

# Chocolate Myths & Myhttakes!

## Chocolate & Diabetes

Eating certain foods, even simple sugar, does not cause diabetes. Diabetes is a result of a person's body failing to regulate blood sugars (blood glucose). Everyone with diabetes should follow their physicians' and dietitians' instructions in regard to meal planning, physical activity, blood glucose monitoring, and medication. If you have diabetes, ask your doctor, nutritionist, or other health professional how chocolate may be incorporated into your eating plan.



## Chocolate & Headaches

Research shows that most headaches and chocolate intake are not related. Experts agree that most often it is stress, irregular sleep patterns, hunger, and hormone changes that trigger headaches.

## Chocolate & Tooth Decay

When carbohydrates (both complex and simple) mix with the natural bacteria found in the mouth an acid is formed that breaks down tooth enamel. Chocolate, like bread, raisins, crackers, and fruit, is a carbohydrate containing food - and is no more or less responsible for tooth decay than other foods. To its advantage, chocolate actually clears the mouth relatively quickly, reducing the time it spends in contact with the teeth.



## Chocolate and hyperactivity

Pediatricians say there is no link between the sugar found in chocolate or other foods and restlessness or attention-deficit-hyperactivity disorder (ADHD) in children.

## Chocolate and allergies

Allergies to chocolate are very uncommon. If you have been diagnosed with food allergies by a board-certified allergist, you must read labels and avoid the foods or ingredients that cause the allergic reaction. A registered dietitian can help you plan meals and select foods that exclude the food to which you are allergic.

## Chocolate & Fat

Chocolate contributes less than two percent of the fat in the American diet. The main sources of fat are meat, full-fat dairy products, and fried foods. While chocolate contains some saturated fats, studies have shown that not all types of saturated fats raise blood cholesterol levels. Stearic acid is a saturated fat that comprises one-third of the fat in chocolate. Stearic acid does not raise blood cholesterol levels. In addition, oleic acid, a monounsaturated fat also found in olive oil, makes up one-third of the fat in chocolate. Eating foods with oleic acid as part of a healthful eating plan has been shown to be beneficial for heart health.



Product	Typical Amount
Coffee, brewed	80 - 140 mg per cup
Coffee, Instant	60 - 110 mg per cup
Soft drinks	36 - 90 mg per 12 ozs
Cappuccino	25 - 100 mg per cup
Tea (from bag)	20 - 60 mg per cup
Chocolate	25 mg per oz
Hot Chocolate	4 mg per cup
Coffee, decaf	3 - 5 mg per cup

## Chocolate & Obesity

Obesity is a disease in which a person has an excessive amount of body fat. taking in more calories than burned off with physical activity. Obesity can also stem from genetic or hormonal disorders, or from taking some types of medications for a long period of time. Obese people often eat the same amount or fewer sweets, including chocolate, than people who are not obese.



## Chocolate & Acne

Thousands of studies have proven the point that there is no linkage between any nutritional product and acne. (The predominant cause of acne appears to be adolescence, in which case there's nothing for it but to enjoy a bar of chocolate!).



# EAT HEALTHY



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## What Is Chocolate?

Chocolate is a mixture of cocoa paste, cocoa butter, and sugar. It is a complementary food, since it contains all three organic substances - carbohydrates, fats (cocoa butter), and vegetable proteins.



Chocolate contains potassium and magnesium in large amounts, calcium and sodium in small amounts, and iron in trace amounts, as well as vitamins A1, B1, B2, D, and E.

## Chocolate and Your Brain

There are four pharmacodynamic substances (substances which act like medications) found in negligible quantities in chocolate: theobromine, caffeine, phenylethylamine, and serotonin.



Theobromine stimulates the central nervous system, facilitates muscular efforts, and also has diuretic and cardiotonic action effects. It is an orexigen (appetite stimulator). Caffeine increases resistance towards fatigue, accelerates intellectual activity, and increases watchfulness. Phenylethylamine is chemically similar to amphetamines and therefore contains psycho-stimulating properties. Serotonin, on the other hand, is a neurotransmitter in the cerebral cortex which, during certain nervous depressive states, is often found to be lowered.

Caffeine and saccharose stimulate the body's stimulation of serotonin which, in turn, helps correct serotonin's initial loss. Due to the pleasure chocolate offers, it stimulates endorphin secretion naturally resulting in the same effects as opium (although non-addictive and less expensive!).

*In vitro* (test tube) and *in vivo* (in humans) studies have shown that **cocoa** flavonoids and certain **chocolates** may decrease low-density-lipoprotein (LDL) oxidation, may modulate platelet activation and may positively affect the balance between certain hormones, or eicosanoids. These actions can play a role in maintaining cardiovascular health.

## Chocolate and Your Heart

### ♥ Fats

Cocoa butter, the fat in chocolate, contains saturated fatty acids (SFA), stearic acid, palmitic acid, and the unsaturated fatty acid, oleic acid.

Although most SFA may raise cholesterol, all SFA do not have the same hypercholesterolemic effect. Research indicates that stearic acid is unique - it may have a neutral effect on blood cholesterol similar to oleic acid, which is important when considering maintaining cardiovascular health.

### ♥ Polyphenols & The Role of LDL

Since chocolate is derived from a plant, it contains polyphenols as well as many of the same nutrients as other plant-based foods.



Medical research suggests that polyphenols, which have antioxidant potential, may contribute to cardiovascular health. LDL (Low-Density Lipoprotein) is a combination of fat and protein that carries cholesterol and fats in the bloodstream. A healthy cardiovascular system requires that LDL be regulated to maintain a normal LDL cholesterol level and a normal rate of LDL cholesterol oxidation. Antioxidants may play an important role in minimizing the rate of LDL oxidation and maintaining the integrity of arterial walls. Clinical studies show that chocolate impacts LDL's reaction with oxygen. One study found the LDL in the blood taken from people after eating a small amount of nonfat cocoa was less likely to react with oxygen than LDL taken from the same people before they ate the nonfat cocoa. This finding was further confirmed in a recently presented study at the Experimental Biology meeting in San Diego by researchers at Pennsylvania State University. The researchers observed an increase in the amount of time that it took for 23 volunteers' blood to oxidize after eating chocolate compared to not eating chocolate. Also, the blood's total antioxidant capacity was increased. The initial research indicates that chocolate, when eaten as part of a balanced diet, could have a role to play in helping to maintain cardiovascular health.

"Chocolate should no longer be thought of as a sweet little sin, for it is a proper food, nutritionally rich and invigorating. It needs to be not simply rehabilitated, but actually valued, especially because of its remarkable properties in helping to prevent cardiovascular disease and its regulatory effect on the mood."

Dr. Herve Robert

*Information, in part, provided by The American Dietetic Association / National Center for Nutrition & Dietetics Visit ADA on the World Wide Web: [www.eatright.org](http://www.eatright.org)*

### ♥ Flavanoids

Flavonoids and the subgroup called catechins are found in dark chocolate at four times the amount that is found in green tea. Antioxidants block the free radicals that are breakdown normal cell reproduction. Dark chocolate 60% + provides the most antioxidants per weight:

Dark chocolate	50g =300 mg Polyphenals
Green Tea	240 ml =400 mg Polyphenals
Wine	140 ml =170 mg Polyphenals



Studies show that cocoa powder, dark chocolate and milk chocolate have higher Oxygen Radical Absorption Capacity (ORAC) values than many common foods, such as prunes and blueberries. (12) (ORAC values measure how powerful an antioxidant a substance is. An antioxidant is a substance that inhibits oxidation or reactions promoted by oxygen and peroxides, and that include many held to protect the living body from the deleterious effects

### ♥ Chocolate and Pregnancy

In 2004 researchers at the University of Helsinki, Finland asked over 300 pregnant women to rate their psychological stress levels and chocolate consumption. Six months after the birth of their babies, the mothers rated their babies' behaviour in various categories. The babies born to mothers who had eaten chocolate daily during pregnancy rated more positively the temperament of their infants. The babies of stressed mothers who had regularly eaten chocolate showed less fear of new situations than babies of stressed women who had not consumed chocolate. The researchers speculated that the happy behaviour observed in the babies might result from chemicals in chocolate, which are associated with positive mood, being passed on to the baby in the womb.

Preeclampsia, in which blood pressure spikes during pregnancy while excess protein is released into the urine, has many features in common with heart disease. Women who consumed the most chocolate and those whose infants had the highest concentration of theobromine in their cord blood were the least likely to develop preeclampsia. Women in the highest quarter for cord blood theobromine were 69 percent less likely to develop the complication than those in the lowest quarter. *Reuters Apr 28, 2008*

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4553 Main St. • Amherst NY 14226

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