

New hope for spinal cord injury patients

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A new antibody could reverse the damage caused by trauma to the central nervous system, according to new research.

After a neurotrauma event, such as a spinal cord injury, the body produces an inflammatory response that often leads to scarring and permanent nerve damage. There are currently no treatment options.

Research published in *The [American Journal of Pathology](#)* and led by Monash University's Australian [Regenerative Medicine](#) Institute (ARMI) and the Centre for Eye Research Australia (CERA) details how

a new antibody, created by the US therapeutic antibody company Lpath, blocks the effects of lysophosphatidic acid (LPA). A molecule released in response to injury, LPA promotes inflammation and nerve cell death.

The research team, led by Dr Yona Goldshmit of ARMI and Dr Alice Pébay of CERA, demonstrated that by administering the antibody soon after the injury occurred, it was possible to preserve [nerve cells](#) and limit the amount of scarring, while substantially reducing the losses in motor function.

Dr Goldshmit said the study reinforced earlier research on the role of LPA after an injury.

"By blocking the effects of LPA, we can help nerve cells survive a traumatic injury and this will hopefully lead to better outcomes for patients in the future," Dr Goldshmit said.

Dr Pébay, Head of CERA's Neuroregeneration Unit, said the study offered great hope for a future pharmacological therapy for [spinal cord injuries](#) in humans.

"Perhaps this drug will one day be administered in the back of an ambulance, as the patient is being transported to hospital," Dr Pébay said.

The research has been funded by the Transport Accident Commission (TAC) and the National Health and Medical Research Council (NHMRC).

The TAC's CEO Janet Dore said that each year on average, the TAC accepted 25 new claims for people with [spinal cord](#) injuries, both quadriplegia and paraplegia.

"These people will need rehabilitation and medical support from the TAC across their lifetime. Research like this gives us hope that many traumatic spinal injuries could be avoided in the future," Ms Amies said.

More information: [www.sciencedirect.com/science/ ...
ii/S0002944012004440](http://www.sciencedirect.com/science/...ii/S0002944012004440)

Provided by Monash University

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