

Our Legal Addiction

WINTER 2008 ❖ VOL. 13 ❖ ISSUE 8

A LOOK AT
OUR WORLD'S
MOST POPULAR,
MOST UNREGULATED
PSYCHOACTIVE STIMULANT.



90%

NINETY PERCENT OF AMERICANS

(INCLUDING CHILDREN)

CONSUME CAFFEINE EVERY DAY.

As I sip a steaming cup of coffee, I feel my body surge with energy as my mind is suddenly clear. Any headache I may have had melts away. And like a lot of people, that is what caffeine is to me: warm, comforting, wonderful.

Caffeine, derived from the French word *café* (for coffee), is a naturally occurring chemical compound that acts as a psychoactive stimulant in humans. The world's primary source of caffeine is the coffee bean.

Caffeine is produced from the beans, the leaves and the fruit of over 60 plants, including yerba maté, guaraná berries, Yaupon Holly, kola nut, cacao seeds, coffee beans and the tea bush. Caffeine acts as a pesticide that paralyzes and kills infesting insects.

Tea is another common source of caffeine. It usually contains about half as much caffeine per serving as coffee, depending on the strength of the brew.

Caffeine is also a common ingredient in soft drinks such as cola, originally prepared from kola nuts. In its natural form, caffeine tastes very bitter, though most drinks are processed to camouflage the bitter taste.

There is also a small amount of caffeine in chocolate. When derived from cocoa, a typical 28-gram serving of a milk chocolate bar has about as much caffeine as a cup of decaffeinated coffee.

Our society's love for caffeine can be traced to its most notorious effect: temporarily warding off drowsiness and restoring alertness. It is legal and unregulated nearly everywhere. In North

America, 90% of Americans



(including children) consume caffeine every day. It is in many products, like coffee, teas, chocolate, blended smoothies, energy drinks — even enhanced waters.

The world's biggest coffee corporation, Starbucks, has revolutionized caffeine use by ensuring that wherever in the world its customers go, a consistently good cup of coffee and pleasant atmosphere await them. Thus, the culture of caffeine is almost inescapable.

Caffeine has been used for thousands of years by multiple cultures, some which record longstanding legends of caffeine use. Some extraction methods included chewing the seeds, bark or leaves of plants.

In the seventeenth century, the popularity of caffeinated beverages exploded in Europe, where the drinks were first known as "Arabian wine." Coffee houses were established in Constantinople, Venice and London, and soon became popular throughout Western Europe, playing a significant role in social relations in the 17th and 18th centuries.

One of the earliest documented health scares occurred in 1911 when the US government seized 40 barrels and 20 kegs of Coco-Cola syrup in Chattanooga, Tennessee, alleging that the caffeine in its drink was "injurious to health." The government initiated a case against

Coca-Cola, hoping to force the beverage giant into removing caffeine from its formula, claiming that the excessive use of Coca-Cola at one girl's school led to "wild nocturnal freaks, violations of college rules and female proprieties, and even immoralities."

Although the judge ruled in favor of Coca-Cola, Congress introduced two bills in 1912 to amend the Pure Food and Drug Act, adding caffeine to the list of "habit-forming" and "deleterious" substances.

Today, global consumption of caffeine has been estimated at 120,000 tons annually, making it the world's most popular psychoactive substance. This number equates to one caffeine beverage for every person per day.

Upon its ingestion, caffeine is completely absorbed by the stomach and the small intestine within forty-five minutes. It moves through the human body in a few hours.

It is not stored in the body, but its effects may be felt up to six hours.

Caffeine has three metabolites: paraxanthine, which increases lipolysis from the liver (free fatty acids into the blood); theobromine, which dilates blood vessels and increases urine output; and theophylline, which relaxes smooth muscles of the bronchi. These metabolites are broken down further and excreted by urine.

Caffeine's molecular structure resembles that of the neurotransmitter adenosine, which helps create feelings of drowsiness by slowing down nerve cell activity within the brain's arousal centers. This

allows the brain's blood vessels to dilate so that more oxygen reaches the brain. Adequate adenosine levels are critical for good sleep cycles, which allow the brain and body to detoxify and heal.

Because of its similar structure, caffeine binds to adenosine receptors on nerve cells so that the nerve cells can't interact with real adenosine. Instead of slowing nerve cells down, caffeine speeds them up and constricts the blood vessels in the brain. Thus, caffeine diminishes healing and detoxification efforts within the body.

This can also explain why caffeine is often used as a headache treatment, because it shuts down swelling blood vessels in the brain.

Though many people believe they're getting plenty of liquids when drinking caffeinated beverages, caffeine works against the body in multiple ways. It stimulates the need to urinate, which has a mild dehydrating effect. Large amounts of caffeine may cause the body to lose calcium and potassium, causing sore muscles and de-

layed recovery times after exercise.

Caffeine distances natural energy cycles, tricking the body into a constant state of alertness. This ultimately makes users more tired, and it can initiate a vicious cycle when used to cope with stress and fatigue.

*Caffeine
diminishes
healing and
detoxification
efforts within
the body.*

COMMON CAFFEINATED PRODUCTS

	Serving	Caffeine
Brewed drip coffee	6 oz	120 mg
Espresso (one shot)	1 oz	100 mg
Iced tea	12 oz	70 mg
Coca-Cola	12 oz	34 mg
Diet Coke	12 oz	45 mg
Pepsi Cola	12 oz	38 mg
Jolt soft drink	12 oz	71 mg
Mountain Dew	12 oz	55 mg
Dark chocolate	1 oz	20 mg
Milk chocolate	1 oz	6 mg
Cocoa beverage	5 oz	4 mg
Chocolate milk	8 oz	5 mg
Cold relief med	1 tablet	30 mg
Vivarin (energy pill)	1 tablet	200 mg

From U.S. Food and Drug Administration & National Soft Drink Association



Caffeine also carries long-term health risks and is associated with increased anxiety, nervousness, irritability, muscle twitching, insomnia, headaches, respiratory alkalosis (excessive loss of carbon dioxide), and heart palpitations. Furthermore, because caffeine increases the production of stomach acid, high usage over time can lead to peptic ulcers, erosive esophagitis, and gastroesophageal reflux disease.

Other side effects of caffeine overuse include dizziness, diuresis (increased formation of urine by the kidney), tachycardia (rapid heartbeat), blurred vision, drowsiness, dry mouth, flushed dry skin, loss of appetite and nausea.

For women trying to conceive, even one cup of coffee a day can decrease success rates. Moderate use doubles the risk of delivering underweight babies and miscarriage. Caffeine is also carried through breast milk.

Despite these risks, many doctors advocate small caffeine intake for its mental and physical health benefits.

Coffee and tea contain antioxidants that help detoxify the liver and fight disease. Some studies suggest that daily caffeine intake can cut in half the risk of serious liver damage in people who are obese, diabetic or alcoholic. For some people, coffee and tea are the only daily sources of antioxidants.

Caffeine can also temporarily help our minds. Focused thought coupled with caffeine consumption increases mental performance. With 100 – 200 milligrams of caffeine, users are poised and ready to outrace and outwit imminent danger, but most of the time they are sitting at their desks or in their cars.

Caffeine tolerance can develop very quickly, especially among very heavy coffee drinkers. Because a steady use of caffeine regulates blood pressure, withdrawal from caffeine causes brain blood vessels to dilate, leading to excess blood and causing headaches as well as nausea. When in withdrawal, stomach acid levels decrease substantially and can cause stomachaches.

Reducing caffeine intake can also temporarily cause fatigue and drowsiness. A reduction in serotonin can cause anxiety, irritability, inability to concentrate and diminished motivation to initiate or to complete daily tasks. In extreme cases, it may cause mild depression. Together, these effects are commonly known as a “crash” symptoms and can last upwards of four to five days.

Although the effects of caffeine vary from one person to the next, doctors recommend no more than about 100 milligrams of caffeine daily, roughly the amount found in one espresso, one cup of drip coffee, or in one extra-large soda.

If you are having trouble with the idea of giving up caffeine, you have good reason. Caffeine is addictive on many levels, not the least being its role in social, historical, commercial and private ritual. ■

Coupled with focused thought, caffeine can temporarily increase mental performance.

Images from Getty Images.

Story written by Brittany Stewart

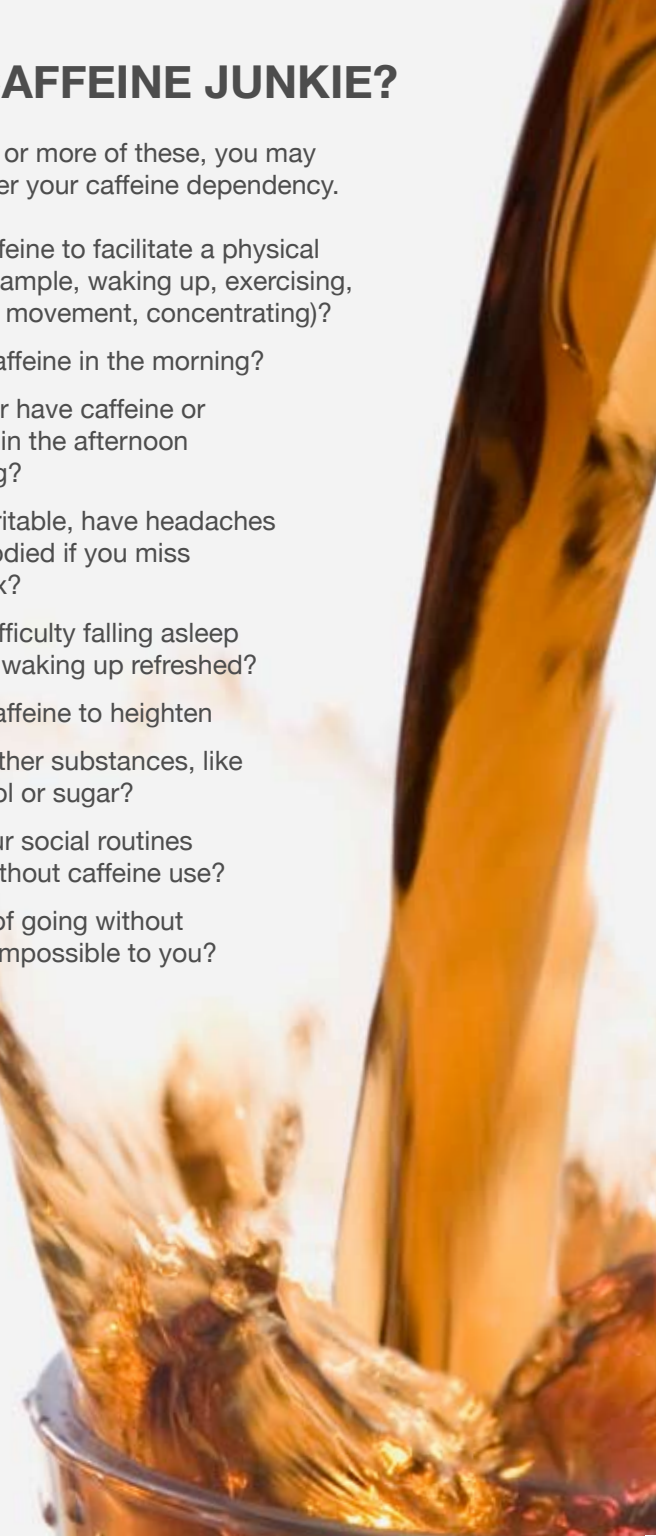
Information from “Women to Women,” the Nemours Foundation, & wikipedia.org.

For more information on cutting back on caffeine, visit www.justbewell.com

ARE YOU A CAFFEINE JUNKIE?

If you answer yes to two or more of these, you may want to seriously consider your caffeine dependency.

- ♦ Do you use caffeine to facilitate a physical activity? (for example, waking up, exercising, having a bowel movement, concentrating)?
- ♦ Do you need caffeine in the morning?
- ♦ Do you crash or have caffeine or sugar cravings in the afternoon or early evening?
- ♦ Do you grow irritable, have headaches or feel disembodied if you miss your caffeine fix?
- ♦ Do you have difficulty falling asleep at night and/or waking up refreshed?
- ♦ Do you need caffeine to heighten the effects of other substances, like nicotine, alcohol or sugar?
- ♦ Do you feel your social routines would suffer without caffeine use?
- ♦ Does the idea of going without caffeine seem impossible to you?



Becoming Caffeine Free

To take caffeine out of your diet, you don't have to quit cold turkey. Cutting back slowly decreases the severity of headaches, body aches, and depression.

Here are some tips for staying healthy while cutting back:

Examine your habits.

If it's the morning ritual you love, try a decaf variety, herbal tea or a glass of hot water with lemon juice and a pinch of cayenne pepper.

Drink more water.

Caffeine dehydrates. Water flushes toxins through the system, including caffeine. Water itself is neutral, but it helps dilute the acidifying agents found in caffeine.

Have a multivitamin.

If you drink caffeine, you are depleting your body of necessary nutrients, like calcium and potassium. Fatigue is often caused by inadequate nutrition.

Caffeine is not food.

Coffee on an empty stomach increases stomach acid, which can cause ulcers, heartburn, and worsen acid reflux. If you still want your cup of coffee or tea, drink it after you have eaten.

Take a nap.

As you cut back on the amount of caffeine you consume, your body might be telling you it needs more rest. Your best bet is to hit the sack, not the sodas.

Go to bed earlier.

Allow yourself a full eight hours of sleep. Not only is this important for detoxifying, it may transform your energy levels in the morning, lessening your need for that first, second or third cup.

Wean yourself.

Switch to half decaf or sub in a decaffeinated tea or soda. Each day, remove more caffeine to lessen withdrawal symptoms. After two weeks, you should be drinking decaffeinated beverages entirely. Then keep going. Decaf can have up to a third of the amount of caffeine as regular caffeinated beverage.