

## **Department of Basic Science**

**Master Degree  
2010**

<b>Author</b>	<b>:</b>	Emad Eldin Mohamed Abd Elateif.
<b>Title</b>	<b>:</b>	Effect of Sensory motor training and Electrical Russian current on osteoarthritic patients.
<b>Dept.</b>	<b>:</b>	Department of Basic Science.
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<b>Degree</b>	<b>:</b>	Master.
<b>Year</b>	<b>:</b>	2010.
<b>Abstract</b>	<b>:</b>	

**The purpose:** of study was to investigate effect of sensory motor training and electrical Russian current on knee osteoarthritic patients. **Subjects:** Sixty patients from both sexes were assigned into four equal groups with age range from 30-50 years. **Methods:** Measuring muscle torque, proprioceptive acuity, pain level, and functional activities were performed before and after treatment. Group A received traditional exercise program .Group B received the same program in addition to Russian current stimulation. Group C the same program plus sensory motor training. Group D received sensory motor training and electrical Russian current plus traditional exercise program three times per week for eighteen sessions. **Results:** The results revealed that there was a significant improvement in all measured parameters with the highest results in group D ( $p<0.05$ ). **Conclusion:** Sensory motor training and electrical Russian current plus traditional exercise program is effective method in treatment of osteoarthritis.

<b>Key words</b>	<b>1.</b> Sensory motor system <b>2.</b> Russian current <b>3.</b> Osteoarthritis. <b>4.</b> Electrical Russian current.
<b>Arabic Title Page</b>	: تأثير التمرين الحسي الحركي والتيار الكهربائي الروسي على مرضى خشونة المفاصل.
<b>Library register number</b>	<b>:</b> 2089-2090.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
DEPARTMENT OF BASIC SCIENCE**

**PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Haidy Henry Fakhry
<b>Title</b>	:	Shock wave therapy versus therapeutic ultrasound in treatment of lateral epicondylitis.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Omaima Kattabei.
	2.	Soheir Shehata Rezk – Allah.
	3.	Hatem Abd El-Rahman Ahmed.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	

**Background:** lateral epicondylitis is a pathological condition of wrist extensor muscles in their origin on the lateral humeral epicondyle. It is one of the most common lesions of the arm. It is generally a work related or sport related disorder of the common extensor origin of the arm, usually caused by excessive, quick, monotonous, repetitive movement of the wrist, especially in eccentric and gripping activities. Treatment of this problem is of great concern. The purpose: Of this study to examine the effect of shock wave therapy versus therapeutic ultrasound in treatment of chronic lateral epicondylitis. Subjects: Forty patients diagnosed as lateral epicondylitis due to mechanical causes. Methods: Patients were distributed into two equal groups. The first group consisted of 20 patients with a mean age of 38.4 ( $\pm 3.67$ ) years received shock wave therapy (2000 shock, 700 / session, only one session in alternative week for maximum 3 sessions,  $0.32 \text{ mJ/mm}^2$ ). The second group consisted of 20 patients with a mean age of 38.25 ( $\pm 4.19$ ) years received therapeutic ultrasound (1 MHz, continuous mode of application, intensity  $1.5 \text{ w/cm}^2$ , 3 sessions / week, 12 sessions for a month, 5 minutes / session). Results: Patients of both groups showed significant improvement in all the measured variables (pain severity and muscle strength). In between group's difference the shock wave group showed a higher significant improvement in decreasing pain severity than U.S. Conclusion: Both shock wave and the therapeutic ultrasound had a significant effect on decreasing pain severity and muscle strength , but, shock wave therapy more effective in decreasing a pain severity and improvement of muscle strength.

<b>Key words</b>	1. lateral epicondylitis.
	2. shock wave therapy.
	3. therapeutic ultrasound.
<b>Arabic Title Page</b>	: الموجات التصادمية مقابل الموجات فوق الصوتية في علاج التهاب فوق اللقمة العظمية الوحشية
<b>Library register number</b>	: 2279-2280.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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**PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Mahmoud Sabry Ahmed Assal.
<b>Title</b>	:	Core Stability Exercises Versus Back Extensors Strengthening Exercise In Management Of Chronic Lumbar Spondylosis.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Mohamed Hussien El-Gendy.
	2.	Amir Mohamed Morsy Saleh.
	3.	Ahmed Elsayed Semaya.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	
<p><b>Background:</b> Chronic lumbar spondylosis is reported to be a major health problem worldwide.</p> <p><b>Purposes:</b> To investigate and compare between the efficacy of core stability exercises and back strengthening exercises in treatment of chronic lumbar spondylosis patients.</p> <p><b>Study Design:</b> A pre test post test research group design.</p> <p><b>Materials and methods:</b> Thirty patients with chronic lumbar spondylosis from both sexes were involved, aged between 41-60 years old. The patients were divided into two equal groups, fifteen patients each. Patients in the first group received core stability exercises. Patients in the second group received back extensors strengthening exercise. Treatment was done 3 times a week for 4 weeks. Pain level, functional performance and range of motion were measured before and after treatment.</p> <p><b>Results:</b> There were significant differences within the two groups before and after treatment as pain level decreased, functional performance improved and lumber range of motion of flexion and extension and side bending increased. While there were no significant differences between the two groups as regard to reducing pain , improving functional disability and increasing range of motion.</p> <p><b>Conclusion:</b> Both core stability exercise and back strengthening exercises were effective in management of chronic lumbar spondylosis patients as regard to reducing pain , improving functional disability and increasing range of motion but there were no significant differences between the two groups as regard to reducing pain, improving functional disability and increasing range of motion.</p> <p>Percent of improvement in pain in group A was 44.8%while in group B were 36.2%. Percent of improvement in functional disability in group A were 35.5% while in group B were 31.35%. Percent of improvement in ROM of flexion, extending and side bending were 22.6% , 25.4 % and 3.32% respectively while in group B were 21% , 20.8% and 3.45% respectively.</p>		
<b>Key words</b>	1.	Lumbar spondylosis.
	2.	Core stability exercises.
	3.	Back extensors strengthening exercise.
	4.	Management Of Chronic Lumbar Spondylosis.
	5.	Chronic Lumbar Spondylosis.
<b>Arabic Title Page</b>	:	تمارين التثبيت المركزية مقابل تمارين تقوية العضلات الباسطة للجذع في علاج مرضي خشونة الفقرات القطنية المزمنة.
<b>Library register number</b>	:	2233-2234.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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**PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Manal Bakry Abd El-Fattah.
<b>Title</b>	:	Pulsed Electromagnetic Field Therapy Versus Microcurrent in Relation to Mechanical Low Back Pain.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Samy Abd El-Samad Nasef.
	2.	Neveen Abdel Latif Abdel Raoof.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	

**Background:** Mechanical low back pain is a serious health problem worldwide which certainly can limit or impair function and capacity in both work and personal life. **Purposes:** This study investigates and compares the efficacy of PEMF and microcurrent in treatment of MLBP. **Subject:** Thirty patients from both sexes (12 males and 18 females) with MLBP were involved, aged between 20– 40 years old (mean=32.6), divided into two equal groups, fifteen patients each (6 males and 9 females). **Method:** Patients in the first group (group A) received a physical therapy program which consists of (Infrared radiation, stretching exercises and strengthening exercises for back and abdominal muscles) as well as PEMF, while the second group (group B) received the same physical therapy program as group (A) and microcurrent instead of PEMF. **Pain severity and functional disability were measured by serum cortisol level and Oswestry disability questionnaire respectively before and after 4 weeks of treatment.** **Results:** The study revealed that there was significant decrease in back pain and functional disability in group (A) compared with those at group (B) as pain level decreased and functional performance improved. **Conclusion:** Pulsed magnetic field proved to be more beneficial than microcurrent in improving functional performance and decreasing back pain in patients with mechanical low back pain.

<b>Key words</b>	1.	Mechanical Low Back Pain.
	2.	Pulsed Electromagnetic Field.
	3.	Microcurrent.
<b>Arabic Title Page</b>	:	المجال الكهرومغناطيسي المتقطع مقابل التيار المتناهي الصغير في علاج آلم أسفل الظهر الميكانيكي.
<b>Library register number</b>	:	2115-2116.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Marwa Mahmoud Mahfouz.
<b>Title</b>	:	Myoelectric Activity of Neck Extensors with Different Styles of Sitting Infront of Computer Screen.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Ragia Mohamed Kamel.
	2.	Sahar Mohamed Adel.
	3.	Hala Rashad El Habashi.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	
<p><b>Background:</b> Computer screen become an integral part of office work. <b>Purpose:</b> The purpose of this study was to compare simultaneously myoelectric activities of semispinalis cervicis and capitis and upper trapezius muscles with kinematics of the craniocervical angle in two different styles of sitting infront of computer screen (desktop and laptop). <b>Subjects:</b> Thirty subjects (15 males and 15 females), mean age was (<math>24.36 \pm 3.27</math>) ys, mean weight (<math>71.3 \pm 5.7</math>) Kg, and mean height (<math>167.33 \pm 5.92</math>) cm. They were assigned in one group. They assumed first style of sitting for twenty minutes and then take a capture. After that they take rest for ten minutes then they assumed the second style of sitting for twenty minutes and take other recording. The recording includes, EMG registered from each selected muscle and capturing of the subject's posture by Infrared cameras. <b>Results:</b> There was a statistically significant increase in the craniocervical angle in the style of sitting infront of desktop (<math>157.82 \pm 1.14</math>) than in laptop (<math>152.22 \pm 0.99</math>) the P-value was (0.0001). There was significant decrease in Rt Semispinalis Cervicis and Capitis muscular activities for Desktop(<math>12.34 \pm 0.74</math>) mv and for Laptop was (<math>14.51 \pm 0.81</math>) mv where the P-value was (0.0002) while in Lt Semispinalis Cervicis and Capitis for Desktop was (<math>12.09 \pm 0.87</math>) mv and for Laptop was (<math>13.99 \pm 0.93</math>) mv where the P-value was (0.0002). There was no statistical significant difference in Rt Upper Trapezius muscular activities between two styles where P-value was (0.22). Also for Lt Upper Trapezius there was no statistical significant difference between two styles that P-value was (0.66). <b>Discussion and conclusion:</b> The style of sitting infront of desktop increased the craniocervical angle and so decreased muscular load over the semispinalis cervicis and capitis muscles, so it is recommended to be used in computer workstations in different fields.</p>		
<b>Key words</b>	1.	Desktop, Laptop.
	2.	EMG.
	3.	Three-dimensional motion analysis.
	4.	Myoelectric Activity.
	5.	Neck Extensors.
	6.	Sitting In front of Computer Screen.
	7.	Computer Sitting.
<b>Arabic Title Page</b>	:	النشاط الكهربائي للعضلات الباسطة للرقبة مع اختلاف اوضاع الجلوس أمام شاشة الكمبيوتر.
<b>Library register number</b>	:	2141-2142.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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**PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Marwa Taher Mohammed.
<b>Title</b>	:	Electroacupuncture versus electrolipolysis in obese female subjects.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Maher El Keblawy.
	2.	Abeer Abd El Rahman.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	

**Background:** Obesity is an abnormal accumulation of body fat, it is an established risk factor for numerous chronic diseases, and successful treatment will have an important impact on medical resources utilization, health care costs and patient quality of life. The purpose: of this study was to investigate the effect of electroacupuncture versus electrolipolysis in obese female subjects.

**Methodology:** Thirty obese female patients were participated in current study. Their age ranged from 18 to 35 years old, body mass index  $\geq 30 \text{ Kg/m}^2$ , waist to hip ratio  $\geq 0.8$  and abdominal skin fold thickness  $\geq 21.3 \text{ mm}$ . They were assigned randomly into two equal groups. Group (A) received electrolipolysis treatment, group (B) received electroacupuncture treatment, three sessions per week. Both groups had received low calorie diet and abdominal exercises for two months. BMI, WHR, abdominal skin fold thickness, body fat%, body lean% and basal metabolic rate were measured before and after treatment. The results: There were a significant differences between both groups where BMI decreased in group A by 15%, while in group B 11%, WHR decreased in group A by 6% while in group B 3%, abdominal skin fold thickness decreased in group A by 21% while in group B by 13%, BF% decreased by in group A by 21% while in group B by 16%, BL% increased in group A by 20% while in group B by 16%, BMR increased in group A by 29%, while in group B by 27%. Conclusion: Using electrolipolysis with diet and exercises provide an effective treatment in obese female subjects more than electroacupuncture.

<b>Key words</b>	1. Obese female. 2. Electroacupuncture. 3. Electrolipolysis.
<b>Arabic Title Page</b>	: مقابلة التنبية الكهربى بالإبر الصينية مع إذابة الدهون كهربائيا فى الإناث البدينات.
<b>Library register number</b>	: 2099-2100.

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PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Mohammed Hesham Sayed Abo Elenaine.
<b>Title</b>	:	Cross Training Effect of Resisted Exercise Versus Electrically Induce Quadriceps Strength In Normal Subjects.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Omaima Mohamed Ali Kattabey.
	2.	Mohamed Heussin El-Gendy.
	3.	Alia Mohammed.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	

**Purpose:** to determine the difference between Delorme resisted training and Russian electrical stimulation current in improving strength of the contralateral quadriceps muscles by measuring the value of the peak torque to body weight ratio of it. **Subjects:** forty five healthy male subjects were participated in this study, with mean age ( $19.73 \pm 1.468$ ) years, with mean weight ( $76.2 \pm 7.812$ ) kg. and with mean height ( $174.26 \pm 6.394$ ) cm. **Materials and Methods:** The subjects were divided into three equal groups. Subjects in the first group (15 subjects) had received Delorme resisted training, and subjects in the second group (15 subjects) had received Russian current on their dominant quadriceps femoris muscle, and third group (15 subjects) control group. Biodex system 3 Pro isokinetic dynamometer was used to measure the peak torque to body weight ratio (PK/BW) of the dominant quadriceps femoris muscle and the contralateral side for three trials and the mean was calculated. **Results:** the study revealed that there was no significant difference in the percentage of improvement of the contra lateral quadriceps muscle PK/BW between first and second group. **Discussion and Conclusion:** the finding revealed that both Delorme resisted technique and Russian electrical stimulation current improve strength in the contra lateral quadriceps femoris muscle but there was no significant difference between both of them.

<b>Key words</b>	1. cross training. 2. Delorme resisted training. 3. Russian current. 4. quadriceps strength. 5. Electrically Induce Quadriceps. 6. Strength In Normal Subjects.
<b>Arabic Title Page</b>	: مقارنة تأثير التدريب بالمقاومة والتبيه الكهربائي على قوة عضلة الفخذ الرباعية في الطرف الآخر للأصحاء.
<b>Library register number</b>	: 2305--2306.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Mohammed Yahya Abd El- Hamed.
<b>Title</b>	:	Passive Accessory Joint Mobilization versus Low Level Laser Therapy on the Treatment of Acute Ankle Sprain.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Mohammed Hussein El-Gendy.
	2.	Ragia Mohammed Kamel.
	3.	Mahmmoud Mabrouk Saied.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	<p><b>Background:</b> Ankle sprain is reported to be a major health problem worldwide. <b>Purposes:</b> The aim of this study was to investigate the efficacy of accessory ankle mobilization and low level laser therapy (LLLT) on treatment of grade two acute ankle sprain. <b>Subjects:</b> 30 subjects from both sexes (19 male and 11 female) were participated in the study, their age ranges from 18-35 years. They were divided randomly into two equal groups, 15 subjects in each group. Group (I) received grade one passive accessory joint mobilization. Group (II) received a LLLT (wave length 632.8 nm., out put power of 40 mW., dosage / site of 2.5 J/cm<sup>2</sup> and 6 min. for each session). Treatment was done 3 times a week for 2 weeks. <b>Methods:</b> Pain level, functional abilities and walking speed were measured before and after treatment. <b>Results:</b> There were non significant differences within the two groups before and after treatment and between the two groups after treatment in functional performance, pain level and walking speed. The results showed a significant improvement in all parameters in group I and group II. <b>Conclusion:</b> It was concluded that both of passive accessory joint mobilization and LLLT proved to be beneficial in improving perceived ankle pain, functional abilities and walking speed in subjects suffered from acute ankle sprain.</p>
<b>Key words</b>	1.	Ankle Sprain.
	2.	Joint Mobilization.
	3.	Lasers.
	4.	Low Level Laser Therapy.
	5.	Mobilization.
<b>Arabic Title Page</b>	:	تحريٰك المفصل السُّلبيِّ مقابل الليزر منخفض التردد في علاج التواء مفصل الكاحل الحاد.
<b>Library register number</b>	:	<b>2121-2122.</b>

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Rehab El-Saeed EL-Sherbeeny Ahmad Mansy.
<b>Title</b>	:	Effect of low Intensity Pulsed Ultrasound on fractures Healing Rate in Elderly.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Samy A. Nassif.
	2.	Naguib Mohamed Salem.
	3.	Amir Mohamed Saleh.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	

The purpose of this study was to examine the effect of low Intensity Pulsed Ultrasound (LIPUS) on fractures healing of geriatric fractures. Thirty elderly patients of both sexes participated in this study; all subjects had closed humeral shaft fractures (CHSFs) and had treated non-operatively by plaster cast. Patients were classified into two equal groups (control group) consists of fifteen subjects received therapeutic exercise only and (experimental group) consists of fifteen patients were treated by LIPUS and therapeutic exercise. To determine the fractures healing fractures were assessed clinically and radiologically by plane X-rays at the beginning of the treatment and after 6 weeks at the end of treatment. Results showed that there was significant difference in bone healing between both groups in favors of experimental group. It was conclude that both LIPUS and exercise are effective methods for accelerating healing and reducing incidence of delayed and non union rates in geriatric patients of the CHSFs after being properly fixed by the plaster cast.

<b>Key words</b>	1. Low intensity pulsed ultrasound. 2. closed humeral shaft fracture. 3. Geriatrics. 4. fractures Healing Rate in Elderly. 5. Healing Rate.
<b>Arabic Title Page</b>	: تأثير الموجات فوق الصوتية المنخفضة الشدة المتعددة على معدل التئام الكسور في الأشخاص المسنين.
<b>Library register number</b>	: 2201-2202.

**ELECTRONIC GUIDE TO THESES APPROVED BY  
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PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Yasser Abd Elaziz Ghannam.
<b>Title</b>	:	Pulsed electromagnetic field versus laser in treatment of tennis elbow.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Fatma Sedek.
	2.	Tarek Abd Elrahman.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2010.
<b>Abstract</b>	:	

**Introduction:** Tennis elbow is a painful condition affecting the tendon attachment of forearm extensor muscle to the epicondyle of the humerus. This condition is recognized as one of the most common causes of tennis elbow pain. Tennis elbow can be caused both by occupational and sport related-activities. **Purposes:** To investigate and compare the efficacy of pulsed electromagnetic field and low level laser therapy in treatment of patients with tennis elbow. **Subject** Thirty patients from both sexes were involved, aged between 30–50 years old, and were divided into two equal groups, fifteen patients each. **Method:** Patients in the first group (group A) received pulsed electromagnetic field with infrared radiation 3 sessions/week for 4 weeks; (group B) received low level laser therapy with infrared radiation 3 sessions/week for 4 weeks. Pain intensity and wrist extensor strength were measured before and after four weeks of treatment. **Results:** The results indicated that there was significant improvement in all parameters in group A compared with those at group B a pain level decreased and improved wrist extensor strength. **Conclusion:** Pulsed electro magnetic field proved to be more beneficial than low level laser therapy in reducing pain and increasing grip strength in patients with tennis elbow.

<b>Key words</b>	1. Tennis Elbow
	2. Pulsed Electromagnetic Field
	3. Low Level Laser Therapy.
<b>Arabic Title Page</b>	: المجال المغناطيسي المتقطع مقابل الليزر منخفض الشدة في علاج الالتهاب العظمى المفصلي للركبة.
<b>Library register number</b>	: 2111-2112.