

Tiring the legs also tires the eyes – the remedy is caffeine

May 26 2016



A new study published in *Nature Scientific Reports* shows for the first time that our eyes may feel the strain of exercise.

A team of scientists from four countries led by Dr Nicholas Gant from the University of Auckland have discovered that [rapid eye movements](#) slow down when we are fatigued.

"These results are important because our eyes must move quickly to capture new information," he says. "But there's hope for [coffee drinkers](#) because this visual impairment can be prevented by consuming caffeine."

In the study, cyclists exercised in a laboratory at the University of Auckland for three hours, after which their brain's control of the visual system was tested using specialised [eye-tracking](#) cameras.

"It's remarkable that tiring the legs also slows the eyes," says Dr Gant. "This might well be the reason the tired cyclist never saw that bus coming!"

An imbalance in neurochemicals caused by [strenuous exercise](#) appears to spread across the brain's control systems. But just a modest dose of caffeine can restore chemical balance, helping signals from the brain reach the eyes.

"The amount of caffeine we gave during exercise was the equivalent of two cups of coffee. We saw no effect with a decaffeinated placebo drink."

"Interestingly, the areas of the brain that process visual information are robust to fatigue. It's the pathways that control [eye movements](#) that seem to be our weakest link".

The team is currently investigating the effects that psychiatric drugs—used to treat patients with abnormal levels of these neurotransmitters—have on this phenomenon.

More information: Charlotte J. W. Connell et al. Fatigue related impairments in oculomotor control are prevented by caffeine, *Scientific Reports* (2016). [DOI: 10.1038/srep26614](https://doi.org/10.1038/srep26614)

Provided by University of Auckland

Citation: Tiring the legs also tires the eyes – the remedy is caffeine (2016, May 26) retrieved 27 April 2024 from <https://medicalxpress.com/news/2016-05-legs-eyes-remedy-caffeine.html>

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