

DRINK UP!

Optimizing health with



COFFEE

Based on the latest scientific studies, this daily brew can have positive effects on your cardiovascular, gastrointestinal, and neurological systems, as well as aid with weight loss and blood sugar regulation.

BY SHAYNE FOLEY

You don't have to look far to find glowing reports about the seemingly miraculous health benefits of green tea (*Camellia sinensis*). With its powerful antioxidant compounds being linked to cancer treatment and prevention, and weight loss, plus its positive effects on a wide range of inflammatory conditions, it is difficult to imagine a beverage with a more healthful or squeaky clean image. But, what about coffee (*Coffea* spp.), green tea's dark and seductive cousin—the proverbial black sheep of the caffeinated beverage family?

While green tea is associated with Zen-like tea rooms and bright-eyed, clear-thinking yoga disciples, coffee has a long and comparatively sordid history with late night coffee houses and seditious intellectuals plotting political revolutions followed in the light of day by a wake of morning risers in need of their fatigue-relieving fix or what many simply call their “heart starter.”

It is quite common for non-drinkers of coffee to direct some measure of moral judgment toward coffee and coffee drinkers, as if partaking in it were a sign of moral or intellectual weakness. Even coffee drinkers will frequently use the term “addict” to describe themselves and their guilt-ridden relationship with coffee. But, “addictive” is not strictly accurate when describing coffee, as it doesn't have a so-called “tolerance effect,” whereby the impact of a given dose is lessened over time, hence requiring more of the substance to be used in order to gain equal effect. In contrast, regular users of coffee simply become “habituated” to its



nuts commonly used to make pesto, but they can flavor so much more. Toss the whole or ground nuts into salad, cereal, soups, or stews, or just eat them raw.



CHIA (*Salvia hispanica*): The same seeds that covered those whimsical “chia pets” to sprout “hair” have become a health-food craze. The seed creates a gel when hydrated that thickens drinks, puddings, desserts, and other dishes. Add a teaspoon of the whole seed to a cup of fruit juice to create a jam without the sugar. Northern California Native Americans conveniently carried the lightweight seed as a quick energy boost. The modern traveler can buy chia-filled energy bars in the supermarket.

PEPPERMINT (*Mentha x piperita*): Everyone knows that peppermint leaves make tasty tea, but they can also be used as a seasoning. Finely chopped, they give a minty sparkle to desserts, fruit juice drinks, smoothies, and also, traditional dishes like Middle Eastern tabouli. You will find small bundles of fresh peppermint sold in supermarkets next to the other culinary herbs.

FENNEL (*Foeniculum vulgare*): The dried or fresh, feathery leaves of fennel are well-known accompaniments to fish. Supermarkets sell these, as well as the closely related bulb fennel with an enlarged base that can be thinly sliced to add a licorice-like taste to salad or any raw dish. A small amount of the leaf, inner stalk, or seed can flavor fruit smoothies.

BLACKBERRIES, RASPBERRIES, AND BLUEBERRIES:

You should have no trouble inventing ways to turn your favorite berries into a yummy dessert. Mix them in yogurt, or just pop them into your mouth. For a very wild nutritional smoothie drink, combine berries with chia seed, pine nuts, and a peppermint or fennel leaf. You can even toss in raw purslane. Deeply colored berries such as these are rich in antioxidants that improve cellular and immune system functions. They also soothe the digestive tract and contain the anti-infection vitamins A and C.

SEAWEED: You need to be an ambitious forager to pick up slimy strands of kelp off the beach. Otherwise, the supermarket offers an assortment of ready-to-go seaweed. You may already eat sushi wrapped in nori sheets, but you can also add seaweed to other foods. Take a hint from herbalist Jane Bothwell, who mixes ground kelp with dried herbs and sesame seeds to keep on the table in a spice shaker bottle. Seaweed is full of healthy minerals, and it also slightly prompts thyroid action. Just try to make sure that the seaweed came from relatively clean water.



MUSHROOMS: If safety cautions about foraging mushrooms give you pause, then look no further than your supermarket. No longer is it stocked with just button mushrooms. You will find an assortment of edible mushrooms that are already properly identified and cleaned, just waiting to be harvested off the shelf. These include the medicinal shiitake (*Lentinus edodes*), oyster (*Pleurotus ostreatus*), and maitake (*Grifola frondosa*) to benefit the immune and other systems.



Wild About Nutrition

The idea of munching the wild landscape is becoming a worldwide phenomenon, but it is nothing new. In Greece, I saw people in the countryside filling baskets with dandelion and chicory greens for restaurants, which serve them both hot and cold. In Italy, foraging for wild asparagus, capers, and wild oregano is quite common.

There is talk of how wild foods could supplement diets to battle hunger. The Department of Agriculture recently analyzed wild plants that would have been eaten in a traditional Plains Indian diet. They determined that turning back to such highly nutritious wild food would reduce many diet-related diseases, such as diabetes and obesity. A good example is acorns, which are high in protein and fat—two important components of our diets. In North America, most people consider them to be Native American food, but oak trees grow throughout Europe and used to blanket much of the temperate climate regions. Wherever acorns grew, cultures once depended on them for survival. Recently I have seen acorn flour for sale in a few markets.

If you do decide to go boldly into the wilderness to forage your own plants, play it safe. Be sure to properly identify them before munching on anything. Unless you already have a keen eye for botany, it is better to find a knowledgeable person to help you identify plants rather than relying on pictures in an identification book. Also, make sure that you are not depleting native plants in the wild by foraging. It depends upon the plant and which part is being picked. Nuts, berries, and seeds can be carefully collected without damaging the plants as long as enough are left for propagation. Dandelion, burdock, and chicory are examples of European weeds that have become invasive in North America. Harvesting them will only help the ecosystem.

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effects and tend to maintain their desired maintenance dose.

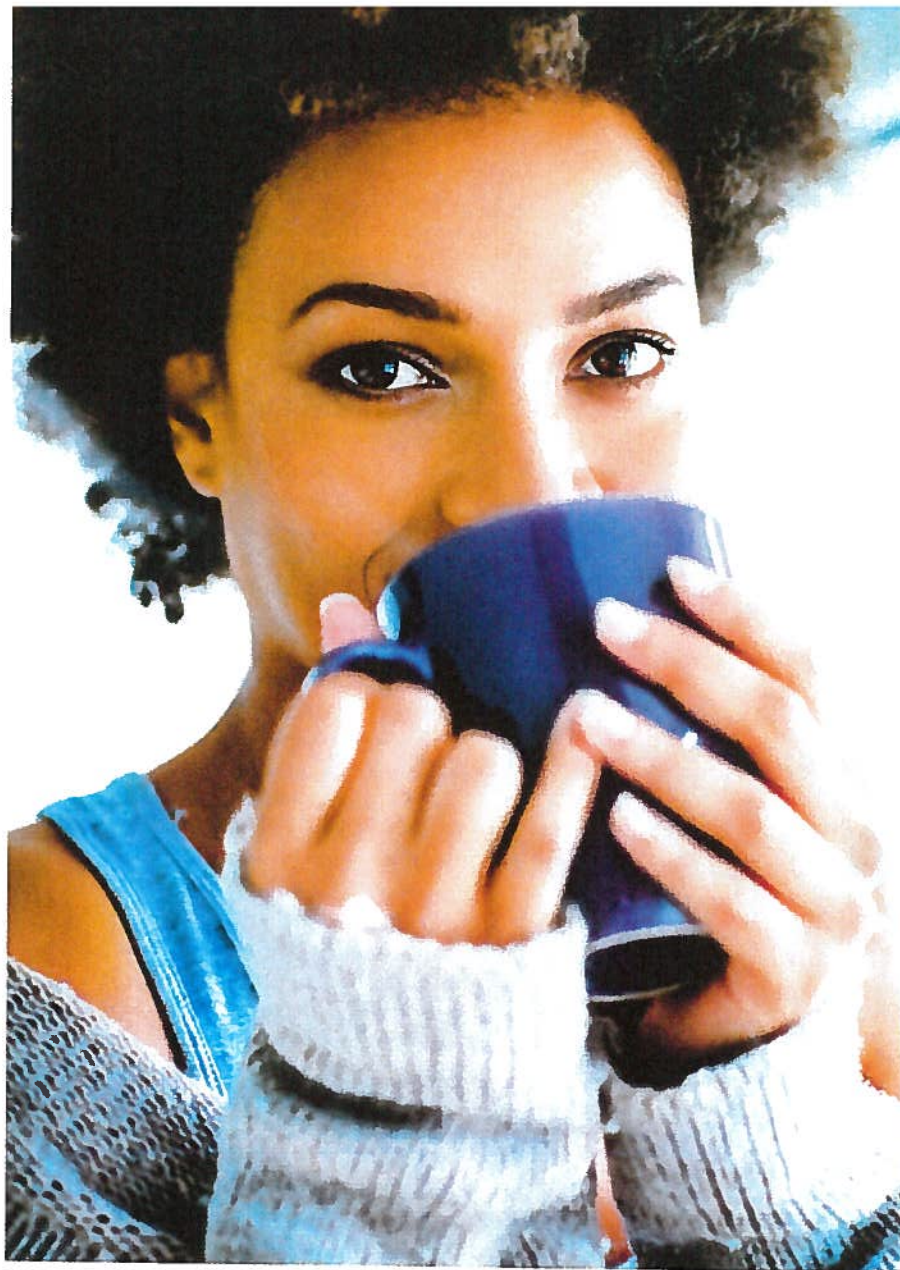
It is also common for so-called authorities in the field of alternative and natural medicine to vilify coffee as an impediment to health and to urge users to give it up, as if by acquiescing they are doing themselves and their health a great service. But how much of the negative reputation that coffee has gained is truly deserved? If it is not truly addictive and if it does not cloud the judgment, like alcohol, opiates, or cannabis, what is so bad about coffee? Is it bad at all? Are the often-touted claims of high blood pressure and adrenal fatigue justified? What are the positive benefits? In this article, we look to the science behind coffee and summarize what has been discovered over several decades of research.

Reduces Overall Mortality

Let's not bury the headline here. If scientific research concluded that there was a beverage that would increase your longevity and reduce your overall chance of death from all causes and that the more you drank of this beverage, the greater the benefit you'd see, what beverage do you think it would be talking about? Water? Green tea? A new miracle elixir from the Peruvian Amazon? No. You may be surprised, but that beverage is coffee. That's right, coffee, as in Joe, Java, Jitter Juice, Liquid Lightning. Call it what you will. Just don't say it doesn't steal the show.

When all the research that's been carried out to date is brought together for analysis, and allowances are made for things like smoking and other factors that might cloud the results, scientists find that there is a 20 percent overall reduction in what is referred to as "all-cause mortality" among coffee drinkers. There is not another plant on this earth (that we know of) for which one can make that kind of claim.

According to the prestigious *New England Journal of Medicine*, coffee has a protective effect "...for deaths due to heart disease, respiratory disease, stroke, injuries and accidents, diabetes, and infections." Of course, that's not to say that coffee doesn't have some negatives on the balance sheet, too. Pregnant women should probably avoid regular coffee, given that it takes them three to four times longer to clear caffeine from their bodies and 12 to 16 times longer for a developing fetus. It can also aggravate pre-menstrual syndrome, as caffeine and estradiol are broken down by the same liver enzyme (CYP1A2) and, just like two lanes of traffic merging into one, this enhanced competition for a common



pathway results in elevated levels of both caffeine and estrogen. This rise in estrogen can contribute to estrogen dominance and a less-than-graceful transition from the follicular phase of a woman's menstrual cycle (days 1 to 14) to the luteal phase (days 14 to 28). Coffee can also cause insomnia and anxiety in non-habituated consumers. It may even slightly increase the risk of some forms of cancer (although, some of that research is conflicting). This article is not suggesting there is not a downside to drinking coffee for some people. However, the macro view of the totality of the research shows that it significantly promotes longevity. When that data is further broken down, we find that each cup confers roughly a 4 percent reduction in overall mortality, a statistic that is absolutely astounding.

Powerful Antioxidant Effects

As we explore coffee's complex chemistry, we find that, like green tea, it is extremely rich in antioxidant compounds, including chlorogenic acid (also found in blueberries). Believe it or not, coffee has three times the antioxidant levels of green tea. In fact, it is so rich in antioxidants and so widely consumed that Joe Vinson, Ph.D., a researcher at the University of Scranton in Pennsylvania, concluded that "Americans get more of their antioxidants from coffee than any other dietary source. Nothing else comes close." As such, much of what is covered in this

article, in terms of the direct benefits of coffee, can be related to its antioxidant potential. Furthermore, the very latest research suggests that compounds in coffee have the ability to trigger antioxidant gene expression within the cellular nucleus, taking coffee's protective effects to the level of human DNA.

Cardiovascular Effects

Thanks to coffee's antioxidant content, it conveys considerable benefits to the cardiovascular system. Although very early research suggested that coffee quite possibly contributed to cardiovascular disease (CVD), subsequent research at Harvard University, which more accurately controlled for the impact of smoking on test subjects, found that coffee actually reduces overall cardiovascular mortality, quite possibly by reducing systemic inflammation, as suggested by markers like C-reactive protein. Additional large studies (more than 125,000 people) later confirmed these protective results and further clarified that the early negative reports were in fact the result of smoking and not coffee consumption. More recent research has indicated that coffee also enhances microvascular function in healthy adults, providing enhanced circulation throughout the body, including those tissues where the smallest of blood vessels reside. But just how much coffee is enough to see these benefits? Well, overall, it appears as though merely three to five cups of coffee per day will significantly protect against atherosclerosis and what is referred to as all-cause cardiovascular mortality.

So, what are the negative effects on cardiovascular disease? Does coffee increase

regular filtered coffee, which is what most Americans drink, there appears to be no impact at all on cholesterol. In contrast, those studies that looked at populations in countries where people boil their coffee noted some elevation in cholesterol in people drinking six or more cups a day. However, even these potentially negative results suggest that coffee's effect might actually result in reduced LDL cholesterol oxidation and better overall cholesterol ratios.

Decreases Risk of Gallstones

Coffee is the most widely consumed bitter in the North American diet. However, most people add milk and/or sugar, thus covering up the bitter taste that coffee naturally possesses. Still, even with its natural bitter taste mostly neutralized, coffee clearly has effects on the gastrointestinal system. Like most bitters, coffee stimulates hydrochloric acid (HCl) secretion in the stomach. While this might not be a great thing for that very small percentage of the population who genuinely produce too much stomach acid (most people with acid reflux are actually not producing enough), for most people coffee can help stimulate the digestive system. In fact, coffee can have the same effect of stimulating the GI tract as would otherwise be seen with a 1,000-calorie meal (without the calories).

Like a number of other bitters known to have a cholagogue (bile-stimulating) effect, coffee has also been shown to reduce the risk of gallstones, in a dose-dependent manner, by up to 40 percent. The research shows that, as you increase your coffee intake from two cups to four, your risk of gallstones decreases.

Coffee beans turn a bright red when ready to harvest.



The very latest research suggests that compounds in coffee have the ability to trigger antioxidant gene expression within the cellular nucleus.

blood pressure, as we've always been told? Actually, yes, it does. However, in people with normal blood pressure, the increase is so small that results are conflicting as to whether it is even clinically significant.

When it comes to cholesterol and the cardiovascular system, coffee's impact appears to be determined chiefly by what kind of coffee is being tested. With

Sensitizes Insulin

Several studies now show that, when compared to individuals who do not drink coffee at all, those people who drink six cups of coffee a day have a 50 percent reduction in their risk of developing type 2 diabetes. This risk reduction appears to be dose-dependent, meaning the more you drink (up to six cups), the greater the



Effects on Depression

Although some conflicting data exists in this area, it appears that, overall, coffee consumption has become associated with fewer symptoms of depression. Furthermore, a reduction in suicide rate is correlated with consuming two or more cups of coffee a day.

benefit. Once again, these effects are likely due, to a large degree, to coffee's powerful antioxidants and not to its caffeine or related stimulatory compounds.

Coffee's chlorogenic acid is not only a potent antioxidant but it also is a compound that has been shown to sensitize insulin, which helps it become more efficient. Add to that, very recent research in the *Journal of Microbiology and Biotechnology* shows that an alkaloid found in coffee acts as an alpha-glucosidase inhibitor, which slows the digestion and absorption of carbohydrates in the gut, therefore reducing post-meal hyperglycemia (elevated sugar levels).

Promotes Energy

It is certainly common knowledge that coffee has a stimulating effect on both energy and mental alertness. However, it is important to deconstruct the old myth that coffee gives us energy by increasing the release of the hormone adrenaline from the adrenal glands. You will often hear people say things like, "Coffee whips the adrenals." Even in circles of otherwise well-informed individuals in the field of natural medicine, this unfortunate belief persists. But, this could really not be further from the truth. Your body uses a substance named adenosine to promote sleep and suppress stimulation of the central nervous system when needed. Caffeine, for the most part, simply blocks adenosine receptors, preventing adenosine from having its natural suppressive effect. As an additive influence, caffeine is also known to slow the

breakdown of adrenaline, which results in slightly increased levels of the hormone. But, this is via a "sparing" effect and not via stimulation of the adrenal glands themselves, which is an important differentiation to understand.

Protective Effects Against Alzheimer's

The area of beneficial research that perhaps surprises coffee's critics the most is that of neurological protection. It has been drummed into so many of us in the field of natural health and medicine that coffee's stimulating effects simply cannot be good for the nervous system, and, perhaps in excess, that may be the case. However, coffee has been shown to convey a significant protective effect against Alzheimer's and Parkinson's disease. The research suggests that just three cups of coffee a day can reduce your risk of either disease by roughly 30 percent. Once again, such effects can most likely be attributed to the chlorogenic acid and other antioxidant compounds that are so prevalent in coffee.

Assists in Weight Loss

Like green tea, coffee can assist with weight loss by promoting lipolysis, the conversion of stored fat to free fatty acids. While this may benefit athletic performance, it can also be useful for someone looking to better prime their metabolism for fat burning instead of storage. Another herb I would recommend in this effort is the Ayurvedic plant medicine coleus (*Coleus forskohlii*). These two herbs can work synergistically, producing better results than either herb alone.

Shayne Foley has been a professional herbal educator for almost 20 years. In that time, he has delivered more than 3,000 in-person presentations to approximately 80,000 individuals. He's been a subject expert on U.S. and Canadian TV and radio, and has been a visiting lecturer at numerous herbal schools and naturopathic medical schools across North America.