



International Center for Spinal Cord Injury  
at Kennedy Krieger Institute  
Research. Restoration. Recovery.



## Adults WITH Incomplete Spinal Cord Injury (SCI) Needed

*To investigate the impact of Transcutaneous Spinal Cord Stimulation (TSCS) on walking*

**WHO:** Adults, age 18-65, more than 1 year after incomplete SCI

**WHAT:** This research study is being done to find out if TSCS and therapy can improve walking outcomes. This study has two aims.

In both aims you will receive Transcutaneous Spinal Cord Stimulation (TSCS). You will receive a small electrical current through electrodes on your back and abdomen for 30 minutes. The current can be uncomfortable, but it will be adjusted for your tolerance.

If you agree to participate in Aim 1, you will undergo two testing sessions, each last about 90 minutes. In one session you will receive TSCS and be asked to do knee extension at multiple time points in the session. The strength and quality of your contraction will be measured. In the other session, the testing procedures will be the same, but you will receive sham stimulation. The sessions will be separated by one week.

If you agree to participate in Aim 2, you will undergo three two-hour sessions per week for eight weeks. In each session you will receive 30 minutes of TSCS in addition to study interventions designed to improve your walking ability. We will measure changes in your walking ability through multiple walking tests at various time points during the study.

If you agree to participate in Aim 1 only, you will be in the study for 1 week. If you agree to participate in Aim 2 only, you will be in the study for nine weeks. If you agree to participate in both aims, you will be in the study for 11 weeks.

**RISKS:** TSCS can be uncomfortable and cause skin irritation and you could fall during the walking interventions and testing. Every effort will be made to ensure your safety and comfort.

**BENEFITS:** You may experience improvement in gait, strength, spasticity, and neuropathic pain, as these have all been reported in the literature. The extent of these changes is still unknown. This study may benefit others in the future by advancing treatment protocols for patients with SCI to return to walking.



**WHERE:** All interventions and testing will take place at the Kennedy Krieger Institute, 801 N. Broadway, Baltimore, MD

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