


Olympic rules may be too strict: sprinters startled into 'false' starts by gun, Ottawa researchers find

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Researcher Tony Carlsen, hands shown, demonstrates reaction-time testing on masters student Neil Drummond at the University of Ottawa on Wednesday.

METRO / JESSICA SMITH

On your marks, get set, startle!

Research underway at the University of Ottawa has found the Olympic rules for false starts may be too strict and penalize runners who aren't aiming to cheat, but are simply startled by the starter's gun.

"The (International Association of Athletics Federations) IAAF rules state that if you react in less than 100 milliseconds after the gun, it's considered a false start," said researcher Tony Carlsen on Tuesday. "What we see using our loud stimuli is that if it's loud enough that you can cause a startled reaction at the same

time, people react in less than 100 milliseconds sometimes— that would get people disqualified.”

Changing the false start threshold to 50 milliseconds after the gun would eliminate the problem, because the fastest reactions times his team have encountered are more than 60 milliseconds, he said.

Carlsen’s team found people react to a sudden sound either voluntarily or involuntarily, using different neural pathways. The involuntary, or “startled,” reaction is quicker.

Carlsen said it is possible to prime athletes to react involuntarily, which could shave the milliseconds that can separate gold and silver off a runners’ times, but would raise the risk of a false start.

The research could also become useful for people with neurological disorders such as Parkinson’s disease who typically have delayed reactions to stimuli, said Carlsen.



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