



Get the facts about coffee, caffeine and sports performance

Did you know?



Caffeine improves physical performance

The effects of coffee are linked to caffeine, rather than to coffee itself¹



Caffeine improves performance during endurance exercise

The effect of caffeine is most evident in endurance sports lasting more than five minutes

It has also shown a reduction in muscle pain in running, cycling and rowing²



Caffeine may increase adrenalin production during exercise

For both aerobic and anaerobic exercises, caffeine most likely exerts its effect via caffeine-mediated antagonism of the adenosine receptors in the brain - a pathway that leads to an increased production of adrenalin, which stimulates energy production and improves blood flow to the muscles and heart⁴



Caffeine does not adversely impact fluid balance during exercise

Caffeine has no significant effect on fluid balance

Statements suggesting the avoidance of caffeinated beverages before and during exercise are unfounded⁴



Caffeine improves short-term high intensity performance

Caffeine has an ergogenic effect in trained athletes performing high-intensity exercises and team sports³

It is widely accepted that any effects of coffee consumption on sports performance are linked to the caffeine in coffee. Most of the published work on exercise performance focuses on the effects of caffeine, rather than coffee itself.

Research suggests that performance benefits can be seen with more moderate amounts of caffeine (around 3mg/kg body weight) across a range of sports, including endurance events, stop-and-go events such as team and racquet sports and sustained high-intensity activity such as swimming and rowing.¹ As well as its potential to reduce muscle pain during endurance exercise², and reduce muscle soreness after strength exercises^{6,7}, caffeine can also help during the recovery period by improving the renewal of glycogen (muscle energy stores) when consumed with carbohydrate.⁸

The European Food Safety Authority (EFSA) published its Scientific Opinion in 2015 on the Safety of Caffeine concluding that 'single doses of caffeine up to 200mg (about 3mg/kg bw) from all sources do not raise safety concerns for the general adult population, even if consumed less than two hours prior to intense physical exercise under normal environmental conditions'.⁹

References

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The International Society of Sports Nutrition issued a [position statement](#) on caffeine supplementation and sports performance in 2010.¹⁰

Further information on fluid balance can be found on the [Coffee & Health website](#).