

'Bioelectric memory patch' promises to boost short-term memory. Could it really work?

What if you could boost your brain's processing capabilities simply by sticking electrodes onto your head and flipping a switch? Berkeley, California-based neurotechnology company Humm has developed a device that it claims serves that purpose. Their "[bioelectric memory patch](#)" is designed to enhance working memory—the type of short-term memory required to temporarily hold and process information—by noninvasively stimulating the brain.

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In addition to raising several million dollars in [venture capital funding](#), the company has drawn interest both from academic research labs and from the United States military. According to Humm cofounder and CEO [Iain McIntyre](#), the US Air Force has ordered approximately 1,000 patches to use in a study at their training academy that is set to start later this year.

Despite the hype, however, some scientists say that the jury is still out on whether noninvasively stimulating the brain with electricity can have a meaningful effect on cognition.

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The Humm team plans to conduct further studies of the memory patch in order to answer questions such as whether a [transcranial alternating current stimulation] session will improve performance on other tasks. "We have a laundry list of scientific questions that are of interest," says [neuroscientist Ted] Zanto. For now, the company is accepting online registrations for early access to its patch—currently a single-use device that costs around \$5 a pop.

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