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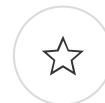
# Golf gadget cuts scores at a stroke by calming brain

Oliver Moody, Science Correspondent

January 9 2017, 12:01am, The Times



The scientists found that amateur golfers' putting accuracy increased by 43 per cent



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A secret weapon from neuroscience appears to be capable of boosting the performance of amateur golfers.

The technology uses a brain monitor to help people to control their thoughts and clear their

minds of distraction. It can increase the accuracy of putting by 43 per cent.

The basic principle of neurofeedback has been around for at least 50 years. Scientists use an electrode cap known as an electroencephalograph (EEG) to identify patterns of brain activity linked to different mental states. When the brainwaves suggest that the subject is agitated, he or she hears a brief bleep as an instruction to try to calm down.

Since Nasa first tested the system on its trainee astronauts, neurofeedback has spent a long time on the fringes of psychiatry. Some therapists use it to treat mental health conditions while other experts argue that the discipline is largely a pseudoscience.

Today, though, there is a steady trickle of evidence that it can help people to slip into the state of unhurried tranquillity that is thought to characterise the top players in many “precision” sports such as darts, shooting and archery.

Scientists have been trying to apply the technology to golf for some years and it seems that one team has finally succeeded.

Ming-Yang Cheng, a doctoral student at the University of Bielefeld in Germany, and his colleagues in Taiwan have been looking at a phenomenon known as sensorimotor rhythm

(SMR), a type of brain signal that fades when we are learning a new physical action such as bowling a cricket ball.

As the action becomes more familiar, the SMR

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to the oche, while more seasoned players had much higher readings.

The scientists are investigating whether playing a brief bass tone to skilled golfers when their SMR is too small can sharpen up their game. The answer, in short, is yes — dramatically. Mr Cheng and his team gathered 14 young men and two young women, with an average age of 21 and an average golf handicap of zero, and split them into two groups on an indoor putting green.

Half of the players received real SMR neurofeedback in eight training sessions. The other half wore all the same paraphernalia but had the bass signal pumped into their ears at random intervals.

At the start of the course, the SMR group were leaving their putts an average of 30cm from the hole. By the end, that had improved to 17cm. The placebo group showed almost no improvement, according to findings published in the *Journal of Sport and Exercise Psychology*.

The technology may be rivalled by an even stranger piece of brain gadgetry, neurostimulation, where electromagnetic fields are passed through the skull to influence the chatter of neural circuits.

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day neurofeedback and neurostimulation could be combined and establish a more comprehensive training programme to enhance sports performance,” Mr Cheng said.



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