

All about Caffeine



What is it and how does it work?

In summary, and put simply, caffeine acts as a central nervous system stimulant by blocking pain/“sleep” receptors in the brain called adenosine.

The video to the left does a great job of explaining how caffeine works in our bodies along with some of the benefits and potential drawbacks of consuming caffeine.

It is important to note caffeine, and the way our body reacts to it, is incredibly complex! This flyer only serves as a summary, basic education, and generalization.

Interesting Facts

As you can see in the infographic a lot of people consume caffeine!

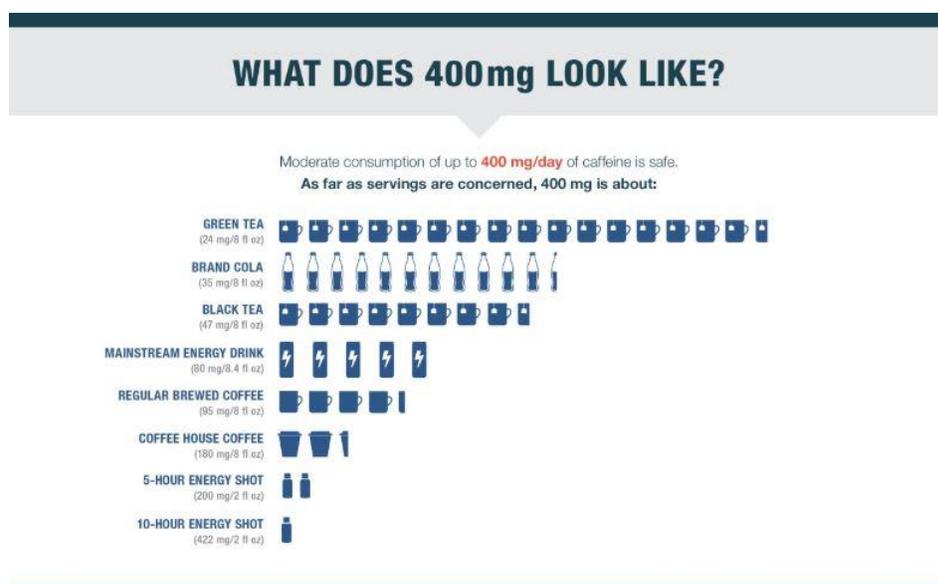
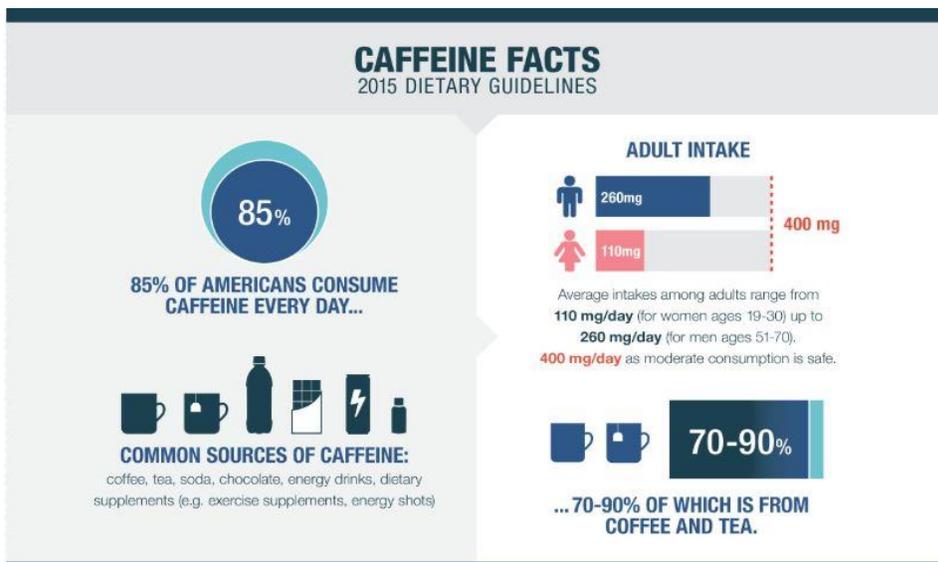
Hidden sources of caffeine – Did you know decaf coffee actually has caffeine. Studies have found that decaf still contains around 3% of the caffeine found in traditional coffee

It takes about 30-60 minutes, on average, after ingestion for caffeine to reach its peak levels in blood. Our bodies normally eliminate half of the drug in 3-5 hours while the remainder may take 8-14 hours!

How much is too much?

As you will read below, given past medical history as well as individual response, the answer for some may be any caffeine at all is too much.

Generally speaking 400mg or less is considered by most (Dietary Guidelines, Mayo Clinic, Health Canada, and European Food Safety Authority) to be safe for the average public and classified as moderate consumption. As you can see to the left 400mg is still a lot of caffeine!



Individualized Response to Caffeine

Have you ever met someone who says they can't imagine why anyone would consume caffeine because it makes them feel terrible?

How can this be true when some rarely feel any negative effects from caffeine?

The answer: our genes! Our bodies are incredibly complex and our genetic makeup can actually dictate how our bodies react to caffeine. The secret is in the CYP1A2 liver enzyme that is responsible for metabolizing (breaking down) caffeine. There are different variations of this CYP1A2 gene with some of us having a variation that causes slow metabolism of caffeine which can lead to moderate to an extremely negative reaction to the drug

Potential Draw Backs to Caffeine

As mentioned on the first page it can take up to 8-14 hours to fully metabolize caffeine. Caffeine consumption near, or far away from, bed time can make it difficult to sleep. It is key to note that judging caffeine's effect on how long it takes you to fall asleep is not enough. Caffeine can impede your ability to make it into deep, restful sleep as well!

Agitation, restlessness, and anxiety are all potential responses to any amount of caffeine. If you have a past history of these or similar symptoms consume caffeine with caution

Caffeine has also been linked to digestive issues ranging from mildly upset stomach to diarrhea and nausea. Count the cost before you take the next dose of caffeine!

Caffeine and Sport

Research has overwhelmingly concluded that caffeine ingestion, usually 5-7mg of caffeine per kg of body weight, is beneficial for longer distance events such as marathons.

Research is inconclusive at best when it comes to shorter bouts of effort such as maximum weight lifting, vertical jump height, and other similar tests.

It is key to remember the individualized response. Slow metabolizers may not experience any benefit and could see negative results when competing on caffeine even in longer events

