ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR NEUROMUSCULAR AND NEUROSURGICAL DISORDER AND ITS SURGERY

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Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and Its Surgery

Master Degree

2014

Author	**:**	**Abdelrazak Abdelnaiem Ahmed mahmoud**
Title	**:**	**Urodynamic Effect of Transcutaneous Electrical Posterior Tibial Nerve Stimulation in Overactive Bladder after Partial Spinal Cord Injury.**
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Year	**:**	**2014.**
Abstract	**:**	

Background: Overactive Bladder Syndrome (OAB) refers to individuals with the following symptoms: urinary urgency, excessive urinary frequency, or urge incontinence. These symptoms usually occur after partial spinal cord injury. Objective: to investigate the urodynamic effect of transcutaneous posterior tibial nerve stimulation in overactive bladder after partial spinal cord injury. Subjects: thirty subjects were divided into 2 groups: - Group (A): fifteen patients with overactive bladder after partial spinal cord injury above T12 (treated by transcutaneous posterior nerve stimulation and pelvic floor muscle exercises). Group (B): fifteen patients with overactive bladder after partial spinal cord injury above T12 (treated by pelvic floor muscle exercises) Methods: All subjects were submitted to complete clinical evaluation and assessed using urodynamic test and revised urinary incontinence scale (RUIS). Results: By comparison between both groups, the group which was treated by electrical stimulation and pelvic floor muscle exercise (group A) show increase in urodynamics parameters as bladder maximum cytometric capacity, compliance, bladder stability, maximum flow rate and show decrease score of RUIS more than (group B) which was treated by pelvic floor muscle exercises only. Conclusion: Transcutaneous posterior tibial nerve stimulation has good urodynamic effect on overactive bladder in patients after partial spinal cord injury.

Key words	**1.**	**Urodynamics**
	2.	**over active bladder**
	3.	**posterior tibial nerve**
	4.	**partial spinal cord injury**
	5.	**transcutaneous electrical nerve stimulation**
Classification number	**:**	
Arabic Title Page	**:**	**إستجابة قياسات الديناميكا البولية لتنبيه عصب القصب الخلفي كهربياً للتبول اللاإرادي لحالات المثانة النشطة لمرضى الإصابات الجزئية للحبل الشوكي**
Library register number	**:**	**3851-3852.**

Author	**:**	**Ahmed Attia Ramadan Ali**
Title	**:**	**Effect of Extra Corporeal Shock Wave Therapy on Spasticity in Stroke Patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Gehan Mousa Ahmed**
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Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background and Purpose: **Spasticity is a disabling complication of stroke. Different non−invasive modalities of treatment were used to reduce muscle hypertonia. The purpose of this study was to investigate the effect of Extra Corporeal Shock Wave Therapy on spasticity of hand and wrist in stroke patients. *Subjects*: A total of 30 stroke patients with moderate spasticity in hand and wrist muscles participated in this study.*Methods*: The patients were divided randomly into two equal groups. The study group (group A) received four successive sessions of Extra Corporal Shock Waves as one session per week over flexor carpi ulnaris, flexor carpi radials and intrinsic muscles of the hand .The control group(group B) received placebo treatment sessions of Extra Corporal Shock Wave .Both groups received a selected physical therapy program for stroke patients for total four weeks as three sessions per week Modified Ashowrth Scale ,Hand Dynamometer and Electrophysiological studies were performed for all patients before and after treatment sessions . *Results*: Patients of the study group (A) showed significant reduction in flexor tone of wrist and fingers compared with placebo stimulation group. Regarding the Modified Ashowrth Scale, a significant decrease of muscle tone was noted in the study group compared to the control group. Regarding H/M ratio results revealed that there was no statistically significant difference between both groups. Hand grip strength showed significant improvement in the study group compared to the control group. *Conclusions*—Extracorporeal Shock Wave Therapy is an effective modality for reducing spasticity of the wrist and hand muscles in stroke patients in addition to the exercise program**

Key words	**1.**	**Stroke**
	2.	**Shock Wave Therapy**
	3.	**spasticity**
	4.	**Shock Wave**
Classification number	**:**	**616.81.AAE**
Arabic Title Page	**:**	**تاثير العلاج بالموجات الصادمة علي التشنج العضلي للرسغ واليد في مرضي السكتة الدماغية**
Library register number	**:**	**3625-3626.**

Author	**:**	**Ahmed Fathi Elgendy**
Title	**:**	**Influence of Mulligan exercise in treatment of patients with cervical radiculopathy**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Gehan M.Ahmed.**
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Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: Cervical radiculopathy is a common problem that affects many people, and causes pain, limitations of cervical range of motion and deteriorated functional activities. The purpose of the study was to determine the effect of Mulligan exercise on cervical radiculopathy. Subjects: Forty patients from both gender with the age ranged from 30 to 45 years with cervical radiculopathy participated in this study. Methods: The patients were assigned into two equal groups. The study group received Mulligan exercise in addition to selected physical therapy program for patient with cervical radiculopathy. The control group received the selected physical therapy program only. All patients received the treatment program for four weeks as three treatment sessions per week. All patients were assessed for cervical range of motion by using OB goniometer, cervical pain intensity by using Visual Analogue Scale and activities of daily living by using KATZ index. Results: There was significant difference between pre and post treatment values in both groups. The results revealed significant improvement in the study group regarding to neck pain, cervical range of motion and activities of daily living post treatment compared to the control group. Conclusion: Mulligan technique has beneficial effect in treatment of patients with cervical radiculopathy, when added to the selected physical therapy program of cervical radiculopathy.

Key words	**1.**	**Mulligan exercise**
	2.	**cervical radiculopathy**
	3.	**OB goniometer**
	4.	**Cervical spondylotic myelopathy.**
Classification number	**:**	**616.73.EAI**
Arabic Title Page	**:**	**تاثير تمارين تقنية موليجان على علاج مرضى اعتلال جذور الاعصاب العنقيه**
Library register number	**:**	**3701-3702.**

Author	**:**	**Ahmed Mohamed El-Said**
Title	**:**	**Effect of Repetitive Transcranial Magnetic Stimulation combined with Physical Therapy on Hand Function of Stroke Patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Moshera Hassan Darwish**
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	3.	**Ann Abd El-Kader**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background and objectives : Hand dysfunction is a common clinical problem after stroke .The purpose of this study was to determine the effect of Repetitive Transcranial Magnetic Stimulation combined with Physical Therapy program on hand function of stroke patients. **Methods:** Thirty right hemiparetic (right handed) ischemic stroke male patients ,ranging in age from 45 to 60 years old, were assigned into two equal groups. The study group(Group A) received low frequency repetitive transcranial magnetic stimulation followed by designed physical therapy program ,three sessions per week, for four weeks .The patients in the control group (Group B) received sham stimulation of rTMS with home routine program and advices of ADL(activites of daily living).The clinical assessment of hand function and power of hand grip consisted of Fugel-Meyer Scale and hand dynamometer. Assessment was done pre and post treatment for both groups. **Results:** post treatment , the results showed significant increased in hand function in both groups but the improvement of hand function in group “A” favored the improvement of group “B", while the increase in power of hand grip was in group "A" only .**Conclusion:** Repetitive Transcranial Magnetic Stimulation combined with designed physical therapy program has significant effects on affected hand of stroke hemiparetic patients

Key words	**1.**	Repetitive transcranial magnetic stimulation
	2.	Fugel-Meyer Scale
	3.	Hand dynamometer**.**
	4.	**Stroke**
Classification number	**:**	
Arabic Title Page	**:**	**تأثير التحفيز المغناطيسي المتكرر للمخ مع العلاج الطبيعي علي وظيفة اليد لمرضي السكتة الدماغية.**
Library register number	**:**	**3925-3926.**

Author	**:**	**Anwar Abdullah Farrag Al-Adwani**
Title	**:**	**Psychometric Properties of Brunel Balance Assessment in Stroke Patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Moshira H. Darwesh**
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Year	**:**	**2014.**
Abstract	**:**	

Background: Hemiparetic stroke patients frequently present with balance impairment of different causes. Objective: To evaluate balance in post-stroke hemiparetic patients and to determine the ability of using Brunel Balance Assessment (BBA) as a valid, reliable, and sensitive scale to assess balance impairment in post-stroke hemiparetic patients. Method: Balance was evaluated in 30 post-stroke hemiparetic patients (G1) in comparison to 30 healthy age-matched subjects (G2) to detect balance impairment in stroke patients. Validity of BBA was assessed by comparing the BBA items with corresponding test parameters of Balance Master (BM) system. Intra-rater reliability was evaluated by applying BBA on G1 and re-applied it again after two hours in the same day. Brunel Balance Assessment and BM tests were repeated after three weeks for G1 to test the scale sensitivity. Results: Results of balance assessed on the BM system from G1 in and G2 revealed significant difference between both groups ($P \leq 0.05$) indicating that post-stroke hemiparetic patients suffer from balance impairment. Comparison of the mean values of each item of BBA with the corresponding mean value of different test parameters of BM revealed strong correlation ($P \leq 0.05$). The intra-rater reliability of BBA revealed no significant difference between the two readings ($P > 0.05$). The percentage of change in balance performance of three items of BBA compared with the percentage of changes by BM revealed no difference between BM and BBA items in G1. Conclusion: BBA proved to be a valid and reliable balance scale. The scale showed good sensitivity but needs more investigation.

Key words	**1.**	**Psychometric**
	2.	**Brunel Balance Assessment**
	3.	**Balance**
	4.	**Stroke**
	5.	**validity**
	6.	**reliability**
	7.	**sensitivity**
Classification number	**:**	**616.81.AAP**
Arabic Title Page	**:**	**قياس قدرة اختبار برونل لتقييم التوازن عند مرضى السكتة الدماغية.**
Library register number	**:**	**3665-3666.**

Author	**:**	**Engy Badr Eldin Saleh Moustafa**
Title	**:**	**Correlation between primary fatigue and cognitive dysfunction in multiple sclerosis patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Moshera Hassan Darwish.**
	2.	**Mohamed Soliman El-Tamawy.**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: Adequate and accurate rehabilitation program requires a precise assessment of fatigue and determining its correlates using different objective and valid methods. The purpose of this study was to determine the relation between primary fatigue and cognitive dysfunction in multiple sclerosis patients and to provide insight about the pathophysiology of primary fatigue in relation to the degree of inflammation particularly tumor necrosis factor alpha (TNF-α) and interferon gamma (IFN-γ) Methods: Forty Multiple Sclerosis (MS) patients participated in this study . The patients were assigned into two equal groups, primary fatigued MS patients (G1) and non-fatigued MS patients(G2) . All the patients were primarily distinguished into fatigued MS patients and non fatigued MS patients using the fatigue severity scale (FSS). Patients with secondary fatigue were excluded from the study using Expanded disability status scale (EDSS) , Beck depression inventory (BDI) and Epworth sleepiness scale (ESS). Cognitive performance for all patients were assessed using computer –based Rehacom procedure. A blood sample was collected and analyzed from each patient ,where TNF-α and IFN-γ were measured using The Quantikine Human TNF-alpha & IFN-gamma Immunoassay ELISA kit . All the assessments of fatigue ,cognition & blood samples were conducted for each patient on the same day. Results showed significant decrease of cognitive performance in primary fatigued patients (G1) than non-fatigued patients (G2). Significant increase in the level of peripheral proinflammatory biomarkers in (G1) than (G2) . A positive correlation was also observed between primary fatigue , cognitive dysfunction and the level of proinflammatory cytokines in the primary fatigued patient group. Conclusion: Attention/concentration & reaction behavior are the main affected cognitive domains in primary fatigued MS patients. Primary fatigue is directly related to MS pathological inflammatory process which was represented by the level of peripheral inflammatory cytokines.

Key words	**1.**	**Primary fatigue**
	2.	**TNF-alpha & IFN-gamma**
	3.	**Attention/concentration**
	4.	**Reaction behavior**
	5.	**Proinflammatory cytokines**
		EDSS
		BDI
		ESS
		FSS.
		Multiple sclerosis.
Classification number	**:**	**616.834.MEC**
Arabic Title Page	**:**	**العلاقة بين الإجهاد الإبتدائى و ضعف الإدراك فى مرضى التصلب المتعدد.**
Library register number	**:**	**3769-3770.**

Author	**:**	**Hajer Mohammed Sabri Abdul-Latif**
Title	**:**	**Efficacy of Russian Current versus Faradic Stimulation in Bell's palsy**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Hussein Ahmed Abd El-Rahman Shaker**
	2.	**Ebtesam Mohammed Fahmy**
	3.	**Waleed Talat Mansour,**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Back ground and objective: Bell's palsy is a disorder of the 7th cranial nerve that controls movement of the muscles of the face. Damage to this nerve causes weakness or paralysis of these muscles. This study was conducted to evaluate the efficacy of Russian current versus faradic current on improving strength of facial muscles in patients with Bell's palsy. **Subjects and Methods:** Thirty Bell's palsy patients (16 males and 14 females) were included in the study. Their ages ranged from 21-50 years. They were randomly divided into two equal groups: group (A): received Russian current in addition to exercise therapy. Group (B): received faradic current in addition to the same exercise therapy. Patients of both groups were evaluated for facial muscle strength using facial grading scale (FGS) and electromyography (EMG) of the frontalis muscle. Assessment was done before and after eight successive weeks of treatment for both groups. **Results:** post treatment results revealed that there was a significant improvement in (FGS) scores in both groups especially in group (A). There was a significant decrease in the mean latency of the action potential of frontalis muscles in each group; however the difference between groups was non-significant. There was a significant increase in the mean amplitude of action potential of the frontalis muscles in each group especially in group (A). **Conclusion:** Russian current has a more beneficial effect than faradic stimulation on improvement of facial muscles strength in patients with Bell's palsy.

Key words	**1.**	Russian Current
	2.	Faradic Current
	3.	Bell's Palsy.
Classification number	**:**	
Arabic Title Page	**:**	**تأثير التيار الروسي مقابل التنبيه الكهربى في شلل العصب السابع**
Library register number	**:**	**3907-3908.**

Author	**:**	**Hanan Hosny Mohammed**
Title	**:**	**Influence of Visual Feedback Training on Distribution of Foot Pressure in Diabetic Neuropathy Patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Gehan Mousa Ahmed**
	2.	**Hanan Abdallah Amer**
	3.	**Waleed Talaat**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

The purpose of this study was to investigate the effect of visual feedback training on re-distribution of planter pressure during standing posture in diabetic peripheral neuropathy patients. Thirty diabetic patients from both sexes with mild peripheral neuropathy participated in this study. The patients were randomly divided into two equal groups; Group A was treated with selected physical therapy program for diabetic peripheral neuropathy including proprioception exercises and ankle range of motion exercises in addition to visual feedback training by using Biodex Balance System. Group B was treated with the same selected physical therapy program for diabetic peripheral neuropathy only. The Results revaled that, in the study group (A) there was a significant increase of plantar pressure at right and left heel, while there was a significant decrease of plantar pressure at right and left big toe and no significant differences of plantar pressure at right little toe post treatment program. For the control group (B) there was no significant difference of plantar pressure at right and left heel, big toe and little toe post treatment. The results showed that there was a statistical significant difference between both groups post treatment. On conclusion, Visual feedback training in addition to physical therapy program was more effective than using the selected physical therapy program only for redistribution of foot planter pressure in diabetic neuropathy patients.

Key words	**1.**	**Diabetes mellitus**
	2.	**Diabetic peripheral neuropathy**
	3.	**Planter pressure**
	4.	**Biodex balance system**
	5.	**Diabetes.**
Classification number	**:**	**616.462**
Arabic Title Page	**:**	**تأثير الخلفية المرجعيه المرئيه لتوزيع ضغط القدم لدى مرضى إلتهاب الأعصاب الناتج عن البول السكرى.**
Library register number	**:**	**3755-3756.**

Author	**:**	**Khaled Hussein Yusuf Mahmoud**
Title	**:**	**Efficacy of spinal manipulative therapy on lumbar neuromechanical properties in subjects with chronic low back dysfunction**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Samiha Hafez**
	2.	**Moshera Darwish**
	3.	**Mohamed Alsayed Alawadi**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	
Background: Chronicity of Low back dysfunction is mainly due to proprioceptive impairment, which impedes recovery. The aim of this study was to assess and explain from physiological point of view the efficacy of spinal manipulation on proprioceptive properties of lumbar spine (and consequently on ADL performance) in chronic low back dysfunction patients. Methods: Thirty male chronic low back dysfunction patients represented the sample of the study. Their age ranged from 18 to 30 years. The patients were assigned into two equal groups; control group (G1) and study group (G2). The control group was treated by a selected McKenzie therapy program and the study group was treated by the same program in addition to spinal manipulative therapy. The physical therapy program was conducted two times per week, for six weeks. Repositioning accuracy and Oswestry disability scale were used to assess and establish the patient's results. The results: Before starting the treatment, there was a non significant difference in the mean values of all variables in G1&G2. At the end of the treatment there was a significant decrease in trunk repositioning error and Oswestry scores in (G1) The results of study group (G2) showed favorable improvement of all variables Conclusion: Spinal manipulative therapy has a positive effect in improving neuromechanical properties of lumbar spine in patients with chronic low back dysfunction.		
Key words	**1.**	**Spinal manipulation**
	2.	**McKenzie therapy**
	3.	**chronic low back dysfunction**
	4.	**lumbar neuromechanical.**
Classification number	**:**	
Arabic Title Page	**:**	**فاعلية العلاج اليدوي الفقاري علي الخصائص العصبية الميكانيكية بالمنطقة القطنية في مرضى الخلل الوظيفى اسفل الظهري الميكانيكى**
Library register number	**:**	**3819-3820.**

Author	**:**	**Lama Saad El-Din Mahmoud**
Title	**:**	**Effect of virtual reality Kinect rehabilitation in patients with stroke**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**NawalAbd EL-Raouf Abu Shady**
	2.	**Amira Mohammed EL- Gohary**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: Unilateral spatial neglect is a disabling condition frequently occurring after stroke. People with neglect suffer from various spatial deficits in several modalities, which in many cases impair everyday functioning. A successful treatment is yet to be found. Several techniques have been proposed in the last decades. Purpose: to investigate the extent to which the use of virtual reality as an effective treatment technique for patients experiencing unilateral spatial neglect after stroke. Subjects: thirty patients experiencing unilateral spatial neglect after stroke. Methods: patients were randomly assigned to the two groups; a study group and control group. The study group received virtual reality kinect rehabilitation and conventional treatment for eight weeks and control group received conventional treatment using behavioral rehabilitation methods of physical therapy. The disorder was diagnosed with pen-and-paper methods, Catherine Bergego Scale (CBS) and recently, promising new methods based on virtual reality. Results:There was a high significant difference between study and control groups as p-value was (0.0001) which indicated that study group shows improvement more than control group, and there was correlation between line cancellation task, the CBS and the VR repetitions. Conclusion: this study revealed that eight weeks of the virtual reality rehabilitation for every patient was a beneficial therapeutic technique on unilateral spatial neglect in stroke patients.

Key words	**1.**	**Spatial Neglect**
	2.	**Stroke**
	3.	**Virtual Reality**
	4.	**Rehabilitation.**
Classification number	**:**	**616.8103.MLE**
Arabic Title Page	**:**	**تأثير التأهيل بجهاز الواقع الافتراضي الحر في مرضى السكتة الدماغية.**
Library register number	**:**	**3631-3632.**

Author	**:**	**Mohamed Ahmed Fouad Ibrahim**
Title	**:**	**Effect of Rhythmic Auditory Stimulation On Gait In Patients With Stroke**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Gehan Mousa Ahmed**
	2.	**Ebtesam Mohamed Fahmy**
	3.	**Ayman Anwar Nassief**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: Stroke is the most leading cause to functional disability and gait problems. Objectives: The purpose of this study was to determine the effect of rhythmic auditory stimulation combined with treadmill training on selected gait kinematics in stroke patients. Methods: Thirty male stroke patients participated in this study. The patients were assigned randomly into two equal groups, (study and control). Patients in the study group received treadmill training combined with rhythmic auditory stimulation in addition to selected physical therapy program for hemiparetic patients. Patients in the control group received treadmill training in addition to the same selected physical therapy program including: strengthening, stretching, weight bearing, balance exercises and gait training. Biodex gait trainer 2 TM was used to assess selected gait kinematics (step length, step cycle, walking speed, time on each foot and ambulation index) before and after six weeks training period (end of treatment) for both groups. Results: There was a statistical significant increase in walking speed, step cycle, step length, percent of time on each foot and ambulation index in both groups post treatment. The improvement in gait parameters post treatment was significantly higher in the study group compared to the control. Conclusion: Rhythmic auditory stimulation combined with treadmill training is effective in improving selected gait kinematics in stroke patients when added to the selected physical therapy program

Key words	**1.**	**Gait In Stroke Patients**
	2.	**Rhythmic Auditory Stimulation**
	3.	**Treadmill Training**
	4.	**Stroke.**
Classification number	**:**	**616.81.IME**
Arabic Title Page	**:**	تأثير التنبيه السمعي المنتظم علي المشي في مرضي السكتة الدماغية
Library register number	**:**	**3775-3776.**

Author	**:**	**Mohamed Ahmed Raafat**
Title	**:**	**Effect of Elastic Taping and Task Specific Training on Hand Functions of Stroke Patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Magdy Ahmmed Arafa**
	2.	**Mohammed El Said El Awady**
	3.	**Wael Salah Shendy**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: The ability to grasp has been rated by stroke patients as one of the most important goals of their rehabilitation. Hand control is a key element in normal hand function. Currently, treatment options aimed at improving poor hand control in stroke patients are often costly, need specialized equipment and have poor patient compliance. The purpose of the current study was to assess whether wrist extensors and thumb extensors taping could improve hand control in stroke patients. The unilateral gross manual dexterity, motor function of the hand and power grip of hand after wrist extensors and thumb extensors taping was tested. Methodology: Forty stroke subjects, with age ranged from 40 to 65 years old were participated in this study, Spasticity of the muscles of the affected hand (wrist & fingers flexors, adductors) is grade two or less according to Modified Ashworth Scale. Design of study: The study was done as pre and post-treatment experimental design and patients assigned into two groups. Group (A) (Study group) included 20 patients; they received taping followed by the task specific training program. Group (B) (Control group) included 20 patients; they received only the task specific training program. Each subject was tested by Box and Block Test (BBT), Motor Assessment Scale and Jamar grip dynamometer. Treatment was done 3 times a week for 3 months. The results: There was a significant difference between two groups in the pre and post treatment on the unilateral gross manual dexterity (p value, 0.01), the motor function of the hand (p value, 0.03) and power grip of hand (p value, 0.0001). Conclusion: Wrist extensors and thumb extensors taping with task specific training useful in treating poor hand control in stroke patients.

Key words	**1.**	**hand function**
	2.	**Taping**
	3.	**task specific training**
	4.	**Stroke.**
Classification number	**:**	**616.81.RME**
Arabic Title Page	**:**	**تأثير الشريط اللاصق المرن والتدريب الموجه علي وظائف اليد**
Library register number	**:**	**3789-3790.**

Author	**:**	**Mohamed Samir Abdellah Mohamed**
Title	**:**	**Effect of Kinesio tape on face symmetry in patients with acute Bell's palsy.**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Nawal Abd El-Raouf Abu Shady.**
	2.	**Amira Mohamed El Gohary.**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: Lower Motor neuron facial palsy (Bell's palsy) is the most frequent cranial neuropathy and can originate from various kinds of damage to the seventh cranial nerve, including its motor nucleus , Bell's palsy can cause not only a distressing disfigurement of the face, but also impair the ability to communicate by facial expression and articulation. Purpose: to investigate the effect of Kinesio Tape on face symmetry of Bell's palsy patients using Glasgow objective facial palsy scale and Sunnybrook facial grading system. Participants: Thirty patients with Bell's palsy were enrolled in this study. Methods: Participants were randomly assigned to one of the two groups; group A and group B. The group A received Kinesio Tap plus conventional physical therapy (Laser Therapy, Faradic stimulation and Motor Re- education), and group B received conventional physical therapy (Laser Therapy, Faradic stimulation and Motor Re- education) only. All patients were assessed at the beginning of the study and at end of the treatment. Results: A significant improvement on face symmetry in group A patients with Bell's palsy who received Kinesio tape compared to group B. ($p<0.05$). Conclusion: The study revealed that Kinesio tape showed a significant improvement in face symmetry of Bell's palsy, when the Kinesio tape was applied to patients with Bell's palsy. Kinesio tape should be considered a potential therapeutic modality at physical therapy clinic for patients with face asymmetry as Bell's palsy.

Key words	**1.**	**Bell's palsy**
	2.	**Kinesio tape**
	3.	**Face symmetry**
	4.	**Cerebral palsied.**
Classification number	**:**	**616.836.MME**
Arabic Title Page	**:**	**تأثير شريط كينسيو على تماثل الوجه فى مرضى شلل الوجه الحاد.**
Library register number	**:**	**3715-3716.**

Author	**:**	**Mohamed Wafaay Makady**
Title	**:**	**Aescen Phonophoresis Versus Therapeutic Ultra Sound In Treatment Of Pain In Chondromalacia Patellae In Athletic Children**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Emam H. El Negmy**
	2.	**Ibrahim Shoukry.**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Objective: The aim of this work was to make a comparative study between the effect of Aescen phonophoresis in treatment of pain, enhancing range of motion at the knee joint and swelling relief of chondromalacia patellae in athletic children in comparison to therapeutic ultra sound. **Methods:** thirty athletic children participated in this study their ages ranged from 11 to 16 years, they were randomly assigned into two groups, 15 patients each suffering from chondromalacia patellae. Visual Analogue Scale, range of motion assessment and girth measurements were used for evaluation of the affected knee joint before and after treatment in the two groups. **Intervention:** for group B Aescen phonophoresis was applied three times per week for one month, U.S was applied at a frequency of 1 MHz and a dosage of 1.5 W /cm2 and pulsed mood of 1 ms on and 5ms off. For group (A) Therapeutic U.S was applied for one month starting immediately after injury three times per week. **Results:** The study group (B) treated with Aescen phonophoresis showed significant differences only in pain relief and no effect was recorded in range of motion of the knee joint. Significant difference was recorded in pain according to VAS between the two groups after treatment in a favor of group (B).**Conclusion:** According to the results of this study supported by the relevant literature it can be concluded that Aescen phonophoresis (PH) has significant effect in relieving pain in patients with chondromalacia patellae.

Key words	**1.**	Aescen Phonophoresis
	2.	Chondromalacia patellae
	3.	therapeutic ultra-sound
	4.	**Athletic Children**
	5.	visual analogue scale
Classification number	**:**	
Arabic Title Page	**:**	تأثير العلاج بالتحفيز المغناطيسي المتكرر علي المخ مع العلاج الطبيعي علي وظيفة اليد لمرضي السكتة الدماغية
Library register number	**:**	**3917-3918.**

Author	**:**	**Shaimaa Tawfik Abd El Azeem**
Title	**:**	**Efficacy of Transcranial Direct Current Stimulation On Post- operative Central Neuropathic Paine Due To Cervical Cord Lesion**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Magdy Ahmed Arafa**
	2.	**Bassem Mohamed Ayoub**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Background: Past evidences have shown that motor cortical stimulation with invasive and non-invasive brain stimulation is effective in relieving central neuropathic pain. Noninvasive stimulation techniques, such as transcranial direct current stimulation (tDCS) act on affected neural networks by modulating their activities not only in the stimulated area, but also in remote regions that are interconnected to the site of stimulation. Motor cortex was the first cortical target that was proved to be efficacious in chronic central neuropathic pain treatment**. The purpose** of the current study was to investigate the efficacy of transcranial direct current stimulation on post operative central neuropathic pain due to cervical cord lesion. **Methodology:** Thirty patients suffering from post operative central neuropathic pain due to cervical cord lesion, with age range from 40 to 60 years old were participated in this study. All patients participated in the study had score more than 4cm on visual analogue scale ,and score of 12 or more on leeds assessment of neuropathic signs and symptoms scale (LANSS) before starting the treatment. **Design of the study:** Patients were assigned randomly into two equal groups. Study group (G A), received a designed physical therapy program plus transcranial direct current stimulation. Control group (G B), received a designed physical therapy program only. Pain Intensity was assessed by visual analogue scale and LANSS scale pre and post treatment. Treatment was applied 3 times a week for 3 months. **The Results:** There was a significant difference in the post- treatment values of LANSS scale and VAS scores between the two groups where the study group (G A) showed better improvement than the control group (G B).**Conclusion:** Transcranial direct current stimulation is effective in alleviating post operative central neuropathic pain due to cervical cord lesion.

Key words	**1.**	transcranial direct current stimulation
	2.	central neuropathic pain
	3.	cervical cord lesions
Classification number	**:**	
Arabic Title Page	**:**	تأثير الاستثارة الكهربية الدماغية علي الألم العصبي المركزي بعد جراحات العمود الفقري بمنطقة الرقبة
Library register number	**:**	**4005-4006.**

Author	**:**	**Zeinab Maher Abd Elghany Abd Elrehim**
Title	**:**	**Mesh glove transcutaneous electrical nerve stimulation: Its effect on spastic upper extremity functions in stroke patients**
Dept.	**:**	**Physical Therapy Department for Neuromuscular and Neurosurgical Disorder and its Surgery.**
Supervisors	**1.**	**Mohamed Sadik Badawy**
	2.	**Salah Abd-Elmonem Sawan**
	3.	**Ebtesam Mohamed Fahmy**
Degree	**:**	**Master.**
Year	**:**	**2014.**
Abstract	**:**	

Back ground and objective: loss of upper extremity functions is a common problem post stroke. This study was conducted to investigate the effect of Mesh glove transcutaneous electrical nerve stimulation (TENS) on spastic upper extremity functions in stroke patients. Methods: Forty stroke patients (34 males and 6 females) with spastic upper extremity were assigned randomly into two equal groups: group (A): received selected physical therapy program, Purdue pegboard training and Mesh glove transcutaneous electrical nerve stimulation (TENS) on spastic hand. Group (B): received selected physical therapy program and Purdue pegboard training. Patients of both groups were assessed for hand grip strength using hand dynamometer, shoulder abduction and flexion active range of motion (AROM) using the universal inclinometer, gross movements of hands, arms and fine fingertip dexterity necessary in assembly tasks using Purdue pegboard test, and upper extremity functions using the upper extremity functional index (UEFI). Assessment was done before and after six weeks of treatment for both groups. Results: Post treatment results revealed that there was a highly significant increase in hand grip strength in both groups but the improvement in group (A) was more significant compared to group (B). There was a highly significant increase in shoulder flexion and abduction (AROM) in both groups but the improvement in group (A) was more significant compared to group (B). There was a highly significant increase in upper extremity and affected hand functions in both groups but the improvement in group (A) was more significant compared to group (B). Conclusion: Mesh glove transcutaneous electrical nerve stimulation (TENS) is an effective method in improving upper extremity functions in stroke patients when added to the selected physical therapy program.

Key words	**1.**	**Spasticity**
	2.	**TENS**
	3.	**Mesh glove**
	4.	**Purdue pegboard test**
	5.	**Stroke.**
Classification number	**:**	**616.81.AZM**
Arabic Title Page	**:**	**تأثير التنبيه الكهربي للأعصاب الحسيه باليد باستخدام المش اليكترود علي وظائف الذراع المصاب بالشلل التقلصي في مرضي السكته الدماغيه**
Library register number	**:**	**3719-3720.**