

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL
THERAPY DEPARTMENT FOR NEUROMUSCULAR AND
NEUROSURGICAL DISORDER AND ITS SURGERY
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

**Physical Therapy Department for Neuromuscular and
Neurosurgical Disorder and Its Surgery**

Doctoral Degree

2010

Author	:	Mohamed El Sayed Khallaf.
Title	:	Influence of Vibrating Insoles During Treadmill Training on the Gait of Parkinson's Disease Patients.
Dept.	:	Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.
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Degree	:	Doctoral.
Year	:	2010.
Abstract	:	<p>Background: Disturbance in initiating sequential movements and processing of proprioception contribute to characteristic Parkinson's disease (PD) gait abnormalities. Objectives of this study were to determine the influence of vibrating insoles during treadmill training on gait parameters of PD patients, analyze the central sensorimotor integration in PD patients and the immediate effect of vibratory stimuli on it. Methods: Thirty PD patients (group A) and fifteen matched healthy subjects (group B) participated in the study. PD patients had mild to moderate gait impairment without freezing. The PD patients were randomly assigned into two equal sub-groups (GsA1-GsA2). Patients in "GsA1" treated with a Step-synchronized vibratory stimuli of the soles applied during treadmill training and a designed physiotherapy program for six weeks. The patients in "GsA2" treated with the same designed physiotherapy program. Motion analysis system was used to analyze the kinematic parameters of gait in both groups. Electroencephalography was used to analyze the event related (de)synchronization (ERD-ERS) pre/post wrist extension movement in "GsA1" and "GB". Results: all the kinematic parameters of gait including cadence, stride length, stride length duration, walking speed, walking distance, lower limb joints' angular excursion showed a significant improvement in "GsA1" than in "GsA2" ($P<0.05$). The ERD and ERS latency and magnitude were significantly longer and lower in PD patients as compared to the healthy subjects with evidence of significant improvement after externally cued movement ($P<0.05$). Conclusion: Potentiated proprioceptive feedback improves parkinsonian gait. Sensorimotor integration is abnormal in PD patients and proprioceptive cueing may be valuable to overcome this abnormality.</p>
Key words	1.	Parkinson's disease.
	2.	Gait.
	3.	Proprioceptive cues.
	4.	Event related (de) synchronization.
	5.	Vibrating Insoles.
	6.	Treadmill Training.
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Author	:	Wael Salah Tawfik Shendy.
Title	:	Efficacy of Peripheral Mobilization on Gait Pattern of Sciatic Patients.
Dept.	:	Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.
Supervisors	1.	Samaha Hafez Hassan.
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Degree	:	Doctoral.
Year	:	2010.
Abstract	:	
<p>Background: Radicular pain in the distribution of the sciatic nerve, resulting from bulge or herniation of one or more lumbar intervertebral discs, is a frequent and often debilitating event. Fortunately, the majority of cases resolve spontaneously with simple analgesia and physiotherapy. However, the condition has the potential to become chronic and intractable, with major socio-economic implications. The purpose of this study was to examine the effects of peripheral mobilization concerning pelvis and hip joints on the gait pattern. Methods: Thirty patients participated in this study. Patients were assigned into two equal groups; group A was the study group and group B was the control group; each group being composed of 15 sciatic patients. Data of gait analysis regarding stride length, cadence, stance phase and pelvic motions, slump test and Oswestry scale were collected from each subject in both groups pre and post applying physiotherapy program, with peripheral mobilization for group A only. Results: Revealed that there were significant differences regarding Oswestry scale, pelvic motions, stance phase, cadence and stride length between the two groups A and B at the end of the treatment program, with high significant differences in GA than GB. Conclusion: The physiotherapy program is not only effective with good results in acute cases of sciatic patients, but also would reflect much better results for those patients with improvement in gait and decrease in peripheralization if we add peripheral mobilization to the treatment program of sciatic patients.</p>		
Key words	1.	Sciatic pain.
	2.	pelvic structure.
	3.	transversus abdominis.
	4.	core stability.
	5.	peripheral mobilization.
	6.	slump test.
	7.	lumbar traction.
	8.	Gait.
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