

# 'Exciting discovery' could aid frontline spinal injury treatment

22 April 2015

Rapid treatment with a new anti-inflammatory could have a major impact on recovery from spinal cord injury, University of Queensland researchers have found.

UQ School of Biomedical Sciences' Dr Marc Ruitenberg and PhD student Ms Faith Brennan said they made the discovery during laboratory trials with an experimental drug.

Ms Brennan said that excessive inflammation caused additional damage in [spinal cord injuries](#) and hindered recovery.

"We found that a molecule called C5aR exacerbates inflammation and tissue damage after spinal cord injury," she said.

"Our study shows that drugs inhibiting C5aR can improve recovery when administered early after injury.

"This exciting discovery could form the basis for new frontline therapies to treat patients with [spinal cord trauma](#)."

Dr Ruitenberg said there was a critical time window for this new treatment.

"What we also discovered is that this molecule, C5aR, has multiple roles and is also needed for repair processes undertaken by astrocytes, a specialised type of cell in the spinal cord," he said.

"Astrocytes normally multiply in response to injury, which is an essential process to form a barrier between damaged and healthy tissue.

"Any long-term interference with this process could therefore make things worse.

"Our challenge was to find out how long treatment with the new drug could be continued before its beneficial effects were lost, and also to understand

why this occurred so that adverse side-effects could be prevented."

SpinalCure Australia CEO Mr Duncan Wallace, whose organisation supports the UQ research, said the study was a great step towards developing an effective treatment for spinal cord injury.

"It takes us closer to the day when a [spinal cord injury](#) is no longer a life sentence," he said.

The research is published in the *Journal of Neuroscience* (The Complement Receptor C5aR Controls Acute Inflammation and Astroglialosis following Spinal Cord Injury) on 22 April 2015.

Provided by University of Queensland

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