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# Is Chocolate Good for you?

The bitter and the sweet

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EUGENIA UHL PHOTOGRAPH

One shop doesn't transform a recovering metropolis into a chocolate city. But last year a small chocolate paradise arose out of the receded flood waters on Canal Boulevard.

A few blocks past the cemeteries, located between a Helm Paint Store and a Deluxe Cleaners, is Bittersweet Confections. A stop there may be just as important for your cardiovascular health as a trip to the gym.

Consumers and medicine men have trumped the medicinal properties of chocolate since the 18th century. Chocolate was believed to strengthen the heart. Ongoing research confirms these wishful thinkers were on track.

Chocolate – especially dark chocolate – is a gumbo mix of plant chemicals including flavonoids, naturally occurring chemicals with antibacterial and anti-inflammatory properties. These chemicals have beneficial effects on endocardial function and elasticity of blood vessels, and are found in a variety of fruits and vegetables. Chocolate, red wine, grape seed, most berries, tea, tomatoes, soy and pomegranate are all plants or plant products with high flavonoid content.

It was time for what epidemiologists call field research. I visited Bittersweet Confections one recent Saturday afternoon. First impression – it smells better than any gym or health food store.

"What's all this about chocolate being good for your health? Are you folks putting health food stores and gyms out of business?" I asked, coming on strong, as there were no other customers initially in the shop.

"Dark chocolate is good for your heart and health. It has antioxidants in it. If Miss Cheryl were here, she could tell you much more," said Katherine Devay, a 17-year-old chocolatier apprentice. "Miss Cheryl" turned out to be Cheryl Scripter, master chocolatier and owner of the shop.

As I waited for customers to enter the store, the staff proudly brought out samples of three commercial couvertures they use for their handmade confectionary arts. Dark chocolate had the highest chocolate content at 74 percent compared to 38 percent for high-grade milk chocolate (See box).

My wait quickly ended. The front door opened, a well-dressed woman took a sniff and rushed into the shop almost as if she were hiding from passers-by.

"Yes, I know all the places in town to buy chocolate. I buy lots of chocolate but I'm not buying for me today. I'm on a diet," said Sharon Chrestia, somewhat sheepish at being caught on a chocolate-buying trip. Chrestia, a youthful, trim 60-year-old, first bought chocolate at the Maison Blanche candy counter on Canal Street in her youth. Her mother also made chocolate candies at home.

"I like a little piece of chocolate after supper. It is more smoothing than a cigarette after a meal. But now I'm on Jenny Craig and no more chocolate candy for me," added Chrestia, who then confessed that she signed up for Jenny Craig in part because they have an excellent chocolate cheesecake in their program.

Optimally performing blood vessels are relatively elastic and expand and contract like a new rubber band. On the other hand, arteries with poor elasticity perform poorly, like old dried-out rubber bands. Atherosclerosis is the medical condition resulting from the loss of blood vessel elasticity. The inner lining of the arteries becomes pockmarked with deposits of cholesterol and other plaque-forming debris.

Roughed-up arterial walls cause disturbances in blood flow ranging from simple turbulence to serious obstructions. It takes more pressure to move the blood flow, contributing to hypertension. Aging, smoking and diabetes can accelerate these changes. With time, the body's arteries become just like the old rubber band – limp and prone to rupture.

The chemical play of oxidation also affects the arterial walls. Just like iron exposed to air and water will transfer electrons to produce rust, various body structures transfer electrons to breakdown more complex molecules. This is in part why skin sags with age and blood vessels and other organs function less effectively over time.

Recent research from the Linus Pauling Institute supports favorable antioxidant effects of flavonoids but suggested that flavonoids themselves have little direct antioxidant activity within the body. Experiments showed that the increased antioxidant activity in the blood after ingestion of flavonoid-rich foods is caused by the body's attempt to purge these foreign compounds.

Only small amounts of flavonoids are needed to induce this beneficial purging. Excessive dosing poses more risks than benefits. Every silver lining has a looming cloud and chocolate is no exception. Chocolate also contains caffeine so for some, overindulging near bedtime makes it more difficult to fall asleep. Fortunately, the caffeine content of chocolate is low compared to coffee and tea. For example a 1.5-ounce Hershey's Special Dark Chocolate Bar contains 31 milligrams of caffeine compared to about 100 milligrams in eight ounces of brewed New Orleans dark roast coffee.

There are dozens of testimonials as to the benefits of controlled eating of dark chocolate; real but limited data continue to mount. Each year around February, another journal publishes a promising study touting dark chocolate.

The Southern Medical Journal just published a very small pilot study of 28 patients. They were healthy volunteers, not the average overweight/obese patient with a multitude of coronary risk factors. The study showed that flavonoids lowered LDL a little bit, but the impact on raising HDL was impressive. For every one percent increase in HDL there is a 3 to 5 percent reduction in cardiovascular disease risk, says Dr. Chip Lavie, medical director of preventive cardiology at Ochsner Medical Center.

A total cholesterol determination includes several components. The LDL or low-density lipoproteins are the bad ones associated with all the feared complications from heart attacks to strokes. The HDL or high-density lipoproteins are the good cholesterol. Persons with elevated HDL levels have fewer heart attacks. As Lavie notes, raising HDL levels is beneficial.

Flavonoids are known to have potent anti-platelet and anti-inflammatory effects. Many foods have flavonoids, from red grape juice to dark beer. One always weighs the good and the bad. An example of a similar food with controversy is nuts. If you eat a huge amount, the calorie intake will cause weight gain. However, small amounts of these 'good fats' are healthy and actually depress the appetite for other calories so the net effect may be good.

"Eating a small amount of dark chocolate may be beneficial," says Lavie, "but the evidence is not nearly strong as it is for more fiber, fruits, vegetables and fatty fish in the diet."