Every tax season my husband and I evaluate our expenditures to identify which purchases fall within the “frivolous spending” category. We have a small problem in our household, and though we are reminded daily by the empty cans dispersed throughout the house, garage, cars, shed..., we choose to deny its negative impact—until tax time.

Last year we calculated an approximate $3,000 spent on diet coke. Given that our two children will be college bound in just a few years, and that the cost of a bachelor’s degree is well over $100,000, we did what any reasonable couple would do; we bought a soda machine for our home. This allows, of course, to buy pop in bulk form.

Our obvious dysfunction in this area of our lives motivated me, not to reduce my pop consumption, but rather to investigate the impact of pop, more specifically caffeine, on the body. Caffeine of course, is found in numerous products that Americans consume on a daily basis. Soda, chocolate, coffee, tea, vivrin .... all of which contain significant doses of caffeine.

Coffee, in particular, is consumed in substantial quantities around the globe. In fact, according to University Hospital Zurich, Switzerland, coffee/caffeine is the most abundantly consumed stimulant worldwide. So if billions of people are walking around “under the influence” what impact does caffeine really play in the functioning of our world?

Caffeine works as a central nervous system stimulant, increasing blood pressure, plasma catecholamine levels, plasma renin activity, serum free fatty acid levels, urine production, and gastric acid secretion. That sounds pretty serious. However, it does appear that the impact of the stimulus is based on the person’s genetic sensitivity to caffeine, as well as the environment in which it is consumed.

Those who identify themselves as “high” caffeine users experience different physiological responses than mild to moderate users. Inexperienced or casual “social” drinkers experience an increase in both blood pressure and muscle sympathetic nervous activity when they consume coffee.

If these same individuals consumed decaffeinated coffee, their physiological response would be the same, indicating that other ingredients in coffee besides caffeine, are responsible for cardiovascular activation. However, those who are habitual users of caffeine, i.e. my husband, minimal change in blood pressure is observed, despite the increase in muscle sympathetic nervous activity. For those of us in denial, the more tolerance to the drug the better the blood pressure response.

Researchers in Portsmouth, U.K. studied attentional bias of habitual caffeine users. They found that while under the influence of caffeine, the participants had greater recognition for caffeine-related words and faster reaction times. Given the argument that all of us hold the responsibility of being aware of drug-related advertising and the presence of the drug itself, the home pop machine makes perfect sense.

A study focusing on the anxiety level of rats under the influence of caffeine found that chronic caffeine ingestion did not induce persistent emotional changes commonly found with other drug abuse, because caffeine withdrawal produced little effect on animal anxiety. However, while under the influence, rats who were kept segregated from the other rats had higher rates of anxiety than those housed alone. Interpretation: drink pop and coffee in the presence of friends to prevent anxiety elevation. No problem.

All in all, caffeine appears to have minimal detrimental effect on the human body. Secondary effects however can include disruption to sleep patterns, gastric upset, interactions with other dietary supplements, and withdrawal symptoms. Withdrawal symptoms from this drug can include headaches, fatigue and reduced alertness.

So how would a caffeine dependent individual interpret such information? In order to minimize the risk of feeling tired, getting a headache, elevating blood pressure, or losing attention/concentration, one should engage in habitual diet coke/coffee consumption, in the presence of others. Great care should be taken to avoid periods of abstinence to which obsessive seeking patterns, drowsiness and psycho motor retardation could occur.