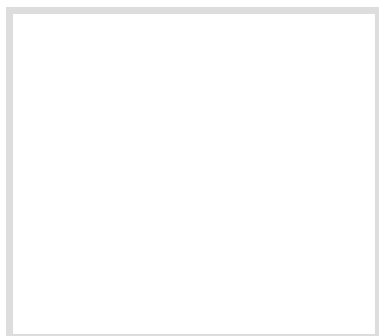


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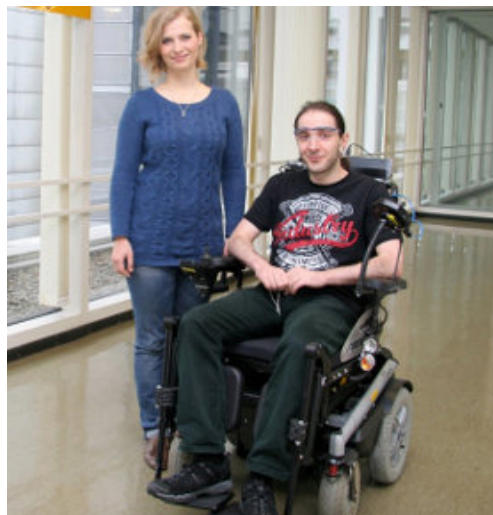
German scientists have developed technology which allows disabled people to use muscles in their ears to direct their wheelchairs.

The technology involves fitting patients with a small chip which monitors muscular movement in the ear and converts it into a signal which then gets passed onto a computer in the wheelchair.

Researchers from Göttingen, Heidelberg and Karlsruhe collaborated to create the software. Study head David Liebetanz believes the innovation is particularly promising because unlike the technology currently available, it does not impair inter-personal communication.

“This technique, as opposed to existing steering technology which uses breathing or eye movement for instance, means patients do not have to forego social interaction,” he said.

Ten participants, who were not disabled, spent five days learning how to use their ear muscles to communicate with the software, which adapts to each individual user and provides feedback based on the signals received from the muscles.



The ear chip fitting

By day five, all 10 had managed to navigate their wheelchairs around the main hospital building.

Psychologist Leonie Schmalfuß said: “Clearly we are talking about an ability which can be learnt in a short space of time.”

“The results from our clinical trial have exceeded our expectations,” she said. “This new technology is intended in particular for people with serious spinal cord injuries, that is, for patients who can no longer use their arms and legs.”

The researchers are now hoping to develop an implantable version of the system which could be used to direct prosthetic limbs.

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