Electrical Stimulation Device for Motor Function Recovery (e.g., Spinal Cord Injury)

### CLINICAL ISSUE / UNMET NEED

Millions of people are suffering from paraplegic or quadriplegic paralysis following neuromuscular damage, such as spinal cord injury. Despite many treatment strategies designed to improve neuronal connections across the damaged spinal cord, the functional recovery of the impaired spinal cord is still unsatisfactory. One of the most frequently used methods in rehabilitation is electrical stimulation applied usually at one end of neuronal or muscular tissue. In spite of wide use, the rate of success of this method is very limited.

### PRODUCT / SOLUTION

We have developed a system and method to treat paralysis resulting from neuromuscular damage. A dipole, two-point stimulation system allows pulses, applied in the form of direct current, to pass the whole motor pathway regardless of the extent of injury and number of spared neurons.

### APPLICATIONS

The system and methods can be employed to strengthen or awaken any weak or dormant pathway in the nervous system -- as long as there is at least some minimal connection. The technology has the potential to become an effective new treatment not only for spinal cord injury, but also for any pathology of movement related to stroke, multiple sclerosis, and other neuromuscular conditions.

Anecdotal evidence: four palsy patients treated successfully (modified procedure).

### R&D STATUS

In preliminary trials, the treatment dramatically improved functional recovery of the motor pathway in injured animals and anecdotally in four human (palsy) patients.

### MARKET

We will be tapping two markets: Electrostimulator unit sale and after market electrodes etc for physical therapy. Combined multibillion-dollar market, with $700-million market for stimulator unit sales overall.

### TEAM

In process of formation.