

## 2001 Abstracts: Spinal Cord Injury

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### “Motor rehabilitation of spinal cord dysfunction by means of whole body vibration”

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**Objective:** To explore (1) the efficacy of whole body vibration (WBV) in inducing reflex standing and, specifically, (2) the progress of persons with spinal cord dysfunction of 3 differing etiologies. **Design:** Case series. **Setting:** Rehabilitation center in a metropolitan area. **Patients:** Persons with spinal paralysis of various etiology who were otherwise unable to stand without the use of long-leg braces locked at the knee. Case 1: a 21-year-old man who underwent laminectomy at T2–9 for resection of an intramedullary tumor. Case 2: a 12-year-old boy presented with quadriplegia secondary to transverse myelitis. Case 3: a 24-year-old man with C5 American Spinal Injury Association class A tetraplegia for 5 years secondary to a fall. **Interventions:** WBV to produce rapid, mechanically delivered repetitive stretches to the lower extremities, thereby resulting in involuntary muscle contraction. **Main Outcome Measures:** Standing time with and without WBV, degree of volitional movement, trunk, and body control, ability to transfer, and carry over to voluntary standing and walking. **Results:** All 3 patients were able to stand with minimal assistance and to increase progressively the length of standing time. Eventually, 2 were able to walk independently using various ambulatory aids. **Conclusions:** WBV represents a promising modality for use in the rehabilitation of persons with motor dysfunction of spinal origin. In our sample, WBV successfully induced reflex standing in all 3 patients and standing was followed by ambulation in 2 cases. **Key Words:** Rehabilitation; Spinal cord dysfunction; Motor function.