

Does Coffee Dehydrate You?

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

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STORY AT-A-GLANCE

- › What may have begun as a rumor, science has disproved. Drinking even a moderate amount of coffee each day will not lead to dehydration; in fact, habitual male drinkers may enjoy the same hydration from coffee as they do from water
- › While coffee is not dehydrating, it may help to know other beverages offer greater hydration benefits when they take longer to absorb through the stomach, such as pasture raised, organically grown raw milk and organic coconut water
- › Drinking coffee also stimulates your metabolism and reduces your risk for developing Type 2 diabetes, stroke, cardiovascular disease and premature death. One meta-analysis also found athletes benefited from improved performance and reduced post-workout soreness
- › Dark roast coffee beans have some of the best health benefits related to their high levels of antioxidants and low level of acrylamide. It is also crucial to choose organically or biodynamically grown coffee beans to reduce your exposure to glyphosate and other chemical residues

While no one knows exactly when coffee was discovered, the National Coffee Association reports there are many legends surrounding its origin. The story repeated most frequently¹ is of a goat herder who discovered the potential of the beans when he noticed the behavior of his goats after they ate the berries.²

From this humble beginning grew an enormous industry. According to data gathered by World Atlas³ the top three coffee consuming countries starts with Finland, where

citizens drink 12 kilograms (26.4 pounds) of coffee per person per year. Norway is second consuming 9.9 kg (21.8 pounds) per capita, followed by Iceland with 9 kg (19.8 pounds) per person per year.

The U.S. ranks No. 25, in last place, where residents consume 4.2 kg (9.2 pounds) per capita, behind Portugal, Lebanon, Croatia, Greece and Brazil. According to the most recent data gathered by the National Coffee Association⁴ as reported by the Daily Coffee News,⁵ the amount of coffee consumed in America has remained unchanged in the last year, but more gourmet brew is being served.

For the first time in 69 years of publishing coffee trends, reported consumption of gourmet coffee has overtaken non-gourmet, the Daily Coffee News said. Another interesting factoid: If you frequent a local coffee house for your morning cup, you may be spending up to 45 hours per year waiting for your shot of caffeine.⁶

But whether you're standing in line for your coffee or brewing it at home to boost you through the morning, have you ever wondered if the mild diuretic effect you experience may trigger dehydration?

Don't Believe the Rumor About Coffee Dehydrating You

It may have begun as a rumor, but science has since proven that even a moderate intake of coffee each day will not produce dehydration.⁷ There has been a historical suggestion coffee and other caffeinated drinks may cause dehydration and therefore should be avoided to maintain an optimal fluid balance.

To evaluate physiological factors, researchers⁸ engaged 50 men who habitually drank from three to six cups of coffee each day. The group underwent testing using water or caffeinated coffee. The researchers controlled the participants' activity, food, fluid and coffee intake during the study.

They measured total body water and used urinary and blood hydration markers to evaluate hydration status. Interestingly, they concluded "there were no significant

differences across a wide range of hematological and urinary markers of hydration status between trials."

Their data suggest habitual male coffee drinkers could enjoy some of the same hydration from coffee as from drinking water. Dr. Daniel Vigil from the David Geffen School of Medicine at the University of California explained to Time magazine⁹ how the mild diuretic effects of caffeine do not cause you to become dehydrated, but instead increase your level of hydration.

Although it seems logical to assume you're headed toward dehydration when you experience frequent urination after drinking coffee, Vigil explains your body doesn't lose more fluid from the mild diuretic effect of caffeine than you take in by drinking it. He explains a headache after drinking your morning cup of joe may indicate you're sensitive to caffeine or that you could already be dehydrated.¹⁰

Some Drinks Offer More Hydration

A study published in the American Journal of Clinical Nutrition¹¹ sought to assess the potential that different beverages had on hydration status and to identify a hydration index. They believed it was important to categorize drinks that promote fluid balance in clinical settings with an aim at helping individuals who may not have free access to fluid or the ability to take frequent bathroom breaks.

They analyzed the effect 13 commonly consumed beverages had on participants when they were in an optimal state of hydration, and found drinks that emptied from the stomach at a slower rate were able to continue to hydrate over a longer time period. As CNN explains, factors slowing absorption included protein, full-fat milk and low levels of sugar¹² — exactly what you'd find in pasture-raised **raw milk** or coconut water.

Researchers found raising the level of sugar in the drinks did not increase the benefit to hydration. In fact, not only did it contribute to insulin resistance, but the higher levels of sugar were more dehydrating as the fluid reached the small intestines.

Every cell in your body depends on staying hydrated for health. Hydration is critical for your cardiovascular health as it keeps the muscles working efficiently and helps the heart pump the blood through the body more easily.¹³ However, hydration is about getting water inside your cells and not simply about drinking more water.

Coffee Stimulates Brown Fat and Your Metabolism

Most people drink their morning cup of coffee to help get their engines running, but researchers have also found the amount of caffeine in one standard cup of coffee is enough to stimulate brown fat activity, burning more energy and potentially improving your insulin sensitivity. These cellular activities may also help improve weight management.

Brown fat tissue is involved in heat generation and burning glucose and fats in a mitochondrial reaction mediated by mitochondrial uncoupling protein 1 (UCP1). When UCP1 is upregulated, it may reduce the potential for obesity. Researchers¹⁴ performed an analysis of the results of exposure to caffeine on cell cultures and in healthy human participants.

In both experiments, data demonstrated positive results. Treatment with caffeine increased the expression of UCP1 in cellular culture. In healthy adults, imaging demonstrated an increased temperature of brown adipose tissue in the supraclavicular area after drinking coffee that was not present after drinking water.

More Health Benefits Associated With Coffee

Hold the flavored cream and sugar if you'd like to enjoy many of the health benefits associated with properly grown, harvested and roasted coffee. Harvard recounts the history of coffee and health. In 1991 the World Health Organization placed it on a list of possible carcinogens. By 2016 research data showed coffee was associated with a decreased risk of certain cancers.

Just the thought of coffee is associated with a psychological arousal, especially in Western cultures. Researchers¹⁵ found after being exposed to coffee cues, such as images, participants reacted as if they had consumed the drink. Participants perceived time as shorter and thought in more concrete, precise terms suggesting a more alert state of mind.¹⁶

Based on another meta-analysis of 30 perspective studies¹⁷ from 2002 to 2015, researchers in Sweden concluded drinking coffee was inversely associated with the risk of developing Type 2 diabetes. Participants from ages 20 to 70 were followed for a median of 5.8 years. The researchers found those who drank coffee, compared to nondrinkers, had a lower risk of prediabetes and Type 2 diabetes.

Another long-term study¹⁸ suggested it was coffee reducing the risk and not tea. Detailed information was gathered every two to four years for more than 20 years from participants in three large studies. The data showed when volunteers increased coffee consumption by more than one cup every day for four years, they experienced a 12% lower risk of Type 2 diabetes in the next four years.

One meta-analysis found coffee also benefited athletes by improving their performance¹⁹ and another found caffeine reduced post-workout muscle soreness.²⁰

Choose Organic or Biodynamic Dark Roast

While there are multiple benefits to drinking coffee, it is crucial to drink dark roast, organically or biodynamically grown coffee beans. The brown to black coffee beans you take out of the bag begin their life green. They are roasted at high heat to release their flavor.

Coffee may be produced as a light to dark roast, each with a unique taste and acidity level.²¹ Dark roasted coffee has some of the best health benefits related to the high level of antioxidants and low level of acrylamide.

The color of coffee roast is not your only consideration when you choose it. It's also important to seek out organically or biodynamically ground coffee beans. For example,

in their effort to monitor chemical residues, Nestle brand found:²²

"... in some green coffee lots chemical residue levels are close to limits defined by regulations. We are reinforcing our controls working with suppliers to ensure that our green coffee continues to meet regulations all around the world."

The chemical residues are the result of the application of glyphosate in countries producing coffee beans. Nestle has put into effect new procedures beginning October 1, 2019, until levels of glyphosate contamination in the beans can drop. Bloomberg²³ reports this has "the potential to complicate global coffee trade-flows."

Brazilian producers report they are working to reduce chemical residues to meet European requirements, which are much stricter than American regulations. Remember, the quality of the food you eat is determined by how it's grown. Even organically produced food – meaning that it's grown without pesticides – may be grown in nutrient-deficient soil.

Sources and References

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