

**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  
2014**

<b>Author</b>	:	<b>Moataz Mohamed Talaat El Semary</b>
<b>Title</b>	:	<b>Efficacy of biofeedback training on bladder and erectile dysfunction in spinal cord injury</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Nawal Abd El-Raouf Abou Shady</b>
	2.	<b>Mohamed Salah Abdel-Azim</b>
	3.	<b>Wael Salah Tawfik Shendy</b>
<b>Degree</b>	:	<b>Doctoral.</b>
<b>Year</b>	:	<b>2014.</b>
<b>Abstract</b>	:	
<p>The aim of this study was to evaluate the efficacy of biofeedback training on treatment of bladder and erectile dysfunction in patients with spinal cord injury. Methods: Thirty male patients with spinal cord injury within 6 to 18 months after injury, ages ranged from 20 to 35 years, participated in this study for a treatment period of six weeks; they were divided into two equal groups. Patients in the control group (A) were treated with pelvic floor exercises two times weekly, while patients in the study group(B) were treated with biofeedback training plus pelvic floor exercises two times weekly. All subjects were assessed for; 1) voiding cystometry, 2) EMG of pelvic-floor muscles, 3) Digital Rectal Examination (DRE), 4) Revised Urinary Incontinence Scale (RUIS), 5) Questionnaire QUALIVEEN (short version), and 6) International Index of Erectile Function (IIEF-5) Questionnaire. The results showed highly significant improvement in both groups in IIEF-5. There was significant improvement in group (B) and non-significant improvement in group (A) in values of an EMG biofeedback assessment of pelvic-floor muscles. There was highly significant improvement in group (B) and a significant improvement in group (A) in DRE. There was highly significant improvement in group (B) and non-significant improvement in group (A) in the Qualiveen questionnaire &amp; RUIS. There was highly significant improvement in group (B) in the bladder volume at the first desire to void and at maximum cystometric capacity, the detrusor pressure at maximum flow rate, the maximum flow rate, detrusor stability and significant improvement in bladder compliance while there was no significant difference in group (A) in the bladder volume at the first desire to void and at maximum cystometric capacity, the bladder compliance and detrusor stability &amp; significant improvement the detrusor pressure at maximum flow rate &amp; highly significant improvement in the the maximum flow rate. Conclusion: Biofeedback training should be considered as valuable adjacent to conventional treatment in the control of bladder &amp; erectile dysfunction in partial spinal cord injury.</p>		
<b>Key words</b>	1.	<b>SCI</b>
	2.	<b>Biofeedback</b>
	3.	<b>Erectile dysfunction</b>
	4.	<b>Overactive bladder</b>
	5.	<b>Pelvic floor exercises</b>
	6.	<b>Urodynamic</b>
<b>Classification number</b>	:	<b>616.83.EME</b>
<b>Arabic Title Page</b>	:	<b>فاعلية التدريب بالتغذية الرجعية الحيوية على القصور الوظيفي للمثانة والإنتصاب في إصابة النخاع الشوكي</b>
<b>Library register number</b>	:	<b>3645-3646.</b>

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<b>Author</b>	:	<b>Rania Mohamed Tawfik Rashad</b>
<b>Title</b>	:	<b>Transcranial direct current stimulation versus neuromuscular electrical stimulation on hand function in stroke patients</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for musculoskeletal disorder and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Gehan Mousa Ahmed</b>
	2.	<b>Ebtesam Mohamed Fahmy</b>
<b>Degree</b>	:	<b>Doctoral.</b>
<b>Year</b>	:	<b>2014.</b>
<b>Abstract</b>	:	
<p><b>Background and Objective:</b> More than 60% of stroke survivors suffer from persistent neurological deficits that impair activities of daily living. Electrical stimulation is shown to be effective in enhancing the upper extremity functional recovery in stroke patients. The goal of this study was to compare between the effect of transcranial direct current stimulation and neuromuscular electrical stimulation on hand function in stroke patients. <b>Patients and Methodology:</b> The study was conducted on forty five stroke patients from both sexes, their ages ranged from 45 to 60 years. Patients were divided into three equal groups: study group (I) received anodal transcranial direct current stimulation in addition to a selected physical therapy program, study group (II) received neuromuscular electrical stimulation in addition to the same selected physical therapy program and control group received the same physical therapy program only. The following parameters including spasticity grades, total time of Jebsen taylor hand function test, box and blocks test score, hand grip strength, pinch strength and Range of motion of wrist extension were measured before and after four weeks of the treatment program. <b>Results:</b> showed that there was no significant difference in spasticity grades in the three groups post treatment. There was a statistically significant decrease of the total time of JTT in groups (I) and (II) with greater improvement in group (I) while there was no significant decrease in control group post treatment. There was a statistically significant increase in the box and blocks test score in the three patients' groups post treatment. There was a statistically significant increase in hand grip strength and pinch strength in groups (I), (II) with greater improvement in group (II) while there was no significant difference in control group post treatment. There was a statistically significant increase in wrist extension ROM in group (II) while there was no significant difference in group (I) and control group post treatment. There was no significant correlation between the side of hemispheric lesion and improvement of affected hand function (hand grip strength, pinch strength, ROM of wrist extension, box and blocks test score, total time of JT, MAS score) in the patients' groups. <b>Conclusion:</b> Central and peripheral stimulation are effective modalities in improving hand function post stroke. Central stimulation is more effective than peripheral stimulation in improving functional hand motor skills while peripheral stimulation is more effective in improving hand grip strength, pinch strength and ROM of wrist extension. Both types of stimulation are effective in improving gross manual dexterity. Both types of stimulation had no significant effect on the degree of hand spasticity.</p>		
<b>Key words</b>	1.	<b>Stroke</b>
	2.	<b>Hand function</b>
	3.	<b>Electrical stimulation</b>
<b>Classification number</b>	:	
<b>Arabic Title Page</b>	:	<b>التنبيه بالتيار المباشر عبر الجمجمة مقابل التنبيه الكهربى العصبى العضلى على وظيفة اليد فى مرضى السكتة الدماغية.</b>
<b>Library register number</b>	:	<b>3995-3996.</b>

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Author	:	Rasha Meselhy Hegazy
Title	:	Efficacy of task-oriented rehabilitation program On gait Performance for stroke patients
Dept.	:	Physical Therapy Department for musculoskeletal disorder and its Surgery.
Supervisors	1.	Samaha Hafez Hassan
	2.	Moshera Hassan Darwish
	3.	Nevine Medhat El Nahas.
Degree	:	Doctoral.
Year	:	2014.
Abstract	:	
<p><b>Back ground:</b> Regaining of walking ability is a major goal in most stroke rehabilitation programs. <b>Objective:</b> to investigate the efficacy of the task oriented rehabilitation program on gait performance in stroke patients. <b>Method:</b> Two groups of female stroke patients randomly assigned into two equal groups (15 patients in each group). The study group (G1) received the task oriented rehabilitation program in addition to a designed physical therapy program of treatment. The control group (G2) received the designed physical therapy program only. Both groups were treated for 45 min., three sessions per week, for successive twelve weeks. Both groups were evaluated before and after three months of treatment for Functional gait scale six domains, Speed of walking, Step length, Step cycle, Hip flexion &amp; extension torques and knee flexion &amp; extension torques. <b>Results:</b> results of this study showed that both groups were improved in all post treatment results. However the study group 1 showed more significant improvement than study group 2. <b>Conclusion:</b> using the task oriented rehabilitation program for gait performance is essential part of rehabilitation in stroke patients.</p>		
Key words	1.	Task.
	2.	oriented rehabilitation program
	3.	gait Performance
	4.	Stroke.
Classification number	:	616.81.HRE
Arabic Title Page	:	فاعلية برنامج الهدف الموجه التاهيلي لأداء المشي لمرضى السكتة الدماغية.
<b>Library register number</b>	:	<b>3705-3706.</b>

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<b>Author</b>	:	<b>Shreen Ibrahim Taha Sleim</b>
<b>Title</b>	:	<b>Effect of Therapeutic Exercises Combined With Transcranial Magnetic Stimulation in Chronic Post Stroke Aphasia</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for musculoskeletal disorder and its Surgery.</b>
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	2.	<b>Mohamed Soliman El Tamawy</b>
	3.	<b>Hala Rashad EL Habashy</b>
<b>Degree</b>	:	<b>Doctoral.</b>
<b>Year</b>	:	<b>2014.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Aphasia represents 20-38% of stroke patients and is associated with high morbidity and mortality rate. Aim of this work was to evaluate and investigate early and long term effects of repetitive transcranial magnetic stimulation combined with speech therapy on non fluent motor aphasia (Broca's aphasia) in chronic cerebrovascular stroke. <b>Methods:</b> Forty chronic cerebrovascular stroke male patients suffer from non fluent motor aphasia (Broca's aphasia) represented the sample of the study. Their age ranged from 45 to 60 years. The patients were assigned randomly into two equal groups; study group (G1) and control group (G2). The patients in both groups received the same medical and physical therapy treatment to hemiparetic side during treatment period to avoid any complications. The study group treated by selected speech exercises combined with rTMS. Different domains of speech function (repetition, reading, naming, writing, comprehension and spontaneous speech) assessed by Arabic version of the modified Cheshier test (AVMCT) and Token test of Aachen aphasia test (AAT). Power of stimulation intensity of rTMS (representing 90% of the resting motor threshold recorded from contraction of the first dorsal interosseus of the unaffected hand) were measured pre, post and after three months of the treatment to determine level of brain excitability. <b>Results:</b> At the end of the treatment there was a significant improvement in all domains of Arabic version of the modified Cheshier test in G1 (<math>p &lt; 0.05</math>), while in G2 the significant improvement was present only in auditory comprehension and pantomime (<math>p &gt; 0.05</math>). There was also a significant decrease in the mean value of power intensities of rTMS in G1 denoting improvement. Comparing total scores post treatment in G1 versus G2 revealed a significant improvement of all domains measured clinically or by rTMS. There was a strong negative correlation in total scores of version of Arabic translated form of the modified Cheshier test and the decrease of the mean values of power intensity of rTMS in G1. <b>Conclusion:</b> Speech therapy combined with rTMS enhanced language function in chronic non- fluent aphasia post stroke patients.</p>		
<b>Key words</b>	1.	<b>Non-fluent motor aphasia</b>
	2.	<b>modified Cheshier test</b>
	3.	<b>rehabilitation</b>
	4.	<b>Therapeutic Exercises.</b>
	5.	<b>Stroke Aphasia</b>
<b>Classification number</b>	:	
<b>Arabic Title Page</b>	:	<b>تأثير التمرينات العلاجية مع التحفيز المغناطيسي عبر الجمجمة على فقد القدرة على الكلام بعد السكتة الدماغية المزمنة.</b>
<b>Library register number</b>	:	<b>4001-4002.</b>

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<b>Author</b>	:	Walaa Mohammed Abd El Aziz Ragab
<b>Title</b>	:	Effect Of Selected Training Protocols On Neuroplasticity And Motor Performance In Stroke Patients
<b>Dept.</b>	:	Physical Therapy Department for musculoskeletal disorder and its Surgery.
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	2.	Mohamed S. El Tamawy
	3.	Ann Ali Abd El Kader
<b>Degree</b>	:	Doctoral.
<b>Year</b>	:	2014.
<b>Abstract</b>	:	
<p><b>Background:</b> Persistent motor impairment in the upper extremity (UE) is a major barrier of recovery in the chronic stroke patients. Adequate training program is required to improve the motor performance of the affected UE in patients suffering from stroke for more than one year. The aim of this study was to determine the immediate and long term effects of the three different training programs on the arm performance and neuroplasticity (physical and neurophysiological effects respectively) in patients suffering from stroke for more than one year. <b>Methods:</b> Forty five right handed male patients suffering from left chronic stroke with arm dysfunction participated in this study. All the patients were matched for age, duration of stroke and degree of motor impairment. The patients were assigned randomly into three equal groups; the group I (G1), the group II (G2) and the group III (G3). The patients in G1 received unilateral arm training while the patients in G2 received bilateral weighted arm training with weight on the non affected arm. Patients in G3 received bilateral arm training without weight on the non affected arm. The motor performance of UE and the brain excitability in the different areas of both hemispheres of the brain were assessed three times(pre- post- retention) tests by [Fugle-Meyer assessment scale (FMAS) and Wolf Motor Function Test (WMFT)] and spectral analysis of mapping EEG respectively. <b>Results</b> : The training program of the patients in G2 and G3 showed a significant increase of the motor performance of the affected UE and a significant decrease of its time of performance on both post and retention tests (immediate and long term effects respectively)with more immediate and long term evident for G3 . Results of spectral analysis of mapping EEG of the affected hemisphere showed that the patients in G2 and G3 had a significant increase of the brain excitability in the motor, sensory and visual areas with more immediate evident for G3 . The patients in G3 had also an additional significant increase of the brain excitability in the association areas of the affected hemisphere. Results of spectral analysis of mapping EEG of the non affected hemisphere showed that the patients in G2 had a significant increase of the brain excitability in the motor and visual areas while the patients in G3 had a significant decrease of the brain excitability in the motor areas and significant increase of the brain excitability in the sensory and association areas with more immediate evident for G3 <b>Conclusion:</b> Both types of bilateral arm training have favorable immediate and long term effects on improving the motor learning or neuroplasticity and the motor performance of the affected UE in patients suffering from stroke for more than one year with more favorable effect for bilateral arm training without weight on the non affected arm .</p>		
<b>Key words</b>	1.	Chronic Stroke
	2.	Bilateral Weighted Arm Training
	3.	Bilateral Arm Training
	4.	WMFT- FMAS
<b>Classification number</b>	:	Mapping EEG
<b>Arabic Title Page</b>	:	تأثير بروتوكولات التدريب المختارة على المرونة العصبية والأداء الحركي في مرضى السكتة الدماغية.
<b>Library register number</b>	:	3927-3928.