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By [Kate Lunau](#) | [Email](#) | June 23rd, 2008 at 6:00 pm

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Olympic sprinters take note: the closer you are to the starting pistol, it seems, the faster your take-off will be.

Researchers at the University of Alberta are [reporting](#) that track runners who position themselves in the lanes near the starting pistol will get off to a faster start (in other words, they have a lower reaction time to the sound) than those who are farther away. In the 2004 Olympic Games at Athens, the difference was as much as 25 milliseconds, lead researcher [Dave Collins](#) tells *Macleans.ca*.

When you hear an expected sound, he explains, “it goes in your ear to your brain, where you organize your movement” before eventually transmitting it down through the spinal cord. If you’re startled by a loud noise, though, “you bypass a lot of the processing in the brain” and respond more immediately, he says.

While a faster take-off should logically create a clear advantage, Collins says that’s not necessarily the case. “There’s no correlation between reaction time and final time,” he notes, largely because in an event like a sprint, start time is one of several important variables that make or break a race. Even so, Collins argues this could be a good reason to get rid of the starting pistol in favour of another system (a set of speakers located behind each sprinter is already used at some events).

This work could have practical applications for non-athletes as well. Collins thinks that the startling effect of loud noise could help [Parkinson’s Disease](#) sufferers, who may have difficulty walking. Parkinson’s Disease can “disturb that processing [of sound] in the brain,” he says. “We think if we can bypass that, it might help people initiate movement when they experience episodes of freezing.”



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