



NUTRITION / DETOXIFICATION

Coffee: The Good, Bad & Ugly ... And Its Relevance to Your Treatments

Bill Reddy, LAc, Dipl. Ac.

Coffee is an integral part of American life. You see commercials with smiling people chatting over cups of coffee. The camera captures in slow motion the rich brew pouring into a mug, steam rising gracefully ... there's a Starbucks every half mile in urban areas.

You're not supposed to be wondering if there might be some negative effects to your health from the caffeine that helps give coffee its *magic*. But there are negative effects, and it may even block the analgesic effects of acupuncture. I used to drink quite a bit of coffee, but when I found out what it does to my body, I switched to herbal tea.

What is Caffeine?

Among other things, it's a natural pesticide. It is found in the leaves, seeds and fruit of roughly 60 plant species that cause paralysis and death to those insects foolhardy enough to feed on them. Phytopharmacologists define caffeine as a bitter, white crystalline alkaloid that acts as a stimulant and an acetylcholinesterase inhibitor. You really don't want to know what that is. (Hint: it's found in non-coffee-like things, such as nerve agents, chemical weapons, venoms and poisons.)



Caffeine is the world's most widely consumed psychoactive drug, with approximately 90 percent of Americans drinking it daily in the form of coffee, tea, soft drinks or "energy" drinks.¹ One of the harsh realities of caffeine is its *half life*. That's the amount of time it takes for your body to eliminate half of the total amount of caffeine, which varies from 5-30 hours depending on a number of factors including age, liver function, the use of oral contraceptives, smoking, pregnancy, etc.²

Here's what that means assuming your caffeine *half life is 10 hours*. Let's say you drink a 16 oz Starbucks Pike Place brew, which contains 330 mg of caffeine. After 10 hours, long after you've forgotten how good it tasted, half of that caffeine, about 165 mg, is still having a party in your body. Ten hours later (20 hours after drinking that cup of coffee) 82.5 mg remains. By that time, you're ready to pour more caffeine down. Why? Because you didn't sleep well and you're fatigued.

Caffeine's Effect on Sleep

According to the National Sleep Foundation,³ 500 mg of caffeine is considered "excessive" consumption. They suggest that even at "moderate doses," caffeine can cause insomnia, headaches, nervousness, dizziness, anxiety, irritability, rapid heartbeat, excessive urination and a "caffeine crash" once the effects wear off. In a 1995 study by the Institute of Pharmacology at the University of Zurich, Switzerland, researchers gave 200 mg of caffeine upon waking to nine healthy men and found that "sleep efficiency and total sleep time were significantly reduced."⁴

Caffeine is also a diuretic, leading to dehydration. The Mayo Clinic says dehydration symptoms include "dry mouth, fatigue/sleepiness, thirst, decreased urine output, dry skin, headache, constipation and dizziness." Here's a suggestion for your patients: If they're feeling fatigued in the middle of the day, have them reach for a glass of water, not a soda or coffee. They'll become more alert. Poor sleep also negatively affects memory formation, so pounding coffee during study time is counterproductive.

Blocking The Analgesic Effect?

Some researchers believe that Chinese, Japanese and Korean acupuncture studies have greater outcomes than those studies performed in the U.S. and Europe, because of high levels of coffee consumption in the West. The analgesic effect of acupuncture is mediated by adenosine A1 receptor activation at the acupuncture point.⁵ Caffeine is a potent adenosine receptor antagonist, and will negate the effect of acupuncture even in low doses in a mouse model!⁶⁻⁷ On the bright side, it's reversible. When the blood concentration of caffeine is diminished, the effect of acupuncture will return. In a human study involving 20 volunteers suffering from low back pain, coffee blocked the effect of acupuncture on their back pain.⁸ To throw a wrench in the works, a recent study published in late December, 2018 evaluating 27 participants concluded with, "Our findings suggest that daily caffeine intake may not influence acupuncture analgesia in the cohort of healthy subjects who participated in the study."⁹ I'm inclined to believe the former studies, and err on the side of conservatism. It would be appropriate to ask your coffee/power drink consuming patients who are visiting you early in the day to abstain from drinking caffeinated beverages on the day of treatment.

Coffee in the Media

You may have read conflicting reports about coffee's health benefits in magazines and newspapers with headlines such as "Coffee reduces incidence of skin and colon cancers." The media also report on studies indicating that a daily glass of wine will benefit cardiovascular health. As a health care professional, I couldn't in good conscience recommend alcohol consumption to my patients because I personally believe the harm most certainly can outweigh the good. I believe that is true for coffee as well, especially in our stressed out world.

Caffeine and Cortisol

Cortisol has been featured in news stories relating high levels to excessive belly fat. Cortisol is a stress hormone produced by the adrenal glands. It's part of the fight or flight mechanism that was key to our survival millennia ago, and still exists in our nervous system. But rather than an annoyed woolly mammoth charging at us, today it's traffic, emails, voicemails, deadlines, and other stimuli which trigger the release of this hormone. When it reaches high enough levels through repeated stress, chronic health conditions may result. These include colitis, irritable bowel syndrome, lupus, anxiety, insomnia, rheumatoid arthritis and obesity.¹⁰ Coffee intake further complicates matters by increasing cortisol and adrenalin production.

Since "cold turkey" is a painful way to get away from your coffee habit, I recommend you start with $\frac{3}{4}$ regular coffee and $\frac{1}{4}$ decaffeinated for a week. Then do half and half, etc. and then switch to decaffeinated coffee or, better yet, herbal tea. In one month you will be more refreshed, awakened and energetic.

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