

## Paralysis relief? Brain signals used to regain control of patient's paralyzed arm

*[Editor's note: William Kochevar was paralyzed from the shoulders down in a 2006 bike accident.]*

Now, with the help of electrodes that transmit signals from his brain to his muscles, [Kochevar] has been able to grasp a fork and feed himself for the first time in over a decade...

Bolu Ajiboye and Bob Kirsch, biomedical engineers at Case Western Reserve University, in Cleveland, used functional magnetic-resonance imaging to locate nerve cells responsible for arm movements in the left motor cortex of Mr Kochevar's brain...

Mr Kochevar was asked to imagine moving a virtual arm in a computer simulation, and, later, to imagine moving his own arm while it was being moved for him. The patterns of electrical activity from the nerve cells firing in Mr Kochevar's brain were fed to a computer algorithm, which matched them to the motions of the virtual arm and later, his own arm...

Around a year after receiving the implants, he was able to grasp a coffee cup and drink from it with a straw. To feed himself took a further year of training.

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[T]here are hurdles to clear before FES can be used routinely. The electrodes implanted into the brain do not last more than a few years. More robust ones need to be developed before FES can be deployed widely.

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Analysing brain signals to let a patient control his arm](#)**

**For more background on the Genetic Literacy Project, read [GLP](#) on Wikipedia.**