats List
- Chapter 6:** Two other vitally important nutrients that fight aging:
Vitamin D and Probiotics (very powerful)

Bonus: Eat Your Way to Smoother, Younger Skin

Introduction

What causes aging?

Some of the known causes of aging are a complex interaction of environmental, dietary and internal changes.

Many people think the answer to fighting aging is to spend hundreds, or thousands of dollars on expensive anti-aging creams and potions, injections of toxic substances and fillers, or going under the surgeon's knife. While this may seem to be the best 'fix' it actually is not.

You can actually stop and prevent much of your body's aging by making changes in your diet. And, the best thing is, changing your diet not only changes the way the world sees you, but it makes a very definite change in how you FEEL inside!



Suddenly you have tons of energy again, you are leaner, stronger, faster, more alert, and your moods are better. Your sex drive returns. Your sleep is better. Your joints hurt less or not at all. You look great. Your skin is softer and smoother. Your outlook on life will totally change when you realize you do not have to give in to aging and the chronic disease that comes with it.

You really don't need expensive, fancy skin creams or plastic surgery; you can start

making the changes today that will have a long term effect on how you look and feel tomorrow.

While you may not always have control over your environment, you do have a large amount of control over your diet, which in turn battles those things that accelerate and cause aging: Inflammation, Advanced Glycation End products (AGE's) and oxidation that go hand in hand to accelerate aging and bring on chronic disease.

These things occur within your cells and organs, (including your brain) and lead to the outward signs of aging like wrinkles and excess body fat, but also the less obvious (but more destructive) damage internally--to your bones, muscles, organs, brain and nerves.

How much damage, or how little damage occurs, in a large sense, depends on your diet. What you eat on a day-to-day basis can either hasten or slow down aging, and in turn, the chronic diseases that often accompany aging as well.

Have you ever noticed how some people don't look anywhere close to their actual age, while others look much older? Why is this? It's not JUST genetics.



So much of aging is your DIET. The food you eat can be either destructive or constructive and make your body either older or younger.

The answer to aging gracefully and remaining healthy, lean, strong, and disease free is in eating the right foods. Eating a wide variety of REAL, natural foods rich in antioxidants, low in sugar and starches, and plenty of the right types of fats will make a HUGE

difference in how you look and feel. It will make the difference between looking old before your time or looking way younger than your age.

Many of the signs of aging are actually the beginnings of chronic disease that we don't have to accept as inevitable. The wrinkles, weight gain, memory loss, loss of physical strength, loss of sex drive, inability to sleep, fatigue and bone loss are not things we have to accept as part of the normal progression of aging. And diseases like heart disease, osteoporosis, cancer, arthritis, and diabetes don't have to be part of aging either.



Many older adults are active, fit, strong, lean, athletic, productive people in great health. You can be this way too! The sooner you start with some positive dietary changes, the sooner and the better you can fight and reverse the signs of aging and disease.

Please note that most of the powerful anti-aging benefits we'll talk about in this manual can be obtained from natural foods, spices, herbs, etc. We may also mention a few supplements that we use ourselves and we believe to have powerful natural herbal ingredients that can be used in more concentrated forms than could be found in foods alone. These are optional of course, but can be a powerful addition to your anti-aging regimen.

Chapter One

AGE's That Age Us

What are AGE's?

AGE's are Advanced Glycation End products. AGE's can be either in the food you eat or formed within your body. AGE's occur when sugar molecules attach to protein or fat molecules without an enzyme.

So what's the big deal about this, you ask?

Well, AGE's are a serious promoter of aging in the body, as well as the beginnings of many chronic diseases. In fact AGE's are one of the biggest factors in diabetes, heart disease and others as well.



These AGE's form a sticky plaque-like substance in the brain, nerve tissue, and the rest of the body. It is reported that when AGE's are consumed, about 10-30% are absorbed into the body. The body's ability to eliminate these once they are absorbed is very limited, meaning that once these gunky, gooey, nasty things get in human cells, it's damage that cannot be fully undone.

While all human tissue is subject to damage by AGE's, the lining of blood vessels is especially sensitive, as well as certain nerve cells that can quickly accumulate damage—

especially in blood capillaries of the kidneys and eyes, brain and nerve cells, collagen, and your DNA. This is pretty serious and destructive stuff.

AGE's are responsible for wrinkly, sagging skin, damage to the pancreas that causes diabetes, and damage to blood vessels, which leads to the plaque buildup that causes heart disease.

Besides the irritation and inflammation they create in blood vessels, they damage collagen in blood vessel walls, which leads to high blood pressure. Glycation also weakens the blood vessel walls, can cause aneurisms and deadly hemorrhagic strokes.

AGE's also help form the sticky amyloid proteins and neurofibril tangles that take over the brains of those with Alzheimer's disease, causing severe memory loss and dementia.

They can easily damage the nerves, causing peripheral neuropathy and deafness, as well as attacking the tiny blood vessels in the eyes, which in turn can lead to blindness, as well as creating dangerous by-products that can become cancer.

The wide variety of diseases is the result of glycation interfering with the cellular function of the body and highly oxidizing byproducts.

As you can see, AGE's are highly destructive. Where do they come from?

Advanced Glycation End products are from two primary sources:

- From our diet (Exogenous AGE's)
- Internally produced in the body (Endogenous AGE's)

Any food that is browned or roasted such as brown bread, browned or grilled meat, bacon, crispy brown cookies, chips, crackers, etc. contains AGE's. They form whenever food browns with heat as in roasting, frying or grilling. Cooking food at high temperatures without water or liquids (as in frying) causes the sugars in the food to bind with the proteins or fats to form AGE's.

Any food that is high in fat, protein or sugar is likely to cause AGE's when cooked without water. Using water when cooking as in steaming, poaching or boiling helps to prevent the sugars from attaching to the proteins and fats and helps to prevent AGE's.

Cooking at a lower temperature also helps to minimize AGE's. And of course, eating a portion of your foods raw also minimizes AGE's that you consume.

You know that crispy skin on the roasted Thanksgiving turkey? That's full of AGE's. So are French fries, bacon, chips, and just about anything that is baked or fried to a golden brown. Even that juicy steak (the outer browned layer, not the interior), the brown outsides of that muffin or bagel, and that delicious caramel on your dessert are full of AGE's.

Processed, packaged foods often have added AGE's to enhance their flavor and make the food look more appealing. Caramel coloring is a good example of this. The list of foods with added AGE's also includes donuts, cakes, crackers, chips, dark colored soda, and even dark beer.

While it's important to try to reduce your intake of exogenous AGEs from browned foods as much as you can, keep in mind that you can also help counteract their effects in your body by eating a high-antioxidant diet.



Endogenous (or internally formed) AGE's occur in the body from the sugar and carbohydrates in the food you eat. Excessive sugar in the body (in the form of blood glucose) binds to proteins and causes glycation. People with chronically elevated blood sugar have the most damage from AGE's, such as those with type 2 diabetes or metabolic syndrome.

As nutrition expert Johnny Bowden says, "It's like putting sugar in your gas tank, it totally gums up the works."

Certain types of sugars such as fructose are much more likely (as much as 10x more

likely) to glycate in your body. If you look at the huge amount of foods that contain high fructose corn syrup, or the large numbers of people eating sugary, processed foods and drinks, is it any wonder why there are such high rates of cancer, diabetes, heart disease, and other inflammatory diseases?

So if you want to age slower, a big priority should be minimizing or eliminating high fructose corn syrup in your diet. That means it's very important to eliminate soda and other sweetened drinks. Note that the small amount of fructose found in natural whole fruits is generally healthy and well tolerated by your body. However, fruit juices should still be avoided as it concentrates the sugar in a higher amount than you'd get with whole fruit.

AGE's can be measured by the same test given to diabetics to monitor long-term blood sugar control. This relatively new blood test is known as the Hemoglobin A1c test.

For optimal aging, your A1C levels (whether diabetic or not) should be less than 5%, which would mean keeping your blood sugar level at about 90 mg/dl on average. While that seems fairly low by some conventional medical standards, this percentage is easily attainable if you eat the right foods to keep blood sugar stable.

Minimize the effects of AGE's

- Keep blood sugar low with a low carb/low sugar diet. Especially avoid the sugar that comes from fructose, as in high fructose corn syrup and fruit juices.
- Avoid or minimize grains —especially wheat and corn, as they tend to significantly raise blood sugar. And grains are often baked or fried to become crispy and brown, which makes them even higher in AGE's. Sorry, that includes that wood fire roasted pizza too, as well as donuts, muffins, pastries, and bagels.
- Cook meats at lower temperatures more often – Higher temperatures produce far more AGE's than slower cooking over low heat. Cook meat in broth if possible such as crock pot cooking as this dramatically minimizes AGE formation. Also rare and medium-rare meats have fewer AGE's than well done meats. Fried meats like bacon would have the highest concentrations of AGE's of any meats and should be limited to an occasional treat as opposed to a daily habit. Another example -- When cooking sausage, you can cook slowly over low heat and a tiny bit of water and covered with a lid to minimize AGE formation compared to pan frying over high heat.
- Eat vegetables and fruits raw, boiled, stewed, slow-cooked, or steamed – boiling

and steaming introduce water to the cooking process, which stops glycation.

- Avoid all processed foods. Not only are they higher in sugar content, they often have caramel coloring and other additives high in AGE's to improve color and appearance.
- Avoid browned, roasted, grilled, carmelized, or fried foods. If it's golden brown or brown, it most likely contains AGE's.
- Avoid dark colored sodas, dark beer, and anything with caramel coloring in it.

Combat AGE's With These Foods

All low-glycemic foods that don't raise blood sugar much
Kale, collard greens, or spinach
Tomatoes
Carrots
Sweet potatoes
Red, yellow or green peppers
Broccoli, cauliflower, Brussels sprouts
Artichokes

Berries
Cherries
Kiwi
Plums
Red or black grapes
Beans
Green tea, black tea, white tea, and rooibos tea
Cinnamon, Cloves and Turmeric

Supplements that Battle AGE's

- **L-carnosine** - An amino acid found in some proteins. L-carnosine helps prevent glycation by generating an enzyme that is able to counterattack AGE's that have already been formed. This supplement is said to decrease the risk of attracting neurodegenerative disorder and inflammatory diseases by removing the unsaturated aldehydes (sugars). Since meat contains this amino acid, eating meat is less likely to produce as many dangerous AGE's in the body as compared to eating breads and other browned carbohydrate sources.
- **[IC-5 blood sugar control](#)** – this is a very unique natural blend of herbal ingredients that have been proven to exhibit strong ability to control blood sugar from meals. And of course, lower average blood sugar means less formation of AGEs in the body. This unique blend is not available in stores and can only be found online at this page:

<http://tinyurl.com/ic5-blend>

- **Benfotiamine** - A fat-soluble synthetic form of vitamin B-1. This substance has been studied to stop AGE's from being formed. It blocks the biochemical processes that can cause vascular, nerve, kidney and retinal damage that are connected AGE's and high blood sugar levels. Benfotiamine is a synthetic supplement and not naturally derived from foods or herbs. Since this is a synthetic compound and not natural, I'd personally steer clear of using this as the long term side effects would be unknown at this point in time.
- **Pyridoxamine** - Vitamin B6 is involved in hundreds of beneficial enzymatic reactions in the body. This unique form of vitamin B6, called Pyridoxamine, is

thought to interfere specifically with toxic glycation reactions in the body.

- **Antioxidants** – Foods and supplements high in antioxidants will help to combat the damage that AGE's do in the body. Antioxidants that I prefer to get from food as opposed to a supplement are vitamin C and vitamin E, beta-carotene, zinc, selenium, quercetin, and flavonoids. However, two supplements that are particularly powerful antioxidants among other benefits include alpha lipoic acid (which is contained in the [IC-5 blood sugar control](#) supplement we just mentioned a few paragraphs ago), as well as [astaxanthin from Krill Oil](#) ... these 2 supplements can be a great addition to your anti-aging arsenal for reasons beyond just antioxidant power.
- **Spices** – spices such as cinnamon, ginger, turmeric, and cayenne all contain powerful antioxidants while also containing compounds that help control blood sugar response from meals. I choose to use all 4 of these spices (and many other spices too) liberally in any cooking and seasoning of foods. Since we may not always use these 4 spices in particular on a daily basis in foods, I also like to use capsules of these spices as a supplement on a daily basis as well.
- **Seanol P™**: This is a rare seaweed extract (from Ecklonia Cava) and one that is very intriguing. It has been found in ORAC testing to have 3.5x the antioxidant power of even blueberries!

The research on this super-potent natural antioxidant from the sea is extremely interesting and you can [read more about it here](#).

<http://tinyurl.com/seanol-p>

Chapter Two

Blood Sugar, Insulin and Aging—The Damaging Effects of Sugar

Besides the formation of the highly destructive AGE's, sugar, in all forms (fructose, sucrose, glucose, galactose, lactose and others) has other ways of inflicting serious damage to your body and speeding up the aging process.

Fructose is the worst of all sugars, but all forms of sugar that affect your body's blood sugar levels, as well as the resulting insulin can be harmful. According to Dr. Joseph Mercola:

“Fructose in particular is extremely pro-inflammatory, promoting AGE's and speeding up the aging process. It also promotes the kind of dangerous growth of fat cells around your vital organs that are the hallmark of diabetes and heart disease. In one study, 16 volunteers on a high-fructose diet produced new fat cells around their heart, liver and other digestive organs in just 10 weeks.”

So the internally and externally, limiting sugar in all forms, will go a long way towards slowing down the aging process.

Sugar, especially fructose and sucrose, increase insulin levels, while decreasing your body's ability to effectively counteract that rise in blood sugar. This is a major cause of degenerative diseases.

Sugar in excess also weakens or paralyzes the immune system, making you more susceptible to infectious disease, or complications of minor diseases. For example, that minor cold can become the flu, pneumonia or bronchitis—and in some cases deadly if you are elderly and in frail health.

The average American eating a stereotypical Standard American Diet consumes 2.5 pounds of sugar a WEEK. And when you think about adding in the other processed foods such as white or wheat bread, pasta, pastries, and all the refined carbohydrates, which turn into sugar in the body, it's no wonder there is such a huge increase in diabetes.

Could it be that sugar is THAT bad? In a word...YES!

Let's define what we are talking about when we say 'sugar'. We usually think of sugar as the white stuff that sits in cute little bowls on our tables, or in those little packets at

restaurants. The truth is there are many different types of sugars and our bodies do not react to all of them in the same way.

“High fructose corn syrup” is the form of sugar that you see on virtually every label of processed or packaged foods, or in most soft drinks. There are many other forms of sugar but for now, let’s concentrate on the two most often consumed sugars, sucrose and fructose.

Regular white table sugar (and brown sugar) is called 'sucrose'. Sucrose is composed of one molecule of glucose bonded to a molecule of fructose. So, that makes sucrose about 50% glucose and 50% fructose. Fructose is 2x sweeter than glucose. Since table sugar is half fructose, it is lots sweeter than starches in potatoes, bread or other carbs that also turn into glucose in the body.

The more fructose in any type of sugar, the sweeter it is.



High fructose corn syrup is approximately 55% fructose and 45% glucose (but can vary higher in fructose content based on type). So that makes it sweeter than regular table sugar.

The harmful effects of sugar have to do with the way your body metabolizes the *fructose* portion of the sugar. For instance, if we eat 100 calories of starchy foods like pasta or potatoes (which is converted to glucose in the body) or 100 calories of sugar (remember basically 50/50% of glucose and fructose), they are metabolized differently and have a different effect in your body.

This is key:

- ***Fructose is metabolized by our livers.***
- ***Glucose from sugar and starches is metabolized in our cells.***

Why does this matter?

Consuming cane sugar or HFCS causes your liver to work very hard to process the

fructose. If that sugar comes in a liquid form like soda or fruit juice, the fructose hits your system instantly and causes your liver to go into overdrive in an attempt to process it. And the fructose in High Fructose Corn Syrup hits your liver even faster than regular cane sugar because the fructose is not bound to the glucose in it. So your liver gets a massive shot of fructose faster!

When fructose is ingested quickly in larger quantities, the liver converts it to fat. The fat becomes a substance called triglycerides, a key contributor to heart disease. Some of these triglycerides float around in your bloodstream and get stored as fat on your body.

However, excess fat is also stored in the liver. Ever hear of 'fatty liver disease'? When the liver starts storing excess amounts of fat, insulin resistance and metabolic syndrome follow, and not far behind then, is type 2 diabetes.

The result—accelerated aging, chronic disease and sometimes, eventually death—all from excess sugar.

Some other ways fructose accelerates aging and disease:

- Fructose elevates uric acid, which not only leads to high blood pressure, but also chronic, low-level inflammation which can affect virtually every system in your body to speed up aging and multiple chronic diseases. Ever heard of gout? This is a painful form of arthritis in which the uric acid forms crystals on joints, mainly in the feet and hands.
- Fructose tricks your body into gaining weight by turning off your body's appetite-control system. Consuming foods containing fructose actually makes you hungrier, by confusing your hormones. You don't feel full when you should, so you keep eating.
- Fructose quickly and easily leads to weight gain and abdominal obesity (yes, this is where the dreaded "belly fat" comes from), decreased HDL (good cholesterol), increased LDL (bad cholesterol), elevated triglycerides, elevated blood sugar, and high blood pressure, which leads to metabolic syndrome. And of course, it can continue straight to obesity, diabetes and heart disease.

In 1980, only about 1 in 7 Americans were obese, and about 6 million people had diabetes—it was not nearly as much of a common disease as today. Today, 1 in 3 Americans are obese, and 19 million Americans have diabetes, according to the National Diabetes Fact Sheet (2011).

Another seven million people are estimated to have undiagnosed diabetes. That's 26 million people! Add to that another 79 million people with 'pre-diabetes'.

That's staggering!! That combined number is approximately 100 million people with diabetes or pre-diabetes in the United States. That's one third of the population!

Diabetes leads directly to premature aging (including wrinkly, saggy skin) and more serious complications including:

- Heart disease and strokes
- High blood pressure
- Blindness
- Kidney disease
- Nervous system disease (neuropathy)
- Amputations of extremities

We know that one of the most accurate predictors of heart disease and diabetes is a condition called 'metabolic syndrome'. According to the CDC (Centers for Disease Control) at least 75 million Americans have metabolic syndrome, and probably many more have it but have not yet been diagnosed.

What is metabolic syndrome? It means your body has become resistant to insulin, among other issues. Normally when you eat carbs or sugar, blood sugar goes up, insulin is then released to counter the rise in blood sugar, and blood sugar goes back to a normal level.

If your diet is high in sugars and starchy foods, your body is continually pumping out insulin to lower your blood sugar. Eventually your cells stop responding to insulin, and your pancreas cannot create enough insulin in response to the demand, and it becomes exhausted. Blood sugar levels begin rise out of control, and stay constantly high, until you end up with type 2 diabetes.

Add one more deadly disease that is tied directly to sugar and insulin—Cancer.

According to World Health Organization's International Agency for Research on Cancer: Your chances of getting cancer are much higher if you are obese, diabetic or insulin

resistant.

What's the connection? Sugar.

And, your chances of dying from a form of malignant cancer are way higher if your diet is high in sugar. Cancer researchers now know that the problem with insulin resistance and cancer is that as we secrete more insulin, we also secrete a related hormone known as 'insulin-like growth factor', and the insulin encourages bigger tumor growth.

Craig Thompson, president of Memorial Sloan-Kettering Cancer Center in New York, says many human cancers depend on insulin for fuel to grow and multiply. Some cancers develop mutations that actually feed off the insulin, and other cancers just take advantage of the elevated blood sugar and insulin levels from those with metabolic syndrome, obesity or type 2 diabetes.

Many of the pre-cancerous cells would never acquire the mutations that transform them into malignant tumors if they weren't being driven by insulin to take up more and more blood sugar and metabolize it.

The Trouble with Grains

When you take a look at the food supply of most modern societies, the common denominator is an overload of carbohydrates and processed grains—often combined with sugar or fructose (in the form of high fructose corn syrup).

Wheat and corn are two of the worst carbohydrates for blood sugar and aging.

Our Paleolithic ancestors didn't eat grains--at least nowhere close to the form we eat today. Nutritional archaeologists believe that the ancestral human diet before the agricultural revolution may have contained very small quantities of grains that could be gathered and added to soups or stews most likely. However, our Paleolithic ancestors had no way of consuming the massive quantities of grains that modern humans eat in everything from cereal, breads, muffins, pasta, and more foods that are considered "staples" of the modern diet.

And the consumption of grain in most countries has been steadily increasing for the last 30-50 years, to the point where grain is the primary food in many people's diets. As grain consumption has gone up, so have the numbers of obese and overweight people.

Of course, there are confounding factors involved in this increase as well, including a more sedentary lifestyle, and increases in sugar and HFCS consumption as well.

Today, flours are more refined than ever, missing fiber and essential nutrients. The modernized version of wheat, *triticum aestivum*, is very different from the wheat used by our ancestors. Modern wheat has been genetically altered through hundreds of hybridizations and manipulated to become a far different plant than it previously was.

The gluten proteins in modern wheat are much different than the gluten in the wheat of the past. This is possibly one of the reasons for the sudden increase in the incidence of celiac disease and gluten sensitivity.

Today's wheat is quite different than even just 50 years ago, as today's wheat has different levels of anti-nutrients and gluten with overall biochemical differences.

Essentially, big agra has hybridized wheat heavily over the last 5 decades to improve things such as crop yield and baking characteristics, but never once thought about the impacts on human health of changing the biochemical structure of wheat. Although the biochemical differences may seem small, it can have a major impact on how the human digestive system processes the food.

Dr. William Davis in his book, *Wheat Belly*, points this out with this passage... "*Wheat gluten proteins, in particular, undergo considerable structural change with hybridization. In one hybridization experiment, 14 new gluten proteins were identified in the offspring that were not present in either parent wheat plant.*" This means that modern wheat contains new "foreign" gluten proteins that the human digestive system has not adapted to properly digesting.



Scientists have begun in recent years to discover links between wheat and a whole range of inflammatory diseases, from rheumatoid arthritis, inflammatory bowel disease, gastro-esophageal reflux disease--to migraines and arthritis and more. Wheat can also cause low level, long-term inflammation possibly due to the gluten content, other anti-nutrients, or possibly even the extreme blood sugar response common from wheat foods.

Many people would never connect these symptoms with eating grains; but weight gain, emotional, physical, and mental symptoms are fairly frequent with gluten sensitivity.

Gluten sensitivity dramatically increases inflammation not only in the digestive system, but in the whole body system as well. Gluten sensitivity and celiac disease also block the absorption of important nutrients, creating deficiencies that lead to frequent illnesses, chronic disease, a weakened immune system, mental problems, and dementia.

Wheat also contains a type of carbohydrate called Amylopectin A that raises blood sugar shockingly high. Eating just two slices of whole wheat bread (the kind we're told by the media is "healthy") raises blood sugar higher than eating two Tablespoons of pure sugar.

High blood sugar leads to insulin release, fat storage, weight gain, production of AGE's, and inflammation. It's a vicious cycle.

All of this can lead to accelerated aging and chronic disease.

Corn may be just as big of a problem as wheat. Bumper crops of corn and government subsidies keep corn prices low, which in turn keeps many of the unhealthy items we buy at the store low-priced. Corn, in some form, is in an overwhelming majority of packaged foods that we buy from conventional grocery stores.

Contrary to popular belief, corn is a grain, not a vegetable, and is not appropriate as a dietary staple for several reasons. It has a very high sugar content and it blocks nutrients from being utilized in the body (from anti-nutrient content).

This evidence shows up in the archeological records of our ancestors and other ancient civilizations. When the Mayans and Native Americans changed their diets to a corn-based one, rates of anemia, arthritis, rickets, infectious disease, and osteoporosis skyrocketed, and the average lifespan of these natives shortened drastically.

Our bodies were not made to exist on grain-based foods as the bulk of our caloric intake.

Corn breaks down into sugar very rapidly in the body, which raises insulin levels, causes you to be hungrier and causes your body to store calories as fat. Don't be mistaken—just because corn does not taste obviously sweet, doesn't mean it isn't full of carbs that break down very fast into sugars. Once eaten, your body quickly turns corn and corn products into sugar. Even the starches in corn products are broken down very quickly in the body, spiking blood sugar levels, and causing cravings for more carbohydrate-based foods.

Corn contains high levels of phytate, a chemical that binds to iron and inhibits its absorption by the body. So, consequently, a diet high in phytate can make people more likely to have iron-deficiency anemia and fatigue. Phytate also inhibits other vitamins and minerals from being utilized, creating nutrient deficiencies that lead to illness, physical degeneration and aging.

Corn is also a poor source of important minerals such as calcium, magnesium and zinc, and vitamins such as niacin (B3). Deficiencies of niacin results in a condition known as Pellagra, which is very common in civilizations that eat a corn-based diet. It can cause a variety of health issues, such as dermatitis, diarrhea, and depression.

So, a diet high in processed grains—especially corn and wheat—actually hastens the aging process and causes increased inflammation and susceptibility to disease.

Keep in mind that even grains such as brown rice and oatmeal can have significant blood sugar impacts in your body, particularly if you're not an extremely active athlete.

Although rice and oatmeal have fewer issues with digestive system inflammation and anti-nutrients than wheat and corn do, it does not mean these are ideal foods to base your daily meal plans around. Once or twice a week is probably fine, but I personally would not consume these daily.

Control Blood Sugar to Slow Aging

Eating a more Paleolithic type diet that is mostly grain-free (or fairly low in grains) is a very good way to control blood sugar and the resulting AGE's as well. This type of diet emphasizes eating real foods, such as naturally raised (grass fed) meat and wild fish, along with ample amounts of healthy fats, while avoiding or minimizing grains, processed foods and sugars.

Foods higher in fiber are generally low glycemic, as well as foods that are primarily fat or protein. When eating a food that has a high sugar or starch content, such as fruit, pair it with a protein and/or a healthy fat to slow down the absorption in the digestive system. This helps to keep blood sugar lower and controlled as well. For example, if you have an apple as a snack, pairing that apple with nuts such as almonds (or almond butter), walnuts, or pecans helps to balance and slow the blood sugar response due to the healthy fats, protein, and fiber in the nuts.

Meats and other proteins such as cheese, eggs, fish and chicken are all low glycemic. Avoid processed meats, though, including lunchmeat and sausages, as these often have surprisingly high amounts of sugar in them.

Healthy fats also have very little, if any, effect on blood sugar, and help you to keep low and stable levels, which is ideal for keeping your rate of aging slower. Extra virgin olive oil, butter, avocados, cheeses, nuts, coconuts and coconut oil are all foods that help keep low and stable blood sugar levels.

Focusing on low glycemic foods and protein and healthy fat based foods instead of processed, packaged foods with added refined starches and sugar goes a long way towards avoiding blood sugar ups and downs.

Low Glycemic Foods to Keep Blood Sugar Stable

Walnuts

Peanuts

Cashews

Brazil Nuts

Macadamia Nuts

Pecans

Almonds

Pistachios

Peanut and Nut Butters

Avocados

Hummus

Chick Peas

Lentils

Yellow Split Peas

Green Peas
Carrots (raw)
Eggplant
Broccoli
Cauliflower
Cabbage
Mushrooms
Lettuce
Green Beans
Red Peppers
Onions
Cheeses, esp. Raw Cheese
Plain Yogurt
Sweet Potatoes
Buckwheat (in low amounts)

Brown Rice (in low amounts)
Quinoa (in low amounts)
Cherries
Plums
Grapefruit
Peaches
Apples
Pears
Dried Apricots
Coconut
Coconut Milk
Kiwi
Strawberries
Blackberries
Raspberries

Herbs, Spices and Miscellaneous Foods that Lower Blood Sugar Response



Many herbs and spices have been found to be as powerful as some medications in lowering and stabilizing blood sugar. But if you are on medication, always check with your physician to be sure adding spices will not interfere with your current prescription.

Cinnamon – Studies have shown that cinnamon improves insulin sensitivity and blood sugar stability with as little as a ½ teaspoon per day. When cinnamon was taken for 40 days, moderate doses of it (1 to 6 grams per day) actually reduced blood sugar levels by 18-29%, according to a study published in 2003 in the medical journal *Diabetes Care*. Best type of cinnamon to use—Saigon cinnamon.

Add a half teaspoon or so of cinnamon to your daily cup of coffee as a tasty way to enjoy the blood sugar controlling benefits!

Cloves – This spice contains powerful antioxidants, including anthocyanins and phenolic compounds. Cloves have antiseptic and germicidal properties, and they offer anti-inflammatory, analgesic and digestive health benefits. Clove oil can even be used to for pain relief from toothaches, headaches, and as a remedy for cough and even indigestion.

Cilantro and Coriander – The leaves of the cilantro plant are used in many foods, as well as its seeds (coriander). In Europe, coriander is often referred to as an "anti-diabetic" plant. Coriander is known to stimulate the secretion of insulin and lower blood sugar. It also has very beneficial effects on the cholesterol, lowering the LDL and raising the good cholesterol, HDL.

Cumin – Like cinnamon, cumin keeps blood sugar levels stable. Cumin has been proven to work as well as some commonly used diabetic drugs at regulating insulin and glycogen. Cumin is also effective at stimulating pancreatic enzymes, which help in digestion of proteins, fats and carbohydrates.

Fenugreek – Fenugreek seeds help with lowering blood sugar levels, particularly after meals. The active components of fenugreek are trigonelline, and 4-hydroxyisoleucine. These ingredients seem to stimulate insulin directly. This reaction is dependent upon high glucose levels, so it may not act in the same manner in lower blood sugar levels. The active components of fenugreek that help to control your blood sugar are contained in the [IC-5 blood sugar control](#) supplement we mentioned earlier, along with 4 other powerful blood sugar controlling herbal ingredients.

Ginseng – American ginseng contains a substance called, ginsenosides. Researchers have found that ginseng slows carbohydrate absorption, increases cells' ability to use glucose, and stimulates insulin secretion in the pancreas. Studies done at the University of Toronto showed that ginseng capsules can lower blood glucose 15-20%.

Sage - This herb contains phytosterols that, according to German study on this herb reduced blood sugar levels in diabetics who drank infusions of this herb. It is often used to flavor meat and soup dishes, but can also be drunk as tea.

Turmeric - Turmeric has properties of being able to block enzymes that change carbohydrates into glucose, thereby lowering blood sugar. One of the active ingredients in turmeric is curcumin, which induces the flow of bile, and in turn breaks down fats. I like to add turmeric to my eggs a couple times a week whenever I make scrambled eggs. And eating a curry dish a few times a month is not only tasty, but very healthy! I also take a couple capsules a day of pure turmeric to get a little extra since it's not a spice that we cook with daily.

Lemon Juice - Studies show that as little as 2 Tablespoons of lemon juice in a glass of water lowered blood sugar levels by as much as 20%. The effects appear to be related to the acids, as it is known that other acids can also have a blood sugar lowering effect. Acidity in food slows the natural rate of stomach emptying, resulting in a longer time for carbohydrates to be absorbed. I like to squeeze a couple lemon slices in my unsweetened iced tea throughout the day or in water with a meal.

Supplements to Lower Blood Sugar Response from meals

Alpha Lipoic Acid (ALA) – This super powerful antioxidant helps to control blood sugar levels and increase insulin sensitivity. Studies showed alpha lipoic acid rejuvenates and replaces damaged and aging, which are the powerhouses and generators of energy within our cells. ALA is especially known to raise glutathione levels, (one of the body's most protective antioxidant and detoxification compounds) to those of a younger person. It also acts as a strong anti-inflammatory agent, which helps prevent many degenerative diseases. ALA also improves body composition and lean muscle mass, glucose tolerance, and energy. ALA is thought to be a very promising treatment for obesity and diabetes type 2.

Note: You can reap the blood sugar and antioxidant anti-aging benefits of ALA along with 4 other powerful blood sugar controlling herbal ingredients in this [herbal formula called IC5](#) that I've been using recently and mentioned earlier.

Magnesium – It is thought that 80% or more of the populations of civilized countries have a magnesium deficiency, and this can worsen the effects of high blood sugar and insulin resistance. Some studies show supplementing with magnesium helps with

carbohydrate metabolism, improves insulin sensitivity, and lowers blood sugar levels, while it helps the body perform at least 300 different necessary enzymatic functions in the body. Magnesium also reduces the fasting blood sugar number in diabetics.

Chromium - This trace mineral is thought to enhance the action of insulin as well as being involved in carbohydrate, fat, and protein metabolism. Some research shows that it helps normalize blood sugar if there is a chromium deficiency.

Vanadium - This mineral is found in low concentrations in foods like mushrooms, shellfish and some spices like black pepper, parsley, and dill weed. As reported by the University of Maryland Medical Center, studies suggest that vanadium may reduce blood-sugar levels and improve sensitivity to insulin in people with type 2 diabetes.

Zinc - The mineral zinc helps the production and storage of insulin. People who eat a vegan or vegetarian diet (especially those who eat a lot of soy) tend to have zinc deficiencies. Foods that have zinc include fresh oysters, ginger root, lamb, pecans, split peas, egg yolk, beef liver, lima beans, almonds, walnuts, sardines, chicken and buckwheat.

Chapter 3

Inflammation—The Silent and Sneaky Partner of Aging

Inflammation is actually a product of our immune system, and is our body's protective response to injury, dangerous bacteria, viruses, or toxins. Normally it is part of a healthy immune response to prevent dangerous invaders from taking over our bodies.

We often become our own worst enemies when our overly active immune systems and the inflammatory response end up damaging our own bodies. And, unfortunately, once started, inflammation becomes difficult to turn off. Often inflammation is sneaky and silent, but can be deadly, too. Inflammation may be totally invisible to our own eyes, and often only specific blood tests can uncover high inflammation levels.



Why? Because many of the foods, additives and chemicals in our daily environment are substances that turn on our body's defenses.

It used to be thought that aging came with chronic inflammation, which then progressed to chronic disease. Over time, chronic inflammation can lead to breakdown of collagen, destruction of the joints, blood vessels, digestive system, brain and nerve tissue and other organ systems, and premature aging, disease and ultimately, death.

The idea of chronic inflammation and its connection to aging and disease has been around for many years, but it has only begun to be studied intensely in recent years.

Gerontologists have known for years that inflammation seems to increase with age, but

no one really was sure which came first—aging or inflammation. Inflammation also has a very strong connection to disease, especially chronic disease, so it was always thought that with aging came inflammation and, disease.

What we now know, though, is that aging does not have to be accompanied by inflammation, meaning that many of us can live to a ripe old age without chronic disease. Reducing inflammation in the first place, before it ages you faster and causes disease, can be largely controlled with the right diet.

According to Russell Tracy, professor of pathology and biochemistry at University of Vermont College of Medicine, and a pioneer in research that demonstrated the role of inflammation in heart disease:

“Inflammatory factors predict virtually all bad outcomes in humans. It predicts heart attacks, heart failure, diabetes, becoming fragile in old age, cognitive function decline, and even cancer...”

Primitive man needed a strong immune system to fight off dangerous and deadly diseases and infections. Today we live in a more “sterilized” world where our immune systems are exposed to much less bacteria and other microorganisms on a daily basis than was natural in our ancestors. In some cases, this is good (in terms of dangerous infections), but in a general sense for overall immune system strength, this is bad. While the ability to thrive and survive as humans had a lot to do with the strength of our immune systems, it seems in our new overly sterile world, our immune systems and inflammation have turned on ourselves.

Elderly patients with Alzheimer’s disease (a chronic, progressive, degenerative disease of the brain), show areas of the human brain clogged up with neurofibrillary tangles and plaques. These same patients show many inflammatory cells and cytokines (a product of the immune system response). Clearly Alzheimer’s disease has a strong association to inflammation.

In diabetes, inflammation and insulin resistance work their destruction together. High blood sugar raises the body’s inflammatory markers. The drugs that seem to restore insulin sensitivity are also effective at reducing the body’s inflammatory markers like IL-6 and CRP.

Even osteoporosis and depression may have inflammatory roots, along with age-associated weakness. Scientists have even found that inflammatory activity breaks

down skeletal muscle, leading to the loss of lean muscle mass. And on top of that, extra body fat tends to make these diseases strike earlier, because fat cells increase inflammation, and bring on accelerated aging.

Inflammation can be a very subtle process—one that you may not even be aware of.

Often low-level inflammation in our bodies is nothing like the raging infection, high fever or allergic reaction that you can't help but notice. Most chronic inflammation goes on at a much lower level. As inflammation in various parts of the body simmers in the background, over the years, damage begins to accumulate—in the heart, the brain, your nerves, your digestive system, your bones and joints and more.

So the question is:

Is inflammation a part of the aging process or does inflammation accelerate aging?

The answer is—you can control HOW you age and HOW FAST you age by controlling—and limiting—the inflammation in your body.

What you eat, and how much you eat has a definite effect on the level of inflammation in your body. Many of the processed foods, additives, chemicals, and pesticides in our food supply are known to increase inflammation. In addition, food sensitivities, eating the wrong types of fats, allergies, and gluten issues also increase inflammatory reactions.

And of course, limiting and controlling your blood sugar strongly affects inflammation and aging as well.



The typical high-carb/high grain, low fat diet that many people eat, is extremely

inflammatory. Refined sugar and other high glycemic foods make blood sugar and insulin levels rise, and put the immune system on high alert. High insulin levels also activate enzymes that raise levels of inflammatory arachidonic acid in your blood.

Much of the inflammation in our bodies begins in our digestive systems with sensitivities to common foods eaten every day like pasteurized dairy, corn and wheat. These foods contain proteins that easily spark the inflammatory cascade. You can be allergic or sensitive to any of these foods and not even know it—but they can be at work creating inflammation in your body.

Fats and Inflammation

Once thought of as healthy, polyunsaturated oils like safflower, cottonseed, sunflower, corn, peanut and soy, are primarily made up of omega-6 fatty acids. Our diets have an overabundance of omega 6 fats, which creates an unhealthy imbalance. Without enough omega 3 fatty acids to hold omega 6 fats in the proper ratio, the body turns the omega 6 fats into excess arachidonic acid, which is highly inflammatory.

The proper balance of omega 6 fats to omega 3 fats is about 2:1 or 1:1. Unfortunately, most diets (heavy in grains, vegetable oils and grain-fed meat) are out of balance with regard to omega 6 and omega 3 fats. A standard diet often has a ratio of about 20:1, omega 6's to omega 3's. A diet this heavy in omega 6 fats increases inflammation in the body.

Unnatural fats and hydrogenated fats, like trans fats, create free radicals that damage healthy cells and trigger inflammation. Trans fats are made by subjecting oils that are highly polyunsaturated to extreme high heat and pressure --to a point where there is a change in its chemical structure making the oil more oxidized and more inflammatory. Then extra hydrogen atoms are added to make it more stable for food preservation. Also, industrial solvents such as hexane are used to extract the last amounts of oil from the soybean or cottonseed, which adds to the inflammatory characteristics of the oil.

While artificial trans fats look chemically similar to their natural fat counterparts, they are far from natural. Eating these types of fats becomes an inflammatory disaster.

These unhealthy trans fats compete with omega 3 fats in our cell membrane (which is made up of fatty acids). When the cell membrane is made up primarily of omega 6 fats and trans fats, the membrane actually becomes less resilient and brittle, which limits

the exchange of nutrients. This poorly structured cell cannot fight dangerous invaders effectively, and eventually weakens and dies, often allowing dangerous pathogens to reproduce, unchecked in the body.



Both trans fats and excess omega 6 fats encourage the storage of body fat, especially in the abdomen. Excess belly fat, which can be measured as a waist size of 35 inches or more for a woman and 40 inches or more for a man, means higher levels of inflammation, since abdominal fat produces inflammatory chemicals in the body.

A diet heavy in omega 6 fatty acids actually increases wrinkling and aging of the skin as well leading to more cancerous changes from exposure to the sun. In test subjects, dietary omega 6 fatty acids increased levels of PGE(2), an inflammatory messenger chemical that promoted the growth of pre-cancerous and cancerous skin cell changes.

Fortunately there are several anti-inflammatory fats, which are highly effective in helping our bodies stay younger and fight the effects of aging and inflammation.

Omega-3 fats can include alpha linolenic acids (from flaxseeds, hemp seeds, chia seeds, walnuts and dark green leafy vegetables). ALA's are a short chain fatty acid that should be converted into the important long chain omega-3 fats, EPA and DHA. For many people on plant based (meatless) diets, the conversion rate is very low, which is why if one chooses to be vegan or vegetarian, at least supplementing with fish oil can be very important.

The anti-inflammatory properties of EPA have been studied at length and proven to fight inflammation and a variety of health issues from depression, to heart disease and cancer.

EPA or Eicosapentaenoic acid is a long chain omega 3 fatty acid found in oily, cold water fish and grass fed meats. It is important to note that grain fed meat and farm-raised fish contain primarily omega-6 fats, and wild-caught fish and grass fed meat contain much higher amounts of anti-inflammatory omega-3 fats.

DHA or Docosahexaenoic acid is another omega 3 fat found in fatty fish and grass fed meats. It is the primary omega 3 fatty acid in the brain and eyes, so an adequate supply of this essential fat is necessary for brain, nerve and eye function. Low levels of DHA are often tied to Alzheimer's, dementia and other mental illnesses.

I personally try to choose grass-fed meats and wild fish as much as possible... at least 5 days a week. It's a bit harder when traveling, so if your only choice is typical grain-fed meats, I'd suggest supplementing with some extra fish oil to help out your balance of omega-3 to omega-6 and get enough DHA and EPA.

[This is one of the highest quality, high spec fish oil products](#) I've found based on quantity of DHA and EPA and also lack of rancidity.

MUFA's

Monounsaturated oils like extra-virgin olive oil, oil from most nuts, avocados, and coconuts are rich in polyphenols and antioxidants that fight inflammation.



The anti-inflammatory strength of olive oil rests on its polyphenols. Its anti-inflammatory compounds contain nine different types of polyphenols and more than

twenty other anti-inflammatory nutrients. Monounsaturated polyphenols, like those in olive oil, are powerful inhibitors of inflammation.

These oils decrease the production of messaging molecules that signal to increase inflammation. They also contain enzymes that block the action of pro-inflammatory substances in the body. Olive oil especially is known to significantly lower levels of C-reactive protein (CRP), which is a standard medical laboratory test for inflammation—especially in the blood vessels and is a good predictor of heart attacks.

The most effective monounsaturated oils are ‘virgin’ oils meaning they are cold pressed and not heat processed. Heat destroys some of the valuable polyphenols and other nutrients in the oils.

Using monounsaturated fats to control inflammation does not require a large amount. As little as 1 or 2 Tablespoons a day are associated with significant anti-inflammatory benefits. When it comes to extra virgin olive oil, remember that it’s not a great idea to cook with that under high heat. Low to medium heat is okay, but high heat degrades some of the health benefits of olive oil.

Anti-Aging, Anti-Inflammatory Foods, Spices, and Nutrients

Certain spices, herbs and teas contain some very powerful compounds that fight inflammation. Some of the most powerful anti-inflammatory phytochemicals are in these herbs and spices:

- Turmeric
- Basil
- Thyme
- Cloves
- Oregano
- Sage
- Rosemary
- Ginger
- Cinnamon
- Chili Pepper and cayenne

Some of the spiciest anti-inflammatory additions to a meal are hot peppers--including jalapeños, habeneros, and cayenne peppers. Chili peppers of all types include capsaicin

(the hotter the pepper, the more capsaicin it contains), which is a potent inhibitor of a substance in the body associated with inflammation. Capsaicin also helps to raise metabolism and burn fat as well.

Green, white, oolong, and rooibos tea contain potent catechins, bioflavonoids and polyphenols that reduce inflammation and limit free radical production. Drinking 2 cups of these kinds of tea a day can reduce inflammation significantly, as well as adding powerful antioxidants that fight aging and disease.

Collagen is a structural part of skin, membranes and connective tissue in the body. It is a fibrous protein found in skin, bone, cartilage, lung tissue, blood vessels, tendons, and other tissues. Collagen forms a structure under the skin that supports the lower layers of skin. As we age, this connective tissue begins to degrade and the cellular proteins begin to clump together. This process causes wrinkling and sagging skin.

Collagen has been shown to reduce damage to joints, as well as reducing joint pain, tenderness and swelling. A Harvard Medical School study done on the effects of collagen and its ability to reduce inflammation and pain (Dr C Searling, Fresno CA), proved that collagen had very positive benefits in reducing oxidative damage to joints, and reducing pain, tenderness and swelling.

Collagen consists of 15% glucosamine and 15% chondroitin sulphate - two substances that are well known for their beneficial anti-inflammatory properties, particularly in joints. Bone broth and chicken feet contain large amounts of valuable collagen, and including the collagen from these rich sources in the diet can protect your joints as well as your skin. Simmering bones or organic chicken feet to make a delicious broth will help supply you with high quality collagen in your diet.

I also use a tasty drink a few times a week called [Fusion](#) (in orange and fruit punch flavor, sweetened with stevia) that contains hydrolyzed collagen protein... it has over 20 grams of protein and only 2 grams of sugar, plus 3 grams of fiber, so it's a great drink to have mid-day or late at night when you need to control your appetite and prevent cravings too!

As crazy as this might sound, I've also used the [orange flavored Fusion](#) drink mix on occasion as the low-sugar sweetener to make home-made margaritas and they come out delicious! Who would have ever thought of a high-protein, high-fiber margarita!

Vitamin C is one of the nutrients responsible rebuilding and maintaining collagen. And,

research suggests that people who don't get enough vitamin C may have a greater risk of developing arthritis.

Just one more good reason to include vitamin C-rich foods — such as guava, bell peppers (yellow, red, orange, and green), oranges, grapefruits, lemons, limes, strawberries, pineapple, broccoli, tomatoes, kiwi, and cauliflower — as a part of your daily diet.



Foods High in Anti-Inflammatory Fats (use a variety for max benefit)

Salmon
Sardines
Anchovies
Halibut
Mackerel
Tuna
Grass fed Meats
Free range, organic eggs
Walnuts
Almonds
Cashews
Pecans
Brazil Nuts (limit to only 3-4 a day to prevent getting too much selenium)
Pistachios
Avocados
Coconut
Macadamia Nuts
Extra Virgin Olive Oil
Flaxseeds
Chia Seeds
Hemp Seeds
Coconut oil

Anti-Inflammatory Herbs, Spices, Teas (use a variety for max benefit)

Green, oolong, white, and black tea
Red rooibos tea (highest antioxidants of all teas)
Herbal teas
Cloves
Turmeric, Curry
Ginger
Garlic
Rosemary
Cayenne
Cilantro
Parsley
Cinnamon

Rosemary
Basil
Cardamom
Chives
Cilantro

Misc. Anti-Inflammatory Foods

Chocolate (70-75% or more cacao to reduce sugar and maximize antioxidants)
Red or black Grapes
Kelp
Shiitake mushrooms (and all other mushrooms)
Papaya
Pineapple
Broccoli
Brussels sprouts
Cauliflower
Blueberries
Jalapeño Pepper
Habenero Pepper
Banana Pepper
Chili Peppers
Broth from Chicken Feet
Bone Broth (often forgotten superfood)

Chapter 4

Oxidation and Free Radical Damage

You can think of oxidation like rust, except the 'rusting' is in our bodies. Free radicals are chemically unstable molecules that attack our cells and damage DNA. Accumulated free radical damage to our cells brings about accelerated aging, chronic disease, and eventually, cell death.

Free radical damage has been linked to a variety of illnesses including cancer, arthritis, atherosclerosis, Alzheimer's disease, and diabetes. Free radicals are also known to be one of the possible causes of cancer, causing mutations in cells and the death of healthy cells.

Unfortunately, avoiding free radical damage is virtually impossible, as breathing, eating, exercising and just being exposed to the environment can cause some free radical damage. You can, however limit your exposure to free radicals by avoiding things like cigarette smoke, pesticides, pollution, trans fats, and other toxic substances. You can also counteract and protect yourself from the effects of free radicals by consuming all of the high-antioxidant herbs, spices, and foods we've been talking about in this manual.

Unstable free radicals in the body will do whatever it takes to capture the electron they need to stabilize themselves. Free radicals will attack nearby molecules to steal an electron, and when the molecule under attack loses an electron, it then becomes a free radical and repeats the process. This creates a chain reaction effect and the living cells in the body then becomes damaged.

The chain reaction that is caused by free radicals can cause a 'cross-linking' in DNA, which is the structure that is responsible for cell reproduction. When the DNA is damaged, it can cause wrinkles, sagging skin, diseases, and even cancer. Free radicals can cause oxidation of LDL cholesterol, helping to build up plaque in the arteries, leading to heart attacks and strokes.

When we are younger, our cells are protected from free radicals with a substance called superoxide dismutase, or SOD, that slows down the chain reactions of the free radicals, but as we get older this protection does not work as well. So how do we tame the inevitable free radicals and protect ourselves as we age?

Fortunately there are many antioxidants available in the food we eat, and some of these foods contain large amounts of different types of antioxidants that protect cells in a variety of ways. Antioxidants can travel around the body looking for free radicals and neutralize them before they can do much damage to our cells.

Scientists are still discovering new and different types of antioxidants and other phytochemicals in foods, but some of the better-known ones include beta carotene, vitamin C, astaxanthin, and more.

Antioxidant Nutrients



Carotenoids – These are the pigments that give many fruits and vegetables their bright colors. The red in the tomato you ate is red because of the carotenoid, lycopene. Carrots contain an antioxidant called beta carotene.

There are over 700 different carotenoids, but they are divided into two distinct groups: Carotenes and Xanthophylls. Carotenoids have a powerful ability to interact and neutralize oxidation in the body.

There are many different varieties of antioxidants. Enzymes can be antioxidants, vitamins can be antioxidants, and phytonutrients such as carotenoids are antioxidants as well.

Carotenoids not only fight free radical damage in the body, but also help to keep your skin looking smooth, young and wrinkle-free.

Recent studies have shown that many common foods have some antioxidant abilities, but most antioxidants are found primarily in brightly colored fruits, vegetables and some types of fish. For example, salmon is pink because it contains the antioxidant astaxanthin, which comes from the blue-green algae they eat.

Antioxidants work best when eaten with assortment of other antioxidants. Antioxidants work together and can actually be synergistic: Two or three antioxidants can have a combined effect greater than the sum of the individual antioxidants.

This is one of the reason why eating a diet of many different brightly colored fruits and vegetables is important. You cannot get the variety of antioxidants that you would get from eating brightly colored fresh organic produce from a bottle of vitamins.

Astaxanthin – Astaxanthin can be thought of as one of the primary anti-aging antioxidants. Its positive health benefits affect all areas of the body to fight aging. One of the most significant anti-aging benefits is at the cellular level. Astaxanthin has been proven to protect the cells from oxidative stress, and protect DNA, while increasing cellular energy.

Astaxanthin's powerful antioxidant activity can target specific health conditions and fight accelerated aging of internal organs and tissues. Astaxanthin is highly protective of the brain and nerve cells, which are very sensitive to the ravages of oxidative stress.

Astaxanthin has also been proven effective at preventing cataracts, ulcers, and the additional stress of oxidative damage from diabetes. It is known to prevent many different types of cancers and well as boosting immune function significantly.

The best sources of natural astaxanthin are shellfish, wild salmon, trout, and [Krill Oil](#). I personally take krill oil daily to make sure I get ample amounts of anti-aging astaxanthin since I don't necessarily eat shellfish or salmon every single day.

Anthocyanins - Another type of powerful antioxidants that help reduce inflammation by inhibiting production of certain inflammatory chemicals. These compounds contribute to the health of connective tissue in our skin and muscles, and are even more powerful than vitamin C for fighting the free radicals that irritate body tissues and cause inflammation. Anthocyanins in foods can be identified usually by their dark red, purple or blue colors. Some of the best foods for anthocyanins include cherries, blackberries, blueberries, eggplant, elderberries, raspberries, red and black grapes, strawberries, and plums.

Beta carotene – A precursor to vitamin A that is found in egg yolk, spinach, carrots, squash, broccoli, yams, tomato, cantaloupe, peaches, pumpkin, and many types of peppers. Beta-carotene also makes its way into skin cells in your body and protects your skin from UV damage from the inside out!

Beta-carotene is converted to vitamin A in the body. Although beta carotene is an effective antioxidant, vitamin A is not, and can be toxic to the body when taken as a supplement in too high of doses. Beta-carotene from natural foods on the other hand, could never be ingested in too high of quantities as your body simply shuts down the conversion to vitamin A when the body has what it needs.

Lycopene – This antioxidant is found in red fruits and vegetables such as tomatoes, red bell pepper and watermelon. Lycopene’s potency actually increases with cooking, so tomato sauce and tomato paste have higher amounts of lycopene than fresh tomatoes. Lycopene can also boost levels of procollagen in the skin, which suggests that it helps reverse or slow the aging process.

Polyphenols – Green, white, and oolong tea contain antioxidants called polyphenols that boost the ability of skin to protect itself from the sun. Drinking 2-4 cups of green tea a day will have major antioxidant and skin-protecting benefits. Dark chocolate (greater than 70-75% cacao content) contains a rich supply of polyphenols as well.

Selenium – This trace mineral is required for proper function of the body's antioxidant enzyme systems, as well protecting the thyroid’s function. Selenium also helps support high levels of glutathione. Brazil nuts are rich in selenium, and just a few of these will supply you with the necessary amount needed in a day. Note that brazil nuts are the highest known food source of selenium and I’ve seen some sources suggest you could overdose on selenium by eating too many brazil nuts too often. Eating 2-4 Brazil nuts a day is great, but beware of eating an entire bag as you could get too large of a dose of selenium.

Vitamin C – This powerful antioxidant is a water-soluble vitamin found in citrus fruits, green peppers, cabbage, spinach, broccoli, kale, cantaloupe, kiwi, and strawberries.

Alpha Lipoic Acid (ALA) – This powerful antioxidant protects cells and preserves cell energy. Studies showed alpha lipoic acid rejuvenates and replaces damaged and aging mitochondria, the powerhouse and generator of energy of our cells. It also helps to restore levels of glutathione levels, one of the most powerful and protective antioxidant

and detoxification compound, to those of a younger person. ALA also improves body composition and lean muscle mass, glucose tolerance, energy, and helps boost levels of Glutathione.

And as we talked about earlier in this book, ALA is also a powerful blood-sugar controlling substance, which works great in conjunction with cinnamon and several other herbs/spices to significantly control blood sugar response from meals, and thereby support fat loss efforts as well as reducing production of AGEs inside your body.

In the past, I personally sourced cinnamon capsules, ALA capsules, and fenugreek caps separately, but I recently started using a powerful synergistic blend of blood sugar controlling herbal ingredients including cinnamon, ALA, fenugreek, and two other ingredients already combined into [one product called IC5](http://tinyurl.com/ic5-blend).

<http://tinyurl.com/ic5-blend>

Glutathione – The most powerful antioxidant in the body. Glutathione is critical to help the immune system fight infections and prevent cancer. As you age, your body loses the ability to get rid of toxins effectively, leaving you more susceptible to unrestrained cell disintegration from oxidative stress, free radicals, infections and cancer. This happens when the liver gets overloaded and damaged, making it unable to do its job. Toxins actually stick to glutathione, which then carries them out via the digestive system and bowel movements.

Glutathione also helps us reach our peak physical function. Research studies show that raising glutathione levels decreases muscle damage, reduces recovery time, increases strength, and endurance and lean muscle development. The top British medical journal, the *Lancet*, found that healthy young people had the highest glutathione levels, while healthy elderly people had lower levels, and the sick and hospitalized elderly having the lowest of all.

Glutathione can be found in vegetables containing sulfur such as garlic, onions, and cruciferous vegetables such as broccoli, Brussels sprouts, cauliflower, arugula, watercress, cabbage, etc, or can be taken as a supplement.

Highest Antioxidant Foods to Protect Your Body from Oxidation

Cranberries	Elderberries
Blueberries-especially wild blueberries	Peppermint
Pomegranates	Artichokes
Grapes	Red Kidney Beans
Kale (and all other leafy greens)	Pinto Beans
Blackberries	Currants
Prunes	Pistachio
Pecans	Garlic
Sweet Cherries	Cilantro
Black Plums	Raisins/Grapes
Black beans	Apples
Spinach	Figs
Broccoli	Gooseberries
Kiwi	Goji Berries
Liver	Apricots
Egg yolk	Peanuts
Butter (only grass fed)	Cabbage
Carrots	Guava
Squash	Mangosteen
Sweet potatoes	Red Cabbage
Tomatoes	Black Cherries
Peaches	Asparagus
Mangos	Pears
Papaya	Broccoli
Quinoa	Sweet Potato
Acai	Oranges
Parsley	Chives
Cocoa	Cashews
Sage	Beets and Beet Greens
Thyme	Avocados
Basil	Arugula
Ginger	Navy Beans
Tarragon	Radishes
Macadamia Nuts	Green Leafy Lettuce
Russet Potatoes	Red Onions
Grapefruit	Alfalfa Sprouts
Tangerines	Brazil Nuts

Lemons
Green Tea
Red, Yellow and Green Peppers
Portabella and Crimini Mushrooms
Eggplant
Red Rooibos Tea
Chickpeas
Limes
Bananas (occasional due to high sugar)
Fennel
Cantaloupe
Cucumber

Extra Virgin Olive Oil
Shiitake Mushrooms
Peas
Pine Nuts
Leeks
Pineapple
Pumpkin
Squash
Black Tea
Watermelon

Chapter 5

Fats Can Speed Up or Slow Down the Aging Process

The DNA in our cells is coded with a life span. At the ends of each chromosome lies something called a 'telomere'. Telomeres protect chromosomes and prevent them from fusing into rings or binding with other DNA. Think of telomeres as being kind of like the little hard plastic ends on the ends of shoelaces. They keep the laces from coming undone. Telomeres do a similar thing with your chromosomes.

When a cell divides, as they do thousands of times every day, strands of DNA get snipped to in the process. The places that are snipped are the telomeres. These telomeres get shorter and shorter with each cell division. Eventually the telomere gets too short, and the DNA becomes damaged, putting a halt to the cell's ability to reproduce. This is when the cell dies, and where aging occurs.

Telomere length is an important marker of true biological age that accurately predicts illness and lifespan in many areas of health. The rate at which this happens varies greatly among individual people and cells. This is why some people may look and act older and may be more susceptible to age related disease than others.

How does this affect aging in our bodies?

Scientists can actually determine a cell's age and can estimate how many more times it may replicate by studying the length of the telomeres in a person. Telomeres may be one of the keys to aging.

Omega 3 Fats vs. Omega 6 Fats, It's All About the Ratio

Recent scientific research shows omega 3 fats can actually slow down the rate at which telomeres on chromosomes shorten. The latest study conducted by scientists at Ohio State University (2012); on omega 3's and their effect on telomeres appeared in the Journal of the American Medical Association (JAMA).

The study showed that those that had the highest levels of omega 3 fatty acids also had the slowest rates of telomere shortening over 5 years. And the patients with the lowest

levels of omega 3's had fastest rate of telomere shortening.

What's more, taking omega 3 supplements actually *lengthened* the telomeres in the participants' DNA.

In other words, those with the highest levels of omega 3 fats aged much more slowly. Supplementing with omega 3 fatty acids also was also found to reduce the oxidative stress from free radicals—which is another reason for accelerated aging. And omega 3 fatty acids also lowered inflammation in this same study group.

As you already know, inflammation and oxidation are key to the beginnings of many chronic health conditions and is thought to be one of the reasons for advanced aging. Obviously anything that reduces inflammation has anti-aging benefits as well.

Omega 3 fatty acids have a very long list of health benefits including: preventing heart disease, protecting the immune system, helping weight loss, keeping skin smooth and preventing wrinkles, improving mental health, preventing cancer, and fighting overall inflammation.

By contrast, another study showed that the TYPE of fat eaten can shorten telomeres and accelerate aging. One of the worst types of fat appears to be omega-6 fats, not saturated fat, as the medical community would have us believe. The study also showed that the amount of food eaten also had a significant effect on telomeres. Those who ate the most food had shorter telomeres.

Omega-6 fatty acids have taken over processed foods. Omega-6 fatty acids come primarily from grains and processed vegetable oils. Meat, chicken and farmed fish are raised on grain, making these foods high in omega 6 fatty acids as well.

Omega-6 fats are one type of polyunsaturated fats, which are the most reactive type of fats to heat and light. This leaves them more prone to oxidation and free radical production. Omega-6 fats then become highly inflammatory in our bodies because of this.

Omega 6 fats are in potato chips, corn chips, french fries, bottled salad dressings, corn oil, soy oil, and other vegetable oils. Most anything you purchase pre-made from the grocery store has this type of fat in it.

Our primal ancestors ate a diet much higher in omega 3 fats from wild caught fish, grass

fed meat and dairy, and wild game. The omega 6 to omega 3 ratio many years ago was around 2 to 1. Today a typical modern diet in America or other westernized countries has about 20 times more omega 6 fats than omega 3 fats.

This unnatural balance of essential fatty acids causes excess inflammation and negative health effects. According to this study, eating excessive amounts of omega 6 fats appears to be one of the fastest ways to accelerate aging.

Eating more foods containing omega 3 fats will help fight aging internally and externally.

Studies also show proof that the types of fat you eat can actually determine whether you have more wrinkly, saggy skin or softer smoother skin—even as you get older. While some wrinkles seem to be an inevitable sign of aging, and accumulated sun damage, diet may be a key as to whether your skin will stay softer and smoother or look wrinkled and dry as you age.

A diet higher in omega 6 fats causes worse sunburns, and contributes to more skin damage from the sun (wrinkling) and is more likely to lead to skin cancer as well.

Omega 3 fatty acids prevent and reduce the damaging effects of the sun, and help the body prevent and fight off skin cancer from sun exposure. People who eat a diet higher in saturated fats and omega-3 fats have smoother, healthier skin, and younger, healthier bodies overall.

Other Anti-Aging Fats

Contrary to current medical opinion and what you hear in the news, saturated fats can be very good for you (from natural sources), and not only necessary for important healthy physical function and hormone production, but for the brain and nerves as well.

In spite of what you may have heard about saturated fat, it can certainly be a healthy part of your diet if from the right sources. Although often shunned as an unhealthy fat, saturated fats are important for hormone production, cell membranes, your immune system, and more. The best types of saturated fats include virgin coconut oil (the best source of healthy MCT fats), fat from grass fed animals, butter (grass fed is best) and in terms of cooking oils, even lard is a healthier choice than polyunsaturated oils like soy or corn oil.

Our brain and nervous system is made of saturated fats and getting this fat in our diets

is important for proper brain function as we age. Saturated fats also make up the surface of our lungs, making for easier breathing. Saturated fats actually help to strengthen the immune system, protecting us as we age from infectious diseases and cancer. Saturated fats are also important to cell membranes, giving them their necessary strength and integrity, while maintaining the flexibility they need. In other words, saturated fats are vital to every cell in our body, making them vital to protecting every body system as we age.



Some of the other ways eating a diet rich in saturated fats combats aging:

- Saturated fats are necessary for proper utilization of other essential fatty acids. The body retains omega 3 fatty acids better when the diet is rich in saturated fats.
- Saturated fats protect the bones by helping to calcium be utilized in the bones where it is needed for bone strength, making saturated fats important guardians against osteoporosis.
- Saturated fats protect the liver from toxins such as medications, alcohol and environmental toxins.
- Saturated fats lower a substance in the blood called Lp(a), or Lipoprotein(a), that indicates a potential for heart disease.

- Short- and medium-chain saturated fats have important antimicrobial properties. They protect us against harmful microorganisms in the body.

Saturated fats also help us look younger on the outside as well, by helping the skin to stay soft and smooth. People who eat diets rich in omega 3 and saturated fats have much smoother, less wrinkled skin than those who eat predominately omega 6 fats.

One of the best, anti-aging saturated fats is a saturated fat that comes from coconut oil.

Coconut oil is composed predominately of medium-chain fatty acids (MCFA). Fat molecules come in different sizes, and that size makes difference in how the fat is utilized. Fats are made up of Long Chain Fatty Acids (LCFA), Medium Chain Fatty Acids (MCFA), or Short Chain Fatty Acids (SCFA).

The majority of fats and oils in our diets, whether they are saturated, monounsaturated, unsaturated, or come from animals or plants, are composed of long-chain fatty acids (LCFA). Some 98 to 100% of all the fatty acids you consume are LCFA.



Coconut oil contains the most concentrated natural source of MCFA available in our diet. Because our bodies process MCFA's differently, the effects of coconut oil are uniquely different from those of other oils.

Coconut oil is actually used to help treat health issues including weight loss, skin conditions, allergies, inflammation, Alzheimer's, dementia, and strengthening the immune system.

Scientific studies have shown that coconut oil also has anti-microbial, anti-fungal, and anti-viral properties and is effective against candida, measles, giardia, listeria, (common food-poisoning pathogens), staph, and heliobacter pylori (bacteria responsible for stomach ulcers) and is even being used and researched to help support the health and immune systems of HIV/AIDS patients.

Virgin coconut oil actually has a beneficial effect in lowering total cholesterol, triglycerides, and low-density lipoproteins (LDL-the bad cholesterol) and so is good for

the blood vessels and the heart.

Compared to carbohydrates, medium-chain triglycerides are a better and more efficient source of quick energy. Most oils, are broken down into fatty acids that circulate through your body after you eat them, and hungry fat cells in our bodies readily store these as fat. MCFA's also have muscle-sparing effects. As a result, they can help build lean muscle, which also helps control your metabolism to stay lean.

Researchers are now looking into the exciting possibility of using coconut oil as a treatment not only for Alzheimer's disease but also for Parkinson's disease, Huntington's disease, multiple sclerosis and amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease), drug resistant epilepsy, and diabetes.

Obviously this saturated fat has great anti-aging properties, as you can see.

The most important change you can make in your diet is to replace all the refined vegetable oils (soybean oil, corn oil, safflower oil, sunflower oil, etc.), margarine, shortening, or hydrogenated oils you may be currently using in your food preparation with healthy saturated fats including virgin coconut oil, grass-fed butter, and extra virgin olive oil.

The Best Anti-Aging Fats

Omega 3 Fats

Sardines

Salmon

Trout

Mackerel

Cod

Herring

Grass fed meats: beef, lamb, goat, bison, etc

Pasture raised chicken and eggs

Grass fed dairy

Walnuts

Hemp seeds

Chia seeds

Flax seeds

Monounsaturated Fats

Extra Virgin Olive Oil

Almonds

Cashews

Pistachios

Pecans

Macadamias

Avocados

Olives (black and green)

Saturated Fats

Lard (from pasture raised animals)

Virgin coconut oil

Grass fed beef fat

Butter and cheese from grass fed cows

Chapter 6

Two remaining vitally important nutrients that fight aging:

Vitamin D

Vitamin D is of primary importance to optimal health, and can affect everything from your immune system (one of the biggest reasons people tend to get sick in the winter more than summer), to hormone balance, weight gain or loss, muscle strength, bone density, cancer risk, and mental health. Other studies show that vitamin D helps with rheumatoid arthritis, type 1 and type 2 diabetes, blood pressure, and heart disease.

And most importantly, vitamin D has been scientifically proven to slow the aging process!

And while some of us may be younger and some of us are older, the one fact you cannot argue with is that we are all growing older—whether its fast or slow--so anything that helps us age better is something we can all use.

In a recent British study of over 2100 female twins, scientist looked at telomeres, which are the part of DNA that shortens with aging. (Twins have very similar DNA, so differences were easily noted within the experiment.) One group of the twins was taking vitamin and mineral supplements and the other was not. At the end of the test period, the telomeres of each group were measured.

Telomeres are the lengths of genetic material that cap the free ends of DNA in a cell, and are one of the most reliable measures of aging. As a person ages, the telomeres shorten and the DNA becomes more unstable until eventually the cell dies. While telomeres are all the same length at birth, lifestyle factors such as diet, nutrition, exercise, and other environmental factors will speed up or slow down the length of time it takes for these to deteriorate.

The study found that those with the *highest vitamin D levels had significantly longer telomeres*, according to the American Journal of Clinical Nutrition, meaning that those with higher levels of vitamin D aged more slowly. And the best part--

Researchers found that those in the study with the **highest vitamin D levels had DNA that was the equivalent of five years' younger!**

This is one of the reasons that vitamin D has such a strong protective effect on many age-related diseases such as cancer and heart disease.

Vitamin D is primarily made in the skin after exposure to mid-day sunlight (not early morning or late day sunlight). It actually takes the UVB rays to convert the sunlight on your skin to vitamin D. Getting sunshine on your skin for at least 20-40 minutes in the *middle of the day*, when UVB rays are present, is the best way to get natural vitamin D, based on your skin pigmentation (darker-skinned people need more, and lighter-skinned people need less).

Important note: Vitamin D production in your skin only happens from UVB exposure and not UVA exposure. According to vitamin D researcher Dr. Joseph Mercola, while UVA rays from the sun make it to the surface of the earth regardless of the angle in the sky, the sun needs to be at least 50 degrees above the horizon for UVB rays to penetrate the ozone layer of the earth and make it to the surface.

Therefore, based on the latitude that you live, the time of day, as well as time of year, there are only certain times that the sun is actually greater than 50 degrees above the horizon. So keep in mind that you are only capable of producing vitamin D from the sun at any times of day or times of year that the sun is at least 50 degrees or higher above the horizon.

*By the way, the easy way to estimate what 50 degrees looks like is to think that 90 degrees would be the sun straight directly above your head, and 45 degrees would be halfway down to the horizon. So 50 degrees would be if the sun is just slightly above half way from the horizon to directly over your head.

As an example, in New York City (or any area at a similar latitude), in the strongest sun month of June, you might have a sun angle of 50 degrees or more above the horizon all the way from 930am through 430pm (just an estimate) ... However, once you get to September 1st and the sun is much lower in the sky, I'd estimate that you probably only have a sun angle above 50 degrees for only 2 hours mid-day. And once you get to October, the sun no longer goes above 50 degrees at all, even at mid-day.

To simplify, from around October to March, if you happen to live in the northern hemisphere, north of approx 30-35 degrees latitude (roughly north of a line from Los

Angeles, California, over to Atlanta, Georgia), the sun is too low in the sky to stimulate vitamin D production, even if you're outside on a sunny day at mid-day. And if you live even further north, like in Canada or northern Europe, you will need to supplement your vitamin D close to nine months or more out of the year.

The problem is that many of us have become so sun-phobic and afraid of skin cancer that we are now seriously lacking in this essential pro-hormone. But—increasing Vitamin D levels from regular small doses of sunshine can actually **decrease** one's cancer risk! According to Dr. William Grant, a noted vitamin D researcher, skin cancer rates in people living at higher latitudes, such as Iceland, are approximately **4 times higher** than the skin cancer rates of those living at the stronger sun areas in lower latitudes in the tropics. It may seem at first glance as one of those "paradoxes", but in reality, it's simply the anti-cancer protective effect of getting more vitamin D from regular sun exposure.

Our human ancestors functioned well with continual exposure to sunlight, which was estimated to produce levels of 10,000 to 20,000 IU of vitamin D a day in our ancestral skin!

Humans were never really designed to get vitamin D solely from food—we were made to get it from being outside in the sunshine. While many of the foods we buy may say, "vitamin D fortified", in truth, very few foods such as fatty fish (cod liver oil), eggs, and organic liver, naturally contain vitamin D. In fact, the paltry amounts of vitamin D in most vitamin D fortified foods means most people would need to eat 8-10 servings just to meet the current RDA (Recommended Daily Amount), and as we know, the RDA is the bare minimum, not the optimal amount.

The best form of vitamin D is from sun exposure. You cannot overdose on this kind of natural vitamin D; the body converts only what it needs for optimal health. However in winter months when the sun is not strong enough to create vitamin D, or if you are indoors during the day or live in a far northern latitude, you will need a supplement.

When choosing a vitamin D supplement, it is important to take the natural form of vitamin D, which is vitamin D3. The optimal healthy range of vitamin D in the blood is around 50-70ng/mg, which can be achieved by taking a supplement of at least 1000IU to 5000IU per day, according to Dr. Heaney at the Creighton University Medical Center.

According to Dr. Joseph Mercola's recommendation, however, some people may need more than 5,000 IU's of vitamin D3 per day to reach the optimal levels of 50-70 ng/ml,

which should be modified for the seasons if you are in the sun more during the spring and summer. Too much supplemental vitamin D can lead to toxicity, so it's a good idea to consult with your physician to get vitamin D levels measured to get a more accurate idea of how to much to take.

Personally, I'm very active outdoors in the summer with hiking, biking, and other activities, so I choose to only take supplemental vitamin D3 during the spring, fall, and winter.

Always take vitamin D with meals. When vitamin D is taken with the largest meal of the day, studies show the highest increase in blood levels of vitamin D. Since vitamin D is a fat-soluble vitamin, taking it with a meal that contains some healthy fats help it absorb in the body better.

I highly recommend an OIL-BASED vitamin D3 supplement as it's better absorbed by your body. Unfortunately, many D3 supplements use refined soybean oil as their oil of choice. [This D3 supplement is my favorite](#) and uses olive oil as the base instead of soybean oil.

Exciting new product I just recently found:

Here is a new product I started using recently called [Marine D3](#) (with Seanol P) and it's a very powerful mix of natural vitamin D3, a unique fish oil you can't find elsewhere called calamarine oil, and also a potent antioxidant from algae extract that has 3.5x more antioxidants than blueberries!

So that makes this a "triple-whammy" against aging!

<http://tinyurl.com/seanol-p>

Probiotics, Gut-Friendly Organisms

What are probiotics? Probiotics are tiny organisms that exist in a healthy human gastrointestinal tract.

Probiotics got noticed for the first time when a Nobel Prize-winning Russian microbiologist traveled to Bulgaria and observed people who were drinking fermented milk and living longer, healthier lives. For thousands of years many cultures ate fermented foods before refrigerators came about, as a safe way of storing and eating foods. Fermented foods are rich in beneficial bacteria that our bodies need for healthy functioning.

These probiotics are the good bacteria that populate our digestive systems. This lining of the intestinal tract in our bodies is key to optimal health. Healthy bacteria colonies help to break down foods we eat, manufacture and metabolize vitamins, and other vital nutrients, and filter out waste. But our intestinal organisms are even more complex than just that.

While the general health of the whole body, including our mental health depends on the ability of our digestive system to break down fats, proteins and carbohydrates in our foods into useable nutrients. It's these friendly bacteria, or probiotics that live in our guts that have a real impact on our overall health.

Unfortunately, today's modern diets are processed, pasteurized and basically 'dead' foods. What happens when people eat a diet heavy in processed, 'dead' foods, is that harmful bacteria then take over in the digestive systems, causing many problems—not only with the digestive system, but the body as a whole. Many diseases start in an unhealthy environment in our guts. And this becomes even worse from taking antibiotics. While antibiotics can kill dangerous pathogens, they also kill off the healthy and beneficial bacteria in our bodies as well.

Probiotic actually means "for life," and probiotics like *lactobacillus*, *plantarum* and *bifidis* help immune cells fight disease, prevent diarrhea and constipation, protect the mucous lining of the intestine, assist digestion and provide the proper nutrients for healthy blood cells. Probiotics are also responsible for the manufacture of B vitamins and vitamin K right in the intestines where are immediately absorbed.

The tiny organisms that live in our digestive system can have a huge impact on our health. And what we eat determines what kinds of organisms we have. Unhealthy,

processed, starchy or sugary foods can cause bad bacteria to grow out of control, making our immune systems weak, and affecting our ability to metabolize and synthesize vitamins and nutrients.

The intestines also function as one of the body's most important immune defenses. In fact, 70-80% or so of the body's immune cells are present in the intestines. Of course our immune systems protect us from dangerous viruses, bacteria, and parasites, but they also control responses to foods and food allergies as well.

The intestinal tract is the largest interface between the body and the external environment, and actually contains more surface area than our skin. Signals from nerve cells, endocrine cells, and immune cells in the intestines affect tissues and organs throughout the entire body. There are nearly a billion neurons in the intestinal nervous system.

It's really no wonder then that people say they have a "gut feeling".

Amongst this complicated and highly specialized system, live organisms that have a powerful effect on our health. These beneficial bacteria fight off dangerous organisms and potentially harmful invaders. Probiotics regulate our immune responses, and suppress excessive inflammation as well.

But too many antibiotics which kill off all bacteria, good or bad; toxins in the environment, and a bad diet high in sugar and starch will throw off this delicate balance. And yes, simply growing older can throw off this balance of beneficial bacteria too.

Negative changes in our intestinal flora can be associated with inflammatory bowel disease, cancer, cardiovascular disease and metabolic syndrome. It is now thought that many allergic reactions, asthma, and even obesity are tied to bacterial imbalances in the gut.

The good news though, is that adding the right types of probiotics and good bacteria will maintain or restore a healthy balance in your intestinal tract and improve overall health in the entire body, and fight aging.

For example, higher levels of beneficial bacteria are actually an aid to weight loss, as overweight people tend to have low levels of the right kinds of bacteria. This chronic exposure to unhealthy bacteria in the intestines causes system-wide inflammation and

can lead to metabolic syndrome, which, as you may already know, is the beginning of diabetes and heart disease.

The right probiotics can help to lower blood pressure, lower LDL cholesterol and improve insulin sensitivity. And most importantly, probiotics may play a major role in preventing cancers, both inside and outside the intestinal tract—especially cancers of the colon, liver and bladder.

Two types of bacteria, *Lactobacillus* and *Bifidobacterium*, have been found to be highly beneficial to health. Studies have shown that they can actually prevent potentially harmful bacteria from attaching to the lining of our digestive systems, help achieve the right acid-base balance for the intestines, support the gut lining and other intestinal microflora and provide strength and support for the immune system.

In two separate human studies it's been shown that probiotics directly improve the body's immune response. One study showed that ingesting probiotics for only a short time caused significant increases in the cytotoxic ability of natural killer cells. And, another study of subjects in their fifties who consumed a dairy drink with a strain of *Lactobacillus* found the same benefit.

Study after study has shown that probiotics help keep people healthier, especially the aging population. As you age, the immune system weakens and the healthy balance of bacteria and organisms in the digestive system begins to break down.

Although we typically think of probiotics benefiting just the intestines, they actually benefit the whole digestive system, including the mouth, throat, stomach, and vaginal tract.

Some of the other ways probiotics can benefit your body:

- **Probiotics can prevent wrinkles and give you a glowing complexion** by eliminating the toxins and fighting free radicals that can damage skin and cause early signs of wrinkling and sagging. And probiotics help you digest your food better, so you get more nutrients in your body.
- **Probiotics can help you burn fat better** by reducing cravings for carbohydrates, sugar and alcohol and help you have more energy to be more active.

- **Probiotics clean your liver** which is reflected in your skin and eyes. When you keep toxins from building up in the liver, you have younger looking skin with less liver spots, moles and skin tags, and you have bright, clear eyes.
- **Probiotics help your hair and fingernails grow faster and stronger** by keeping the blood vessels surrounding your hair follicles nourished. Healthy blood nourishes hair, skin and nails. Probiotics also help to break down proteins in the diet that benefit hair and nails.

Although probiotics have been known about for a long time, we are just beginning to understand just how important their role is in fighting aging, maintaining good health, strengthening the immune system, and fighting disease.

There are hundreds of probiotic products available in foods, drinks and supplement forms. The following tips can help you choose a high quality probiotic product:

- Make sure the probiotics are live cultures. Many yogurts and other food products brag about containing probiotics, but unless they are ‘live’, they won’t do any good.
- Look at how many CFU’s are present in each serving, and go for the highest number.
- Look for the type of bacteria present. Some of the better known ones are *acidopholus*, *lactobacillis*, and *bifido* bacteria. These strains are also highly beneficial: *Lactobacillus rhamnosus GG*, *Streptococcus thermophilus*, *bifidobacteria*, and *Saccharomyces boulardii*.
- If you are taking supplements, make sure the product is enteric coated, meaning that it will survive the acid environment in the stomach to get to the small or large intestine where it is needed.
- And most probiotics will die in a warm or hot environment, so be sure to buy from a trusted source that keeps their products cool enough to be viable.

Most probiotics do not have any adverse side effects but read labels carefully and take as directed. Some probiotics may have a very ‘cleansing’ effect on the digestive system—especially if you are not used to them.

Healthy Probiotic Foods

Yogurt-Avoid the sweetened, heavily processed yogurts, and instead go for unsweetened, plain, organic types of yogurt. And be sure the label says, “Live cultures”.

Kefir-A cultured milk product and is helpful to those with lactose intolerance. Kefir contains different types of beneficial bacteria than yogurt does, as well as beneficial yeasts. Kefir contains more bacterial strains that remain viable in the digestive system, increasing the likelihood of intestinal colonization.

Kombucha Tea-This tea is made from a culture of symbiotic beneficial bacteria and yeasts that has been popular in China for the last 2,000 years. Kombucha contains many important amino acids, B vitamins, and powerful substances that enhance the immune system. It’s also known to be effective against many cancers.

Kimchi (also spelled Kim Chee sometimes) -This traditional spicy Korean condiment is made of cabbage and other vegetables and seasoned with salt, garlic, ginger and chili peppers. Fermented vegetables make them easier to digest as well as increasing the vitamin levels. I like to have some Kimchi with my morning eggs for an extra probiotic boost.

Sauerkraut-This cabbage dish has been salted and lacto-fermented over a period of weeks. The healthy bacteria in sauerkraut produce beneficial enzymes as well as having antibiotic and anti-carcinogenic substances. Make sure it’s fresh and not canned sauerkraut which is likely to be “dead” from the heating during canning.

Miso-Miso is made from cultured paste of soybeans. Salt and water are the only other ingredients of natural miso. The enzymes break down and help to pre-digest the proteins, starches, and fats into amino acids, simple sugars and fatty acids. Miso is often used as a soup base but is great in sauces, marinades and dressings as well. Be aware that high temperatures in boiling will kill the beneficial microorganisms in true miso. Note that many miso soups found in the states actually use tofu and not miso. Only miso is the fermented version.

Tempeh-Another healthy form of fermented soybeans (generally soybeans are not a healthy food-unless they are fermented). This soy food is easier to digest and provides many valuable vitamins and nutrients, as well as protein, calcium and iron. The mold that is produced from the fermentation produces a natural antibiotic that strengthens the immune system.

Umeboshi-Salty, sour lacto-fermented pickled plums that originated in Japan. Umeboshi are highly alkaline and help to stimulate the digestive system, and promote elimination of toxins. They also possess natural antibiotic properties and are very beneficial for intestinal health.

Pickles-There are almost limitless varieties of lactofermented vegetables you can make using salt, temperature and a controlled environment. Most pickles purchased from the store, are made using vinegars and heat processing, which eliminates the beneficial bacteria and enzymes that result from natural fermentation--check the label if you want to find pickles that are actually fermented, which is rare to find.

Fermented drinks-Besides kombucha and kefir, there are beginning to be many fermented fruit and vegetable drinks showing up on the shelves of many healthy grocery stores and health food stores. One of my favorites is called, "Inner Eco" and can be purchased at Whole Foods and other healthy food stores. This product contains one of the highest concentrations of beneficial bacteria with over 100 billion probiotics per Tablespoon!

Some people don't enjoy the taste of fermented drinks like kombucha tea, so what I often suggest for them is to mix kombucha tea with regular iced tea to balance the taste. Personally, I love the taste of most brands of kombucha tea, and some of the newer flavors brewed with ginger (or other flavors) in them too are really delicious in my opinion.

In addition to the naturally fermented foods we've talked about here, considering that we consume a lot less bacteria in our food compared to our natural ancestral diet, I think one of the smartest supplements you can take is a probiotic... below is one of the [most powerful probiotic supplements](#) that I personally use, and it's brand new on the market... it also uses a technology called micro-encapsulation which prevents most of the probiotics from dying in your stomach and making it to where they need to be:

<http://natural.biotrust.com/Shop.asp?p=ProX102&sid=probiotic101>

Bonus Section (by Catherine)

Eat Your Way to Smoother, Younger Skin



When I was a teenager, my summer's goal was to get as tan as possible, so needless to say, my friends and I spent a good portion of our summertime sunbathing as much as we could. And to make it even worse, we used baby oil to bake our skin. Sunscreen was for sissies, we thought.

I still remember the lectures (that went unheeded) from my dad about too much sun exposure. He said I would get wrinkly, leathery-looking skin when I was older, that I could get skin cancer if I didn't stay out of the sun, and that I needed to be slathering myself with (chemical-laden) sunscreens.

Well, eventually the super summer bronze glow became a thing of the past, as all that free time was replaced with college, full-time jobs, and then a busy family life. As a fair-skinned blonde, I worried about my skin turning wrinkly and leathery like my dad said.

I watched and waited, and it never happened.

Never a fan of fancy, expensive creams, lotions, potions and cosmetic medical procedures, I just used soap and water and hoped for the best.

What I did not realize at the time was that it was my diet that was helping my skin tremendously.

I actually reversed the sun damage with healthy fats and a low-sugar diet.

Today at 53, my skin is smooth, soft and relatively wrinkle-free—far from the leathery, wrinkly face my father predicted. I am often thought to be 10-12 years younger.

And now, when I am out in the sun too long, I do get some color, but I rarely ever get burned anymore out in the sun, just lightly tanned most of the time.

How does this work without sunscreen?

Diet to the rescue again. It's absolutely amazing how this works!

A recent study shows omega 3 fatty acids actually protect the skin from the inflammatory response (sunburn) after too much sun exposure. So the redness you see after a sunburn, which is actually inflammation in your skin, is much less when you have a diet high in omega 3 fats.

And, even better, the study's findings also show that omega 3 fatty acids play an important role in *preventing and reducing the damaging effects of sun*—including skin cancer! Omega 3 fatty acids increase the time it takes to become sunburned, very similar to what sunscreens do. Edible sunscreen.

And there is strong evidence that dietary omega 3 fatty acids actually inhibit cancerous changes that occur after ultraviolet radiation, including decreasing tumor growth and reducing cancer cells' ability to multiply. Omega 3 fatty acids are powerful sunscreen for sure. According to another study published in the American Health Foundation Journal:

*“Epidemiological, experimental, and mechanistic data implicate omega 6 polyunsaturated fatty acids (PUFAs) as **stimulators** and long-chain omega 3 PUFAs as **inhibitors** of development and progression of a range of human cancers, including melanoma”.*

By contrast, the same levels of omega 6 fatty acids (from vegetable oils, grains and meat from grain-fed animals) actually *increase* cancerous changes that occur after exposure to ultraviolet radiation.

So the “Standard American Diet” that most Americans consume which is much too heavy in omega 6 fatty acids and lacking in omega 3’s, not only contributes to a worse sunburn, but it also contributes to the aging effect of sun on the skin. A diet high in trans fats and omega 6 fats ages skin faster, and brings about older-looking skin and wrinkles.

The BEST way to avoid damaging your skin and minimizing the effects of sun damage starts on the inside, not the outside.

One of the best ways to prevent sun damage, absorb healthy vitamin D, and protect your skin, is with diet. Your body can actually create its own natural sunscreen with the right dietary components.

The best omega 3 fatty acids containing EPA and DHA, are found in animal products such as grass-fed meat; cold-water, *wild caught* fish such as sardines, anchovies, salmon, black cod, mackerel, and organic pastured free range chickens/eggs.

It is key to remember, though that maintaining an *optimal balance* of omega 6’s to omega 3’s (3:1, or lower) is critical. Most modern diets are way too heavy with omega 6 fats compared to omega 3 fats, with most people at a 20:1 ratio or worse.

Eliminate or minimize the processed vegetable oils (like soy, corn, canola, cottonseed, sunflower and safflower oil) in favor of grass fed butter, lard or tallow, monounsaturated fats like virgin olive oil and healthy saturated fat such as coconut oil for cooking or baking.

Load up on your antioxidants to protect your skin. Carotenoids are antioxidants that protect plants and animals from excess sunshine. When we ingest carotenoids, they are deposited into our skin to help prevent UV damage and oxidative stress that can lead to wrinkles and skin cancer.

Beta-carotene – one type of carotenoid found mostly in red and orange produce — is linked to reduce reactions to sunburns, and flavonoid rich orange and pink citrus fruits have also been shown to improve the skin’s ability to protect against UV rays.

Beta-carotene has one other noticeable benefit for your skin. Beta-carotene gives your skin a warmer, golden color. People who eat diets high in beta-carotene actually have a healthier glow than those whose diets are low in this nutrient.

Best sources of carotenoids are free-range organic eggs, dark-green leafy vegetables (kale, collards, baby greens and organic spinach), and yellow-orange fruits and vegetables (mangoes, cantaloupe, carrots, sweet potatoes, and squash).

A research study by Köpcke & Krutmann concluded that beta-carotene is highly effective in protecting against sunburn and that the amount of time it was ingested is important:

The longer the duration of supplementation, the stronger the effect. A minimum of 10 weeks was needed to see results, and the protective effect increased with each additional month of supplementation.

The most potent carotenoid is the red pigment found in salmon, trout, shrimp, and lobsters. It is known as *astaxanthin*. Once in your body, astaxanthin is 1,000 times more effective at protecting skin from UV damage and oxidation than other carotenoids.

What is the best source of skin protecting astaxanthin? Most people would never guess it, but it’s [Krill Oil](#)! Some of the studies I’ve reviewed have concluded that approx 2 mg/day was a dose that was sufficient enough to have significant effects on protecting the skin from damage.

This is our trusted source for the best quality Krill Oil:

<http://natural.getprograde.com/essential-fatty-acid.html>

Mike’s note: I take 3 caps per day instead of the 2 on the label to get approx 2.25 mg/day of astaxanthin, as I’ve read published studies that showed at least 2 mg/day of astaxanthin was the dose found to be effective. Note that regular fish oil does not contain astaxanthin, so if you want to supplement with this skin protecting nutrient, krill oil is the best bet for natural astaxanthin. Some supplements are labeled as pure astaxanthin, but this is generally an artificial form, and I would highly recommend krill oil instead of artificial astaxanthin.

Side note: Some people like to argue about whether krill oil or fish oil is better. Personally, I take BOTH! The reason is that I don't see them as competing products...I see them as partially having very different functions. I take fish oil for the quantity of DHA and EPA omega-3's. I take Krill oil for the higher absorption ability of DHA and EPA, but more importantly, the natural astaxanthin content.

If you want one of the best fish oils that I've found on that market (non-rancid, which is a problem with some brands), that is also one of the best prices in terms of quantity of DHA and EPA, [check out this brand](#).

Include **lycopene** in your diet. Lycopene is another skin-protecting antioxidant. It's pretty easy to get lycopene in the summer, since it is found in red fruits such as tomatoes, red bell pepper and watermelon. Lycopene's potency is actually increased with cooking, so tomato sauce and tomato paste have more concentrated amounts of lycopene than fresh tomatoes. In studies with lycopene, it was shown that people who consumed 55 grams (just 5 tablespoons) a day of lycopene in tomato paste had 33% more protection against sunburn compared to a control group after 12 weeks.

Fun fact: *Lycopene also boosts the level of procollagen in the skin, which suggests potential reversal of the skin aging process and reduction of wrinkles.*

Also try to get a lot of your antioxidants from green tea, black tea, white tea or oolong tea. Drinking 3-4 cups of tea a day has major antioxidant and skin-protecting benefits. Green tea contains antioxidants called polyphenols that boost the ability of skin to protect itself from the sun. The polyphenols in green, white, and oolong tea actually reduce damage caused by ultraviolet rays and protect it from sun damage, both when applied externally as a topical cream or a lotion, and when consumed as a drink.

Snack on vitamin and flavanol-rich fruit and vegetables instead starchy carbohydrates and sugary snacks. Summer months bring us delicious, antioxidant-heavy berries and other fruit such as mangoes, kiwis, peaches and plums. These fruits are also rich in vitamin C, known for its role in building collagen, and preventing wrinkles and photo damage through its anti-inflammatory action.

Toss some berries into your yogurt, make a smoothie out of berries, kale, and coconut oil; add some fruit to your salad; and eat as many different brightly colored vegetables and fruit as possible.

Get your greens too! If it's green and leafy, it's good for your skin too! Fresh herbs, especially parsley, basil, cilantro, sage and rosemary are packed with antioxidants that prevent wrinkles from forming. Don't forget other dark green superfoods such as spinach, kale, arugula, swiss chard and baby greens. The polyphenols and carotenoids these contain are better than the most expensive skin creams.

Cruciferous vegetables smooth out the skin with their long list of powerful antioxidants. They also contain contain sulforaphane, which is linked to increasing the skin's ability to protect itself from cancer.

And don't forget the dark chocolate and cocoa. Those rich flavonoids that are in dark chocolate actually improve the skin's ability to protect itself from the sun and reduce sunburn too. And flavonoids help to keep the skin hydrated, increase oxygen to the skin and boost blood circulation. Just be sure to eat chocolate that contains a minimum of 70% cacao for the best benefit... if you can handle the less sweet and slightly bitter flavor of stronger chocolate, go for 80% or higher, and you'll save sugar calories while also reaping even more antioxidant health benefits. Try to choose organic dark chocolate too if you can to help reduce your overall chemical/pesticide load.

You can also get a lot of the antioxidant benefits of dark chocolate with a lot less calories by using organic cocoa powder in your smoothies or in home-made hot cocoa. A heaping teaspoon of organic cocoa powder in your regular smoothies can help to lower blood pressure and gives you boatloads of protective antioxidants. You even get several grams of fiber per spoonful of cocoa without much calories at all.

Hot tip: Don't drink sugar and trans fat laden commercial hot cocoa mixes. Almost all commercial hot cocoa mixes are loaded with both of these ingredients. Remember that both sugar and trans fats age you faster! Instead, make your own home-made youth-enhancing hot cocoa by mixing organic cocoa powder and a natural sweetener like stevia into hot milk for a much healthier mug of hot cocoa! It helps to froth the mix or blend the mix before adding to a pot to heat up. And make sure to constantly stir as it warms up so the bottom doesn't burn the milk. I love this healthy hot cocoa on cold winter days!

Age-Erasing Anti-Wrinkle Foods

Salmon, Trout, Shrimp, Lobster
Blue Green Algae
Cold Water Wild Caught Fish
Grass Fed Beef, Lamb, Goat
Free Range Organic, Pasture Raised
Chicken
Lard
Butter (from Grass Fed Cows)
Coconut Oil
Extra Virgin Olive Oil

Kale
Collards
Baby Greens
Swiss Chard
Beet Greens
Mustard Greens
Spinach
Arugula
Broccoli
Cauliflower
Brussels sprouts
Cabbage

Mangoes
Cantaloupe
Carrots
Sweet Potatoes
Squash
Papaya
Tomatoes
Watermelon
Strawberries
Cherries
Berries
Peaches
Plums
Red Grapes
Red Bell Pepper
Oranges
Red Grapefruit
Kiwi
Green, White, Red Rooibos and Oolong
Tea
Dark Chocolate
Organic Coffee

Two “secret weapon” supplements that FIGHT aging:

1. This one is a delicious drink that I use daily first thing every morning, and it contains 76 very powerful superfood ingredients that help protect your organs, skin, joints, etc from aging:

<http://SuperfoodsCocktail.com>

2. This second one that I also use daily is a powerful 3-way combination of a unique type of fish oil that you can't find elsewhere (calamarine oil), a very potent algae extract from the sea that has over 3x the antioxidant power of berries, and also that ever important vitamin D too:

<http://tinyurl.com/seanol-p>

ANTI-AGING SUPERFOOD MEAL PLAN IDEAS

BREAKFAST (Choose One)

Quick Choices

- Organic apple and 4 slices grass fed raw cheese or a couple of handfuls of walnuts, cashews, or almonds.
- Pumpkin smoothie – ½ can organic pumpkin, ½ to 1 cup (full fat) coconut milk, 1 banana or 1 apple, 1 teaspoon vanilla, 1 teaspoon cinnamon, dash of nutmeg, stevia for sweetener (if desired). Add a few ice cubes and blend. For extra cool and creamy smoothie, freeze banana before adding.
- Fruit smoothie --1 banana, 1 cup fresh or frozen berries, ½ cup chopped frozen organic kale or spinach, 1-2 Tablespoons virgin coconut oil, coconut juice or green tea, 1 scoop cold processed organic vanilla whey protein powder. Add ice if desired and blend. Optional: 1 teaspoon turmeric powder or 1 teaspoon cinnamon.
- 1 Plain Greek yogurt. Add: almonds and wild blueberries; chopped apple, cinnamon, and walnuts; or any fresh fruit and nut combination.

Eggs and Protein

- 1 or 2 Eggs (fried, scrambled, poached, boiled) and a small amount of grass fed butter. Try adding a little curry powder or turmeric to these for extra antioxidants. A half of an avocado on the side adds even more antioxidants, fiber, and healthy fats that nourish your skin.
- 2 Egg quiche cups. Mix 4 eggs, natural sausage, chopped cooked onion, and drained spinach and cheese (optional) with some hot pepper flakes. Bake in 350 oven in muffin cups for 20 minutes. These can be made in advance and should last in refrigerator for 3-5 days. Great for a snack too!
- 2 eggs scrambled with 1 Tablespoon butter, veggies (asparagus, onion, red or green peppers, mushroom, tomato, avocado).

- Salmon hash—2 Tablespoons butter, sauté red onion, chopped red bell pepper, green bell pepper, and smoked wild sockeye salmon (you can find this canned) and 2 small chopped, cooked new (red skinned) potatoes. Poach or fry an egg and serve on top. Sprinkle with chopped fresh parsley, or cilantro and red pepper flakes.
- Breakfast veggie stir fry: Sauté gently in pan—2 Tablespoons butter, sliced mushrooms (shiitake is best), chopped tomatoes, natural bacon, chopped garlic and chopped fresh parsley.

SNACK--MID MORNING (Choose One)

- Apple, berries or other fresh fruit and handful of nuts, nut butter or cheese
- Handful of raw almonds or healthy trail mix
- 2-3 slices grass fed, raw cheese, or natural beef jerky
- Couple slices of natural (no nitrites/nitrates) deli turkey with ½ half sliced avocado.
- 1 Hard boiled egg, cut up carrots, yellow and red bell peppers

LUNCH (choose one)

- Lettuce wraps—Roll two or three slices of natural (no nitrates/no nitrites) deli turkey or beef with slices of avocado, red onion, tomato, shredded carrots or any other bright veggie in a large leaf of Boston, Bibb, or leaf lettuce.
- Sockeye salmon salad (1 small can salmon or any cooked wild salmon, olive oil, chopped onion, chopped celery, chopped parsley, lemon juice) wrapped in lettuce. Garnish with avocado or cilantro. Also good served on top of (organic) romaine lettuce, baby greens or organic spinach.
- Salad of baby greens, tomato, cucumber, avocado, tomato, red peppers, mushrooms, green or red onion, etc. with 2 hard-boiled eggs, sliced turkey,

chicken, or salmon (any meat leftovers from dinner work great here). Dressing of 1 Tablespoon olive oil and balsamic vinegar, minced garlic, and fresh or dried herbs (basil, oregano, sage, thyme). Toss in some almonds or walnuts for added antioxidants.

- Egg salad—Two or three hardboiled eggs, 1 Tbsp mayo or virgin olive oil, mustard (regular mustard contains turmeric), salt, pepper. Serve on a bed of fresh Swiss chard or organic baby spinach. Add in a few sprigs of fresh parsley.
- Sandwich with ONE slice gluten free whole grain or Ezekiel bread or toast, 3 slices natural turkey, lettuce, tomato, red onion, avocado. Smash up avocado on bread, add turkey, tomato, red onion, and top with lettuce and a few fresh basil leaves.
- Guacamole deviled eggs—Make fresh guacamole. Boil eggs, cool and slice lengthwise. Add yolks of boiled eggs to guacamole and stuff in cooked egg whites. Chill. Enjoy with chopped fresh veggies or on top of organic baby greens.
- Leftovers from any dinner (below)

Snack--Mid Afternoon (choose one)

- 1 hardboiled egg and baby carrots, red or green bell peppers
- Hummus with cut up veggies (peppers, carrots, celery, radishes)
- 2 pieces natural (no preservatives like nitrites/nitrates) sliced turkey with apple or avocado
- Apple, berries or other fresh fruit and handful of nuts, nut butter or cheese
- Handful of raw almonds, walnuts, cashews, mixed nuts and a small apple/pear
- 2-3 slices grass fed, raw cheese, or natural beef jerky
- Couple slices of natural (no nitrites/nitrates) deli turkey with half of a sliced avocado. This is good if you wrap the turkey slices around the avocado slices.

Dinner (Choose One)

- Store-roasted chicken (great for leftovers, lunches and snacks!), tossed salad or steamed Brussels sprouts, broccoli and carrots. Serve veggies topped with some butter (grass-fed preferably), and a squeeze of fresh lemon juice.
- Lettuce Wraps made with cooked chicken, avocado, sprouts, lettuce, tomato and fresh cilantro, parsley or basil. Chop chicken in small pieces, lay on a large piece of red or green leaf lettuce, add avocado, sprouts and tomato, drizzle with small amount of olive oil, balsamic, and salt and pepper.
- Grass fed beef burger, cooked medium rare (this is safe to do with grass fed beef), sautéed organic kale (lightly cooked with butter, chopped fresh garlic, season with lemon juice, salt and pepper).
- Grilled grass fed or steak with chimichurri (finely chopped fresh garlic, red onion, parsley or cilantro, lemon or lime juice), roasted brussels sprouts and baked spaghetti squash with butter, sea salt and pepper.
- Salad Nicoise—On a bed of dark green organic lettuce, add 1-2 hard-boiled chopped eggs, 2 small boiled red potatoes, lightly cooked green beans, and tuna (either fresh or canned). Add capers, 2 Tablespoons lemon juice and 2 Tablespoons virgin olive oil.
- Chili chicken in slow cooker/crockpot—Chicken thighs in crockpot, 1 small can mild green chili peppers, 1-2 Tablespoons chili powder, 2 teaspoons cumin, 1 small can or jar of organic tomatoes, sea salt, pepper. Cook on low. Garnish with chopped cilantro, fresh salsa or tomatoes, and avocado. Serve with sprouted grain tortillas, or brown rice tortillas (optional) and chopped lettuce.
- Wild salmon (cut in small pieces) sautéed in pan with asparagus, sliced red bell pepper, onion, garlic and 2 Tablespoons olive oil. Garnish with fresh basil, chopped fresh tomatoes, lime juice and hot pepper flakes. Serve with baked or sautéed sweet potatoes.
- Garlic-dill fish—Any wild-caught fresh or frozen fish (cod, salmon, sardines) butter, olive oil, garlic, fresh herbs, white wine or lemon juice, salt and pepper.

Sautéed kale and shitake mushrooms or other greens with chopped garlic, butter, and lemon.

DESSERT OR LATE EVENING SNACK

- 2-3 pieces dark chocolate (70% cocoa or more is best)
- Coconut drops—1 cup shredded unsweetened coconut, stevia to taste, 2 Tablespoons coconut oil, vanilla extract and sea salt. Mix and drop on wax paper, chill in fridge. Add dark chocolate if desired.
- Raw almonds or walnuts, chopped apple or pear, drizzled with a Tbsp of maple syrup and a teaspoon of cinnamon.
- Cup of green, white or red rooibos tea, sweetened with stevia.

Important Note—

*Because herbs and spices have such potent antioxidant, anti-inflammatory and blood sugar lowering powers, add them to most every dish you prepare. Keep fresh or dried basil, oregano, sage, thyme, cilantro, and parsley on hand and add in to your salads, cooked dishes and even eggs. And don't forget to include the power spices in any dishes you can think they would go well: **Turmeric, cayenne, cloves, cinnamon, fresh garlic, and ginger.***

Catherine Ebeling Bio

Catherine (Cat) Ebeling is an RN, BSN (Bachelor of Science in Nursing) with a background in physical therapy and over twelve years in the fitness business.



After learning that she had several food allergies at the age of 20, as well as celiac disease—an autoimmune disease of the GI tract in which the body attacks the digestive system--she set out to look for solutions. Undiagnosed celiac disease can lead to malnutrition, osteoporosis, anemia and many other serious diseases, including cancer.

Cat has had more than thirty years of intense study in diet, nutrition, disease and natural alternatives to drugs for health issues. As a part of the medical community herself, it became very clear that there was a lot of ignorance among doctors and her peers in regard to nutrition and health, so she often became a resource for both doctors, other nurses, and patients for their dietary concerns.

Through the study of diet and health, as well as her work as a fitness professional, she has learned tried and true ways to lose weight, get healthier, look great, feel young and have tons of energy. Cat has been able to educate thousands of readers worldwide with her many articles on diet and health in her website, www.simplesmartnutriton.com.

Her best-selling ebook, "[The Fat-Burning Kitchen](#); Your 24 Hour Diet Transformation to Turn Your Body into a Fat burning Machine", co-authored with health and fitness expert Mike Geary, is popular all over the world. In it, she and Mike explain how many so-called health foods are actually bad for your health and cause weight gain, low energy, chronic fatigue, aches and pains, allergies and more. And how some surprisingly healthy foods are avoided, even though they are some of the best fat burning foods around.



Cat, age 51, Indiana State Criterium Champion, August 2010.

This "simple, smart, nutritional" approach has created real results for many people. In addition, through her intensive study of diet, health and nutrition, she has helped many people overcome serious health issues, reduce their medication, lose weight and regain their youth and energy.

Catherine graduated Magna Cum Laude with a Bachelor of Science in Nursing from St. Louis University, a prestigious medical and scientific university. She also has an Associate's Degree in Physical Therapy, and a BS in Marketing. In addition, she is a certified Personal Trainer and Nutrition Consultant.

Cat is a 53 year old mother of three grown children who competes as a cyclist against others in their twenties and thirties. She looks ten to 15 years younger than her age and is still going strong.

Throughout her active adulthood, she has pursued many activities including running, weight lifting, aerobics, spinning, water skiing, snow skiing, and, competitive mountain, cyclocross, and road biking. Cat attributes her success in athletics as well as her youthful, healthy outlook to a healthy, anti-aging diet and exercise.

Mike Geary Bio

Mike has been a Certified Nutrition Specialist and Certified Personal Trainer for almost 12 years now. Mike has been studying nutrition and exercise for almost 20 years, ever since being a young teenager. Mike is currently 36 and moved from New Jersey (growing up in the Philadelphia area) to the beautiful mountains of the Colorado Rockies 5 years ago. Mike now enjoys skiing most days during the winter in Colorado and Utah and spends a lot of time mountain biking, hiking, golfing, and enjoying other outdoor activities and sports.



Mike is an avid adventurer and in the last several years, has done:

- 3 skydiving jumps (2 of them from 17,000 feet in Colorado)
- 5 whitewater rafting trips including some of the most extreme Class 5 rapids in North America in the well-known Gore Canyon, and Class 5 rapids in Thailand.
- Piloting an Italian fighter plane over the desert of Nevada (wow, what a blast!)
- Taking part in a “Zero-Gravity Flight” where you actually experience weightlessness and float around the airplane cabin (the same training given to astronauts)
- Heli-skiing in Chile and British Columbia.
- Scuba diving the Silfra Ravine in Iceland in 34-degree F water and 300-foot visibility underwater.
- Snowmobiling and hiking on a glacier that overlies a volcano in Iceland
- Riding Porsche powered dune buggies through the entire length of the Baja Peninsula of Mexico with 25 high level business owners and CEOs, including Jesse James of West Coast Choppers fame
- Ziplining over canyons and forests in the Rocky Mountains, Costa Rica, and Mexico
- Cruising most of the Caribbean
- Traveling through Thailand, Nicaragua, Spain, Belize, Costa Rica, Mexico, Iceland, Chile, the Bahamas, Jamaica, Cayman Islands, Turks & Caicos, Trinidad & Tobago, and all over the US/Canada.

In the last 5 years, Mike has become the best-selling author of the famous *Truth about Six Pack Abs* program with over 559,000 readers currently in 163 countries, and a subscriber base of over 655,000 subscribers worldwide to Mike’s [Lean-Body Secrets online e-newsletter](#).

If you don't already receive Mike's weekly Lean-Body Secrets e-newsletter, make sure to [sign up here for FREE](#) so you don't miss out on all of Mike's unique fat-burning recipes, crazy workout combinations, and tons more tips to help you live lean and healthy for life!

Mike's *Truth About Six Pack Abs* program has also been translated currently into Spanish, German, Italian, and French:

German version: <http://www.flacherbauch.com/>

Spanish version: <http://www.PierdaGrasaAbdominal.com>

French version: <http://www.toutsurlesabdos.com/>

Italian version: <http://www.addominaliperfetti.com/>

Mike is passionate about skiing and is also the author of the program for hard core skiers to get their legs in the shape of their lives for the skiing season. Check it out:

<http://www.AvalancheSkiTraining.com>

Even if you're not a skier, these programs are some very unique leg training programs and will help anyone to get rock solid legs of steel!



If you're a time-crunched person and find it hard to fit in workouts into your schedule, check out Mike's super high intensity Tabata style (4-minute workouts) workout DVDs at:

<http://www.BusyManFitness.com>

References

American Diabetes Association, 2011 Statistics, *Diabetes.org*

Ahmed N, Furth AJ, "Failure of common glycation assays to detect glycation by fructose". *Clin. Chem.* 38 (7), July 1992.

Black, H.S., Rhodes, L.E. Department of Dermatology, Baylor College of Medicine, Houston, TX, "Potential of omega 3 fatty acids in the prevention of non-melanoma skin cancer." *Cancer Detection and Prevention*, 2006.

Bialy, TL., Rothe, MJ., Grant-Kels, JM. Department of Dermatology, University of Connecticut Health Center, Farmington, Connecticut 06030, USA, "Dietary tomato paste protects against ultraviolet light-induced erythema in humans". *The Journal of Nutrition*, May, 2001.

Edwards, Molly, "What do free radicals have to do with aging?" *Discovery fit and health online*. health.howstuffworks.com

Ebeling, Catherine, "Sugar Kills," *simplesmartnutrition.com*, June 2011.

Ebeling, Catherine, "Eat Your Sunscreen for better skin," *simplesmartnutrition.com*, May 2011.

Mary G. Enig, PhD, and Sally Fallon, "The Skinny on Fats," *Weston A. Price Foundation*, Jan, 1999.

Epel, E., Lin, J., Blackburn, E., University of California, San Francisco, Rebecca Andridge and Beom Seuk Hwang of Ohio State's College of Public Health; and William Malarkey of the IBMR. "Balance of Dietary Oils Key to Controlling Biological Aging," *Laboratory equipment .com news*, Oct 2012.

Geib, Aurora, "Top 3 herbs and spices that help lower blood sugar," *Natural news.com*, April , 2012.

Keller, Maura. "The High Value of Vitamin D," *Aging Well*. Vol5, No.4, P.30.

Killian, Joyce, "The Overlooked Role of Probiotics in Human Health", *Life Extension Magazine*, April 2012.

Kotz, Deborah, "Fight These 4 Causes of Aging--Think you can't control how quickly you age? Think again, says nutritionist and author Jonny Bowden," *Usnews.com* July 2010.

Kootstra, A, "Protection from UV-B induced DNA damage by flavonoids." *BioText International, New Zealand. Plant Molecular Biology*, 1994 Oct.

Lee, L., Jiang, S., Levine, N., et al. Arizona Prevention Center, University of Arizona, Tuscon, AZ. "Carotenoid supplementation reduces erythema in human skin after simulated solar radiation exposure." *Proceedings of the Society of Experimental Biology and Medicine*, 2000 Feb.

"Lipoic acid reverses mitochondrial degeneration," *Life Extension Magazine*, Aug 2011.

McGowan, Kathleen, "Can we cure aging, controlling aging may be the key to a healthy old age," *Discover magazine online*, December 2007.

Mellace, Jennifer. "Probiotics—Gut Reactions," *Aging Well*, vol2, No.2, P 12, March/April 2009. <http://www.agingwellmag.com/archive/030209p12.shtml>

Mercola, Joseph, "This Addictive Commonly Used Food Feeds Cancer Cells, Triggers Weight Gain, and Promotes Premature Aging," *Mercola.com*, April 20 2010.

Melpomeni et al., Glucose, "Advance Glycation end products and diabetes, what really works," *Clinical Diabetes*, 2003.

Minton, Barbara, "Astaxanthin is Age and Disease Defying Miracle Nutrient from Microalgae," *Natural news.com*, May 2009.

Morin, Kate, "6 Food Groups That Will Protect You From the Sun," *Greatist.com*, 2012.

Murillo G, Mehta RG. Department of Surgical Oncology, College of Medicine, University of Illinois, Chicago, IL 60612, USA. "Cruciferous vegetables, and cancer prevention," *Nutrition and Cancer*, 2001.

Neukam, K., Stahl, W., Tronnier, H., et al. Institut für Biochemie und Molekularbiologie I, Heinrich-Heine-Universität Düsseldorf, Germany. "Consumption of flavanol rich cocoa acutely increases microcirculation in human skin." *European Journal of Nutrition*, 2007 Feb.

Phillip, John. "Alpha lipoic acid prevents mitochondrial aging and boosts energy levels," *Natural news.com*, Aug 2011.

"Probiotics and Fermented Foods." *Sacramento Natural Foods Coop*. Sacfoodcoop.com.

Rhodes, L.E., O'Farrell, S., Jackson, M.J. Dermatology Unit, Royal Liverpool University Hospital, U.K., "Dietary fish-oil supplementation in humans reduces UVB-erythema sensitivity but increases epidermal lipid peroxidation," *Journal of Investigative Dermatology*, Aug 1999.

Sample, Ian, "Ageing process may be slowed by vitamin D, say scientists" *The Guardian*, November 2007.

Soldatos, G.; Cooper ME. "Advanced glycation end products and vascular structure and function." *Curr Hypertens Rep* 8, Dec 2006. .

Stadler RH, Blank I, Varga N, et al. , "Acrylamide from Maillard reaction products." *Nature* 419 (6906): 449–50. October 2002.

Vlassara H , "Advanced glycation in health and disease: role of the modern environment". *Ann. N. Y. Acad. Sci.* 1043 June 2005