

# Who's your worst best friend?

reprinted from 'The Critical List'

Coffee — reputedly the ever-lovin' and helpful friend of people in time of need, the giver of the fast pick-me-up and "lift" to millions - is in fact no friend at all. Behind its hot, steamy face is a treacherous, toxic, deadly enemy of good health and good cheer. Take out your hankies, you coffee addicts, and read on...

By Dr. Gurucharan Singh

Canada runs on caffeine, delivered direct to all citizens regardless of race, creed, color or age in tea, coffee, colas and chocolate bars. The price your body pays for just one cup of coffee is high: Your stomach temperature rises 15 degrees, stomach acid secretion increases up to 400 percent, you heart speeds up by 15 to 20 beats, the lungs work 13 to 15 percent harder, the blood vessels in your brain get narrower, and your over all metabolism goes up 15 to 25 percent.

While the mouth isn't too fussy about its intake, the body is on the alert, producing twice as much urine as normal to flush the xanthine compounds - the family of alkaloid poisons to which caffeine belongs - out of the system. Were you a small mouse, and a drop of pure caffeine were injected into your skin, you'd quiver, waver and in a few minutes collapse in a state of near-death!

Caffeine impairs that part of the central nervous system responsible for carrying out precise tasks. To protect the nervous system from over-excitation, especially in the cortex, the enzyme cholinesterase opposes the action of the chemical acetylcholine which is responsible for triggering electrical impulses across nerve synapses. Caffeine inactivates the cholinesterase, providing the initial "lift" and increased sense of well-being, mental clarity and alertness. Since caffeine contains no food value, this extra surge of energy must come from your own body's emergency reserve system. Unreplaced energy, once spent, produces depression, to which the usual antidote is - another dose of caffeine.

The effects of caffeine on the circulation and heart fall into two categories: mechanical and chemical.

Locally the effect of the caffeine is to stimulate the heart to beat faster. In response, the principle brain centre for slowing the heart is activated. The tension between these opposing directives produces stress, and can lead to arrhythmia and irregularity of heart action.

Stress, in turn, triggers a chemical reaction; more adrenalin is added to the blood which releases bound fats into free fatty acids and raises the cholesterol content. Studies show that coffee drinkers increase their risk of coronary heart disease and thrombosis by 35 percent over non-coffee drinkers. The same holds true for high intakes of other caffeine products.

When it hits the stomach, caffeine causes a sharp rise in hydrochloric acid secretion. Usually the acid recedes in a few hours, but in a recent study of healthy adults, 5 percent did not return to normal, and over time all these people developed serious stomach disorders.

The effect of caffeine on sleep is perhaps the most popularly known. While it does not interfere with REM sleep (rapid eye movement: semi-conscious first stage of sleep) it does delay the onset of sleep. Over a long period of sleep deprivation, the effects of the caffeine will make you feel more tired than if you had stayed awake using cold showers or other methods.

The conflicting nerve impulses to muscles caused by caffeine result in extra tension. When the body experiences a stress situation, it has a standard chemical stress reaction that can be



measured, the main chemical group most often used for this measurement being the catecholamines. Recent study has shown that even moderate amounts of coffee result in a significant urinary catecholamine secretion.

One effect of the additional stress is the decreased ability to make major changes in behavioral patterns. Any change in habit requires

day over a period of months and then stop, you'll experience classical withdrawal symptoms: mental craving, dizziness, weakness and headaches. One popular relief from these symptoms is to take aspirin. But to give that immediate sense of "well being," most aspirins sold today contain the culprit itself - caffeine.

The caffeine habit can be broken. By first examining yourself to see just what the habit does for you, you can plot a practical counter-attack. Since caffeine is taken primarily as a stimulant, you can replace the caffeine with food having real fuel and nourishment value. The "lift" will feel much the same, but qualitatively it will be different. Instead of tearing your body down in order to provoke emergency reserves into action, it will build your body up. A handful of raisins, chewed slowly, will help perk you up without the subsequent let-down of caffeine stimulation.

For coffee-taste addicts there is a wide variety of coffee substitutes available at natural and health-food stores. Tea can be replaced with herbal teas, which aside from omitting the caffeine, have the additional advantages of soothing and healing powers.

Colas can be relieved of their duties by the intake of fruit juices or a sarsaparilla (honey and soda water mixture).

Chocolate, which robs the body of B vitamins and blocks the proper utilization of calcium, can be replaced with natural carob flavoring.

It might take a little time to get used to these new flavors, but during that same period you'll just be getting used to feeling a lot better than usual, as well.

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**AVOID THESE**

**Caffeine carriers**

- Coffee
- Tea
- Coca Cola
- Pepsi Cola
- Other Colas
- Chocolate

**AND LIVE LONGER**

an expenditure of energy and some stress. You regulate how much you usually stress or risk in order to preserve yourself. If the brain checks the body and finds that it's already in a stress condition, you won't be able to exert as much to change your habits-e.g., the caffeine habit.

Habituation does occur with regular caffeine intake. If you drink four or five cups of coffee a

BEVERAGE	CAFFEINE mg / FLUID OUNCE	mg / SERVING
Coffee	18.0	125-150 per cup
Tea (strong)	18.0	125-150 per cup
Tea (weak)	12.0 - 15.0	75-11 per cup
Decaffeinated coffee	2.4 - 4.0	12 - 25 per cup
Instant coffee	6.0 - 12.0	35 - 75 per cup
Coca-Cola	4.6	55 per 12 oz.
Pepsi	3.0	36 per 12 oz.
Chocolate bar	18.0 - 18.0	20 - 25 per 1-3 / 8 oz.