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Our December 2020 Newsletter for Healthy Living

Calm Down with Your “Cado”

Eating fruits such as avocados, apples and berries may support your metabolic health, lowering your risk of Type 2 diabetes and supporting healthy blood pressure. At the core of the condition, Type 2 diabetes is a function of insulin resistance, which in turn is a diet-induced condition. Obesity, high blood pressure and high blood sugar are also signs of metabolic syndrome, a group of risk factors that raise your risk of diabetes. Processed foods loaded with added sugars, processed grains and industrial processed omega-6 vegetable oils are the primary culprits that trigger insulin resistance, Type 2 diabetes and obesity, and while cutting out toxic foods such as these is essential, adding in healthy foods, like certain fruits, can be beneficial.

Legend has it the early name for avocados — “alligator pear” — came from an early English mispronunciation and misunderstanding. The name may have continued since the skin has a vaguely reptilian appearance and the fruit is shaped like a pear. But no matter the name or appearance, avocados are superfoods that may also help lower your blood sugar.

A recent study by Paul Spagnuolo, Ph.D., and a team at the University of Guelph in Ontario, Canada, revealed that a compound called avocatin B, found only in avocados, can beneficially alter cellular processes that increase the risk of diabetes. In Canada, 25% of citizens are obese, a condition that increases the risk of Type 2 diabe-

tes. By comparison, the prevalence of obesity in the U.S. was 42.4% in 2018.

The team began the study by feeding mice a high-fat diet for eight weeks, which triggered obesity and insulin resistance. Over the next five weeks, the mice were separated into two groups. One group continued the high-fat diet and the other group’s food was supplemented with avocatin B. At the end of the five weeks, the researchers found the

about bioactives, think of it like the nutrients we get from other foods: we get Omega-3 fatty acids from eating fish and Vitamin C from oranges. AvoB is a bioactive ingredient in avocados, which can be an important dietary choice for diabetics and prediabetics. When your metabolism is working, everything is in balance. You have ideal levels of blood sugar, good cholesterol, blood pressure, etc. ... Science tells us that blood sugar

“There was a meaningful and significant association between flavanol consumption and lower blood pressure.”

mice that were treated with avocatin B had gained significantly less weight than the control group and, more importantly, had a higher insulin sensitivity.

The team then went on to test supplements in a human clinical trial in which they gave avocatin B as a dietary supplement to participants who were eating a typical Western diet. They found weight reductions in the individuals and no effect on the kidney, liver or skeletal muscles from the supplement. While speaking to Nutrition Insight, Spagnuolo warned: “We want to stress that the benefit of this molecule is in its ability to help regulate blood glucose. Reductions in weight are likely a secondary effect. We realize that this is a desirable feature for most, however, urge caution for weight loss as the sole indication.”

Spagnuolo also spoke with a reporter from Yahoo! Life about the bioactive ingredient, avocatin B. He believes avocados are a healthy addition to the diet for people with diabetes and prediabetes, explaining: “When we talk

imbalances can have a profound and negative impact on our health. They can impact our energy levels, concentration, mood, and much more. And for diabetics, unbalanced blood sugars could lead to even more serious health complications like heart attack and stroke.”

People with metabolic syndrome also have difficulty regulating their blood pressure. In what researchers called the first-of-its-kind study in the U.K., scientists used objective measures for dietary intake across thousands of residents, using data for 25,618 people in Norfolk, U.K., and compared the data against their blood pressure measurements. Most other studies look at links between nutrition and health but rely on the study participants’ self-reported data.

In this analysis, the researchers measured the participants’ flavanol intake using nutritional biomarkers present in the blood. They then compared those against their blood pressure measurements. The data revealed blood pressure measurement differences between

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A Season for Cinnamon

Researchers have been investigating the “insulin-like” effects of cinnamon for years, and the verdict is in: cinnamon is a proven contender in the fight against diabetes. Recent research shows that it not only can reduce A1C levels in diabetic patients, but reduces blood pressure as well, along with a host of other benefits.

Cinnamon has been used for

high flavonoid content, have been shown to promote metabolic health and improve your cardiovascular system. Other research suggests cinnamon may help fight diabetes. When blood sugar levels are higher than normal, they can progress to a condition known as prediabetes, and then on to Type 2 diabetes, two conditions that an estimated 100 million Americans are thought to have.

get far more of their benefits.

You can reap the many benefits of cinnamon by eating or drinking just one-fourth to 1 teaspoon of cinnamon a day in your food or beverages. Sprinkle cinnamon lightly on your food or add a dash or two to your coffee or tea. Another easy way to get your daily dose of cinnamon is to treat yourself to a cup of cinnamon tea. Simply boil a cinnamon stick (or two) in water for a few minutes, and you'll have a spicy beverage that may have antimicrobial, antioxidant and anti-inflammatory effects, to name just a few of its benefits. Change it up by adding a small amount of raw honey, a 1.5-inch piece of fresh, peeled ginger or the peelings from three organic apples.

“Researchers showed that... cinnamon helped reduce high blood glucose levels.”

thousands of years as a spice, fragrance and medicine, and in ancient times was a valuable trade commodity considered to be as precious as gold and a fitting gift for emperors, kings and queens. Egyptians used it for embalming; in medieval Europe, it was not only used as a medicine for coughs, arthritis, bad breath, toothaches and sore throats, but was also included in religious rites. As a commodity, the spice was marketed to royalty such as Indian kings and Egyptian sultans as early as the 10th century. By the 14th century it was well-established as an export product.

Cinnamomum verum, which is native to Sri Lanka, is known as Ceylon cinnamon, and its name translates to “true cinnamon.” While it is less common than Cassia cinnamon and therefore tends to be more expensive, it’s considered to be a “richer spice” and, importantly, contains lower levels of a chemical called coumarin, a powerful anticoagulant with potentially carcinogenic and toxic properties. Cassia cinnamon can contain up to 1% coumarin while Ceylon typically contains only trace amounts (about 0.004%).

There are bioactive antioxidants in cinnamon that, along with its

A diet high in carbohydrates is linked to prediabetes. When cinnamon supplements were given to prediabetic participants after they consumed a high-carb meal, they experienced lowered abnormal fasting glucose levels. In a related study, researchers showed that when individuals with prediabetes ingested cinnamon it helped reduce high blood glucose levels, improved glucose tolerance and had a tendency to slow the progression of prediabetes to Type 2 diabetes.

As mentioned, there are two main types of cinnamon — cassia and Ceylon, true cinnamon. Cassia, or Chinese cinnamon, is darker and has a stronger flavor than Ceylon. Ceylon cinnamon is more expensive, lighter in color than cassia and has what some describe as an almost citreous flavor. A powerful type of polyphenol found in Ceylon cinnamon is proanthocyanidins. Due to their molecular size, proanthocyanidins are typically too large to be absorbed in your stomach, and only become bioavailable in your small intestine. When you ferment cinnamon, which is available in supplement form, these proanthocyanidins become bioavailable in your stomach to allow you to

Be mindful that cinnamon is

not a cure all that will make up for poor dietary habits and lack of exercise, but adding it to your diet is a positive



step. Another way to utilize cinnamon for your own benefit? Researchers have found that when supplements containing a blend of cinnamon, curcumin, turmeric, chromium and alpha-lipoic acid were given to healthy individuals, they worked synergistically to provide a positive effect on blood lipids and also improved brain performance. So if you don’t like the taste of cinnamon, taking it in fermented supplement form is one alternative to still gain its many benefits.

Reference: *European Journal of Medicinal Plants* February 27, 2020. *Medical News Today* January 3, 2020. *New World Encyclopedia: Cinnamon*. *Scientific World Journal* 2012; 2012: 263851. *Journal of Medicinal Plants* 2020; 18(73):1-11. *Journal of Endocrine Society* July 21, 2020. *NIH Cinnamon*. *Food and Chemical Toxicology* June 2013; 56(398-405).

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people with the highest 10% of flavanols as compared to the lowest 10% between 2 and 4 mmHg. The researchers wrote this was comparable to the difference measured when a person switched to a Mediterranean diet or Dietary Approaches to Stop Hypertension (DASH) diet.

Nutritionist Gunter Kuhnle at the University of Reading led the study. He talked about the importance of how the data were collected and the implications for consistent dietary intake of foods with flavanols, saying: “Previous studies of large populations have always relied on self-reported data to draw conclusions, but this is the first epidemiological

study of this scale to objectively investigate the association between a specific bioactive compound and health. We are delighted to see that in our study, there was also a meaningful and significant association between flavanol consumption and lower blood pressure.”



“What this study gives us is an objective finding about the association between flavanols — found in tea and some fruits — and blood pressure. This research confirms the results from previous dietary intervention studies and shows that the same results can be

achieved with a habitual diet rich in flavanols. In the British diet, the primary sources are tea, cocoa, apples and berries.”

Optimizing your nutrition can help lower your insulin level, stabilize your glucose level and improve your overall energy. Fortunately, making small positive dietary changes, including eating more of certain healthy fruits, may help reduce your risk of diabetes and lower your blood pressure.

Reference: National Heart, Lung and Blood Institute. “What is Metabolic Syndrome?” *Molecular Nutrition and Food Research* October 14, 2019. *EurekaAlert!* October 30, 2019. Centers for Disease Control and Prevention, “Adult Obesity Facts”. *Nutrition Insight* October 31, 2019. *Yahoo Life* October 25, 2020. *Scientific Reports*, 2020; 10(1). *Science Daily*, October 21, 2020.

I Love Coffee, I Love Tea!

Research has linked coffee and tea to several health benefits, including a recent study from Japan demonstrating those with diabetes who drink green tea and coffee experience a reduction in all-cause mortality. These results corroborate the impact beverage

“...greater consumption of green tea and coffee was significantly associated with reduced all-cause mortality”

choices have on your health. At one end of the spectrum is soda, arguably one of the absolute worst choices of beverage to drink. At the other end is pure water, the best for quenching your thirst and supporting optimal health. But there are times when you're looking for something to savor and sip. In these instances, an excellent alternative is coffee or tea, both of which have earned a solid spot among healthy beverages.

After water, coffee and tea are the most commonly consumed beverages worldwide and one of the top sources of caffeine and antioxidant polyphenols in the U.S. One study was developed seeking to determine the impact drinking green tea or coffee would have on a population of people with diabetes. What the researchers found suggests green tea and coffee consumption is associated with a lower risk of all-cause mortality.

Past studies have evaluated the effect of regularly drinking tea or coffee on health, but few were carried out on a population of people with diabetes. The team tracked 4,923 people in Japan with a diagnosis of Type 2 diabetes whose average age was 66 for approximately five years. The participants were enrolled in the Fukuoka Diabetes Registry and each filled out a survey, as well as provided background on their lifestyle choices, such as alcohol consumption, number of hours of sleep each night, exercise and smoking.

During the study 309 of the participants died. The main causes were cancer and cardiovascular disease. The researchers compared the number who had a history of drinking neither coffee nor tea against those who drank one or both. They found people with the lowest potential for death drank the highest amount of coffee and green tea. After analysis, the data showed drinking one cup of green tea daily lowered the potential for all-cause mortality by 15%. The potential for death lowered further in people who drank more. For instance, two to three cups of green tea were linked to a 27% lower risk and four or more were linked to a 40% lower risk.

Similar risk reduction was

found in people with diabetes who drank coffee daily: One cup was linked with a 12% lower risk and two or more were linked with a 41% lower risk. However, in the group of individuals who drank both green tea and coffee every day, two

to three cups of green tea plus two or more cups of coffee lowered their risk by 51% and four or more cups of green tea and one cup of coffee lowered their risk by 58%. The combination of four cups of green tea and two or more cups of coffee reduced the risk of all-cause mortality by a whopping 63%. The researchers reported there was a 99.5% follow up rate that enabled them to “accurately investigate the association.” The researchers acknowledge there were some limitations, including the study was observational, meaning it cannot establish cause. The data were also gathered from subjective assessments of the participants; other potentially influential factors, such as income and education, were not gathered. Finally, the green tea sold in Japan may not be the same type of tea found in other countries.

The scientists wrote: *“To date, no study has investigated the combined effect of green tea and coffee consumption on all-cause mortality. The present study determined that combined higher green tea and coffee consumption markedly reduced mortality. Further, this cohort study included potential confounders, such as sleep duration, diabetic complications, lifestyle, physical activity, lab data, and medications. In conclusion, this prospective cohort study demonstrated that greater consumption of green tea and coffee was significantly associated with reduced all-cause mortality: the effects may be additive.”*

Coffee and tea are rich in beneficial antioxidants and other plant compounds that have positive effects on your heart and brain health, weight loss and the prevention of chronic diseases. The results of years of study have found: moderate coffee drinking reduces your chances of being hospitalized for heart rhythm problems; coffee may trigger a 30% increase in blood flow in your small blood vessels, including those around the heart. One meta-analysis included data from 11 studies and nearly 480,000 people and found drinking two to six cups of coffee a day was associated with a lower risk of stroke. In a study of 25,138 people, those who drank a

moderate amount of coffee lowered the prevalence of coronary atherosclerosis. Green tea reduces all-cause mortality, cardiovascular disease and blood pressure and oxidative stress. Drinking six or more cups of green tea daily lowered risk of developing Type 2 diabetes by 33% more than those who consumed less than one cup per week. Green tea has an immediate effect on endothelial

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function, helping the arteries to relax. In addition to the multiple benefits of green tea listed above, one polyphenol found in green tea, epigallocatechin-3-gallate (EGCG), helps zinc move into your cells where it can stop the replication of viruses. Zinc is an essential mineral found throughout your body and a cofactor in nearly 3,000 proteins. To enjoy the benefits of coffee and tea it's important to remember that quality is key. Most coffee produced is heavily contaminated with pesticides. Overall, the healthiest form is organically grown, freshly ground coffee that is served black without milk or sugar. When you're choosing tea, seek out loose leaf tea since many of the current tea bags are made with plastic. These bags can leak up to 11.6 billion microplastic pieces and 3.1 billion nanoplastics with every cup you drink.

Consider adding a squeeze of lemon juice to your tea, which may help stabilize the beneficial catechins so you can absorb more of them. Interestingly, EGCG is sensitive to water temperature, so brewing in 80 degrees Celsius or 176 degrees Fahrenheit releases only 60% of the EGCG from the tea leaf. Hotter temperatures may help you get even more antioxidants out of your tea.

Reference: *MedPage* October 20, 2020. *BMJ Open Diabetes Research and Care*, 2020; 8:e001252. *American Journal of Epidemiology*, 2011; 174(9). *BMJ Heart*, 2015; 101:686. *Journal of Alzheimer's Disease*, 2010; 20(1):S167. *Journal of Alzheimer's Disease*, 2012, 30(3):559. *Diabetes and Metabolism Journal*, 2013; 37(3):1. *European Journal of Cardiovascular Prevention and Rehabilitation* June 2008; 15(3):300-305. *International Society for Zinc Biology, Molecular Nutrition and Food Research*, 2007; 51(9).