Department of Basic Science

Master Degree
2008

Author	**:**	**Ahmed Mohamed Mostafa Abo El-Eneen.**
Title	**:**	**Pulsed magnetic Field versus transcutaneous electrical nerve stimulation in treatment of low back dysfunction.**
Dept.	**:**	**Department of Basic Science.**
Supervisors	**1.**	**Mohamed Hussien El-Gendy.**
	2.	**Ragia Mohamed Kamel.**
	3.	**Hassan Mahmoud Baraka.**
Degree	**:**	**Master.**
Year	**:**	**2008.**
Abstract	**:**	
Background: Chronic low back dysfunction is reported to be a major health problem worldwide. Purposes: To investigate and compare the efficacy of pulsed magnetic field and transcutaneous electrical nerve stimulation in treatment of chronic low back dysfunction. Study Design: A pre test post test control group design. Materials and methods: Thirty patients with chronic low back dysfunction from both sexes were involved, aged between 35– 50 years old. The patients were divided into three equal groups, ten patients each. Patients in the first group (control group) received a therapeutic ultrasound. Patients in the second group received pulsed magnetic field and therapeutic ultrasound. Patients in the third group received burst mode of transcutaneous electrical nerve stimulation and therapeutic ultrasound. Treatment was done 3 times a week for 4 weeks. Range of motion, pain level and functional performance were measured before and after treatment. Results: There were significant differences within the three groups before and after treatment and between the three groups after treatment as lumber range of motion of flexion and extension increased, pain level decreased and functional performance improved. Conclusion: Pulsed magnetic field proved to be more beneficial than burst mode of transcutaneous electrical nerve stimulation in improving range of motion, functional performance and perceived back pain in patients with chronic low back dysfunction.		
Key words	**1.**	**low back dysfunction.**
	2.	**pulsed magnetic field.**
	3.	**transcutaneous electrical nerve stimulation.**
Arabic Title Page	**:**	المجال المغناطيسى المتقطع مقابل التيار المنبه للعصب عبر الجلد فى علاج خلل الظهر الوظيفى.
Library register number	**:**	**1729-1730.**

Author	**:**	**Farouk Farouk Ahmed Yousef.**
Title	**:**	**Reactive neuromuscular training in stroke patients Rehabilitation.**
Dept.	**:**	**Department of Basic Science.**
Supervisors	**1.**	**Fatma Seddik Amin, Hateem Samir.**
	2.	**Sahar Mohammed Adel.**
Degree	**:**	**Master.**
Year	**:**	**2008.**
Abstract	**:**	

Background: stroke is reported to be a major health problem worldwide. Objectives: To investigate Reactive neuromuscular training efficacy in stroke Patients Rehabilitation. Study design: A pre-Post test control group design. Subjects and Methods: Thirty Patients with stroke from both sexes were involved, aged between 45-60 years. They were divided into two equal a study and a control groups. Patients in group (A) received Reactive neuromuscular training in addition to Traditional exercise program in the form of stretching and strengthening exercises. Patients in the group received traditional exercise program only (Control group). Integrated electromyography and functional performance were measured before and after treatment. Results : There were significant differences between two groups after treatment in Integrated Electromyography and functional performance Conclusion : Reactive neuromuscular training proved to be beneficial in improving Muscle co contraction and functional performance in stroke patients.

Key words	**1.**	**Stroke.**
	2.	**Reactive neuromuscular training.**
	3.	**Electromyography.**
Arabic Title Page	**:**	القدرة على التحكم العضلى العصبى بالتمرينات لتأهيل مرضى السكتة الدماغية.
Library register number	**:**	**1715-1716.**

Author	**:**	**Marwa Shafiek Mustafa.**
Title	**:**	**Planter pressure distribution in flat foot subjects: implementation for treatment.**
Dept.	**:**	**Department of Basic Science.**
Supervisors	**1.**	**Fatma Sedik Amin.**
	2.	**Ragia Mohamed Kamel.**
	3.	**Soha Talaat Hamed.**
Degree	**:**	**Master.**
Year	**:**	**2008.**
Abstract	**:**	

Background: Distribution of body weight through the foot depends on the shape of the foot arches. **Purpose**: To investigate the changes in plantar pressure distribution of flexible second-degree flat feet subjects compared to normal subjects. **Subjects:** 30 subjects (12 males and 18 females), their age ranged from 18-35 years old. Subjects were assigned randomly into two equal groups. Group A (The study group) included fifteen subjects (6 males - 9 females) with bilateral flexible second-degree flat feet with mean age of 23.46 ± 4.18 years , weight 65.26 ± 8.43 kg, height 165.93 ± 8.95 cm and body mass index (BMI) 23.59± 0.80 kg/m^2. Group B (The control group) included fifteen normal subjects (6 males – 9 females) with mean age of 23.60 ± 4.06 years, weight 65.60 ± 6.83 kg, height 166.46 ± 8.64 cm and BMI 23.61 ± 0.73 kg/m^2 . **Method:** Feet assessment using lateral weight bearing radiographs were performed bilaterally for each subject in both groups to measure the taller first metatarsal angle, then the foot scan plate system was used to measure the plantar pressure distribution for every subject under six areas of the foot during static condition. **Results:** There was a significance increase in pressure distribution under the heel and medial metatarsal head in group A than group B and there was no significant difference in pressure distribution under central and lateral metatarsal heads, mid foot and first toe between both groups. **Conclusion:** This study concluded that subjects with bilateral flexible second-degree flat feet have high pressure under the heel and medial metatarsal head than normal subjects.

Key words	**1.**	**Foot mechanics.**
	2.	**Flat foot.**
	3.	**Flat foot treatment.**
	4.	**Plantar pressure distribution.**
Arabic Title Page	**:**	**توزيع الضغط أسفل القدم المتفلطح : تطبيقاته فى العلاج.**
Library register number	**:**	**1771-1772.**

Author	**:**	**Rehab Abd El Hafiez.**
Title	**:**	**The influence of kyphotic posture on the scapular kinematics.**
Dept.	**:**	**Department of Basic Science.**
Supervisors	**1.**	**Omaima Mohamed Ali Kattabei.**
	2.	**Samy Abd El Samad Nasef.**
	3.	**Sahar Mohamed Adel.**
Degree	**:**	**Master.**
Year	**:**	**2008.**
Abstract	**:**	

Background: A kyphotic thoracic spine alters the scapular motion; changing the scapular kinematics leading to shoulder dysfunction. **Purpose:** To investigate the influence of kyphotic posture on the scapular kinematics (the posterior tilt angle, the upward rotation angle, and the scapulohumeral rhythm). **Subjects:** 30 subjects (males and females) their age ranged from 18-35 years old were assigned randomly into two groups: Group A (the control group) included 15 subjects with normal thoracic kyphosis angle (21º-33º) with mean age of (23.80 ±5.37), weight (60.93 ±5.19), and height (161.40 ±5.87) and group B (the study group) included 15 subjects with thoracic hyper-kyphosis angle (>33º) with mean age of (23.40 ±4.53), weight (63.67 ±6.20), and height (164.40 ±6.56). **Method:** A 3-D motion analysis system was used to measure the thoracic kyphosis angle, followed by the scapular kinematics in the scapular plane. Measurements were taken statically, with the arm at side, at horizontal position (90º), and at maximum elevation and dynamically at 30º, 60º, 90º, 120º. **Results:** Indicated that there was a significance decrease in the posterior tilt angle at rest ($p \leq 0.0126$) and highly significant decrease at horizontal elevation ($p \leq 0.0040$) and maximum elevation ($p \leq 0.0001$) in group B. There was also significant decrease in the upward rotation angle ($p \leq 0.0179$) at maximum elevation, a significant decrease in the scapulohumeral rhythm at 120º ($p \leq 0.0174$), and high significant decrease at 90º-120º range ($p \leq 0.0004$) in group B, and there was no significant difference in the upward rotation angle at rest and at horizontal position, there was no significant difference in the scapulohumeral rhythm at 30º, 60º, 90º, 30º-60ºrange and at 60º-90º range between both groups. **Conclusion:** The study concluded that the evaluation for patients suffering from shoulder dysfunction should include thoracic assessment. So that, the ability to use the functional metry are more sensitive than anatomical ones.

Key words	**1.**	**Thoracic Kyphosis.**
	2.	**Scapular Kinematics.**
Arabic Title Page	**:**	**تأثير الانحناء الامامي للظهر على كينماتيكية لوح الكتف.**
Library register number	**:**	**1785-1786.**