

New research on stroke aims to help recovery

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Stroke is the leading cause of adult disability worldwide but new funding of \$1.2 million for research at the University of Auckland aims to better help people recover normal movement after stroke.

Sport and Exercise Science Professor Winston Byblow and his team are investigating how [stroke](#) affects "inhibitory tone" in the brain, which can lead to difficulties in producing movement. The study seeks to extend the group's world-leading discovery as to why some individuals make a good [recovery](#) after stroke while others do not.

"This funding will help us identify new factors in the initial days and weeks following a stroke that may dictate a good versus poor recovery weeks and months later," Professor Byblow says.

The team, including Professor Alan Barber and Associate Professor Cathy Stinear from the University of Auckland Centre for Brain Research, will use magnetic resonance spectroscopy to identify a "chemical signature" for each patient early after stroke. That signature will identify whether the stroke has created a barrier to plasticity, and be used to identify patients who need an additional boost to reach their full potential for recovery.

"This will allow us to individualise non-invasive [brain stimulation](#), and should boost the brain's natural plastic response which is necessary for recovery," says Professor Byblow.

The direct current stimulation involves passing very weak current

through the [brain](#) using a device powered by a 9V battery.

"The technique is known to be safe if administered in controlled environments. The difficulty with current methods of direct current stimulation for [stroke recovery](#) has been the variability in response from one patient to the next."

In a study published last year in the international journal *Cerebral Cortex*, Professor Byblow's group was the first to identify factors which predict the variation.

"We were pretty excited to 'crack the code' and discover why some patients respond favourably while others do not. That provided us with the missing piece of the puzzle we needed for this new study."

Provided by University of Auckland

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