

# Mice run faster on high-grade oil

June 29 2009

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Between the 1932 and 2008 Olympic Games, world record times of the men's 100m sprint improved by 0.6 seconds. Scientists at the Research Institute of Wildlife Ecology in Austria have shown that an equivalent improvement can be achieved in mice by feeding them a diet high in a certain type of polyunsaturated fatty acid. Dr. Christopher Turbill will present the research at the Society for Experimental Biology meeting on Monday, June 29.

Polyunsaturated fatty acids are important dietary components which [mammals](#) cannot synthesize de novo. The research, to be presented on 29th June 2009 at the Society for [Experimental Biology](#) Annual Meeting, has shown that mice fed for two weeks on a diet high in sunflower oil, which contains n-6 [polyunsaturated fatty acids](#), ran on average 0.19m/s faster than mice fed a diet rich in linseed oil, which is high in n-3 fatty acids.

This means that, over a 2 second sprint, a mouse fed on a high n-6 fatty acid diet would have a 0.4m advantage. This represents a 6.3% improvement which equals that achieved in the 100m world records over more than 75 years. For a mouse, or other small mammal, this would be significant in evolutionary terms when escaping from a predator or catching prey. "The results of the current study on mice suggest that moderate differences in dietary n-6/n-3 polyunsaturated fatty acid intake can have a biologically meaningful effect on maximum running speed", says Dr Christopher Turbill who will be presenting the research.

A previous study by the group, which looked at a range of mammal

species, found that those with a relatively high n-6 fatty acid content in their skeletal muscles had a greater maximum running speed. Combined, these two studies suggest that diets enriched in these fatty acids "could also affect the maximum (or burst) running speed of other vertebrates, including humans" says Dr Turbill. "The application of this research to the performance of elite athletes (specifically those in sports that involve short distance sprints, including cycling) is uncertain, but in my opinion certainly deserves some further attention" he says.

Source: Society for Experimental Biology

Citation: Mice run faster on high-grade oil (2009, June 29) retrieved 20 May 2024 from <https://phys.org/news/2009-06-mice-faster-high-grade-oil.html>

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