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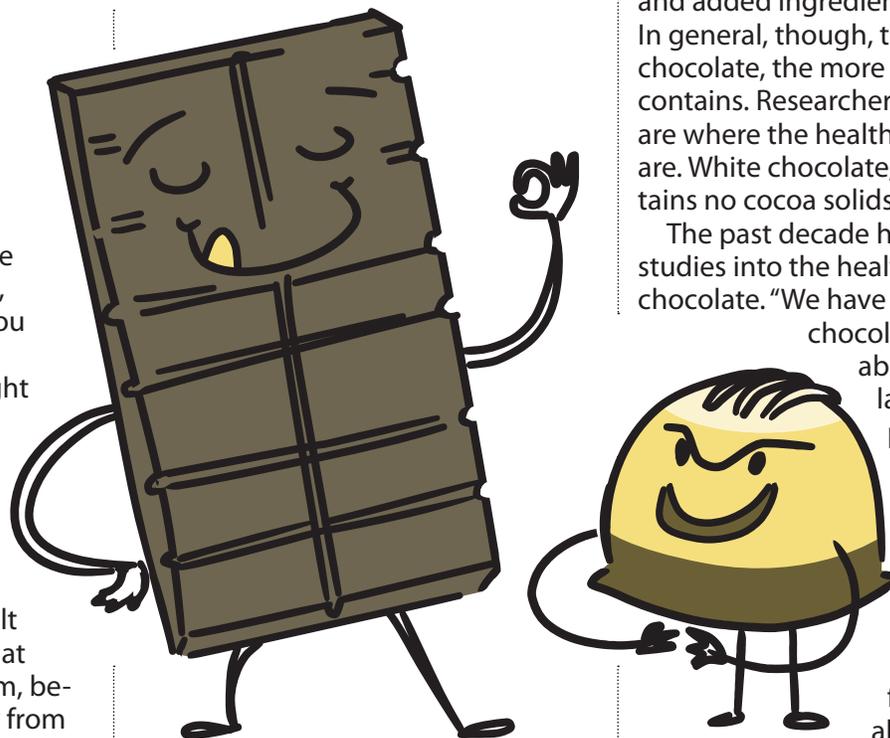
Inside News: 3 Get the Buzz on Tinnitus... 4 Update Your Family Health History... Pink Eye... Bowel Control

Claims About Cocoa Can Chocolate Really Be Good for You?

Many of us would love to believe that chocolate is a health food. Maybe you've heard or read about its potential benefits. Eating chocolate may have some health pluses, but the research is far from certain. The drawbacks, on the other hand, are clear. Think twice before you reach for that tempting treat.

The idea that chocolate might be good for you stems from studies of the Kuna Indians, who live on islands off the coast of Panama. They have a low risk of **cardiovascular** disease or high blood pressure given their weight and salt intake. Researchers realized that **genes** weren't protecting them, because those who moved away from the Kuna islands developed high blood pressure and heart disease at typical rates. Something in their island environment must have kept their blood pressure from rising.

"What was particularly striking about their environment was the amount of cocoa they consume,



which was easily 10 times more than most of us would get in a typical day," says Dr. Brent M. Egan, a researcher at the Medical University of South Carolina who studies the effect of chocolate on blood pressure.

But Kuna cocoa is a far cry from the chocolate that most Americans eat. The Kuna make a drink with dried and ground cocoa beans (the seeds of the cocoa tree) along with a little added sweetener. The chocolate we tend to eat, on the other hand, is made from cocoa beans that are roasted and processed in various other ways, and then combined with ingredients like whole milk.

Processing can extract 2 main components from cocoa beans: cocoa solids and cocoa butter. Powdered cocoa is made using the solids.

Chocolate is made from a combination of cocoa solids and cocoa butter. The color of the chocolate depends partly on the amount of cocoa solids and added ingredients, such as milk. In general, though, the darker the chocolate, the more cocoa solids it contains. Researchers think the solids are where the healthy compounds are. White chocolate, in contrast, contains no cocoa solids at all.

The past decade has seen many studies into the health effects of chocolate. "We have good science on chocolate, especially about dark chocolate on blood pressure," says Dr. Luc Djoussé of Harvard Medical School and Brigham and Women's Hospital. His research team found an overall drop in blood pressure among

people who eat more chocolate. "The results suggest that chocolate may, in fact, lower blood pressure," Djoussé says. "This effect was even stronger among people with high blood pressure to begin with."

Laboratory studies have uncovered several mechanisms that might explain chocolate's heart-healthy benefits. However, it's hard to prove whether the chocolate that most Americans eat actually has those ef-

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Definitions

Cardiovascular

The system of heart and vessels that circulates blood throughout the body.

Genes

Stretches of DNA, a substance you inherit from your parents, that define characteristics like height, eye color and how likely you are to get certain diseases.

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fects in the human body. Controlling how much chocolate people eat and tracking them for long periods of time is not an easy task.

"The clinical trials that have been done in people have all been fairly short," says Dr. Ranganath Muniyappa, an NIH staff clinician who studies diabetes and cardiovascular health. These studies, he explains, look at cardiovascular risk "markers"—factors related to heart health, such as blood pressure—not long-term outcomes like heart disease and stroke.

Studies looking into the long-term health effects of chocolate have relied on people to recall how much chocolate they ate. The researchers then compared those levels with health outcomes. While such studies can find associations, they can't prove the effects of a particular food.

"People usually eat food in a pattern. A chocolate lover would eat chocolate with something else," Djoussé explains. "It could be not so much the chocolate by itself, but chocolate in conjunction with, let's say, whole grain or exercise or not smoking—the pattern of the life-style habit in general. It's really hard to separate the effects of individual components."

Chocolate contains high levels of compounds thought to help prevent cancer, too. But Dr. Joseph Su, an NIH expert in diet and cancer, says that direct evidence here is similarly hard to come by. Since cancer can take many years to develop, it's difficult to prove whether eating chocolate can affect disease. Instead, researchers

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<http://newsinhealth.nih.gov/issue/Aug2011/Feature1>

look to see if factors linked to cancer change when chocolate is consumed.

"Right now, some studies show really a remarkable modification of those markers," Su says. But the evidence that chocolate can reduce cancer or death rates in people is still weak. "There are a few studies that show some effect," Su says, "but the findings so far are not consistent."

Some research also suggests that chocolate might help prevent diabetes. However, the challenges in proving this link are similar to those of heart disease and cancer.

Another thing that makes it hard to interpret these studies is that they often use different chocolates, and so their ingredients and health effects may vary.

Compounds called flavanols are thought to be responsible for many of chocolate's beneficial effects. These compounds are also found in tea, wine, fruits and vegetables. Different chocolates can vary greatly in their flavanol content. Cocoa beans naturally differ in their flavanol levels. A large portion of the flavanols can also be removed during processing. In fact, companies often remove these compounds intentionally because of their bitter taste. The end result is that there's no way to know whether the products you're looking at contain high flavanol levels.

**Wise Choices
Eating Chocolate**

If you don't eat chocolate now, the research isn't strong enough to suggest you start. But if you already eat chocolate, here are some healthy tips:

- Eat as dark a chocolate as you can.
- Avoid white and milk chocolates. Also avoid filled chocolates, such as truffles.
- Make hot chocolate with unsweetened cocoa, water or non-fat milk, and little added sugar.
- Choose dark chocolate instead of less-healthy treats, like full-fat ice cream or sugar-laden candy.
- Watch your total calories. Chocolate has a lot of calories, and gaining weight will more than wipe out any benefits you might get from the compounds in chocolate.

So should you eat chocolate? Chocolate can have a lot of calories, and the importance of a healthy weight is well known. "If you're eating chocolate, make sure to watch the calorie content, the fat content and the sugar content," Su says.

"For those who are already consuming chocolate, I would advise them to look for the darker ones," Djoussé adds, "not the white chocolate or the milk chocolate. You won't get any of the benefit. It's just going to be unneeded calories."

But there's no need to start eating chocolate if you don't already. "The science doesn't allow us to make recommendations because the evidence is just not there," Muniyappa says.

Meanwhile, NIH will continue to fund studies into the health effects of chocolate, and many other foods. Wouldn't it be sweet if the research proved that chocolate is definitely good for us? ■

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Ringling in Your Ears?

Get the Buzz on Tinnitus

Tinnitus is commonly described as a ringing in the ears, but some people also hear it as a roaring, clicking, hissing or buzzing. It may be soft or loud, and it might affect both of your ears or only one. For some people, it's a minor annoyance. For others, it can interfere with sleep and grow to be a source of mental and emotional anguish.

Each year about 1 in 10 adults nationwide has an episode of tinnitus that lasts longer than 3 months. Tinnitus isn't a disease. Instead, it's a symptom that something is wrong with your auditory system. The problem may exist somewhere in your ear, in the nerve that connects the inner ear to the brain or in the parts of the brain that make sense of sounds.

Scientists still aren't entirely sure what happens in the auditory system to cause tinnitus. But somehow, the networks of nerve cells that process sounds have been

thrown out of balance in a way that creates the illusion of sound where there is none.

Because tinnitus can arise from so many conditions, ranging from hearing loss to high blood pressure to medications, diagnosing the cause or causes can be a challenge. For many people, the ringing in their ears begins for no obvious reason.

Although there's no cure for tinnitus, several treatments can make it easier to cope. Hearing aids may help those who have hearing loss along with tinnitus. Behavioral therapy with counseling helps people learn how to live with the noise. Wearable sound generators—small electronic devices that fit in the ear—use a soft, pleasant sound to help mask the tinnitus and offer relief.

Some people with tinnitus use tabletop sound generators to help them relax or fall asleep. Antidepressants and anti-anxiety drugs may be prescribed to improve mood and sleep patterns. Most doctors offer a combination of these treatments, depending on the severity of the tinnitus and the daily activities it affects the most.

Researchers have been working on new ways to treat tinnitus. One NIH-sponsored study has just begun recruiting active and retired military personnel of the U.S. Armed Forces to test the effectiveness of an experimental tinnitus therapy.



Wise Choices What Causes Tinnitus?

Several conditions can lead to tinnitus, including:

- Noise-induced hearing loss
- Diseases of the heart or blood vessels
- Ménière's disease, a disorder of the inner ear that causes severe dizziness
- Certain types of tumors
- Excess earwax
- Certain medications. More than 200 drugs are known to cause tinnitus when you start or stop taking them.
- Ear and sinus infections



Soldiers exposed to loud noise, including bomb blasts, can develop tinnitus due to tissue damage in hearing-related areas of the brain and ear. In fact, tinnitus is one of the most common service-related injuries among military personnel returning from Iraq and Afghanistan. The experimental treatment in this study combines educational counseling with a sound-generation device.

Called tinnitus retraining therapy, the approach has shown promise in earlier trials and appears to ease the annoyance of tinnitus and its impact on people's lives. Learn more about the study at <http://clinicaltrials.gov/ct2/show/NCT01177137>.

Talk to your doctor if you've had ringing in your ears for more than 3 months. Your physician will ask about your symptoms and look into your ear to search for possible causes. You may be referred to an otolaryngologist (a doctor who specializes in conditions of the ear, nose and throat) for further evaluation. ■



Web Links

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<http://newsinhealth.nih.gov/issue/Aug2011/Feature2>

