

Department of Basic Science

Master Degree
2004

Author	:	Ahmed Taha Sayed Ahmed Farrag.
Title	:	Reliability of reflective markers placement used for motion analysis.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen Mohamed El Sayyad.
	2.	Soad Mahmoud Mohamed.
	3.	Mohamed Hussein Elgendy.
Degree	:	Master.
Year	:	2004.
Abstract	:	
<p>Background: three dimensional motion analysis is considered one of the most advanced objective methods for analysis of body motion . In spite of the many applications of this method of motion analysis , variation among testers in placement of reflective markers has not been completely examined . The purpose: this study was conducted to investigate the intra-tester motion analysis . Subjects: the study was conducted on 60 normal healthy subjects not suffering from any musculoskeletal of the upper limb . Their ages ranged from 18 to 30 years with a mean of 20.38±2.6 years. Design: test-retest design . Three testers participated in this study, the main investigator and two assistant testers . Each subject was tested by each tester twice with one week apart . Subjects were randomly assigned for testers . Method:6 markers were placed over the upper limb by each tester while the subject was sitting on a chair . Three 120 Hz infrared cameras were used to capture the position and determine the value of the three co-ordinate of the markers in millimeter . Data were collected and analyzed using the intraclass correlation coefficient . Results: ICC model (2,1) was used to test intra-tester and inter-tester reliability of marker placement . Intra-tester ICC values for all co-ordinates of all markers were > 0.9 except for the X co-ordinate of the fourth marker which value was 0.892 . Inter-tester ICC values were generally higher than intra-tester ICC values . Discussion: it was suggested that variation of ICC values might be attributed to changes in subject position between repeated measurements and due to inter-subject variability. Conclusion: it was concluded that placement of reflective markers had excellent intra and inter-tester reliability for all marker co-ordinates except the X co-ordinate of the fourth marker which had high reliability.</p>		
Key words	1.	motion analysis.
	2.	reflective markers placement.
Arabic Title Page	:	مصداقية وضع العلامات العاكسة المستخدمة في التحليل الحركي.
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**ELECTRONIC GUIDE TO THESES APPROVED BY
DEPARTMENT OF BASIC SCIENCE
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Author	:	Amira Hussin Mohammed.
Title	:	Proprioception Influence on Shoulder joint Injuries IN Egyptian Handball Players.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Sedek Amin.
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Degree	:	Master.
Year	:	2004.
Abstract	:	
<p>The purpose of the current study was to investigate the relation between shoulder sensibility level of proprioception and the incidence of shoulder injury in Egyptian handball players . thirty-three participants (players)were included at the starting of the work , four players were excluded early as they didn't complete the training and matches . proprioceptive accuracy level firstly was assessed by using two methods active repositioning accuracy test (ARAT)and passive repositioning accuracy test (PRAT)by using the Biodex Medical System . After finishing the season a proposed chick list were filled for recording injury and pain incidence as well as pain intensity level . there was a strong correlation relationship between proprioception deficiency and incidence of injury and pain intensity level . it could be concluded that inaccuracy of the shoulder proprioception may be a cause of injury for Egyptian handball players .</p>		
Key words	1.	Shoulder injury.
	2.	Proprioception.
	3.	Handball.
Arabic Title Page	:	تأثيرات المستقبلات الحسية على إصابات الكتف فى لاعبي كرة اليد المصريين.
Library register number	:	1089-1090.

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Author	:	Amr Abdel Samad Abdel Monem.
Title	:	Effect of exercise and electrical stimulations on type II muscle fibers.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Seddik Amin.
	2.	Maher Ahmed Alkeblawy.
	3.	Hanan Hosney Abdel Aleem.
Degree	:	Master.
Year	:	2004.
Abstract	:	
<p>physical therapy interventions can affect muscle fiber types leading to improvement in muscle performance . In the context of this update , physical therapy interventions can be broadly divided into those designed to increase the patient's resistance to fatigue and others designed to increase the patient's force production . The purpose: of this study was to investigate the effectiveness of electrical stimulation and exercise on type II (fast- twitch) muscle fibers . Subjects: Thirty healthy male physical therapy students with mean age (18.9+ 0.88) years , weight (77.8 + 10.13) kg and height (175.1 + 3.9) cm assigned randomly to three equal groups . Methods: measuring the neurophysiological parameters of type II muscle fibers (Mean amplitude , Maximum amplitude , Mean interturn , Total turn and Maximum muscle tension) were performed before and after treatment . Group I received electrical stimulation in the form of faradic current applied on the dominant quadriceps femoris muscle three times a week for a month , group II received progressive resistive exercise (Deform technique) for their quadriceps femoris muscle three times per week for amount , group III received both electrical stimulation and progressive resistive exercise on their quadriceps femoris muscle three times a week one month . One way analysis of variance (ANOVA) was used to determine significant differences in data between and among the groups . Results: the results revealed that the application of both electrical stimulation and progressive resistive exercise produced significant increase ($p < 0.01$) in the neurophysiological parameters of type II muscle fibers (Mean amplitude , Max . Amplitude , Turn/sec . And Muscular activity) . Discussion and conclusion : The finding revealed that the application of both of progressive resistive exercise and electrical stimulation (Group III) had a marked significant effect on type II muscle fibers than the separate application of each of them.</p>		
Key words	1.	Electrical stimulation.
	2.	type II muscle fibers.
Arabic Title Page	:	تأثير كل من التنبيه الكهربائي والتمارين علي النوع الثاني من الالياف العضلية.
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**ELECTRONIC GUIDE TO THESES APPROVED BY
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Author	:	Dalia Mohammed Mohammed Mosaad.
Title	:	Computer mouse position as a determinant of posture and muscular load in normal subjects.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen M.EL-Sayyad.
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	3.	Maher A. El-Kabalawy.
Degree	:	Master.
Year	:	2004.
Abstract	:	
<p>Background computer mouse become an integral part of office work . the number of studies examined the impact of mouse use on musculoskeletal health is limited . the purpose of this study was to compare kinematics of the right upper extremity and the electromyography activities of upper , lower trapezii , and anterior deltoid muscles in two different computer mouse positions . subjects : thirty subjects (15 males , and 15 females) , mean age was (22.16±10.92) . they were assigned in one group . they assumed one position for fifteen minutes (the traditional one) and then take a recording . after that they assumed the second position (the modified one) for other 15 minutes and take other recording . the recording includes , EMG registered from each selected muscle and capturing of the subjects posture by infrared cameras . results: there was a statistically significant decrease in the right upper extremities angles in the modified position except for the wrist ulnar deviation which increase significantly in this position . there was also significant decrease in muscular activities in this position except for lower trapezius . positive correlation in this position between upper trapezius and shoulder abduction was found . Discussion and conclusion: modified mouse position decreased most upper extremity angles and the muscular load over the upper , lower trapezius and anterior deltoid muscles and so it is recommended to be used in computer workstations in different fields.</p>		
Key words	1.	Computer Mouse.
	2.	Ergonomics.
	3.	EMG.
	4.	Three-dimensional analysis of motion.
	5.	muscular load.
Arabic Title Page	:	وضع فأرة الكمبيوتر كعامل محدد لوضع الجسم والثقل العضلي فى الأفراد الطبيعيين.
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Author	:	Ibrahim Mostafa Mostafa Abu Amer .
Title	:	Dermatomal somatosensory evoked potential demonstration of nerve root function after 2-way traction.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma Sedik Amin.
	2.	Omima Mohamed Aly Kattabei.
	3.	Mohamed Hussien El-Gendy.
Degree	:	Master.
Year	:	2004.
Abstract	:	
<p>This study was conducted to investigate the effect of 2 way traction on the nerve root function and absolute rotatory angle (ARA) in patients with lower cervical spondylotic. subjects: 30 patients suffering from lower cervical spondylotic radiculopathy with Ruth Jackson radiographic stress lines measured less than 25 were participated in this study. their age ranged from 40 to 50 years with a mean (45.67±2.49). patients were divided into two groups, each group included 15 patients. both groups received conservative treatment. in addition to 2-way traction for study group. method: peak amplitude of dermatomal somatosensory evoked potential (DSSEPs) and ARA were measured before and after the 2-way cervical traction therapy to serve as objective indicator of therapy effectiveness. results: revealed that the 2-way traction produced significant increase in the peak amplitude of DSSEPs (96.43%) (P<0.0001) and ARA (101.03%) (P<0.0001). for the control group, there was no statistically significant change in the peak amplitude of DSSEPs (12.24%) (P=0.0983) and ARA (4.14%) (P=0.14990). for the study group, there was a positive correlation between the peak amplitude of DSSEPs and ARA r=0.8074 (P=0.0003). discussion and conclusion: it was concluded that 2-way traction is safe and effective modality to improve the nerve root function and sagittal cervical curve.</p>		
Key words	1.	2-way traction.
	2.	dermatomal somatosensory evoked potentials (DSSEPs).
	3.	absolute rotatory angle (ARA).
Arabic Title Page	:	ايضاح عمل الجذر العصبي باستئارة المخ الحسية بعد استخدام الشد ثنائي الاتجاه.
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Author	:	Kadria Hosny Mohamed Battecha.
Title	:	Some vascular response to different forms of transcutaneous electrical nerve stimulation.
Dept.	:	Department of Basic Science.
Supervisors	1.	Awatef Mohamed Labib.
	2.	Mostafa Mahmoud Gad.
	3.	Haytham Mohamed El-Hafez.
Degree	:	Master.
Year	:	2004.
Abstract	:	
<p>Transcutaneous Electrical Nerve Stimulation (TENS) is a modality used to control pain ; it was reported that it has an influence on the vascular responses to increase the blood flow volume and reduce the resistivity of the arteries in normal subjects . Although many studies were done, the effect of different forms of TENS on blood is still unclear . The purpose of this study was to determine the effect of different forms of TENS on blood responses. Subjects: forty five normal male faculty of physical therapy students and staff were selected with mean age 18.92 ± 1.5 years , height 174.0 ± 3.2 cm and weight 72.9 ± 6.7 kg . they were assigned randomly into three equal groups . Methods : the blood flow volume , peak systolic velocity and resistivity index was measured by ultrasound Doppler pre and post TENS application for 20 minutes on common peroneal nerve at (100 pps 2 pps - 150 pps) for group I , group II , and group III, respectively. One way ANOVA with repeated measurements was done to determine the significant increase in vascular responses. Results: there was highly significant increase of blood flow after application of low TENS (44.73%) when compared with other groups , (high TENS and intense TENS) . Peak systolic volume showed high significant increase after application of high TENS (62.06%) when compared with other studied groups . Also, there is a significant decrease of resistivity index after application of low TENS (- 19.15%) when compared with other groups. Discussion and conclusion the effect of TENS on circulation depends on stimulation intensity and frequency. When the intensity was sufficient to cause a moderate muscle contraction a transient local increased in blood flow occurred.</p>		
Key words	1.	Transcutaneous Electrical Nerve Stimulation, TENS.
	2.	Sympathetic tone.
	3.	Blood flow.
Arabic Title Page	:	استجابة الاوعية الدموية الجزئية للاشكال المختلفة لجهاز تنبيه العصب الكهربائي عبر الجلد.
Library register number	:	1060-1061.