



## Does Caffeine boost performance?

Numerous studies reviewed on the use of caffeine in sports seem to produce conclusions which are often erratic and inconsistent. One study says go for it, drink that cup of Joe, then a month later an equally scientific review says, no, don't bother, it's a diuretic and will do nothing for your race performance. So why the conflicting and confusing results? Is that cup of coffee going to help me in my upcoming triathlon or should I quit the Starbucks and wean myself on to a caffeine-free alternative?

There are **two main reasons** for these erratic results:

- (1) Many of the studies have used both **active** and **sedentary** individuals – BIG difference! A sedentary person is not going to react to caffeine in the same way that an athlete does. Studies have shown that sedentary subjects show *no* effect from caffeine on physiology or performance compared to significant *benefits* – either physiological or performance related or both - for trained athletes!
- (2) Much of the caffeine research uses subjects that **habitually use coffee** – again, there's a BIG difference between someone who already needs six cups of coffee to make it to the office by 9 a.m. and somebody who never drinks coffee! Research has shown that it takes four days or more for caffeine tolerance to decline to the level where it will start to influence performance – even then effects are smaller than in people who normally avoid caffeine. It is no surprise then that the results differ since the majority of caffeine researchers tend to ignore this variable. Caffeine amounts used in studies typically vary from 200-600mg - -which is only about 2-5 cups daily...so guess what happens when Mr. Habitual-coffee-drinker undergoes a caffeine study with a similar amount he is used to drinking? Not much!

So – to reach for that coffee or not? Properly used, caffeine stimulates the central nervous system, increases the release of adrenalin, increases the **use of bodyfat as fuel** and **saves glycogen**. Not bad, eh? So what's that going to do for me in my upcoming ironman? Read the last part of that sentence again – if your body is using more fat for energy then it is sparing your precious muscle glycogen....and therefore will extend your time to exhaustion in long endurance events! In a well-controlled study cyclists pedaling to exhaustion showed that caffeine (the dose 10mg/kg – that's about 650mg for a 65kg/140lb person) increased time to exhaustion by 18% and exercise intensity by 24%. **Caffeine allowed them to ride both longer and harder**. Again, it also increased use of fatty acids for fuel, thereby sparing glycogen and it raised lactate threshold in relation to workload suggesting that there was less build-up of lactic acid. One final tip – **timing is important** - studies focusing on the measurement of free fatty acid metabolism show that the fat-burning response to caffeine does not begin until 3-4 hours after ingestion. So, my advice, reach for that coffee if you want to train and race harder or longer -- just make sure you do so first thing so you're clipping past your opponents during the event....not hyper in transition after the race. Good luck!

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