

Department of Basic Science

Master Degree
2006

Author	:	Abeer Ezzat Hakeem.
Title	:	Influence of different intensity of exercise on lipid per oxidation.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen Mohammed EI Sayyad.
	2.	Laila Ahmed Rashed.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>The purposes were to investigate the relationship between different exercise intensities and lipid per oxidation, and to evaluate the effect of different intensities of exercise of lipid peroxidation in different genders. Forty healthy non athletic subjects, both sexes were involved aged between 18 - 28 years. The first group was exercised on ergometer at intensity 70% of maximal heart rate for 30 min. The second group was exercised on ergometer at intensity 90% of maximal heart rate for 5 min. Blood samples were taken immediately before and after the exercise session. It showed that both 70% and 90% maximum heart rate exercises have a highly significant effect on lipid per oxidation. Nevertheless 90% maximum heart rate exercise has a highly significant effect on both sexes, but 70% maximum heart rate exercise had no effect on lipid per oxidation in females but had a significant effect on lipid per oxidation in males.</p>		
Key words	1.	Ergometer.
	2.	Exercise.
	3.	Lipid Peroxidation.
	4.	Gender.
Arabic Title Page	:	تأثير الشدة المختلفة للتمرينات على أكسدة الدهون.
Library register number	:	1269-1270.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Abeer Mahmoud Yussuf.
Title	:	Relationship between Neuromuscular Electrical Stimulation Amplitude and Muscle Soreness.
Dept.	:	Department of Basic Science.
Supervisors	1.	Samy Abdel Samad Nasef.
	2.	Maher EI Kebabawy.
	3.	Neveen Abdel Lattif.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: Neuromuscular electrical stimulation is widely used by physical therapists to improve muscle performance, retarding muscle wasting following muscle denervation or immobilization and optimizing recovery of muscle strength during rehabilitation. Although many attempts were done, optimal stimulation amplitude has not been determined yet. The purpose: of this study was to determine the optimal amplitude of neuromuscular electrical stimulation that could be used to increase the torque of the quadriceps muscle. Subjects: Thirty healthy male and female physical therapy students with mean age 21.2 ± 3.7 year, weight 75.6 ± 8.4 kg and height 174.3 ± 6.2 cm were assigned randomly to three equal groups. Methods: The isometric torque of the non dominant quadriceps was evaluated at 60 degrees of knee flexion, using Biodex III isokinetic dynamometer before and after six weeks of electrical stimulation. Neuromuscular electrical stimulation was administered three times a week for 6 weeks at amplitude 18 % of maximum tolerated intensity (MTI) for group I, 69 % of MTI for group n and 91 % of MTI for group m. Results: The results revealed that the amplitude of neuromuscular electrical stimulation produced significant increase in the quadriceps muscle torque in all groups which was (26.95 %, 16.87 % and 15.79 %) respectively. There was no significant difference among the three amplitudes ($p < 0.05$) for muscle torque and soreness. There was significant difference in muscle torque for female in each group. Discussion and conclusion: The finding revealed that neuromuscular electrical stimulation can improve the strength of normal innervated muscles. This improvement was due to more firing of motor neurons with small dose of electrical stimulation, but when the intensity increased this led to fatigue of some motor neurons and gained less strength.</p>		
Key words	1.	Electrical stimulation.
	2.	Amplitudes.
	3.	Muscle torque.
	4.	soreness.
Arabic Title Page	:	العلاقة بين شدة التنبيه الكهربائي العصبي العضلي والام العضلات.
Library register number	:	1337-1338.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Ahmed Ibrahim Ahmed El Erian.
Title	:	Validity and Reliability of A Modified electrogoniometer for Measuring Knee, Joint Range of Motion.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsin El-Sayyad.
	2.	Sami Abdel El-Asamad.
Degree	:	Master.
Year	:	2006.
Abstract	:	<p>Purposes: To investigate the validity and intra and inter tester reliability of a modified Egyptian made electrogoniometer for measuring the normal active range of motion of knee joint. Study Design: It is a test re test study. Methodology: Sixty normal male subjects were involved, aged between 18-24 years. Each one of them was examined firstly by one examiner using the universal and the modified electrogoniometer. Comparison between the same subject active knee range of motion measurement measured by universal and electrogoniometer was made to detect the validity. Comparison between the same subject results measured by the same testers at two different times was done for measurement of intra tester reliability. While For investigation of inter tester reliability, comparison between the same subject results measured by three different examiners was done. Results: The study revealed that there were no significant differences in the measurements between the universal and electrogoniometer for knee flexion (r value and ICC=0.89) and for knee extension (r value and ICC=0.86 and 0.85) . Also there were no significant differences between 1st time and 2nd time measurement by the modified electrogoniometer (r for flexion and extension= 0.96 , ICC for flexion and extension was 0.68 and 0.67 respectively). There were no significant differences between three examiner results for the same subject. (ICC for knee flexion and extension =0.98 and 0.65) while F value was 0.014 and 0.059 for knee flexion and extension respectively and the P value was >0.05). Discussion: The electrogoniometer could measure the peripheral and spinal range of motion accurately. Conclusion: The modified electrogoniometer is valid and has a highly intra and inter tester reliability.</p>
Key words	1.	Range of motion.
	2.	knee joint.
	3.	Goniometry.
	4.	electrogoniometer.
Arabic Title Page	:	مدى كفاءة وفاعلية جهاز قياس المدى الحركي لمفصل الركبة.
Library register number	:	1339-1340.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Ahmed Mohamed Abd El-Rahman.
Title	:	Isodose Distribution Curves of Selective Electro-therapy Instruments.
Dept.	:	Department of Basic Science.
Supervisors	1.	Wadida Hassan Abd El-Qader.
	2.	Maher Ahmed El-Keblawy.
	3.	Fadel Mohamed Ali.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: In physical therapy electromagnetic fields are used in the treatment of wide variety of diseases. Risk from exposure to electromagnetic field is not completely evaluated because of the absence of dosimetry system that is capable of measuring radiation exposure. Purpose of the current study was to investigate both the electric and magnetic field strength that the physical therapist is exposed to at different distances during the application of selective electrotherapy instruments and to provide the necessary advice to physiotherapist in order to have safe handling of these equipments. Materials: Both the electric and magnetic fields around the apparatus working in interferential, Russian and transcutaneous electrical nerve stimulation (TENS) modes were measured using two measuring equipments: Hand Held / Gauss Tesla Meter and Trifield Meter. Methods: Both the electric and magnetic fields were measured at different locations around the apparatus at two conditions: without earthing of the apparatus and/or cables & with good earthing of the apparatus and/or cables. Results: There was a considerable high electric and magnetic field around the electrotherapy equipments which markedly decreased when the apparatus and / or cables was good earthed. Discussion: The measured values of the electric and magnetic fields around the apparatus used for treatment of patients in electrotherapy and used in the present study are higher than international permissible levels recommended by international unions concerned with non-ionizing radiation protection. The present study concluded that both the electric and the magnetic fields around the apparatus were decreased when the apparatus was good earthed and eliminated to zero value when the electrodes cables was shielded and good earthed.</p>		
Key words	1.	Electromagnetic field.
	2.	Isodose distribution curves.
	3.	Electrotherapy instruments.
Arabic Title Page	:	تخطيط منحنيات الجرعات الأشعاعية حول بعض أجهزة العلاج الكهربائي.
Library register number	:	1405-1406.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Amira Mohamed Mohamed El Gendy.
Title	:	Efficacy of laser pulse frequencies on nerve conduction velocity.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Sedik Amin.
	2.	Emam Hassan Elnegmy.
	3.	Mohamed Hussien Elgendy.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background and objective: It has been claimed that laser may have biostimulation effect on the nerve tissues. This study has been designed to investigate the effect of different laser pulse frequencies (combined He-Ne and infrared laser) on electrophysiological parameters of sensory nerves. Materials and methods: 30 healthy subjects with no history of neurological conditions randomly selected from students and staff members of Faculty of Physical Therapy , Cairo university. They were assigned randomly into two equal groups with mean age of 21.6 ± 3.15 years for group I and 21.6 ± 3.29 years for group II. Laser irradiation was applied on the forearm of the dominant limb overlying the course of median nerve with wavelength 850 nm, intensity 4 Joules, peak power 10 W and pulse frequencies 800 Hz for group I and 2000 Hz for group II. Antidromic sensory distal latency and nerve conduction velocity evaluated before laser application and the recordings were subsequently repeated immediately after 15 minutes and 30 minutes after laser application. Results: They revealed that low laser pulse frequency (800 Hz) produced a significant increase in sensory distal latency ($P < 0.001$), with a % increase of (9.23%), and corresponding decrease in nerve conduction velocity ($P < 0.02$), with a % decrease of (7.8%). As well as high laser pulse frequency (2000 Hz) where ($P < 0.001$) and the % of change was (13.89%) for sensory distal latency, and significant decrease in nerve conduction velocity ($P < 0.02$) with a percent of change (10.34%). Indeed there was a significant difference between low and high laser pulse frequencies (800 and 2000 Hz), ($P < 0.05$) with higher tendency in decreasing the sensory nerve conduction velocity using higher laser frequencies than lower frequencies. Conclusion: These results suggest that laser irradiation at the parameters and under conditions used here produced a direct neurophysiological effect in form of a significant increase in conduction latency corresponding to a decrease in sensory conduction velocity of median nerve in normal subjects. The degree of nerve conduction block increased with higher frequencies. This data indicate that lasing could diminish pain sensation mediated by the peripheral nerves.</p>		
Key words	1.	Low intensity laser therapy.
	2.	Pulse frequencies.
	3.	Nerve conduction velocity.
	4.	Lasers.
Arabic Title Page	:	تأثير ترددات نبض أشعة الليزر على سرعة التوصيل في الأعصاب الطرفية.
Library register number	:	1373-1374.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Ehab Emil Ayoub Sabry.
Title	:	Lumbar repositioning accuracy in low back dysfunction.
Dept.	:	Department of Basic Science.
Supervisors	1.	Omaima Kattabei.
	2.	Mohamed EI-Gendy.
	3.	Hassan Baraka.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Purposes: To compare the difference in repositioning accuracy between low back dysfunction and healthy subjects, and to investigate the difference in the degree of repositioning accuracy in relation to the cause of low back dysfunction. Study Design: A control group one-shot study. Subjects and methods: Forty-five subjects from both sexes were involved, aged between 30 - 50 years. They were divided into three equal groups. Subjects in the first group were normal healthy subjects. Subjects in the second group had a history of non-specific mechanical low back dysfunction, while subjects in the third group had discogenic low back dysfunction. Biodex system 3 pro isokinetic dynamometer, equipped with a special forward reclined back attachment, was used to measure the lumbar repositioning accuracy of the lumbar region. Subjects were required to reproduce a target position (30° flexion). The mean deviation or absolute error (A E) about the 30 ° target position was calculated for each subject. Results: The study revealed that there were significant differences in the repositioning accuracy among the three groups. The Absolute errors were greater in the two low back dysfunction groups than in the control group. On the other hand, there were no significant differences in the repositioning accuracy between the two low back dysfunction groups. Discussion: The healthy subjects repositioned their back more accurately to the target position. While, the low back dysfunction groups had a significantly larger absolute error. Conclusion: Differences in proprioception do exist between subjects with back dysfunction and normal subjects. The proprioceptive deficits do exist regardless to the cause of the back dysfunction.</p>		
Key words	1.	Low back dysfunction.
	2.	position sense.
	3.	proprioception.
Arabic Title Page	:	دقة إعادة وضع المنطقة القطنية في الخلل الوظيفي للظهر.
Library register number	:	1329-1330.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Eman Ahmed Abd EL- Moez
Title	:	Effect of Continuous Versus Intermittent Exercise Bouts on Bone Metabolism in Normal Subjects.
Dept.	:	Department of Basic Science.
Supervisors	1.	Awatif Mohamed Labeeb.
	2.	Laila Ahmed Rashed.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: physical exercise plays a role in the maintenance of the skeleton, but the specific mechanisms by which exercise increases bone mass are not well understood. Purpose: The purpose of this study was to investigate the effect of continuous versus intermittent exercise bouts on serum parathyroid hormone (PTH), ionized calcium (Ca^{2+}) and bone-alkaline phosphatase (BALP). Subjects: Thirty normal un-trained subjects of both sexes, aged between 20-30 years were randomly assigned into two groups: Continuous exercise group (n=15), and intermittent exercise group (n=15). Materials and Methods: Continuous exercise consisted of running on treadmill for two successive bouts of 20 min. each at 70% and 80% of VO_{2max} without an intervening recovery period. Intermittent exercise consisted of two bouts of exercise at the same intensities but separated by 40min. of passive recovery. Venous blood samples were collected immediately before and after the session in both groups. Results: The PTH was significantly elevated at the end of exercise sessions in both groups ($p<0.0001$), but it was significantly higher ($p<0.05$) at the end of continuous exercise bout compared to intermittent bouts. The Ca^{2+} decreased significantly at the end of exercise sessions in both groups ($p<0.0001$), however it was significantly lower ($p<0.05$) at the end of continuous exercise bout compared to intermittent bouts. The (BALP) was significantly increased ($p<0.0001$) at the end of exercise sessions in both groups, but it was significantly higher ($p=0.000$) at the end of intermittent exercise bouts compared to continuous bout. Conclusions: The results of this study indicate firstly that a recovery period between two bouts of aerobic exercise might have similar effects to intermittent secretion of PTH; secondly that intermittent exercise programs might have anabolic effects on bone metabolism.</p>		
Key words	1.	PTH (parathyroid hormone).
	2.	Recovery.
	3.	exercise bout.
	4.	BALP (bone-alkaline phosphatase).
	5.	bone metabolism.
	6.	aerobic exercise.
Arabic Title Page	:	تأثير التمرينات المستمرة في مقابل التمرينات المتقطعة على بناء العظام في الأشخاص الأصحاء.
Library register number	:	1349-1350.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Enas El Sayed Mohamed Abu Taleb.
Title	:	Effect of Posture Correction Exercises on Sensory Nerve Root Function in Patients with Forward Head Position.
Dept.	:	Department of Basic Science.
Supervisors	1.	Omaima kattabei.
	2.	Samy Abd El Samad.
	3.	Hala El Habashy.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>The purpose: The purpose of this study was to investigate the effect of posture correction exercises on nerve root function, forward head position (FHP), neck pain and functional disability in patients (males and females) with FHP. Subjects: 30 patients suffering from chronic neck pain, FHP and forward head displacement beyond 1.5cm were anticipated in this study. Their age ranged from 20 to 35 years with a mean (28.40±3.94). Patients were assigned randomly into two groups (control and study groups), each group included 15 patients who received treatment for three times per week for six weeks. Both groups received traditional treatment in addition to the posture correction exercises for the study group. Method: peak latency of somatosensory evoked potentials (SSEPs) were measured at Erb's point (EP), seventh cervical spine (C7) and cortical points (C3' and C4'), forward head displacement was measured by lateral cervical radiographs, pain using Visual analogue scale (V AS) and functional abilities using neck disability index (NDI) and were all made pre and post the treatment. Results: revealed that posture correction exercises produced significant restoration of the normal latency peaks of SSEPs for EP, C7, C3' and C4' and significant decrease in the forward head displacement on lateral cervical spine x-ray for the study group, significant reduction of pain and significant decrease in neck functional disability for both groups. The traditional treatment produced insignificant effect on the latency peaks of SSEPs and on x-ray. Discussion and Conclusion: For FHP patients emphasis of posture correction exercises in addition to traditional treatment resulted in improvement of the nerve root function, restored sagittal cervical curve, reduced pain level and decreased functional disabilities.</p>		
Key words	1.	Posture correction exercises.
	2.	somatosensory evoked potentials.
	3.	forward head position.
Arabic Title Page	:	تأثير تصحيح القوام على وظيفة الجذور العصبية الحسية في مرضى وضع الرأس الأمامي.
Library register number	:	1323-1324.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Hisham Mohamed Abd-El Raheem.
Title	:	Normal Range of Motion of Lower Extremity Joints in Young Adults: Preliminary Study.
Dept.	:	Department of Basic Science.
Supervisors	1.	Omaima Kattabei.
	2.	Mohamed El-Gendy.
	3.	Ragia Mohamed Kamel.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Purposes: To establish normative data about the normal active range of motion of hip, knee, and ankle joints, compare between AROM of dominant and non-dominant side, and Compare between active range of motion in males and females. Study Design: A one measurement study of active range of motion of hip, knee, and ankle joints. Materials and Methods: The study was conducted in the Faculty of Physical Therapy, Cairo University, to obtain normative values of active range of motion of lower extremity joints, to compare between active range of motion in dominant and non-dominant side, and to compare between active range of motion in males and females. Measurement: Digital electrogoniometer was used to measure active range of motion of lower extremity joints. Results: The study revealed that; there were statistical significant differences between normal values of active range of motion in the current study and those found in previous studies, there were statistical significant differences between active range of motion in males and females except in hip adduction, knee flexion, and ankle planter-flexion, these were no statistical significant differences between dominant, and non-dominant side except in hip adduction and ankle dorsi-flexion, and planter flexion in female subjects. Discussion and Conclusion: The normal values of lower extremity joints were different from the values present in previous studies, the active range of motion of the contra-lateral healthy joint may be not a reliable as a reference for the restricted joints.</p>		
Key words	1.	Normal range of motion.
	2.	Lower Extremity.
	3.	Electrogoniometer.
Arabic Title Page	:	المدى الطبيعي لحركه مفاصل الأطراف السفلي لصغار البالغين: دراسة تمهيديه.
Library register number	:	1403-1404.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Magda Ramadan Zahran.
Title	:	Effects of flat foot on pelvic mechanics and spinal curvatures.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Sedik Amin.
	2.	Neveen Abd El Latif Abd El Raouf.
	3.	Soha Talaat Hamed.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: The manifestations of flat foot make the foot unable to absorb the forces of weight bearing effectively and as a result, the arthrokinematic relation of all body joints from foot to back will be altered. The purpose: of this study was to investigate the effects of flat foot on pelvic mechanics and spinal curvatures. Subjects: 60 subjects (30 males and 30 females). Their age ranged from 18-35 years old. Subjects were assigned randomly into two equal groups. Group A (The control group) included thirty healthy subjects (15 males - 15 females) with mean age of 24.50 ± 3.48 years old, weight 65.00 ± 7.88 kg, height 163.63 ± 9.44 cm and BMI 24.18 ± 0.60 kg/m². And group B (The study group) included thirty subjects (15 males - 15 females) with bilateral flexible second-degree flat foot with mean age of 24.07 ± 3.76 years old, weight 64.50 ± 8.35 kg, height 163.23 ± 9.11 cm and BMI 24.11 ± 0.60 kg/m². Method: feet assessment using lateral weight bearing radiographs were performed bilaterally for each subject in both groups to measure the talus first metatarsal angle then 3D assessment of the spine was done for subjects of both groups using formetricII device to measure pelvic inclination angle, pelvic tilt, lordotic angle, and kyphotic angle. The results: indicated that, there was a significance difference in pelvic inclination, pelvic tilt and lordotic angle $P= 0.012, 0.037$ & 0.010 respectively between both groups and there was no significant difference in kyphotic angle $P= 0.332$ between both groups. Conclusion: The study concluded that subjects with bilateral flexible second-degree flat foot have more pelvic inclination, pelvic tilt, and lumbar lordosis than normal subjects.</p>		
Key words	1.	Flat foot.
	2.	Pelvic mechanics.
	3.	Pelvic tilt.
	4.	Pelvic inclination.
	5.	Lumbar lordosis.
	6.	Thoracic kyphosis.
Arabic Title Page	:	تأثير تفلطح القدم على ميكانيكية الحوض وانحناءات العمود الفقري.
Library register number	:	1449-1450.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Mahmoud Mohamed Ahmed Ewidea.
Title	:	Influence of Reflected Marker Size in Accuracy of Motion Analysis.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen Mohamed El-Sayyad.
	2.	Neveen Abd El-Itif.
Degree	:	Master.
Year	:	2006.
Abstract	:	<p>Background: Three dimensional motion analysis systems are the most advanced tools in the field of movement analysis, in our time many factors influence its accuracy such as marker size however there is little researcher was paid attention to the size of marker as a factor in determining the accuracy of results. <i>The purpose of this study</i> was to investigate the influence of different reflected marker size in accuracy of motion analysis. <i>Subjects:</i> 30 normal healthy subjects their ages ranged from 18 to 24 years with a mean of 19 ± 2.6 years. <i>Design:</i> test-retest, Three 120 Hertz infrared cameras used to capture the position and determine the value of the three co-ordinates of the markers in millimeter. Subject captured using the three different size of markers (3mm, 9mm, 24mm) then after one hour interval repeated capture was taken, then (x,y ,z) of every marker in first trial of capturing would added to the same coordinate of the same marker size then divided on number of trials to get the mean of both trial for each marker size. <i>Method:</i> three passive markers placed over the upper limb of definite size while the subjects were sitting on a chair, subject captured by the three different size for two times with one-hour interval then a mean for both trial of every marker size tacked. Data collected and analyzed using the interclass correlation co-efficient. <i>Results:</i> inter class correlation model used to determine interclass correlation co-efficient between every size of markers. Analysis of variance with repeated measurements test and Bonferroni post hoc analysis concluded that large marker has a good effect on accuracy of results $p < 0.05$. <i>Discussion:</i> placement of different size of markers showed high accuracy of large markers due to the higher presentation of the marker in camera volume. <i>Conclusion:</i> It concluded that using of large marker has good results on accuracy of motion capturing.</p>
Key words	1.	passive markers.
	2.	three dimensional (3D) motion analysis.
	3.	reflective marker size.
Arabic Title Page	:	دراسة مدى تأثير حجم العلامات العاكسة علي دقة التحليل الحركي.
Library register number	:	1443-1444.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Mohamed Taher Mahmoud EI Desoky.
Title	:	Efficacy of selected therapeutic exercises program in the treatment of patients with low back dysfunction.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen EI Sayad.
	2.	Ahmed Kholeif.
Degree	:	Master.
Year	:	2006.
Abstract	:	<p>Backeround: The effectiveness of therapeutic exercises for treatment of low back dysfunction (LBD) still remains unproved and controversy . exists in the literature about the specific exercise programs which result in improved outcomes. The purpose: this study was conducted to investigate the effect of selected therapeutic exercises program on treatment of patients with LBD. Subiects: sixty patients (42.58±5.36) years suffering from chronic LBD were divided into three groups, each group included 20 patients. Method: the three groups received medical treatment, in addition group (B) received stretching exercises for back and hamstring muscles and group (C) received the same stretching exercises and strengthening exercises for back muscles. Lumbar ROM in flexion, extension, rotation and lateral flexion measured by BROM, pain measured by visual analogue scale (VAS) and functional disabilities measured by Oswestry disability index (ODI) were measured before and after 2, 4 and 6 weeks of treatment. Results: there was significant reduction in pain, functional disabilities and increase in lumbar mobility after treatment in group (B) and group(C) as p-values were (p< 0.000) than group (A) while there was no significant difference in the measured variables after treatment between group (B) and group (C). Discussion: stretching exercises for back and hamstring muscles improve chronic LBD patients as shortening or contracture of the back soft tissues led to pain, functional disabilities and reduction of ROM. Conclusions: For chronic LBD patients isolated stretching exercises of the back and hamstring muscles result in greater reduction in pain intensity, increase lumbar ROM and improve functional activities. The addition of strengthening exercises of the back muscles to the stretching exercises result in more improvement in LBD patients but no statistically significant difference were found in the pain, lumbar ROM or disability measures between the two experimental groups (B and C).</p>
Key words	1.	Low Back Dysfunction.
	2.	Stretching exercises.
	3.	Strengthening.
	4.	exercises.
Arabic Title Page	:	مدى كفاءة برنامج مختار من التمرينات العلاجية في علاج الخلل الوظيفي للظهر.
Library register number	:	1331-1332.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Noran Ahmed Mohamed.
Title	:	Effect of electrolipolysis on lipid profile in female subjects.
Dept.	:	Department of Basic Science.
Supervisors	1.	Omima Katabei.
	2.	Maher Ahmed Elkeblawy.
	3.	Laila Ahmed Rashed.
Degree	:	Master.
Year	:	2006.
Abstract	:	<p>The purpose of this study was to investigate the effect of electrolipolysis on lipid profile in obese female subjects. Subjects: Forty obese female subjects with age ranged from 18 to 35years old were participated in this study. They were assigned randomly into two equal groups; the study group (B) which consisted of twenty obese female subjects with mean age of (25.55 5.414) years, mean height of (160.15 7.414) cm, mean weight of (87.95 9.688) Kg, mean of body mass index BMI (34.35 3.303) Kg/m².They received electrolipolysis, diet restriction regimen and aerobic exercises. The control group (A) composed of twenty obese female subjects with mean age of (24.65 7.292) years, mean height of (162.2 8.965) cm, mean weight of (93.8 13.609) Kg, mean of BMI of (35.64 3.396) Kg/m². This group was treated with diet restriction regimen and aerobic exercises only. Methods: Assessment was done before and after one month of treatment in both groups. It includes body mass index (BMI), waist hip ratio (WHR) and lipid profile. Results: The results of this study revealed significant difference between the two groups in BMI, WHR, and Lipid profile measurements. As there were a significance decrease in BMI, WHR ,Triglycerides, total cholesterol and LDLc with significant increase in HDLc in the study group(B) more than that in the control group(A)conclusion: The findings of the current study revealed that electrolipolysis is an effective method in reducing weight and anthropometric measurements and improving the metabolic parameters.</p>
Key words	1.	Electrolipolysis.
	2.	lipid profile.
	3.	female.
Arabic Title Page	:	تأثير إذابة الدهون كهربائياً على نسبة الدهون في الدم في الإناث.
Library register number	:	1363-1364.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Olfat Ibrahim Ali.
Title	:	Effect of low Pulsed magnetic field therapy on motoneuron excitability in normal subjects.
Dept.	:	Department of Basic Science.
Supervisors	1.	Awatif M. Labib.
	2.	Samy Abd El Samid.
	3.	Hanan Hoseny.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: pulsed magnetic field therapy was used to control pain. It was used to decrease sensory nerve conduction velocity through inducing electric current in the tissues so it might has an effect on the alpha motor neuron excitability. <u>The purpose</u> of this study was to study the effect of the low pulsed magnetic field therapy (LPMFT) on motoneuron excitability in normal subjects. <u>Material and method</u> Thirty male volunteered subjects Their mean age, weight, height and limb length were (21.66 ±1.86955), (70.525±11.32), (174.53 ±6.7429) and (93.66±6.61725) respectively. They were assigned randomly into two groups; experimental group include 20 subjects while control group include 10 subjects. Experimental group received low pulsed magnetic field with 10 Hz frequency and intensity of 60 G for 30 min at the posterior aspect of the right calf ms. The H reflex amplitude, H/M ratio, H reflex latency and the H intensity threshold were measured before and after application of the LPMFT and after 30 min for the experimental group while pre and post 30 min only for the control group. <u>The results</u> indicated that intensity threshold to elicit the H reflex was decreased significantly where (P value < 0. 0001) for experimental group while there was no statistically significant difference in the H reflex amplitude as p<0.4372, H/M ratio P< 0.7426 and latency p<0.1049 for the experimental group after application of the LPMFT. The H reflex amplitude, H/M ratio, H reflex latency and H reflex intensity threshold were not changed statistically significantly in the control group as p values were 0.145, 0.117, 0.406 and 0.671 consequently. In addition there was no statistically significant difference between the experimental and control groups in the measured parameters. <u>This study concluded</u> that low pulsed magnetic field with 10 Hz and 60 G increase motoneuron excitability, providing physiotherapists with a modality that could be used for treatment of many neurological disorders.</p>		
Key words	1.	H-reflex.
	2.	H/M ratio.
	3.	H reflex latency.
	4.	pulsed magnetic field.
	5.	alpha motoneuron excitability.
Arabic Title Page	:	تأثير التيار المغناطيسي المنخفض التردد على استجابة الخلية العصبية الحركية للأشخاص الأصحاء.
Library register number	:	1409-1410.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Sameh Refaat Ahmed.
Title	:	Electromyography study of medial Gastrocnemius muscle following low frequency current stimulation in normal subjects.
Dept.	:	Department of Basic Science.
Supervisors	1.	Awatef Mohamed Labib.
	2.	Omaima Kattabei.
	3.	Hala El-Habashi.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Purposes: to investigate the effect of fatiguing protocol of high and low frequency on compound action potential (CMAP) of medial Gastrocnemius muscle over time. Study Design: (2 x 1) pre-Test post-Test design. Materials and methods: sixty healthy male subjects from were involved, aged between 18– 40 years. They were divided into two equal groups. Subjects in the first group underwent 80Hz frequency stimulation while Subjects in the second group underwent 40Hz frequency stimulation. Subjects were required to tolerate a fatiguing protocol for 20 minutes. Measurement The amplitude CMAP were measured pre-test, immediately post-test and over interval of 10,20,40 minutes. Results: There was significant decrease in the amplitude CMAP of medial Gastrocnemius muscle following high and low frequency stimulation protocol. There were no significant differences between high and low frequency stimulation on the amplitude of CMAP. Discussion: Subjects who underwent high frequency stimulation (80 Hz) shows rapid fall in the amplitude of CMAP rather than subjects in low frequency stimulation. Furthermore, subjects in group II, the decline in CMAP amplitude comes late after 20 minutes for a little extent and resume to the pre-test value after 40 minutes. Conclusion: Decline in the amplitude of CMAP do exist between individuals before and after high and low frequency stimulation (fatiguing protocol). It was recommended to use low frequency stimulation rather than high frequency stimulation to avoid rapid fatigue of the muscle.</p>		
Key words	1.	medial Gastrocnemius muscle.
	2.	EMG.
	3.	High frequency stimulation.
	4.	Low frequency stimulation.
	5.	Fatigue.
Arabic Title Page	:	دراسة رسم العضلات لعضلة السمانة الداخلية بعد استخدام تيار منخفض التردد في الاشخاص الطبيعيين.
Library register number	:	1341-1342.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Shaimaa El Gharib Ali.
Title	:	Efficacy of Russian Current and Low Frequency Pulsed Current on Quadriceps Muscle Torque and Soreness.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohamed Hussein El-Gendy.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: Neuromuscular electrical stimulation (NMES) is used by therapists in muscle strength rehabilitation. Two types of stimulators have aroused special interest, one type produce low frequency pulsed currents and the other, medium frequency alternating currents modulated at low frequencies as Russian current. The purpose: of this study was to investigate which is more effective in increasing muscle torque and in decreasing pain response (Russian current or low frequency pulsed current). Design and Subjects: A pretest-post test (2×2) design with repeated measurement was used in this study. Thirty healthy female physical therapy student and employees participated in this study, their age ranged between 18-32 with mean age (24.9 ± 0.96), assigned randomly to two equal groups:- group I (n=15 female subjects) had their non dominant quadriceps femoris muscle stimulated with Russian current for ten minutes, 3times/week for 4 weeks. Group II (n=15 female subjects) had their non dominant quadriceps femoris muscle stimulated with rectangular symmetrical biphasic current for ten minutes, 3times/week for 4 weeks. Methods: The isometric torque of the non dominant quadriceps was evaluated at 60 degrees of knee flexion, using Biodex III isokinetic dynamometer before and after training. Each subject was asked to rate their soreness after 48 hours of electrical stimulation every session by using VAS. Dependant t-test was used to distinguish between the two groups before and after electrical stimulation. Independent t-test was used to further distinguish between both types of electrical stimulation. Results: The results revealed that neuromuscular electrical stimulation produced significant increase in the quadriceps muscle torque (25.93% and 15.96%) in group I and group II respectively (p<0,0001). As regard to muscle soreness there was a significant difference between the two groups (p<0.05) during the second week of training. Also there was no significant difference between the two groups in quadriceps muscle torque (p>0.05) at the end of training. Discussion and conclusion: The finding revealed that neuromuscular electrical stimulation can improve the strength of normal innervated muscles and the Russian current have the advantage over the low frequency pulsed current in terms of strength gained without muscle soreness.</p>		
Key words	1.	Electric stimulation.
	2.	Russian current.
	3.	muscle torque.
Arabic Title Page	:	تأثير كل من التيار الروسي والتيار منخفض التردد على عزم وتعب العضلة الرباعية.
Library register number	:	1361-1362.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Usama Ahmed Khaled.
Title	:	Influence of proprioceptive training on knee function in patients with knee osteoarthritis.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Sedik Amin.
	2.	Mohamed El-Gendy.
	3.	Hassan Baraka.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: There is a prominent loss in proprioceptive sensation in patients with knee osteoarthritis compared with control subjects of the same age and gender. Purposes: To investigate the influence of proprioceptive training on knee function in patients with knee osteoarthritis. Study Design: A pre test post test control group design. Materials and methods: Thirty patients with knee osteoarthritis from both sexes were involved, aged between 40– 60 years. They were divided into two equal groups, fifteen patients each. Patients in the first group received a traditional exercise program in the form of stretching and strengthening exercises. Patients in the second group received a proprioceptive training program in addition to stretching and strengthening exercises. Training was done 3 times a week for 8 weeks. Pain level, functional performance and proprioceptive accuracy were measured before and after treatment. Results: there were significant differences between the two groups in pain ($p=0.007$) and ($p=0.009$) for the right and left knees respectively, functional performance ($p=0.008$) and proprioceptive accuracy ($p=0.037$) and ($p=0.014$) for the right and left knees respectively. Conclusion: Proprioceptive training proved to be beneficial in improving functional performance, perceived knee pain and proprioceptive accuracy in patients with knee osteoarthritis as compared with traditional exercise program.</p>		
Key words	1.	Osteoarthritis.
	2.	knee function proprioceptive training.
	3.	proprioception.
Arabic Title Page	:	تأثير تدريب المستقبلات الحسية العميقة على وظيفة الركبة في مرضى خشونة الركبة.
Library register number	:	1345-1346.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Wafaa Mahmoud Amin.
Title	:	The influence of scapular taping technique on subjects with impingement syndrome.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Seddik Amin.
	2.	Ragia Mohamed Kamel.
	3.	Khaled Abd EL-Salam Shohayeb.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: taping techniques are commonly used in addition to exercise programmes in the rehabilitation of subacromial impingement syndrome (SAIS), but studies on the effect of taping on the scapular kinematics in subjects with SAIS are limited. Purpose: to investigate the influence of taping technique on scapular kinematics, pain level and the function of the shoulder in subjects with unilateral SAIS. Subjects: 45 subjects their age ranged from 30 to 65 years. 30 subjects with SAIS assigned randomly into two groups: Group (A) taping technique, with mean age of (48.87±12.11), weight (80.17±12.31), and height (165.8±6.72), and group (B) exercise group, with mean age of (49.27±12.06), weight (77.23±11.79), and height (165.67±5.8). Group (C) 15 normal subjects, with mean age of (48.4±21.41), weight (74.23±12.49), and height ((165.9±5.64). Method: a 3-dimentional (3-D) motion analysis system was used to measure scapular kinematics in the scapular plane. Measurements were taken with the arm at side, elevated to horizontal position (90°), and at maximum elevation, Shoulder pain and function was monitored with shoulder pain and disability index (SPADI). Measurements taken for subjects with SIS pre and post 12 sessions of treatment, both groups A and B received exercises and traditional treatment +scapular taping for group A. Results: there were significant increasing influences of Taping on the upward rotation angle at all arm positions, also it had significant increasing influences on the posterior tilt angle at horizontal position (p=0.006), and at maximum elevation position (p=0.004). Post treatment there were no statistical differences between group C and A, while there were statistical differences between group C and B in upward rotation and posterior tilt angles. In group A there was significant lowering effect on SADI scores more than that in group B (p<0.0001). Conclusion: taping improved scapular motion, shoulder function and decreased the pain level so it could be used in rehabilitation of shoulder impingement.</p>		
Key words	1.	Traditional treatment.
	2.	scapular taping.
	3.	scapular kinematics.
	4.	shoulder impingement.
Arabic Title Page	:	تأثير استخدام الأشرطة الطبية اللاصقة لتثبيت عظمة لوح الكتف في الأفراد الذين يعانون من انضغاط أوتار عضلات مفصل الكتف تحت نتوء عظمة قمة الكتف.
Library register number	:	1463-1464.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Walid Salah Eldin El Sayed.
Title	:	Influence of therapeutic exercises on selected gait parameters of low back dysfunction.
Dept.	:	Department of Basic Science.
Supervisors	1.	Omaima Kattabei.
	2.	Samy Abd Elsamad.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Purposes: this study was conducted to investigate the effect of low back dysfunction on kinematics parameters of gait and investigate the improvement of gait after application of selected therapeutic program including stretching and strengthening exercises. Design of the study: Pre-test and post-test control group design has been used. Materials and methods: Forty subjects from both sexes were involved, aged from 35 – 50 years. They were divided into two equal groups. Subjects in the first group were control subjects with low back dysfunction receiving medical treatment only. Subjects in the second group had a history of low back dysfunction receiving therapeutic exercises (3sessions/week for 6 weeks). The results of study revealed that: there were no significant differences of kinematics of gait in control group. While there were a significant differences of kinematics of gait within experimental group but not in all phases of gait. Discussion: There was a significant improvement in the angular kinematics (ROM) of joints of lower extremities in almost phases of gait except some phases unilaterally or bilaterally. The significant differences of results of this study were clearly appeared between control and experimental groups compared to experimental group. Conclusion: It was suggested that the improvement of kinematics of gait, was related to therapeutic program including stretching and strengthening exercises. This program was suggested to be modified to be more effective in all phases of gait.</p>		
Key words	1.	Low back dysfunction.
	2.	gait analysis.
	3.	therapeutic exercises.
Arabic Title Page	:	تأثير التمرينات العلاجية على معايير المشى المختارة لمرضى الخلل الوظيفي بالظهر.
Library register number	:	1359-1360.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Yasser Ramzy Abu El-Mahasen Lasheen.
Title	:	Influence of Circadian Rhythm on Quadriceps Muscle Torque.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen Mohammed El-Sayyad.
	2.	Neveen Abd El-Latif.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: Circadian rhythmicity plays an important role in our biophysiological functions, also affects the human performance and effective movement but, little research had been conducted on the body type in relation to the effect of circadian rhythm on the human muscle performance. The purpose: of this study was to investigate the influence of circadian rhythm on quadriceps muscle torque Subjects: Thirty healthy male physical therapy students with mean age (20 ± 2.1), weight (75.9 ± 10.95) and height (173.3 ± 4.4) subjects' personality type was determined by morningness/eveningness scale and then assigned into two equal groups. Methods: The isometric peak torque of the dominant quadriceps muscle was evaluated at 60 degree on knee flexion, using biodex III dynamometer before progressive resisted exercise program. Then after four weeks training three times a week for a month on the morning for group I and in the evening for group II, t-test was done to determine the significant difference in the quadriceps torque, also the difference between the morning training group and evening training group. Results: The result revealed that there was no statistical significant difference in the quadriceps muscle peak torque between the two groups also no statistical significant difference between morning and evening modes in both groups I and II. Discussion and conclusion: The finding revealed that circadian rhythm had no statistical significant effect on the human muscle torque and performance throughout the different day times.</p>		
Key words	1.	Circadian rhythm
	2.	muscle torque.
Arabic Title Page	:	تأثير الإيقاع الحيوي على عزم عضلة الفخذ الرباعية.
Library register number	:	1445-1446.

**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Zeinab Mohamed Abdel Wahab Nosier.
Title	:	Optimum Spinal Position-Based Program in Management of Lumbo-Sacral Radiculopathic Back Pain.
Dept.	:	Department of Basic Science.
Supervisors	1.	Wadida Hassan Abd El-Kader.
	2.	Maher Ahmed El-Keblawy.
	3.	Haytham Mohammed El Hafez.
Degree	:	Master.
Year	:	2006.
Abstract	:	
<p>Background: Postural modification in patients with lumbo-sacral radiculopathy either causes further H-reflex suppression, indicating an increase of root compression, or it affects recovery, indicating decompression of the spinal root. The posture that affects maximum recovery of the H-reflex amplitude is called Optimal Spinal Posture (OSP). It suggested as a therapeutic exercise to decompress the compromised nerve root. The Purpose of this study was to investigate the effect of optimum spinal position in management of Lumbosacral radiculopathic back pain. Methods: Twenty patients were participated in the current study (9 males and 11 females), with mean age were 42.91 ± 9.1 years, weight 68.19 ± 7.9 kg and height 156.06 ± 7.28 cm assigned randomly and equally, in two groups (one control group and one experimental group). Measuring the soleus H-reflex of the affected leg (the peak-to-peak amplitude and the latency to first deflection) were performed before and after treatment to serve as objective indicator of therapy effectiveness. Study group was receiving a selective treatment program based on OSP (OSP of each patient was different according to the posture, i.e. OSP of one patient was in flexion and for other patient in side bending to right). This program was done in addition to conservative treatment in the form of US, IR radiation three times a week for two weeks. Control group received only the conservative treatment (US and IRR) three times per weeks for two weeks. Results: the results revealed that application of selective treatment that based on OSP in the study group produced a significant increase in the peak-to-peak amplitude of soleus H-Reflex (76.7% at P < < 0.05) and decrease in the latency (3.18% at P < 0.05). For the control group, there was no statistically significant change in the peak-to-peak amplitude of soleus H-reflex (0.87% at P < < 0.05) and insignificant change in the latency (1.8 % at P < < 0.05) Conclusion:The finding revealed that the application of selective treatment based on OSP had a marked significant effect on patients with L5, S1 lumbosacral radiculopathy. the OSP producing decompression of the spinal root.</p>		
Key words	1.	Optimum Spinal Position.
	2.	H-Reflex.
	3.	VAS.
	4.	Radiculopathy.
	5.	Lumbo-Sacral Radiculopathic.
Arabic Title Page	:	البرنامج المعتمد على الوضع الامثل للعمود الفقري في علاج الم الظهر الناتجة عن اعتلال جذور الاعصاب في المنطقة القطنية العجزية.
Library register number	:	1435-1436.