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# Brain implant lets man write using thoughts - 16th May, 2021

### Level 0

A man who can't move his hands used his thoughts to write. He is paralyzed from the neck down. He has a spinal cord injury. Scientists call him T5. They put two sensors into T5's brain so he could use his mind to write. The scientists call this "mindwriting". T5 can write 18 words per minute.

Mindwriting is simple, but it uses a lot of technology. Scientists asked T5 to imagine writing with a pen. The two sensors turned his brain activity into text on a screen. A researcher hopes mindwriting will help paralyzed people and people who cannot speak to write. Mindwriting might help us to write at the speed of thought.

## Level 1

A man who can't move his hands used thoughts to write on a computer screen. The man is paralyzed from the neck down after a spinal cord injury ten years ago. He wants to be anonymous, so scientists call him T5. Scientists put two small sensors into his brain. These allow him to use his mind to write. The scientists call this "mindwriting". T5 can write about 18 words per minute. This is five words slower than writing a text message on a smartphone.

Mindwriting is simple to do, but it uses a lot of technology and a special algorithm. Scientists asked T5 to imagine writing on a paper. The two sensors turned his brain activity into text on a computer screen. A researcher hopes mindwriting will help millions of paralyzed people to write again. It might also help people who cannot speak. In the future, this technology might help us to write at the speed of thought.

### Level 2

A man who can't move his hands used his thoughts to write on a computer screen. The man is paralyzed from the neck down. Scientists from Stanford University implanted two tiny sensors into the man's brain. The scientists called this "brain-to-text" and "mindwriting". The man wants to be anonymous, so scientists call him T5. He became paralyzed after a spinal cord injury ten years ago. The implants allow him to use his mind to write. He can write about 18 words per minute. This is five words slower than the average person writing a text message on a smartphone.

The mindwriting system is simple, but it uses a lot of advanced technology. Scientists asked T5 to imagine writing a sentence on a paper. Sensors in his brain detected activity as he imagined writing. A computer turned this activity into text on a screen. The scientists used a special algorithm. A researcher hopes his system will help millions of paralyzed people to write again. It might also help people who cannot speak. The researcher said: "The goal is to restore their ability to communicate by text." In the future, this technology might help us to write at the speed of thought.

## Level 3

A man who cannot move his arms or hands has used his thoughts to write on a computer screen. The man has been paralyzed from the neck down for almost a decade. Scientists from Stanford University in the USA implanted two tiny sensors into the man's brain. The scientists gave this method two names - "brain-to-text" and "mindwriting". The man wants to remain anonymous, so scientists have called him T5. He became paralyzed after suffering a spinal cord injury ten years ago. The implants have allowed T5 to use his mind to write. He can write 90 characters (about 18 words) per minute. This is five words slower than the average person writing a text message on a smartphone.

The mindwriting system is very simple, but it involved a lot of advanced technology. Scientists asked T5 to imagine holding a pen and then writing a sentence on a paper. The sensors in T5's brain detected the activity in his brain as he imagined writing. A computer decoded this activity into text on a screen. The scientists used a special algorithm to do this. Professor Jaimie Henderson, a Stanford University researcher, hopes this research could help millions of paralyzed people, and those who have lost the ability to speak, to write again. He said: "The goal is to restore their ability to communicate by text." This technology may one day help anyone to write at the speed of thought.