

Love Affair with Caffeine

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The Ubiquitous Pick Me Up!

We love caffeine 'cause it gives your brain a kick start! Let's face it. You could be moving slower than a fat chick on Xanax, but with a little help from your trimethylxanthine friend (i.e. caffeine), you'll have more energy than Paris Hilton's videographer. Here's the proof!

One study examined one hundred and forty-four volunteers (72 male, 72 female, mean age 21 years) and had them consume breakfast (cereal versus no breakfast) and caffeine (caffeinated versus decaffeinated coffee). They found that those who consumed breakfast cereal had a more positive mood at the start of the test sessions, performed better on a spatial memory task, and felt calmer at the end of the test session than those in the no breakfast condition (lesson: don't skip breakfast☺). Consuming caffeine improved the "encoding of new information and counteracted the fatigue that developed over the test session."⁽¹⁾ Blah blah blah...translation: that means your brain works better. Bottom line: drink coffee as you eat that delicious bowl of oatmeal (or is it Captain Crunch you prefer?).

Fat Blaster!!

Perhaps one of the more idiotic things I've ever heard about caffeine is that it helps you gain fat! Listen up now. If anybody (i.e. your trainer, strength coach, nutritionist, boyfriend, girlfriend, wife, or any of the above) says that, than I'd suggest you put on your Nikes and run faster than a cheetah on amphetamines. Why? Because anyone who says that is a moron. Anyhow, here's some data (i.e. evidence) for you. (Please see side bar on 'Functional Coffee for Weight Loss' too).

Scientists studied 18,417 men and 39,740 women from 1986 to 1998. Caffeine intake was assessed repeatedly every 2-4 years. Weight change was calculated as the difference between the self-reported weight in 1986 and in 1998. What did these self-professed science nerds discover? "Age-adjusted models showed a lower mean weight gain in participants who increased their caffeine consumption than in those who decreased their consumption..." In English, that means those who consumed the most caffeine, gained the least amount of weight. That is, an increase in coffee and tea consumption was also associated with less weight gain.⁽²⁾

Thermogenesis

Yes, caffeine can ratchet up your body's furnace such that you burn more calories.⁽³⁻¹¹⁾ And the cool part is that you oxidize or burn more fat in the process. An oft-used technique by fitness competitors is to down a strong cup-a-Joe or a caffeine pill prior to exercise. You'll exercise harder, longer, and burn more fat in the process. What about consuming caffeine at rest?

A recent study looked at energy expenditure, fat oxidation or burning, and norepinephrine (NE) kinetics (i.e. how 'adrenaline' like hormones are metabolized) after caffeine or

placebo ingestion using placebo-controlled double-blind conditions. The dose administered was 5 mg of caffeine per kilogram of fat-free mass (note: fat-free mass or FFM is mainly muscle and bone). Translation: For the young men, they consumed about 350 mg while the old men consumed about 295 mg. (Therefore, the young men had more FFM than the old men).

They studied 10 older (65-80 yr) and 10 younger (19-26 yr) men who were moderate consumers of caffeine. Caffeine ingestion resulted in similar increases in both the old and young men for plasma caffeine levels; thus both young and old absorb caffeine equally well. Metabolic rate or energy expenditure increased similarly by 11% in young and 9.5% in the older men. According to the scientists, “older and younger men show a similar thermogenic response to caffeine ingestion...” (6) Bottom line: young and old can benefit from the thermogenic effect of caffeine.

Performance Enhancer

Known to fitness enthusiasts as well as Olympians, caffeine is the most versatile and effective ergogenic aid (i.e. something that enhances exercise performance).(12-32) A prominent exercise physiologist, David Costill, Ph.D., performed the ground-breaking study on caffeine and exercise 26 years ago! He took nine competitive cyclists (two females and seven males) and had them bike until exhaustion at 80% of V02 max.

(Note: V02 max, also known as maximal oxygen uptake, is a measure of how well your cardiopulmonary system functions).

Each subject consumed coffee containing 330 mg of caffeine 60 min before the exercise or a placebo (decaffeinated coffee). Following the ingestion of caffeine, the subjects were able to perform an average of 90 minutes of cycling as compared to an average of 76 minutes in the placebo trial. This reflects an 18% increase! They also found that subjects burned more fat (aka lipolysis) as shown by measurements of plasma free fatty acids, glycerol and respiratory exchange ratios. In fact, fat oxidation or burning was significantly higher (107% greater) during the caffeine trial (118 g or 1.31 g/min) than in the placebo trial (57 g or 0.75 g/min). Also, the perception of effort was much less in subjects after consuming subjects indicating that exercise felt easier.(32)

Safety

Don't be fooled by the nonsense about caffeine being bad for your health. It is so far from reality that you need the Hubble telescope to see even a kernel of truth in it. Caffeine not only works, it's one of the safest ingredients in existence. For instance, one study concluded that caffeine consumption is “not associated with adverse effects such as general toxicity, cardiovascular effects, effects on bone status and calcium balance (with consumption of adequate calcium), changes in adult behaviour, increased incidence of cancer and effects on male fertility.”(33) And a study published in May of 2006 found that no evidence that coffee consumption increases the risk of heart disease.(34)

Take home message:

Caffeine helps you burn fat.

Caffeine helps you lose weight or alleviate weight gain.

Caffeine improves athletic performance.

Caffeine improves brain function.

Stuff You Should Read But Probably Won't

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