

**Effect of Body Weight Support Walking in Incomplete SCI:  
Physiological and Performance Effects  
2002 Individual Research 02-3021-SCR-N-1  
Gail F Forrest, Ph.D., Principal Investigator**

- ***Current Status***

**Publications**

- Forrest, GF**, Sisto, SA, Kirshblum, S, Wilen J, Bond, Q, Bentson, S, Asselin, P, Harkema, S, The effects of locomotor training on bone density and composition, *Archives of Physical Medicine and Rehabilitation*, 86:E11, 2005.
- Forrest, GF**, Sisto, SA, Harkema, S, Kirshblum, S, Wilen J, Bond, Q. The effects of locomotor training on muscle activation, body composition and bone density, *Journal of Spinal Cord Medicine*, 28(4):359, 2005
- Forrest, GF**, Sisto, SA, Kirshblum, S., Asselin, P, Mores, J, Bond, Q, Lafountain, M, Harkema, S, Locomotor training with incremental changes in velocity: Muscle and metabolic responses, *Journal of Spinal Cord Medicine*, 2006 (in press).
- Forrest, GF**, Sisto, SA, Harkema, S, Wilen, J Bond, Q, Bentson, S. The Effects of Locomotor Training on Muscle activation, Body Composition, Bone. *Journal of Spinal Cord Medicine*. 2006 (Accepted for publication)
- Bentson, S., Reisman, J. Wecht, **Forrest GF**., Sisto, SA. Autonomic Nervous System Response to Locomotor Training with Body Weight Supported Treadmill Walking in Individuals with Incomplete SCI, *IEEE Northeast Conference Proceedings*, Boston, MA, April, 2004
- Forrest, GF**, Sisto, SA, Kirshblum, S, Wilen J, Bond, Q, Bentson, S, Harkema, S., The effects of locomotor training on neural and muscle activation, *Proceedings from American Society of Biomechanics and International Society of Biomechanics*, Cleveland, OH, August, 2005.
- Forrest, GF**, Sisto, SA, Asselin P., Mores J., Kirshblum, S, Wilen, Harkema, S, The effects. Alterations in kinematics and muscle activity during locomotor training. *American Society of Biomechanics and International Society of Biomechanics*, West Virginia, September, 2006

- ***Importance of Commission funded research in terms of precipitating additional research***

This grant has allowed the researcher to apply for other grants and it has allowed her to collaborate on multi site applications with Dr Susan Harkema (University of Kentucky). Dr Forrest has just received funding (December, 2006-December 2008) for a multi-site proposal from the NJCSCR entitled “**Stand Retraining and Functional Electrical Stimulation for SCI**” . In addition, the Dr Forrest has 2 grant proposals pending that were all developed from the original BWSTT grant. All of this research related to locomotor training (and standing) addresses the NJ Commission on SCI Research mission since the research proposes a innovative intervention to address the prevention of possible secondary

conditions that occur with immobility such as bone fragility and muscle atrophy and to improve functional mobility