## Smile! Laughter and chocolate are good for your health

## **Description**



Research finds that dark chocolate with 70 percent cacao content can be good for you.

Here's something that's sure to put a smile on your face: A key to good health just might come in the form of a chocolate chuckle.

Scientific studies have long given credence to the adage that laughter is the best medicine. Now, an increasing body of research is showing the positive health benefits of dark chocolate.

The delicious science behind the health benefits of laughter and chocolate is the subject of a lecture at UC San Diego's Stein Institute for Research on Aging that will be given by another unique pairing â€" a father and son who also happen to be a doctor-researcher and a chef-chocolate maker.

Dr. Lee Berk, director of Loma Linda University's Clinical Molecular and Psychoneuroimmunology Research Laboratory, has conducted multiple neuroscience lifestyle studies that support the growing mind-body field of medicine. Earlier this month, he had three submitted research abstracts, all on the health benefits of laughter and chocolate, accepted for presentation at the 2016 Experimental Biology Conference held in San Diego.

His research has shown that mirthful laughter can affect the brain by producing gamma waves to levels similar to when a person meditates. Stress, the opposite of genuine, physiology-changing laughter,

suppresses the immune system, speeds up the heart rate and produces detrimental stress hormones such as cortisol and adrenaline.

Laughter spurs positive emotions with beneficial results on the immune system, heart rate and brain.

Busting a gut watching "Bridemaids†for the 10th time could significantly reduce the output of detrimental stress hormones, and gamma wave brain frequency is changed, allowing for clearer, more focused thought.

Dark chocolate made from 70 percent cacao does the same thing, he said.

"Clearly, lifestyle components, whether behavior or what we ingest, have a commonality in making us healthier,†Berk said.

# **Smile for Chocolate**

He had been studying the laughter-health connection for years when he started looking at chocolate.

"My perception was, if behavior can modulate brain frequency, why doesn't food or the kinds of food you eat, do the same thing? Home run.â€

Dark chocolate with high cacao content has long been believed to be a good source of flavonoids, with anti-inflammatory and antioxidant elements that promote cardiovascular health.

Berk said a recent lab analysis on a quarter of a small square of chocolate was found to contain high levels of antioxidants, behind only amounts linked to cloves and acai berries.

Chocolate's flavonoids, his research showed, can be connected to neuroelectric activities, such as intellect, memory, recall and the brain's ability to reason.

"It enhances memory and recall, but I don't know if it's going to prevent dementia,â€he said. "Antioxidents are neural-protective. They prevent neurons from getting rusted.â€

Moreover, he said, chocolate is known to spur the "love or bliss hormone,†or anandamide. Eating healthy chocolate enhances serotonin, stimulates good endorphins and makes you feel better.

Sadly, all this happy research doesn't mean we can all celebrate with a Snickers bar.

"You've got to look at the package of what's going along for the ride, what's counterproductive,†in the chocolate, Berk said. Health benefits won't be found in milk chocolate, with its low cacao content, nor in highly processed chocolate, with additives and refined sugars.

The same lab analysis that found the notably high levels of antioxidants also helped unwrap a mystery: Why did the tested chocolate's cacao nibs â€" the center of the bean, that's been shelled and roasted â€" have fewer antioxidants than the finished chocolate bar?

Turns out, the chocolate has two ingredients, cacao and organic cane sugar. The sugar isn't processed and doesn't have pesticides, which kill antioxidants, he said. So the organic cane

sugar's antioxidants appear to boost the chocolate's as well.

Not coincidentally, the 70 percent cacao chocolate Berk uses in his research comes from Parliament Chocolate, the Redlands-based shop owned by his son, chef Ryan Berk.

Parliament, which makes small-batch, single-origin organic chocolate, on Wednesday played host to Dr. Berk and a group of student researchers who learned how chocolate is derived from the cacao bean and how it's processed â€" or not processed.

"lt's my duty to make delicious chocolate; it's my father's duty to study that it's doing the right thing to your body and making sure you're healthy and happy,†said Ryan Berk.

Parliament Chocolate, which is sourced from the Dominican Republic, Bolivia, Guatemala and Tanzania, is sold at two San Diego County locations, Revolution Roasters in Oceanside, and The Cheese Store of San Diego, in Little Italy.

The UC San Diego lecture win consmile and go home happy Default Watermark The UC San Diego lecture will end with a chocolate tasting, Ryan Berk said. And then everyone can

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