**PROJECT RESUME**

**TITLE:** Testing the efficacy of a bioengineered drug eluting synthetic dural patch for spinal cord injury repair applications

Spinal cord injury is a devastating trauma with a complex pathophysiology that induces widespread neuronal cell death. This is mediated, in part, by the release of neurotoxic levels of glutamate that induce excitotoxic injury in neurons. Pharmacological interventions to protect neurons are limited although surgery is required to stabilise vertebrae and repair torn dural membranes overlying the injured cord using connective-tissue patches. Taking advantage of the need for a synthetic alternative to repair the torn membranes, this project, in collaboration with researchers at University College London, have developed an ‘off the shelf’ synthetic polymer-based drug-loadable dural patch for spinal cord injury applications. Building on this work, this project aims to rigorously test the ability of the patch, loaded with the neuroprotective drug Riluzole, to elute and protect neurons from excitotoxic injury in vitro and secondly to test dural (meningeal) cell growth on the biodegradable patch for seamless membrane integration.

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