

In a neuroprosthetic first, ALS patient sends social media message via brain-computer interface

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Philip O'Keefe, a 62-year-old amyotrophic lateral sclerosis (ALS) patient in Australia recently became the first person to post a message on social media using only his thoughts. On December 23, he posted an initial brief message, "Hello World," on Twitter.

The technology that allowed O'Keefe to send his message was developed by [brain](#) computer interface company, Synchron—the device is called the Stentrode Brain Computer Interface (SBCI); a type of endovascular brain implant. It was implanted into O'Keefe's brain without opening his skull—instead, it was inserted through his jugular vein. The tiny (8 mm) [brain implant](#) was designed to allow people who have lost the ability to speak to communicate using only their thoughts. The SBCI is wireless and works by reading brainwaves and translating them to words—the motor neuroprosthesis was placed into O'Keefe's brain using techniques that have been used for several years to treat people with strokes. Human clinical

trials have been underway in Australia for over a year—currently, the device has been implanted in just one other person, but more are planned.

O'Keefe, like other ALS patients, experienced progressive paralysis, which left him unable to speak earlier this year. The SBCI was implanted in April and he began using it to communicate shortly thereafter—he is now able to compose messages by thinking of words or actions (such as mouse clicks), which are translated to activity on a computer screen. His history-making [social media](#) message was posted on Twitter using Synchron CEO Thomas Oxley's account. His initial message was followed up by a lengthier text detailing how he had come to embrace the new technology. He also noted that he is hoping that his involvement in the SBCI program will help to pave the way for new kinds of technology that will allow those who have lost the ability to speak or move to regain their independence.

Officials with Synchron have noted in the past that they plan to expand on the SBCI to include development of devices that can be used to diagnose and perhaps even treat conditions such as Parkinson's, hypertension, epilepsy and even depression.

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