



Natural Health Research Institute

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The Positive and Negative Effects of Caffeine Consumption

Written by Taylor Woolsley, NHRI Staff Writer

Coffee and tea are two of the most popular beverages consumed around the world and both commonly feature caffeine. It can also be found in energy drinks, gums, supplements, chocolate, and soft drinks. Caffeine is a xanthine alkaloid compound which, when consumed, triggers alertness and improves mood. The average caffeine consumption in the United States is approximately 210-238 mg per person, averaging out to around 2-3 cups of coffee or 4 cups of caffeinated tea a day. Around 90% of adults around the world consume caffeine daily.

Caffeine has been consumed since ancient times but is still considered a controversial substance. Many people choose to avoid caffeine due to its addictive nature and the potential dependency that could develop. However, for those who do regularly consume it, there are many positive effects it can provide.

Positive Effects of Coffee Consumption

Caffeine is a highly researched psychoactive substance with neuroprotective properties. It is both water and fat soluble and can cross the blood-brain barrier. Current studies suggest that caffeine intake may be associated with a lower risk of cognitive impairment and cognitive decline. This may be because it is a short-acting neurostimulator through the mobilization of intracellular calcium, antagonism of adenosine receptors, and modulation of GABA receptor function. By blocking the adenosine receptors, caffeine prevents adenosine from acting and conversely influences the central nervous system.

Data also suggests that caffeine has various anti-inflammatory and antioxidant mechanisms. Plus, caffeine has the ability to decrease oxidative stress. A recent systemic review concluded that caffeinated coffee consumption was significantly associated with a reduced risk of all-cause and cardiovascular disease mortality.

The benefits of caffeine include improved sports performance and focus. This is most often achieved through consuming energy drinks or pre-workout. Small to moderate benefits of caffeine use include muscular endurance, improved movement velocity, and overall improved physical performance. These enhanced results were best shown when consuming caffeine 60 minutes prior to athletic activities.



Negative Effects of Coffee Consumption

There is a “coffee paradox” that consists of the fact that caffeine raises blood pressure, but research has indicated that regular caffeine consumption is associated with a lower risk of hypertension. However, meta-analysis research indicates that irregular or occasional caffeinated coffee consumption is associated with an increase in blood pressure and may result in an increased risk of arterial hypertension.

The safety of caffeine has long been researched and studies purport that the upper limit of safe consumption is less than 400 mg per day (around 4-5 cups of coffee or 5-6 cups of tea) and that high doses of caffeine can cause significant metabolic changes that can be detrimental. For example, over consumption of highly caffeinated energy drinks or supplements can interact with the sympathetic nervous system and cause serious negative effects to the cardiovascular system.

Furthermore, consumption of caffeine during pregnancy has long been discussed for its potential negative effects. Caffeine can freely transfer across the blood-placental barrier and epidemiological studies have shown that caffeine consumption during pregnancy can lead to low birth weight, along with other complications.

The amount of caffeine consumed is important to note. While there are many benefits to regular moderate caffeine intake, overconsumption can result in negative outcomes that should be avoided.

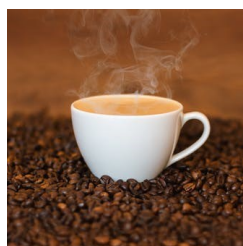
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Save the Date



The NHRI will be a sponsor and exhibitor at the American Nutrition Association’s annual summit, Personalized Nutrition 2023: Healthy Aging and Longevity. The event will be held on October 19-20 in Charlotte, NC and online.

The human body is constantly changing. Genetics, environment, lifestyle, and nutrition influence an individual’s trajectory of health and longevity even before birth. Throughout life, growth and aging are accompanied by changes to body. Some changes, however, go unnoticed, manifesting as age-related chronic diseases for far too many. Recent developments in chronobiology, gerontology, genetics, and epigenetics have enabled rapid advances in the science of aging and longevity. Come together with thought leaders, scientists, clinicians, and industry insiders to share the latest insights into living a long and healthy life.

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July is UV Awareness Month



Summer is in full swing, the sun is out, and we are all ready to enjoy our favorite activities. As we spend more time outdoors it is important to remember to take steps to protect our skin and eyes from the damaging effects of the sun. The sun emits radiation known as UV-A and UV-B rays. In addition to the risk of skin cancer, UV rays can cause macular degeneration, cataracts, skin growths, and suppression of the immune system. And while we all need Vitamin D, it is far safer to get it by eating the right foods and the right supplements than by being in the sun too long.

Research suggests negative outcomes – including skin cancers – can be prevented by protecting your skin from UV radiation. In addition to wearing sunscreen, sunglasses and protective clothing, several natural remedies have gained popularity in their potential to help with sun protection.

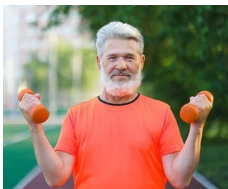
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