# The Truth behind the "Big Lies" about Chocolate

By Dr. Steven E. Warren, M.D., D.PA.

"Dr. Chocolate"

I'm so happy you downloaded this ebook from my Healthy Chocolate website!

Healthy Chocolate has made such a difference in my own life that I want to share the message with everyone who wants to learn more.

Dr. Steven Warren, also known to us as "Dr. Chocolate," is one of the world's leading experts on nutrition and fitness in improving quality of life. He has done extensive research on chocolate and its effect on the human body.

The goal of this ebook is to put to rest the tremendous number of misconceptions and outright falsehoods about chocolate.

In fact, chocolate was used as a health food thousands of years before companies like He\*\*\*ey's, Ne\*\*le, and M\*\*s started producing "candy" chocolates stuffed full of sugars and harmful fats.

Today, research is showing how healthy, dark chocolate is really one of nature's super foods, helping relieve an amazing number of different health problems.

Please read through The Truth behind the "Big Lies" about Chocolate and learn the littleknown "secrets" about healthy chocolate.

I know there are some "big words" in this book. Dr. Warren wanted to be as accurate as possible in using scientifically recognized terms related to the benefits of healthy chocolate. If you have any questions, be sure to send me an email or call me. I'll be happy to talk with you.

Your friend,

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#### **Chocolate: Separating Fact and Fiction**

The following are commonly held beliefs regarding chocolate. See which are true, which are false and which are somewhere in-between.

## Statement: Chocolate is largely an "empty-calorie" food that is unhealthy and has little to offer in the way of nutrition.

Answer: False. While chocolate does provide calories, they certainly are not empty. Chocolate also provides a variety of other essential vitamins; minerals and other substances (simply read the rest of this booklet to find out why chocolate is a healthful food.)

#### Statement: Chocolate causes acne.

Answer: False. This one is big. For decades, teenagers have been told to avoid the chocolate ice cream if they didn't want zits and blackheads. Most research, as well as various professional organizations, states that acne is principally a result of hormone imbalance — specifically testosterone. Diet is considered to make a very minor contribution—if any at all—to the formation of acne.

#### Statement: Chocolate is addictive.

Answer: Maybe. There is much debate over this topic. While it is true that chocolate does contain (or contribute to the production of) several compounds active in the brain and central nervous system, the opinions are very mixed among researchers as to the notion that chocolate can actually be addicting. While these compounds do produce other feelings and sensations, at least on study recently found that cocoa-filled capsules containing all the active ingredients did not satisfy the cravings in the same way that chocolate did. This would suggest that the pleasant sensory experience of eating (smelling, tasting, etc.) the chocolate is a least partly necessary to satisfy chocolate cravings or "addictions."

#### Statement: Chocolate causes allergies.

Answer: Unlikely. First of all, very few people have true food allergies. Rather, they suffer from a food intolerance, which is less severe than an allergy. Those with food allergies can suffer severe symptoms, such as swollen eyes and throat, extreme itchiness in the mouth, and so on. Those with an intolerance usually have trouble digesting a particular food, and experience more mild gastrointestinal symptoms.

This is one reason that chocolate as an allergy trigger is highly unlikely. Second, and allergy or intolerance symptoms associated with the consumption of chocolate are more likely the result of an associated food or ingredient, such as nuts or milk, both of which have far higher allergy/intolerance rates. The research on chocolate suggests that intolerance to chocolate is comparatively rare, and no more prevalent that most other foods.

#### Healthy Chocolate User Testimonial

"I have suffered from severe allergies for 14 years. In fact, I tried immunotherapy (allergy shots once a week for five years) with limited results. I was taking multiple allergy pills a day and the side effects were debilitating (drowsiness and dryness). It was a daily balancing act that I hated.

I have had four corneal transplants and more than a dozen subsequent reparative eye surgeries over the last 10 years due to complications with a corneal disease. Having severe allergies and an eye disease definitely do not mix. My allergies attack the weakest parts of my body: my eyes. If you have had corneal transplants, rubbing your eyes is not a good idea because of the sutures that still remain. The pain and discomfort is torture.

The steroids I put in my eyes several times daily do not necessarily help control the symptoms. The only real solution was complete avoidance of the elements.

Since I started drinking healthy dark chocolate with acai, I have not taken an allergy pill or had an allergy attack. I can breathe and function normally most days. My eyes are not suffering, and for some unexplained reason my vision is getting better. I do not have joint pain like I used to. The only thing I have done differently is consume these potent antioxidants."

-Adam G.

#### Statement: Chocolate has no fiber.

Answer: Maybe. Processed chocolate has no fiber; the unprocessed cocoa is a good source of insoluble fiber and soluble fiber. Both types of fiber can add to an improved cardiovascular health and improved colon function.

#### Statement: Chocolate is a big contributor to cavities.

Answer: Not really. This one seems obvious, right? How can chocolate not cause cavities? Well, the answer is a bit more complex than most people would like to believe. The reason that chocolate has been linked to tooth cavities for so long is because sugar has been a prevalent ingredient in most chocolate products. And yes, sugar does contribute to cavities.

Truthfully, though, it is certain bacteria in the mouth that actually cause the cavities. They use simple carbohydrates (such as sugar) to create acid, and also contribute to plaque, both of which help break down the enamel of the tooth to eventually create a cavity. The bacteria can use just about any simple carbohydrate to do this. Sugar is one of these, but there are many sources of simple carbs that have the same effect. In fact, what scientists are finding is that simple carbs that take longer to clear the mouth because they stick in between teeth-such as cookies, bread, rice and so on—are more likely to contribute to cavities than—surprise!—chocolate or even soda.

To top it off, research has shown that chocolate isn't a contributor to cavities any more than most foods. And at least one study shows that it can inhibit the bacteria that are responsible for tooth decay. This doesn't mean that you should go eat all the chocolate you want and never brush your teeth. Just know that chocolate (especially a high-quality dark product) can actually help protect your teeth. And remember to always brush and floss—the two best proven ways to avoid tooth decay.

Healthy Chocolate User Testimonial

"I have exciting news to share with you. I am still shocked and so happy! I just got home from my Periodontist (dental surgeon) today. I will tell you the story:

"A little over a month ago after I went to the dentist for check up and cleaning. The dentist saw that I had bone loss in one of my teeth and recommended me to see a Periodontist to check it out. I thought to myself, 'Oh no, something serious is happening to my oral hygiene.' "I went to see a periodontist in Rancho Mirage, he said I had to have one tooth pulled out, implanted and other five teeth bone grafted for over \$7,000.00. I said, 'Wow! Is my oral hygiene that serious? I feel no pain, just little discomfort on one tooth.' I wanted to get 2nd opinion to make sure that was true and went to another periodontist, he said I did not need to have the tooth pulled, no implant, no bone grafts, only incision and scrape out plaque from down deep into my gum pockets for \$760.00. I thought that was so much better! He gave me an appointment to have it done two weeks later and said to brush my teeth more often and take care of them. So I brushed my teeth twice a day, ate more healthy dark chocolate daily (sucked on them to let it soak into my gums).

"I was nervous about the surgery the whole time. When I went today, he explained to me the procedure of the surgery and was going to give me a shot to numb my gums. When he checked on my gums and was surprised, gave me a big smile and said, 'This is a miracle, you did a good job taking better care of your teeth, you have no plaque, it is all gone. I do not need to give you surgery!' I was so surprised and so happy, no surgery! I told him about healthy dark chocolate and he was interested. Wow! Healthy dark chocolate has been shown to be excellent for oral hygiene.

"I told my best friend about this, she then told me her story and the same thing had happened to her, her dentist told her she would have to go back to periodontist because her gums were inflamed again. Instead of going to see periodontist, she wanted to try healthy dark chocolate for 3 months and when she went for her next cleaning and check up, the dentist asked her, 'What did you do? Did you change toothpaste or toothbrush or what? Your gums are healthy!" My friend was so happy and told him how healthy dark chocolate took care of her. He, too, was very interested.

"There have been many dental stories about healthy dark chocolate improving patients' oral hygiene. I am so thankful and so happy. We also saved \$\$\$\$. Isn't that wonderful? I DO NOT NEED DENTAL SURGERY!"

-Valerie A.

#### Statement: Chocolate causes migraine headaches.

Answer: False. A study by Moffett looked at twenty-five patients who felt that chocolate caused their headaches. He concluded after a double-blind study that "chocolate on its own is rarely a precipitant of migraines."

#### Statement: Chocolate makes you fat.

Answer: False. Unless you eat half a chocolate cake every day, chocolate won't make you gain weight. But it's not really the chocolate that makes you fat. It's the other ingredients—sugar, flour, fats, etc.—that add up to gross amounts of calories and are most responsible for any weight gain associated with "chocolate."

In fact, if you eat healthy dark chocolate, not only will you not gain weight, it may actually help you lose weight, will improve your cardiovascular health, and possibly enhance your mood and brain function. So don't be afraid of chocolate—just be afraid of eating enormous amounts of calories that often accompany unhealthy chocolate products.

#### **Chocolate Questions and Answers**

As scientific data continues to mount regarding the health benefits, I have received hundreds of questions over the years from patients and readers just like you. The following represent some of the most asked questions, as well as answers that hopefully will help you understand what role cocoa and chocolate foods can play in achieving optimal health.

#### Q. Where does chocolate come from?

A: The answer to this question is crucial to understanding why chocolate has health benefits. Because of the association of chocolate with desserts and sweets, it is often difficult for people to believe that chocolate can actually be good for you. In fact, chocolate has plant origins, and like other plants, has nutritional value.

The cocoa bean is actually an almond-shaped seed from the large fruit pods—about a foot long—of the flowering cacao tree. These seeds, which are the basic ingredient to any chocolate product, are nutritional powerhouses. The average tree can hold between 20 and 35 pods at any given time, and the pods take an average of 4 to 6 months to mature.

The cocoa bean is then generally broken into nibs and ground into a paste. The paste is then pressed, and its liquid cocoa butter is drained off and cake-like cocoa powder remains. About 10 pods (totaling between 300 and 6700 seeds) produce two pounds of cocoa paste.

Most of the world's chocolate now comes from the Ivory Coast, with Ghana and Indonesia following close behind. Brazil, Nigeria and Cameroon are also cocoa producers, though on a much smaller scale.

#### Q. Has chocolate been used historically either as a medicine or healthful food staple?

A. Although you may think of chocolate as having a relatively short history, its origins date back thousands of years ago to ancient Mesoamerica, constituting what today is known as southern Mexico, Belize, Guatemala, Honduras, and par of El Salvador.

Among the earliest people to discover the health benefits of chocolate were the Maya and their predecessors, the Olmec culture, in approximately 1500 B.C. these ancient peoples in the Americas used the chocolate being as the main ingredient in a bitter beverage revered for its nourishing qualities and ability to boost energy and stamina. It was also used to treat stomach and intestinal complaints, infections, fever and coughs. The drink was a mixture of fermented and roasted cocoa paste, water, chili peppers, cornmeal, and other ingredients blended into a spicy, frothy, and sugar-free health drink.

In fact, for the ancient Mesoamericans, chocolate was more than just a favored health food. It's also played an important role in their religion, society and the economy.

Because of its value and popularity, the cacao bean became a significant trade item for the Mayans. In fact, the Aztecs - who could not grow the cacao tree because of their dry climate - became so enamored with the bean that they often required that conquered peoples paid their tribute in cacao beans. The Aztec word for the delightsome drink-

xocolatl, which means "bitter water" - is what was eventually transformed into the modern English word, chocolate.

#### Q. How did the chocolate gain worldwide popularity?

A. Until the 1500s, no one outside of the New World knew anything at all about chocolate, although historical records indicate that other European explorers, including Columbus, at least in counter to cacao in the Americas. It wasn't until Hernan Cortés conquered Mexico in 1521 that the Spanish began to learn about the delicious flavor of chocolate. Cortes and his men had their first taste of the beverage from the confiscated treasure stores of the Aztecs.

Eventually, chocolate beverages gained popularity among European aristocrats and remained a status symbol for the wealthy until the chocolate candies were first mass produce a public in the 19th century.

- Q. Why are we now suddenly interested in cocoa when it has been around for such a long time?
- A. Over the centuries, chocolate has come full circle. Most of the modern world currently views chocolate as a tasty but quite unhealthy indulgence meant for only occasional consumption. But health conscious consumers are now learning that dark chocolate, devoid of some of the unhelpful ingredients usually paired with it in confectionery products, possesses some impressive health properties In fact, chocolate has grabbed the interest of the scientific and health communities so much so that in February 2000, it held center stage at the annual meeting and the Annual Meeting and Science Innovation Exposition at the American Association for the Advancement of Science, and later in the 2004, 2006, and 2007 at the National Academies in Washington, DC. These meetings have featured international scientists from the public and private sectors, bringing together committees of experts in all areas of science and technology.

These symposiums and the promising studies completed on cocoa in the last several years have raised the awareness of the public regarding the potential of chocolate to improve health. While some still view chocolate as a "sinful" indulgence, emerging studies seem to be changing the public view. In time, it will be common knowledge that cocoa products represent a healthful food choice for disease prevention and overall wellness.

- Q. What the conditions may potentially respond to the nutrients in chocolate?
- A. Numerous studies support a variety of potential health benefits from cocoa beans and dark chocolate in particular, including protection of the cardiovascular system, cellular function, cancer prevention, relief of inflammatory conditions, and improved symptoms of diabetes.

#### Q. What are the key nutrients in cocoa?

A. Cocoa's health promoting potential can be traced back to its optimized nutritional profile. It may surprise you to learn that chocolate is rich in a variety of nutrients that give it its energy-boosting, disease-preventing properties, even rivaling the nutritional power of many commonplace fruits and vegetables. Its key ingredients include various vitamins and minerals, and perhaps its most important ingredients are its polyphenols - including catechins, flavanols and flavonoids. These compounds are proving to be potent antioxidant, anti-inflammatory and cell-protecting health agents.

Healthy Chocolate User Testimonial

I used to have low energy because of my heart condition (my heart doesn't beat at a steady rhythm). When I would go to the gym to swim, I would only be able to swim about half a lap before I was exhausted.

I have been using a healthy chocolate drink with acai for three months now. I recently went back to the gym to try swimming and was shocked to see how much energy I had. I was able to swim over 12 laps! The only reason that I had to stop was because the muscles in my legs were shaking because they weren't used to having that much exertion. This product has changed my outlook!

-Bill E.

#### Q. Is there any scientific research to back these claims?

- A. Of course, chocolate's health potential is backed by centuries of use around the world, but more than that, its benefits to have also been the subject of several years of research. Scientific interest in cocoa has grown in recent years and continues to grow, and hundreds of published studies found in reputable medical journals support its health benefits.
- Q. Scientists have identified antioxidant activity in chocolate. What does this mean and how do we determine the antioxidant potency of cocoa and other antioxidant foods?
- A. Among cocoa's most impressive phytonutrients are several types of polyphenols, largely recognized as the most powerful antioxidant and anti-inflammatory compounds known. Polyphenols can be found in a variety of fruits and vegetables ranging from onions to apples, green tea, red wine and cocoa. They comprise multiple categories, including phenolic acids, simple phenols, phenylpropanoids, quinines, stilbenes, xanthones, and the largest group—flavonoids (also called bioflavonoids), which make up a majority of the polyphenol family and are further broken down in classes and subclasses such as catechins, epicatechins, proanthocyanidins and procyanidins.

Hundreds of studies have found that flavonoids possess anti-inflammatory, antioxidant, antibacterial, anticancer, and antiviral properties, as well as the ability to act like hormones (without the damaging side effects), protect and repair of the liver, relax and dilate the blood vessels, modify blood platelet clotting, maintain mental function, lower the risk of different forms of dementia, fight cancer, prevent tooth cavities and other forms of oral disease, and relieve allergy symptoms, among other benefits. They also possess hypoglycemic properties that help the body utilize sugars efficiently, thereby normalizing blood sugar levels for diabetes protection and can halt free radical damage of the eyes and extremities, where diabetes tends to take its toll.

#### Healthy Chocolate User Testimonial

"I started taking an ounce of a chocolate antioxidant beverage three times a day. In addition to feeling the usual benefits of vigor and well-being, after the first five days, I began to notice that my eyesight in my blind right eye was improving. After the first eight days of using the chocolate drink, I became gratefully aware that the retina and macula in my blind eye was actually being restored to better vision. Slight improvements were noted daily, until I gradually came to realize that Venetian blinds on the right edge of my window actually extended all the way across the window."

#### -Merrel H.

#### Q. I have heard that chocolate can protect the cardiovascular system. How is this possible?

A. The heart protective effects of cocoa are probably the most documented. Dozens of studies confirm its ability to protect by counteracting free radical oxidation and blood vessel inflammation, improving blood platelet function, decreasing blood clotting, increasing HDL ("good") cholesterol, reducing LDL ("bad") cholesterol levels, increasing prostacyclin activity (which helps blood vessels to relax), and reducing blood pressure.

A 2007 study published in the Archives of Internal Medicine analyzed the effect of tea and cocoa on blood pressure. Researchers found that the consumption of foods rich in cocoa may reduce blood pressure, while tea appeared to have no effect. In fact, the benefits of cocoa on blood pressure were similar to those of standard pharmaceutical prescriptions, including beta blockers.

The lowered risk for cardiovascular disease could not be explained simply by lowered blood pressure, and researchers attributed the reduced risk to a myriad of cocoa's benefits, including improvements in the function of blood vessels, lower blood glucose levels, lower platelet function, improved cholesterol levels, decreased oxidation of blood lipids, and reduced activity of the inflammatory components such as cytokines.

These findings are supported by findings from numerous other studies. In fact, a team of scientists from the Harvard School of Public Health reviewed close to 140 studies completed on the relationship of chocolate and cocoa to cardiovascular health. The research team concluded that chocolate is a major source of flavonoids (epicatechins, catechins, and procyanidins), and found that the principal fat in chocolate - stearic acid - did not have adverse effects on blood vessels, cholesterol levels or overall cardiovascular health because it is metabolized differently than other saturated fats. The authors concluded that regular consumption of chocolate should decrease the risk of cardiovascular-related conditions, and recommended long-term studies to confirm this.

#### Healthy Chocolate User Testimonial

"My family has a history of high blood pressure. I am 37 years old, and my blood pressure was averaging between 150 and 159 before I started to drink a healthy chocolate antioxidant beverage. Since I started using the drink, my blood pressure has dropped 40 points. Needless to say, my entire family is using this healthy chocolate with acai."

-Jedd N.

#### Q. Can cocoa help in the treatment of diabetes?

A. Chocolate's heart-protective benefits may also be helpful to individuals with diabetes. It is well known that the majority of diabetes related deaths result from cardiovascular conditions such as atherosclerosis, infarction, stroke and peripheral vascular disease.

Elevated blood sugar levels cause micro-blood vessel damage, which ultimately causes scarring and blood vessel blockage. This damage causes neuropathy (pain in the nerves) and edema (water in the tissues) in extremities, which can lead to ulcerations and amputations. It also causes kidney damage (nephropathy) and even blindness (retinopathy).

Researchers from Italy have recently reported that oxidative stress is the underlying cause of insulin resistance, glucose intolerance and diabetes. If this is the case, antioxidant rich foods like cocoa may help treat and prevent the disease.

A 2005 the study from the University of L'Aquila in Italy and Tufts University suggests that flavonols present in chocolate can protect the cardiovascular system and can improve the utilization of insulin in diabetic patients. The findings indicate that flavonols can lower blood pressure and lower overall blood fat levels. The researchers also discovered that even the short-term administration of dark chocolate can result in significant improvement in insulin sensitivity (insulin resistance is a key problem in type-2 diabetes). Flavonoids help type-2 diabetes mitigate insulin resistance, thus lowering and regulating blood sugar.

A recent article in the Journal of Nutrition discusses the protection that cocoa polyphenols can provide against after-meal oxidative stress. The authors explain that nutritional oxidative stress occurs because there is an imbalance between the body's pro-oxidant load and its antioxidant defense. This is a consequence of excessive intake of free radicals or of inadequate supply of antioxidants. This imbalance contributes, of course, to a higher risk of cardiovascular problems - and diabetes. This distress can be reduced by the ingestion of dietary polyphenols or antioxidants found in chocolate.

Healthy Chocolate User Testimonial

"I was diagnosed with diabetes in the summer of 2004. What a shock. I was immediately given a prescription for a drug to control my sugar level.

I, of course, changed my diet and started exercising. After being on a chocolate and acai product for 30 days, I am no longer on my prescription drug. My sugar level is staying in the normal range. And as a "chocoholic,"

I can now eat chocolate again, guilt-free!"

-Butch S.

- Q. My doctor told me that inflammation is a key contributor to my joint pain. Can cocoa treat inflammation?
- A. Although cocoa's effect on inflammation has not been the subject of many studies, most scientists in the field of chocolate research agree that one of cocoa's primary benefits is its ability to prevent or even reverse inflammatory response in the body.

In a 2005 study published in the American Journal of Clinical Nutrition, researchers discovered that epicatechin and other flavonols found in cocoa proved to be effective at inhibiting the action of leukotrienes, inflammatory messengers that can be a key contributor to inflammation-related conditions when produced in excess. Flavanols also reduce inflammation by inhibiting cyclooxygenase (COX-2), inflammatory cytokines and interleukin-1 beta.

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