PURDUE UNIVERSITY
Extension - Health and Human Sciences

Cautious About Caffeine

Fact Sheet
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Did you know that caffeine is a stimulant, which is a drug? A stimulant increases activity in the brain and nervous system. Caffeine stimulates the nervous system resulting in high levels of adrenaline, so mimicking the stress response known as the "fight or flight" response. Consuming a lot of caffeine is liking being in a high state of arousal with your stress reaction working at full speed!

Caffeine is an addictive drug that can be found in tea, coffee, chocolate, soft drinks.

Caffeine is used many different ways.

Medically, it is used as a cardiac stimulate and a mild diuretic, which increases urine production.

Recreationally, it is used to provide a "boost of energy" or add a feeling of heightened alertness. It can help someone reduce tiredness and help someone stay awake longer. Many people feel that they "can't function" in the morning without their coffee to help jump start their day!

Are there benefits of consuming caffeine?

- Caffeine blocks melatonin, the chemical in the brain that makes you drowsy so you "feel alert."
- Caffeine stimulates the production of adrenaline to give you an "energy boost."
- Caffeine manipulates dopamine production in the brain to make you "feel good."

Are there risks to caffeine consumption?

*Most problems occur when someone drinks caffeine long-term.

- Caffeine can cause restlessness, difficultly falling asleep, and decreased quality of sleep.
- The time if takes the body to eliminate half the total amount of caffeine consumed is between 5-7 hours. Therefore when someone drinks 200mg of caffeine in the afternoon, they will still have 100mg of caffeine in their system when they are going to sleep at night. This individual may be able to fall asleep, but the 100mg will impact this individual's ability to get the full benefits of deep sleep. Deep sleep is the stage in the sleep cycle that is necessary for proper brain function and memory. This deficit can add up, making someone feel tired and that they need caffeine to jump start their morning the next day. This cycle continues!
- When the caffeine levels fall and the adrenalin surge wears off in someone's system, one could face fatigue and depression. Therefore, someone may consume more caffeine to get their adrenaline going again. Long-term, this is not good for the human body. Having your body permanently in a stage of emergency all day is not healthy. This is why caffeine is not a good way to cope with stress. This is why one should watch how much caffeine they are consuming, especially when they are stressed. Far from helping by keeping you awake, alert, and feeling good, it is actually increasing your stress responses still further, causing a downward of spiral of problems.
- Caffeine increases the heart rate, which is made worse when you are stressed. When one is stressed, someone already has more adrenaline in their system, while also having an increased heart rate. This is especially concerning for someone that already has high blood pressure or a heart problem.
- Caffeine also stimulates the production of acid by the stomach. This can cause heartburn, indigestion and aggravate ulcers. Again, these symptoms are worsened if one is stressed as the activity of the gut reduces during the stress response.
- Evidence suggests that high caffeine intake can lead to increased blood cholesterol through the action of adrenaline.

Sources: Mayo Clinic and the National Library of Medicine

How much is too much?

Children: should not consume caffeine
Adolescents: less than 100 mg per day
Adults: less than 400 mg per day

Indications of caffeine withdrawal include drowsiness, headaches, irritability, or trouble concentrating, but symptoms should last only a few days.

If you think you consume a lot of caffeine, consider the following:

- Keep a diary or a log for one week to help you track exactly how much caffeine you are really consuming. This log should include all forms of caffeine, such as tea, coffee, soda, and other canned drinks with caffeine, chocolate, or medications.
- Gradually swap caffeinated drinks with non-caffeinated drinks. Read labels on drinks, food, and medications to determine caffeine content, and stay away from those that contain high amounts.
- Replace your caffeinated beverage with water. Water can help flush caffeine out of your system and keep you properly hydrated.

Note that caffeine can be harmful to some groups of people. I recommend seeking advice about caffeine consumption from your health care provider if you are pregnant, breastfeeding, have a sleep disorder, migraine, anxiety, GERD, ulcers, or high blood pressure. Problems with heart rhythm, heart rate, and certain medications can also have detrimental consequences.

Did you know that if caffeine is consumed regularly, a person can become dependent on caffeine? As little as 100 mg/day can cause dependency. This is why monitoring your intake is important. The chart to the right shows commonly consumed caffeinated beverages and the amount of caffeine they contain.

Name	Standard Amount	Caffeine in Standard Amount	Caffeine in 16 Oz.
Energy Drinks			
5-Hour Energy	2 oz.	200 mg	1,600 mg
Sobe No Fear	16 oz.	182 mg	182 mg
Monster	16 oz.	172 mg	172 mg
Rockstar	16 oz.	160 mg	160 mg
Red Bull	8.4 oz.	79 mg	151 mg
Coffee, Tea			
Brewed Coffee	8 oz.	163 mg	324 mg
Average Coffee	8 oz.	95 mg	190 mg
Iced Tea	8 oz.	Average of 47 mg	94 mg
Soft Drinks			
Mountain Dew	12 oz.	54 mg	72 mg
Coke	12 oz.	34 mg	45 mg
Diet Coke	12 oz.	45 mg	60 mg
Pepsi	12 oz.	38 mg	51 mg
Sprite	12 oz.	0 mg	0 mg
Others			
Chocolate Milk	8 oz.	5 mg	10 mg
Dark Chocolate	1 oz.	20 mg	320 mg
Milk Chocolate	1 oz.	6 mg	96 mg
Cold Relief Meds	1 tablet	30 mg	
Vivarin	1 tablet	200 mg	
Excedrin	2 tablets	130 mg	

Sources: Mayo Clinic and the National Library of Medicine