

## Chocolate and Diabetes



# Enjoy Xoçai™ Chocolate

## *The Ultimate Antioxidant Chocolate*

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### Healthy Chocolate

by Gloria Loring

I have a confession to make. I love chocolate. I really love chocolate. I love chocolate so much I have stashes of dark chocolate hidden in desk drawers. I'm not sure why I hide it. I guess I'm like a squirrel with her acorns: I want to be certain that I have it when I need it. I'd heard that dark chocolate (not all dark chocolate is equal!) has many beneficial properties, but I had no idea how beneficial chocolate could be until I was introduced to Xoçai™ (pronounced show-sigh).

Xoçai combines the health benefits of unprocessed cocoa with some of the world's highest antioxidant fruits, most notably the açai berry from Brazil. The name is derived from the Aztec word for chocolate, Xocolatl, along with the word açai. The ingredients are combined using a patented process that helps them retain their natural antioxidants. Eating one Xoçai nugget is the antioxidant equivalent of eating 3 and a half pounds of spinach.

And just what are the health benefits of unprocessed cocoa and all those antioxidants? Research studies have shown that it assists cardiovascular function, has cancer benefits, boosts respiratory function, helps joint inflammation, decreases LDL "bad" cholesterol, increases serotonin levels which helps fight depression, and helps prevent gum disease and cavities. It's also a sexual stimulant because it increases blood flow. And that's just a partial list!

Dr. Steve Warren knows about the benefits of chocolate. In addition to his full time involvement with geriatrics in nursing homes and assisted living, Dr. Warren developed an "Aging Well" nutritional supplement. He is also known as "Dr. Chocolate." He has been using Xoçai products with his patients, especially those with diabetes. He's seen them lose weight, decrease medication, and significantly improve their Hemoglobin A1c test results. Hemoglobin A1c is a test that measures the amount of excess sugars that cling to proteins in the blood. It's the sugar/protein mix that contributes to diabetes complications such as kidney failure, gangrene, heart disease and blindness. It's recommended that A1c levels be at below "7". Dr. Warren has had patients using Xoçai chocolate reduce their A1c tests from 11 down to 6.8, which is truly amazing.

Research studies from around the world are confirming that cocoa increases the body's sensitivity to insulin and also helps lower blood pressure. In Hypertension magazine, a study by Claudio Ferri and his team in Italy was titled, "Cocoa Reduces Blood Pressure and Insulin Resistance and Improves Endothelium-Dependent

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Vasodilation in Hypertensives.” Another study in the American Journal of Clinical Nutrition found that the “short term administration of dark chocolate is followed by a significant increase in insulin sensitivity and a decrease in blood pressure.” There are hundreds of similar studies.

Xoçai chocolate is helping friends of mine lose weight, just as Dr. Warren’s patients have. On Dr. Warren’s web site, [www. mydrchocolate.com](http://www.mydrchocolate.com), he explains, “The cocoa has chemicals which shut down the cravings for sweets. The brain center is satisfied with the slow release of nutrients in the body, thereby stopping sugar cravings. Once the body realizes how much better you feel with healthy foods you suddenly crave them. It is a positive cycle that continues to grow.”

That is exactly what happened to Xoçai founder Jeannette Brooks, who has Type 2 diabetes. She is the creator of the Pure Delite sugarfree chocolate bar, which she built into a \$150 mil-lion retail business. With the demise of the low carb industry, she began researching how to make healthy chocolate that even she, a diabetic, could enjoy guilt-free. Normally, when cocoa is processed, many of its beneficial properties are diminished. So, with the help of researchers and chemists, she combined unprocessed cocoa powder with the açai berry using a patented process that assured the antioxidants weren’t lost. Then she sweetened it with natural sweeteners that cause very little rise in blood sugar.

She’s a walking advertisement for the end result. Jeannette says, “In three years, I’ve lost over 100 pounds drinking our healthy chocolate drink. At first the chocolate helped me feel more energetic plus I felt less hungry. I ate less and because I felt better, I started exercising. I was a size 24. Now I wear a size 8 to 10. I still use the chocolate 5 times a day. It curbs my appetite and satisfies my sweet tooth. My insulin needs have gone from over 100 units a day to just 10 units of Lantus.”

There are presently four Xoçai products, all formulated with 70% unprocessed cocoa and the açai berry. Activ™ is a delicious natural, fat free, chocolate drink that has only 2 grams of sugar per ounce and no preservatives. I drink it three times a day before meals. The Nuggets, with the Açai berry and blue-berry contain only 3 grams of crystallized pure cane sugar. The Xoçai™ Protein Bar provides 10 grams of soy protein with 150 calories and only 2 grams of sugar. The newest product is the Omega Bar with flaxseed which is flavored with orange peel. Researchers believe that at least 60% of North Americans are deficient in Omega-3 fatty acids. The deficiency of omega-3 in the North American diet has been linked to an extensive list of health-related problems sited in over 2,000 scientific studies. The Omega Bar™ is an excellent source of plant-based omega-3 and promotes the necessary balance of essential fatty acids.

In addition to being a singer and actress, and the mother of a son who has had diabetes for 27 years, Gloria Loring is the author of four books for people living with diabetes, the most recent being *Living with Type 2 Diabetes: Moving Past the Fear*, released in 2006.

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# Diabetes

### Do You Have Diabetes?

The warning signs of type 1 diabetes are often difficult to recognize, unless they are in the latter, severe stages. They include the following:

- Extreme thirst
- Frequent urination
- Drowsiness/lethargy
- Sudden vision changes
- Frequent or slow-healing infections
- Increased appetite
- Sudden weight loss
- Fruity, sweet or wine-like breath odor
- Stupor/unconsciousness

### Diabetes at a Glance

- An estimated 20.8 million Americans (7 percent of the population) have diabetes. Of those, about 6.2 million have not yet been diagnosed.
- Diabetes is the sixth leading cause of death in the United States (many experts feel it is underreported as the principal cause of death).
- The overall risk for death among diabetics is about twice that of people of similar age without diabetes.
- The risk for stroke is 2 to 4 times higher among those with diabetes.
- Heart disease and stroke account for about 65 percent of deaths in people with diabetes.
- About 73 percent of adult diabetics have blood pressure greater than or equal to 130/80 or use prescription medications for hypertension.
- Diabetes is the leading cause of new cases of blindness among adults 20 to 74.
- Diabetes is the leading cause of kidney failure, accounting for 44 percent of new cases in 2002.
- About 60 to 70 percent of those with diabetes have mild to severe forms of nerve damage.
- Total costs related to diabetes have been estimated to approach \$100 billion.

### Diet and Exercise Work to Cut Risk of Diabetes

While it's understood that both diet and exercise provide benefits to reduce the risk of diabetes, it's unclear which is more effective in combating the risk factors. According to a new study by a Saint Louis University researcher and member of a Washington University team of scientists examining it a calorie-restrictive diet can extend people's lifespan, it's a toss-up. "Both those who restrict calories and those who exercise benefit from weight loss," says Edward Weiss, Ph.D., lead author and assistant professor of nutrition and dietetics at Saint Louis University's Doisy College of Health Sciences. "We thought exercise probably would produce greater benefits. But both of these are providing beneficial health improvements."

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## **New Diabetes May Pose Threat to Brain**

Emerging research has established a link between diabetes and Alzheimer's disease, but new information suggests they may be related in a way never suspected by scientists. While the science and health worlds have long believed insulin was produced only by the pancreas, researchers from Brown University indicate they have evidence that the brain makes its own insulin, the hormone that transports energy into the body's cells.

As a result, the research team believes Alzheimer's disease may be triggered or exacerbated by what they have termed "type 3" diabetes, in which the brain is unable to produce its own insulin. Diabetes has long been linked to Alzheimer's disease, but its role in the formation of the condition has remained unknown.

How does the lack of insulin production in the brain possibly lead to dementia? After examining postmortem human brain tissue, the researchers determined that a decline in the brain's insulin production leads to brain cell degeneration. "If you destroy the ability of neurons to respond to insulin or if you take insulin away, neurons don't survive," says study author Suzanne de la Monte. The neurodegeneration was found in the brain's hippocampus, which is responsible for learning and memory.

Since the polyphenols in chocolate appear to improve blood flow, protect neurons from damage and increase the body's sensitivity to insulin, these findings may offer, at least in part, another way to explain chocolate's brain-protecting benefits.

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# The Diabetes Dilemma

## Why Chocolate is a Surprising Choice for Help

Most of us know someone who has diabetes. Yet few actually understand what diabetes is or why it is so dangerous.

Known medically as diabetes mellitus, diabetes is the name given to disorders in which the body has trouble regulating its blood glucose, or blood sugar, levels. There are two major types of diabetes – type 1 and type 2. Type 1 diabetes, also called juvenile diabetes or insulin-dependent diabetes, is a disorder involving the body's lack of insulin production. For any number of reasons, the pancreatic cells responsible for producing insulin are destroyed, thus denying the body of the vital hormone. As a result, none of the available energy (glucose) coursing through the blood vessels can be used by the body's cells.

Type 2 diabetes, also known as adult-onset diabetes, was largely seen in adults over 30 until recent years. Now, many health experts feel we are in the midst of a diabetes epidemic of sorts, with alarming numbers of children also being diagnosed with this condition.

In type 2 diabetes, the pancreas still produces insulin, but various factors cause it to gradually lose its effectiveness. The most damaging factor is a high-fat, high-sugar diet, which results in the constant cell exposure to insulin. This long-term exposure eventually makes the cells less sensitive to the insulin, a condition called "insulin resistance."

The result of both type 1 and type 2 diabetes is an excess level of glucose circulating in the bloodstream. Why is this bad? Because glucose and insulin can act as free radicals (or oxidants) and consistently high levels of glucose can cause damage to the body's vascular system, eyes, brain, kidneys, extremities (feet and hands) and other areas of the body.

It's these side effects that cause most of the suffering and death associated with diabetes. Among the most debilitating (and dangerous) effects of diabetes are increased risk of cardiovascular disease and nerve pain, called neuropathy. And it's the damage created by free radicals (in this case, elevated glucose levels) that underlies the progression of these conditions.

"Vascular dysfunction and nerve damage affect both type 1 and 2 diabetes patients, and are the main underlying factors for a host of serious, long-term complications," says Mark A. Yorek, Ph.D., at the University of Iowa.

Another diabetes researcher, pharmacologist Daniela Salvemini, Ph.D., also commented recently on the need for protection from the effects of diabetes, stating, "Reducing the damage that diabetes does to blood vessels and nerves could significantly improve the quality of life for millions of diabetic patients."

To combat the effects of free-radical damage brought about by high blood glucose levels, many health experts recommend increasing the intake of antioxidant-rich foods and taking antioxidant dietary supplements. Surprisingly to many people, chocolate is being touted as such an anti-diabetic agent.

### An Unlikely Anti-Diabetes Agent

There has been an explosion in the diagnosis of type 2 diabetes. Especially alarming is the emergence of the condition among children – until the last decade or so, it was virtually nonexistent in children under 12.

Though it is well-known that diabetes is big contributor to deaths related to cardiovascular-related problems, its effects go beyond the heart. The decreased blood flow (typically a result of cardiovascular disease) coupled with continued exposure to high blood-sugar levels causes nerve damage. It also leads to edema (water in the tissues), which in turn can lead to sores, ulcers and ultimately amputation of the extremities. These are also the main contributing factors to the kidney damage and retinopathy common to many diabetics.

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Several studies have demonstrated that oxidative stress – damage caused by free radicals – is a major contributor to insulin resistance, glucose intolerance and diabetes. Most experts feel that oxidative stress – mostly a result of increased calories, an increase in foods high in saturated fats and other unhealthy components, and an increasing lack of exercise among the population – is significantly lessened by lifestyle changes, such as improving dietary habits, reducing calorie intake and increasing regular physical activity.

How does chocolate help prevent or reverse a diabetic state? A recent article in the *Journal of Nutrition* discusses the protection that cocoa polyphenols can provide against postprandial (after-meal) oxidative stress. The authors explain that the oxidative stress that occurs shortly after eating a meal high in fats, sugars and other unhealthy agents can be minimized by consuming dietary polyphenols, specifically from cocoa-based foods.

A study published in the March 2006 issue of *Alternative Medicine Review* also found evidence that antioxidants can help protect diabetics from the ravaging effects of their disease. Knowing that diabetes is closely linked to endothelial damage, glycemic control and disorders of lipid metabolism, the researchers tested the effects of antioxidant supplements on type 2 diabetics after they ate.

Their findings were very promising, suggesting that supplementation with antioxidants after a moderate-fat meal resulted in reducing oxidative stress, nitric oxide availability and improved endothelial function. The researchers write, “These findings suggest that the use of antioxidants may result decreased oxidative stress.” Other research, coupled with the fact that dark chocolate is extremely rich in potent antioxidants, supports these findings.

In addition, a 2005 study from Italy’s University of L’Aquila and Tufts University suggests that the flavanols in chocolate can protect the cardiovascular system from the effects of diabetes by enhancing insulin use in diabetic patients. The study indicates that flavanols can lower blood pressure and lower overall blood-fat levels. The researchers state, “Our findings support a potentially beneficial action of chocolate flavanols on blood pressure, vasorelaxation and insulin sensitivity.”

In a separate study, the same Italian research team also discovered that short-term administration of dark chocolate can result in a significant improvement in insulin sensitivity and can decrease blood pressure. The researchers attribute the results not only to the apparent ability of flavanols to fight free radicals, but also to an increased availability of nitric oxide (NO), a compound crucial to proper vascular system functioning.

In an insulin-resistant body, there are typically high levels of both insulin and glucose – both very oxidizing. High blood sugar causes essentially all of the serious side effects of diabetes. Accumulating research indicates that cocoa flavanols make the body more sensitive to insulin, thus reducing blood-sugar levels. In those who have little available insulin (type 1 diabetes), the flavanols tend to help the body use what is available more effectively.

An editorial discussing the work of the Italian researchers commented on the results of the study, calling them “of particular interest.” The author discusses the mechanisms by which cocoa polyphenols (flavanols) may help increase glucose metabolism and lower high blood pressure. He also mentions the beneficial increase in nitric oxide production, which is supported by other studies.

There’s more to this. A 2005 article in *Neurology Reviews* suggests that damage to the cells’ mitochondria, which occurs from repeated attacks by free radicals, contributes to the nerve pain (neuropathy) common to diabetics. Taken in context, it is feasible that cocoa’s powerful antioxidant capabilities could prevent or relieve the nerve pain many diabetics suffer.

**BIH**