

## ABSTRACT SUBMISSION FORM

**THE EFFECTS OF WHOLE BODY VIBRATION ON REFLEX-INDUCED STANDING IN  
PERSONS WITH CHRONIC AND ACUTE SPINAL CORD INJURY**

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The therapeutic benefits of Whole Body Vibration (WBV) have been recognized since Charcot and Tourette constructed vibrating devices to aid their patients. We employ WBV to determine the extent to which reflex standing can be induced in persons with spinal cord injury (SCI) who are otherwise unable to stand without the use of locked long-leg braces. The procedure activates segmental reflexes through rapid mechanically-delivered repetitive stretches to the lower extremities.

The program consists of weekly one-hour sessions during which WBV is delivered for 15-20 minutes with the person standing. The dependent variables are: duration of induced standing, sitting balance, trunk control, muscle tone, stamina, dermal condition, and mood.

To date, we have failed to induce reflex standing in a person with quadriplegia at the C7-level whose lower extremities were flaccid, and whom we tested at 4 months post-injury. Results obtained from at least four other persons with SCI in whom we have successfully induced the effect will be presented. The 4 persons range in age from 22 to 52 years with time-since-injury ranging from 6 months to 17 years.

WBV represents an alternative to fitness effects gained through functional electrical stimulation (FES) and/or treadmill-induced walking with partial-weight support.