

Gauging ability of non-responsive patients to follow commands and communicate

August 12 2013

A case study using functional magnetic resonance imaging suggests that behaviorally nonresponsive patients can use selective auditory attention to convey their ability to follow commands and communicate, according to a small study by Lorina Naci, Ph.D., and Adrian M. Owen, Ph.D., of Western University, London, Ontario, Canada.

The study included three patients with [severe brain injury](#), two diagnosed as being in a minimally [conscious state](#) and one as being in a vegetative state. Functional magnetic resonance imaging data were acquired as the patients were asked to selectively attend to auditory stimuli, thereby conveying their ability to follow commands and communicate.

All patients demonstrated command following according to instructions. Two patients (one in a minimally conscious state and one in a vegetative state) were also able to guide their attention to repeatedly communicate correct answers to binary (yes or no) questions, according to the study results.

"To our knowledge, in this study we establish for the first time that some entirely behaviorally nonresponsive patients can use selective attention to communicate," the study concludes. "Moreover, this technique assesses selective attention, a basic building block of [human cognition](#), which underlies many complex faculties, including reasoning and, more broadly, information processing."

More information: JAMA Neurol. Published online August 12, 2013.
[DOI: 10.1001/jamaneurol.2013.3686](https://doi.org/10.1001/jamaneurol.2013.3686)

Provided by The JAMA Network Journals

Citation: Gauging ability of non-responsive patients to follow commands and communicate (2013, August 12) retrieved 25 April 2024 from
<https://medicalxpress.com/news/2013-08-gauging-ability-non-responsive-patients.html>

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