

<b>Title:</b>	Post-surgical electrical stimulation to enhance nerve regeneration and hand function in patients with carpal tunnel syndrome—a randomized controlled trial
<b>Issue/Rationale:</b>	Carpal tunnel syndrome is a common neurological disorder which affects a large number of individuals, including those in the working age range. Much effort has been spent on improving treatment outcomes. Although conservative measures such as wrist splinting and anti-inflammatory medications can be effective in controlling the symptoms in milder cases, surgery is eventually needed to relieve pressure on the median nerve when conservative measures fail. However, even with surgery, the outcome in more severe cases in which substantial axonal degeneration has already occurred remains poor.
<b>Objectives:</b>	To apply electrical stimulation to the median nerve at a more proximal location where the nerve fibres are not blocked by local anesthetics. This combination of factors should allow us to activate the median motor nerve fibres much more effectively. That in turn should result in even greater nerve regeneration. If that indeed turns out to be the case, we should see a greater improvement in the subjects' hand function.
<b>Anticipated Results/Impact:</b>	The novel treatment proposed in this study is an exciting new development that has been shown to markedly improve the rate and extent of nerve regeneration in animal studies. It is also relatively non-invasive and therefore should be well tolerated by patients. If it does turn out to be also effective in humans, it could have a major beneficial impact on reducing the associated costs of managing patients with carpal tunnel syndrome and in personal suffering.
<b>Keywords:</b>	Post-surgical electrical stimulation, nerve regeneration
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<b>From-to-Dates:</b>	2006-2007
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<b>Funding Agency:</b>	Workers' Compensation Board-Alberta