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# Gym steroid use has impact on memory

People using anabolic steroids to improve muscle growth and sporting performance are far more likely to experience issues with their memory, according to new research from Northumbria University.

In some specialist gym user groups – such as bodybuilders and weightlifters – it is estimated that as many as 38% take steroids. [Dr Tom Heffernan](#) from the University's [Department of Psychology](#) therefore aimed to examine

whether the long-term use of high doses of anabolic-androgenic steroids within a sporting context might affect everyday memory.

He assessed almost 100 males aged 18-30 who were regular gym users. Half of the group used steroids and half did not.

The results, which are published in The Open Psychiatry Journal, revealed that those using steroids had significantly more deficits in their prospective and retrospective memory functioning, as well as their mental executive function, compared to non-users.

Steroid users were 39% more forgetting in terms of prospective memory – the process of remembering to do something you had planned to do in the future, such as remembering to pay a bill before it is due or to take medication at a certain time.

They were also 28% more forgetting when recalling past memories or previous facts, known as retrospective memory, and demonstrated a 32% difference in their mental executive function compared to non-users. Executive functioning is a term used to describe a number of cognitive processes that help an individual to pay attention, coordinate information and plan and execute tasks. A compromised executive function is likely to lead to confusion and poor planning, while reduced prospective memory ability leads to forgetfulness.

While a previous study from Harvard University found deficits in visuo-spatial memory in long-term steroid users, this is the first study to explore the impact that steroid use in a sporting context has on memory for everyday activities.



[Watch video on YouTube here](#)

Dr Heffernan explained: “The non-medical use of anabolic-androgenic steroid use came to the forefront in the 1960s when elite athletes and

bodybuilders used the drugs to promote muscle growth and improve performance levels. Since the 1980s many millions of individuals worldwide have used such steroids in a sporting context, which has now become much more widespread within non-competitive recreational sports circles.

“Overall the health-related risks of long-term steroid use are fairly well documented but we know much less about what the everyday consequences of their use may be.

“Our findings suggest that long-term use of anabolic-androgenic steroids has a significant impact on an individual’s everyday memory and ability to remember. This could affect many spheres of life, including interpersonal, occupational, educational and health-related aspects, given the ubiquitous nature of everyday remembering.

“This, combined with the work of Professor Pope at Harvard, should provide the impetus for much needed future work in this area.”

The paper, titled Everyday memory deficits associated with anabolic-androgenic steroid use in regular gymnasium users is published in the latest edition of [The Open Psychiatry Journal](#).

Research from Northumbria University’s Department of Psychology was highlighted in the 2014 Research Excellence Framework, which measures the quality of research in UK universities. 73% of all psychology research from the University was judged to have “outstanding reach and significance” for its impact.

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