Caffeine

Caffeine, by definition, is a drug that stimulates the central nervous system, causing increased heart rate and alertness. It is addictive and may cause side effects including headache, anxiety, dizziness, jitters, and heart problems. Many studies have evaluated the effects of caffeine on health. The studies are controversial and inconclusive. Remember, whether caffeine affects you depends on your diet, size, type of exercise you do and amount of caffeine you ingest regularly. Your reaction to caffeine is highly individual. Certain people should abstain or minimize their caffeine intake: ulcer patients, pregnant and nursing women and anemic athletes. Most people develop a tolerance for caffeine over time. Eliminating caffeine from your body is also an individual process. It may take from one to seven hours for the body to be free from the caffeine you consumed. If you decide to eliminate caffeine from your diet altogether you will likely experience withdrawal headaches and drowsiness. Your best bet is to wean yourself off caffeine gradually. Try to keep your caffeine consumption to less than 400 mg per day. Chances are, if you are consuming more than that you are missing out on other more nutritional beverages and probably skipping meals.

About 90 percent of Americans consume caffeine in one form or another every single day. More than half of all American adults consume more than 300 milligrams (mg) of caffeine every day, making it by far America’s most popular drug.

Where does caffeine come from?
Caffeine occurs naturally in many plants, including coffee beans, tea leaves, and cocoa nuts. It is therefore found in a wide range of food products including coffee, tea, cola, and chocolate. Caffeine is artificially added to many other products, including a variety of energy drinks. Here are the most common sources of caffeine for Americans:

<table>
<thead>
<tr>
<th>Food</th>
<th>Serving</th>
<th>Caffeine (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grande coffee</td>
<td>16 oz.</td>
<td>550</td>
</tr>
<tr>
<td>Tall coffee</td>
<td>12 oz.</td>
<td>375</td>
</tr>
<tr>
<td>Short coffee</td>
<td>8 oz.</td>
<td>250</td>
</tr>
<tr>
<td>Home brewed coffee</td>
<td>8 oz.</td>
<td>100</td>
</tr>
<tr>
<td>Instant coffee</td>
<td>8 oz.</td>
<td>80</td>
</tr>
<tr>
<td>Decaffeinated coffee</td>
<td>8 oz.</td>
<td>5</td>
</tr>
<tr>
<td>Coca – Cola</td>
<td>8 oz.</td>
<td>45</td>
</tr>
<tr>
<td>Mountain Dew</td>
<td>12 oz.</td>
<td>55</td>
</tr>
<tr>
<td>Tea, brewed 3 min.</td>
<td>8 oz.</td>
<td>50</td>
</tr>
<tr>
<td>Tea, brewed 1 min.</td>
<td>8 oz.</td>
<td>25</td>
</tr>
<tr>
<td>Bottled or instant tea</td>
<td>12 oz.</td>
<td>50</td>
</tr>
<tr>
<td>Hot chocolate</td>
<td>8 oz.</td>
<td>5</td>
</tr>
<tr>
<td>Chocolate bar</td>
<td>1 oz.</td>
<td>6</td>
</tr>
<tr>
<td>Chocolate milk</td>
<td>8 oz.</td>
<td>5</td>
</tr>
<tr>
<td>No-Doz or Vivarin</td>
<td>Standard</td>
<td>100-200</td>
</tr>
</tbody>
</table>

Why does caffeine wake you up?
Caffeine has similar properties to adenosine, a nucleoside that causes drowsiness by slowing down nerve cell activity. Caffeine can therefore bind to adenosine receptors. When this occurs, the receptors are not available for adenosine molecules to bind to which causes increased neuron firing in the brain.

The pituitary gland sees all of the activity and thinks some sort of emergency must be occurring, so it releases hormones that tell the adrenal glands to produce adrenaline (epinephrine). Adrenaline is the “fight or flight” hormone, and it has a number of effects on your body including:

- Pupil dilation
- Increased breathing rate
- Increased heart rate
- Constriction of blood vessels to slow blood flow from cuts and to increase blood flow to muscles
- Increased blood pressure
- Decreased blood flow to the stomach, this is no time to spend energy digesting
- Release of sugar from the liver into the bloodstream for extra energy
- Tightening of muscles as they get ready for action

This explains why after consuming a big cup of coffee, your hands get cold, your muscles tense up, you feel excited, and you can feel your heart beat increasing.

Why do I have a need for caffeine?
Caffeine is an addictive drug. Although its effects are milder, caffeine operates using the same brain pathways as amphetamines, cocaine, and heroin. If you feel like you cannot function without it and must consume it every day, then you are addicted to caffeine.

The biggest long-term problem associated with caffeine use is the effect that caffeine has on sleep.

The half-life of caffeine in your body is about 6 hours. That means that if you consume a big cup of coffee with 200 mg of caffeine in it at 3:00 PM, by 9:00 PM about 100 mg of that caffeine is still in your system. You may be able to fall asleep, but your body probably will miss out on the benefits of deep sleep. That deficit adds up fast. The next day you feel worse, so you need caffeine as soon as you get out of bed. The cycle continues day after day.

This is why 90% of Americans consume caffeine every day. Once the cycle has begun it is very hard to stop taking the drug. Even worse, caffeine withdrawal can cause tiredness, depression, and headaches.

The best way to counter withdrawal symptoms is with sleep and exercise.
How can I cut my caffeine intake?

• Track your consumption of coffee, tea, or caffeinated soda.
• Cut back slowly by one cup a day.
• Try to mix half decaf and regular coffee before brewing.
• Use small mugs vs. large mugs.
• Make your coffee lighter and lighter to gradually reduce caffeine potency.
• Try caffeine free teas and sodas.
• Try different decaffeinated hot beverages.
• Instead of a coffee break take a walk.
• Increase your consumption of caffeine-free liquids while quitting.
• If you get sleepy at work, while studying, or driving: take a break, open a window, or take a nap.

A Red Light for Energy Drinks and Alcohol
Because energy drinks are stimulants and alcohol is a depressant, the combo is a dangerous one. Stimulants mask how intoxicated you are and prevent you from realizing how much alcohol you have consumed. In addition, both energy drinks and alcohol cause dehydration and hinder the body’s ability to metabolize alcohol. Dangers such as high blood pressure and a racing heart or heart attack can be the results of this party mix.

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