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

PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED

Physical Therapy Department for Musculoskeletal Disorder and Its Surgery

Master Degree

2015

Author	**:**	**Ahmed Fawzy Baiomy Elhalawaty**
Title	**:**	**Correlation Between Knee Frontal Plane Projection Angle and Isometric Hip Abductors and External Rotators Strength During Functional Activities**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Khaled Elsayed Ayad**
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Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

BACKGROUND: The knee joint complex is one of the most commonly injured areas of the body in athletes. Excessive frontal plane knee excursion is considered a risk factor for multiple knee pathologies such as anterior cruciate ligament and patellofemoral joint injuries, however, little is known about the biomechanical factors that contribute to this loading pattern. OBJECTIVES: The purpose of this study was to investigate if there is a relationship between each of hip abductors and external rotators isometric strength and the value of FPPA during single leg squatting and single leg landing tasks in normal male subjects. METHODS: One hundred (male) subjects free from lower extremity injuries for at least six months ago participated in this study. Their mean age was (23.25 ± 2.88) years, mean weight was (74.76 ± 13.54) (Kg), mean height was (174.23 ± 6.56) (Cm). The knee frontal plane projection angle was measured by digital video camera using single leg squatting and single leg landing tasks. Hip abductors and external rotators isometric strength were assessed by portable hand held dynamometer. Muscle strength had been normalized to the body weight to obtain more accurate measurements. RESULTS: The results demonstrated that there was no significant relationship between each of hip abductors and external rotators isometric strength and the value of FPPA during single leg squatting and single leg landing tasks in normal male subjects. CONCLUSION: It can be concluded that there is no relationship between each of hip abductors and external rotators isometric strength and the value of FPPA during functional activities in normal male subjects.

Key words	**1.**	**knee injuries.**
	2.	**2-dimensional motion analysis**
	3.	**hip strength**
	4.	**kinematics**
	5.	**Knee Frontal Plane Projection Angle and**
	6.	**Isometric Hip Abductors.**
	7.	**External Rotators Strength**
	8.	**Functional Activities**
Classification number	**:**	**000.000.**
Pagination	**:**	**74 p.**
Arabic Title Page	**:**	**العلاقة بين زاوية الإسقاط الأمامية لمفصل الركبة وقوة عضلات الفخذ المبعدة وعضلات الدوران الخارجي أثناء الأنشطة الوظيفية.**
Library register number	**:**	**4217-4218.**

Author	**:**	**Ahmed Galaleldeen Tawfik**
Title	**:**	**Kinesiotape Versus Myofascial Release in Patients with Chondromalacia Patellae**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Abdel Rahman Chabara**
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Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Background: Chondromalacia patellae is one of the most common and clinically challenging knee pathologies. Historically, clinicians have used a myriad of interventions, many of which have benefited some but not all patients. Suboptimal outcomes may reflect the need for a new an evidence-based approach for the treatment of chondromalacia patellae. Purpose: to compare between the effects of Kinesio tape and myofascial release on pain, functional disability and quadriceps isokinetic peak torque in patients with chondromalacia patellae. Method: Thirty patients with age ranged from 15 to 30 years old participated in this study. The practical work was recruited at Elhalal Elahmer Hospital. They were assigned randomly into two groups equal in number: Group A (15 patients) received kinesio taping in addition to strengthening exercises for quadricps muscle, three sessions weekly for one month. Group B (15 patients) received myofascial release in addition to strengthening exercises of the quadriceps muscle, three sessions weekly for one month. Pain level, isokinetic quadriceps peak torque and evaluation of the functional lower extremity impairment were measured before starting treatment and after finishing treatment. Results: Statistical analysis revealed a significant improvement in pain level, isokinetic quadriceps peak torque and functional ability in both groups (A) and (B), but kinesiotape has more significant effect on pain level, isokinetic quadriceps peak torque and functional ability than myofascial release. Conclusion: Kinesiotape, myofascial release and quadriceps muscle strengthening exercise should be recommended for patients with chondromalacia patellae.

Key words	**1.**	**Kinesiotape**
	2.	**Myofascial release**
	3.	**Chondromalacia patellae.**
Classification number	**:**	**000.000.**
Pagination	**:**	**83 p.**
Arabic Title Page	**:**	**شريط الكينيزو مقابل التحرير اللفافى العضلى فى مرضى تلين غضروف الرضفه.**
Library register number	**:**	**4551-4552.**

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

PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED

Author	**:**	**Ahmed Mohamed El Sayed Ahmed**
Title	**:**	**Association of Quadriceps Torque with Lower Extremity Dysfunction in Patients with Early Degrees of Knee Osteoarthritis**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Lilian Albert Zaky**
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	3.	**Ahmed Mahmoud Gad**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

BACKGROUND: Osteoarthritis (OA) is the most common form of arthritis and became a major cause of disability and socioeconomic burden. Recent observational studies suggest that quadriceps muscle weakness is associated with an elevated risk for incident symptomatic and progressive knee OA.OBJECTIVES: to investigate if there is an association between concentric and eccentric quadriceps torque with lower extremity dysfunction represented by WOMAC including (pain, knee stiffness and physical function) in patients with early stages of knee OA. METHODS: Forty female patients participated in this study represented with mean age (50.42±3.902) years, diagnosed as knee OA grades I or II (according to Kellgren and Lawrence criteria). The concentric and eccentric quadriceps Peak Torque / Body Weight (PT/ BW) were assessed using a Biodex Isokinetic Dynamometer, (Multi-Joint System 3, at a speed of 90°/s). Self-reported symptoms and disability were assessed using the WOMAC questionnaire. This questionnaire was translated and validated for arabic language. RESULT: The results of this study demonstrated that there is strong negative correlation of concentric quadriceps torque with pain (r=-0.72, p<0.0001) and moderate negative correlation with physical function (r=-0.65, p=0.0001). There is a moderate negative correlation of eccentric quadriceps torque with pain (r=-0.58, p=0.0001) and with physical function(r=-0.50, p=0.0008). There is poor inverse correlation of concentric(r=-0.32, p=0.043) and eccentric(r=-0.27, p=0.08) torque of quadriceps with joint stiffness. CONCLUSION: It can be concluded that the concentric and eccentric quadriceps torque is significantly associated with (pain and physical function) in early stages of knee OA. Also, there is weak significant association of the concentric and eccentric quadriceps torque with joint stiffness. Thus, quadriceps torque (concentric and eccentric) could be a predictor for level of pain, joint stiffness and physical function.

Key words	**1.**	**Knee Osteoarthritis**
	2.	**Quadriceps Torque**
	3.	**Biodex Isokinetic Dynamometer**
	4.	**Lower Extremity**
Classification number	**:**	**000.000.**
Pagination	**:**	**91 p.**
Arabic Title Page	**:**	**ارتباط عزم العضلة الرباعية مع مدى الاختلال الوظيفي للطرف السفلى في مرضى الدرجات المبكرة للالتهاب العظمى المفصلي للركبة.**
Library register number	**:**	**4059-4060.**

Author	**:**	**Dalia Mohy Sayed Aly**
Title	**:**	**Lung Volume Response To Different Physical Therapy Approaches In Post Mastectomy**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Wafaa Hussein Borhan**
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	3.	**Samah Hosney Nagib**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Purpose: This study was conducted to determine the therapeutic efficacy of aerobic exercise and incentive spirometer on lung volumes post mastectomy. Forty Five female patients underwent mastectomy surgery with ages from 40-60 years were selected randomly and divided into three equal groups in number; each group contains 15 patients. Patients in group (A): managed with aerobic training in form of treadmill and incentive spirometer in addition to breathing exercises, while patients in group (B): managed with incentive spirometer in addition to breathing exercises, while patients in group (C): managed with aerobic training in the form of treadmill in addition to breathing exercises. Assessment: All patients were evaluated by electronic spirometer through the study to measure lung volumes (FVC, FEV_1, FEV_1/FVC) post mastectomy pretreatment and after one month of treatment. Results: The analysis of the results of the current study showed that pulmonary functions in post mastectomy women significantly improved using combination of aerobic training in form of treadmill and incentive spirometer than using incentive spirometer or aerobic training only as it was indicated by improvements in FVC, FEV_1 and FEV_1/FVC post treatments in group (A) than in group (B) and (C). Conclusion: It was concluded that using incentive spirometer and aerobic training in form of treadmill for post mastectomy female patients improved pulmonary functions by increasing FVC and overall lung volumes.

Key words	**1.**	**Aerobic training**
	2.	**Lung volumes**
	3.	**Mastectomy**
	4.	**Incentive spirometer**
Classification number	**:**	**000.000.**
Pagination	**:**	**94 p.**
Arabic Title Page	**:**	**تأثر سعة الرئة بوسائل العلاج الطبيعي المختلفة بعد عملية ازالة ورم الثدي**
Library register number	**:**	**4221-4222.**

Author	**:**	**Dalia Shaaban Madbouly Eid**
Title	**:**	**Effect of Mobilization With Movement on Latreal Elbow Tendinopathy**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa El Din Abd El Hakim Balbaa**
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Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

of this study is to compare between the effect of the conventional physical therapy alone and the Mobilization with Movements technique combined with the conventional physical therapy for lateral elbow tendinopathy (LET) on pain and grip strength and functional disability in patients with LET.Methods: The study was carried out on 30 patients of both sexes (20 men and 10 women) who had lateral elbow tendinopathy with age ranged between 25-45 years. They were selected from the outpatient clinic of The Defense Industries Medical Center. The patients were randomly assigned into two groups equal in number. Group (A) who received mobilization with movement plus conventional treatment 3 times per week for four weeks. Group (B) who received conventional treatment alone 3 times per week for four weeks. Assessment was conducted for both groups by Hand Held Dynamometer, for grip strength, and by Patient Rated Tennis Elbow Evaluation for function disablity and by visual analog scale (VAS) for pain assessment pre program, and post program. Results: The results of this study showed that there was significant improvement in pain, functional disability and grip strength; in group (A) more than in group (B) with (P < 0.05). Conclusion: It was concluded that mobilization with movement combined with conventional treatment is better than conventional treatment alone in dealing with patients of lateral elbow tendenopathy.

Key words	**1.**	**Mobilization with Movement**
	2.	**conventional treatment**
	3.	**Grip strength**
	4.	**Exercises**
	5.	**Latreal Elbow Tendinopathy**
Classification number	**:**	**000.000.**
Pagination	**:**	**61 p.**
Arabic Title Page	**:**	**تأثير التحريك المفصلي مع الحركة على التهابات أوتار مفصل الكوع.**
Library register number	**:**	**4345-4346.**

Author	**:**	**Dina Samy Abd-Alkareem Kassem**
Title	**:**	**Efficacy of Kinesio Tape in Treatment of Knee Osteoarthritis**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa-Eldin Abd-Alhakim Balbaa**
	2.	**Ashraf Nihad Moharam**
	3.	**Magdolin Mishel Shenouda**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Knee osteoarthritis (OA) is a prevalent condition that contributes significantly to functional limitations and disability in older people Purpose: The purpose of the study was to investigate the effect of kinesio taping on pain, ROM and functional disability in patient with knee OA. Method: Twenty four patients diagnosed as chronic knee osteoarthritis at third degree as determined by (Kellgren/Lawrence grading system) with age ranged from 50 to 70 years old participated in this study. They were recruited from Egypt air hospital. They were randomly assigned into two groups equal in number: Group (A) included 12 patients who received kinesio taping and exercise program, 3 times per week for 4 weeks. Group (B) included 12 patients who received the same exercise program only, 3 times per week for 4 weeks. Each patient of the two groups was evaluated before and after treatment by visual analog scale for pain, the universal goniometer for flexion ROM and WOMAC questionnaire for functional disability. Results: Statistical analysis revealed that there is no significant difference between the two groups on pain, ROM of knee flexion and function (P=0.216). While, there is significant reduction of pain, improvement in range of motion and reduction of functional disability within each group (P=0.000*) except in ROM in group (B) there is no significant improvement. Conclusion: There is no significant difference between KT in addition to exercise program and the same exercise program only on pain, ROM and functional disability in patients with knee OA. Because we did not include a control or placebo group in this study, we cannot rule out a placebo effect or natural changes over time as potential reasons for the improvements measured in both groups. Recommendation: the KT is not recommended to be used as long term treatment for knee OA.

Key words	**1.**	**kinesio tape**
	2.	**knee osteoarthritis**
Classification number	**:**	**000.000.**
Pagination	**:**	**89 p.**
Arabic Title Page	**:**	**فاعلية شريط كينسيو اللاصق في علاج الإلتهاب المفصلي العظمي للركبة.**
Library register number	**:**	**4251-4252.**

Author	**:**	**Elsayed Abdelhady Elsayed Abdelhady**
Title	**:**	**Reliability of Scapular Repositioning Test in Assessment of Impingement Symptoms**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Nadia Abd Elazeem Fayaz**
	2.	**Hamed Mohammed El-Gohary**
	3.	**Ghada Mohammed Rashad Koura**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Background: Shoulder pain is a common clinical problem. Abnormal scapular motion has been implicated in different shoulder disorders. However, there is a lack of clinical evaluation tools to assess the scapular component of shoulder dysfunction. Symptom alteration tests may be useful in determining a subset of those with shoulder pathology who may benefit from interventions aimed to improve scapular motion abnormalities. Objectives: to investigate the intra-rater reliability of scapular repositioning test (SRT) in assessment of abnormal scapular motion in patients with secondary shoulder impingement syndrome (SIS). Methods: 79 subjects (65 males and 14 females) with mean age (29.78 ±10.20) who were referred to physiotherapy outpatient clinic with secondary shoulder impingement syndrome were recruited to estimate intra-rater reliability of SRT. Pain was assessed with Verbal Numeric Rating Scale; isometric rotator cuff muscle strength (RC) was measured by portable fixed hand held dynamometer. Pain and strength variables were measured with scapular neutral position and with two trials of SRT. Intraclass correlation coefficient (ICC) was used to estimate intra-rater reliability. Repeated measures Multivariate Analysis of Variance (MANOVA) was conducted to compare between the neutral scapular position and scapular reposition test (mean effect of the two trials) in pain and RC strength. Results: ICC values at 95% confidence intervals (CIs) for pain were (0.915), for shoulder elevation strength at scapular plane were (0.981), for external rotator strength at scapular plane were (0.994) and for internal rotation strength at scapular plane (0.987) . Conclusion: SRT has high intra-rater reliability which makes this simple test suitable for clinical use in assessment of abnormal scapular motion in patients with secondary (SIS) and has significant effect on shoulder pain and RC muscle strength for those patients.

Key words	**1.**	**Shoulder examination**
	2.	**Reliability**
	3.	**Scapula**
	4.	**Scapular Repositioning Test**
	5.	**Impingement Symptoms**
Classification number	**:**	**000.000.**
Pagination	**:**	**99 p.**
Arabic Title Page	**:**	**مصداقية اختبار تصحيح عظمة لوح الكتف فى فحص أعراض المتلازمة المرضية لانحشار الكتف**
Library register number	**:**	**4431-4432.**

Author	**:**	**Eman Abd Allah Kamel**
Title	**:**	**Correlation between Gluteus Maximus Inhibition and Over Activity of Upper Fibers of Trapezius in Patients with Chronic Mechanical Neck Pain**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Nadia Abd Elazeem Fayaz**
	2.	**Ghada Mohammed Rashad Koura**
	3.	**Walid Mohammed Ahmed Abd Elbaqy**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

BACKGROUND: Chronic neck pain (CNP) is becoming increasingly prevalent in society. Neck pain patient's exhibit greater activation of accessory muscles, (SCM, anterior scalene and upper trapezius muscles) and may also show changed patterns of motor control compensating for reduced activation of painful muscles. OBJECTIVES: to determine if there is an association between gluteus maximus inhibition and over activity of upper fibers of trapezius in patients with chronic mechanical neck pain. METHODS: Forty female patients participated in this study represented with mean age (22.74±2.674) years and mean body mass index (25.36±2.721) (Kg/m2)), diagnosed as chronic mechanical neck pain. Amplitude and onset of muscle activation were assessed by using the surface Electromyograghy during prone hip extension test. RESULTS: The results of this study demonstrated that there is no correlation between the amplitude of EMG activity of right gluteus maximus and the amplitude of EMG activity of right upper trapezius (r=-0.01, P<0.05) and there is no correlation between the amplitude of EMG activity of left gluteus maximus and the amplitude of EMG activity of left upper trapezius (r=0.256, P<0.05) in patients with chronic mechanical neck pain. CONCLUSION: It can be concluded that the overactivity of the upper trapezius muscle in patients with chronic mechanical neck pain is not related to the inhibition of the gluteus maximus muscle during PHE test.

Key words	**1.**	**Mechanical Neck pain**
	2.	**Gluteus Maximus inhibition**
	3.	**Upper Trapezius over activity**
	4.	**Upper Fibers of Trapezius**
Classification number	**:**	**000.000.**
Pagination	**:**	**81 p.**
Arabic Title Page	**:**	**العلاقة بين تثبيط العضلة الألوية الكبرى والنشاط الزائد للجزء العلوى من العضلة شبه المنحرفة فى مرضى ألم الرقبة الميكانيكي المزمن**
Library register number	**:**	**4365-4366.**

Author	**:**	**Eman Mohamed Abd El-Gawad**
Title	**:**	**Effect of Kinesio Tape versus Rigid Tape on Postural Correction and Myoelectric Activities in Patients with Shoulder Impingement Syndrome**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Salwa Fadl Abd-Almageed**
	2.	**Magdolin Mishel Samy**
	3.	**Eman Ahmed Abd –Elmoez**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Background: Rigid and elastic tapings are commonly used in the rehabilitation of subacromial impingement syndrome (SIS). It is proposed to reduce pain and restore scapular movement pattern .Yet; the effectiveness of rigid versus elastic taping in treatment of SIS has not been extensively studied. Purpose: This study was designed to investigate the effect of taping on scapular kinematics and electromyography (EMG) of upward scapular rotators in patients with SIS when two different taping materials are used; a rigid versus an elastic tape application and compared to placebo tape. Methods: Twenty female patients with SIS participated in this study. Their age, weight and height ranged from 30-60 years, 70-100 Kg and 155-169cm respectively. Participants were randomly assigned into: Group I (Kinesio tape, n=10) and Group II (rigid tape, n=10). Thoracic and scapular taping with posture correction was applied to both groups. Scapular upward rotation at 0˚, 60˚, 90˚ and 120˚shoulder abduction in scapular plane and the activity level of the upper fibers of trapezius (UT), lower fibers of trapezius (LT) and serratus anterior (SA) muscles were measured before and immediately after taping application. Results: Greater levels of scapular upward rotation at 60° (*P* =.04) and higher muscle activity of the LT and SA muscles (*P* =.02 and 0.05 respectively) were demonstrated by KT group compared to RT group following the application of real tape. Also, both groups showed increase in the scapular upward rotation at 60° and 120° angles (*P* =.0001 and .0001 respectively (KT), *P* =.04, .03 respectively (RT)) after the real taping condition, compared to the before. Conclusion: Both tapings are effective in restoring scapular kinematics. Kinesio taping also has a facilitatory effect on the LT and SA muscles. Based on our findings, kinesio taping may be considered an alternative to rigid taping in patients with SIS.

Key words	**1.**	**subacromial impingement syndrome**
	2.	**scapular kinematics**
	3.	**Electromyography**
	4.	**Kinesio Tape**
	5.	**Rigid Tape**
	6.	**Postural Correction**
	7.	**Myoelectric Activities**
	8.	**Shoulder Impingement Syndrome**
Classification number	**:**	**000.000.**
Pagination	**:**	**117 p.**
Arabic Title Page	**:**	تأثير شريط كينيسيو مقابل الشريط الصلب علي تصحيح القوام والأنشطة الكهربية العضلية في مرضي متلازمة الأنحشار الكتفي.
Library register number	**:**	**4361-4362.**

Author	**:**	**Heba Mahmoud Mohammed El Khaldy**
Title	**:**	**Correlation between cervical proprioception and dynamic balance in patients with chronic mechanical neck pain**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Khaled Elsayed Ayad**
	2.	**Ehab Hussien Abou Zaid**
	3.	**Ghada Mohamed Rashad Koura**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Back ground: Patients with chronic mechanical neck pain showed larger sway areas in standing posture and reduced ability to successfully execute more challenging balance tasks. Purpose: the purpose of the study was to determine the correlation between cervical proprioception and dynamic balance in patients with chronic mechanical neck pain. Subjects: Eighty subjects were assigned into two groups, group (A) has sixty patients (7male, 53female); mean age of (24.20 ± 4.11), suffering from chronic mechanical neck pain (neck pain persisted more than three month), and group (B) has twenty normal subjects (7male, 13female); mean age of (25.00 ± 2.66). The active repositioning accuracy test level was measured by using CROM device and balance was measured by using Biodex stability system, Spearman correlation coefficient r was being calculated between different variables. Results: active repositioning accuracy test for (Rt, Lt. neck rotation and Rt, Lt neck side bending) was higher in group (A) than group (B) however, the dynamic balance was not impaired in the groups. There was statistically a weak correlation between cervical Proprioception and dynamic balance in chronic mechanical neck pain. Conclusion: The current study concluded that there is cervical proprioception deficit in (CMNP), the dynamic balance does not impaired and there is a weak correlation between cervical proprioception and dynamic balance in chronic mechanical neck pain.

Key words	**1.**	**Chronic mechanical neck pain**
	2.	**proprioception**
	3.	**Balance**
Classification number	**:**	**000.000**
Pagination	**:**	**vii,81,3 p.**
Arabic Title Page	**:**	**العلاقة بين الاحساس العنقي العميق ولاتزان الحركي في حالات آلام الرقبة الميكانيكي المزمن**
Library register number	**:**	**4191-4192.**

Author	**:**	**Jilan Adel Yousef**
Title	**:**	**Comparative study between squatting and squatting with hip adduction in treatment of patellofemoral osteoarthritis**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa Eldin Abd Elhakim Balbaa**
	2.	**Hala Rashad El-Habashy**
	3.	**Ghada Mohamed Rashad Koura**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Background: patellofemoral osteoarthritis (PF OA) is a common condition in outpatient physical therapy. The muscle imbalance between the vastusmedialis oblique (VMO) and vastuslateralis (VL) muscles is one of the main factors leading to the development of this condition. The disparity in research and the necessity to add to the existing literature base led to the development of this study. Purpose: to compare between squatting and squatting with hip adduction in treatment of PF OA. Methods: Thirty female patients suffering from PF OA were randomly assigned into two equal groups, fifteen patients in group (A) received squatting exercise and fifteen patients in group (B) received squatting with hip adduction exercise. Patients in both groups received a traditional physical therapy treatment in the form of hamstring stretching, pulsed ultrasound and TENS. Interventions were given for three days a week for four weeks. Their pain on numerical rating scale (NRS), performance of functional activities by kujala scale and VMO, VL amplitude and VMO: VL ratio by quantitative Electromyography (QEMG) using surface electrodes were considered before and after intervention. Results: The results showed that there wasn't significant difference between both groups regarding VMO activity, VMO: VL ratio, pain intensity and performance of functional activities. Conclusion: pain intensity, performance of functional activities, VMO amplitude and VMO: VL ratio are not influenced by performing the squatting exercise from actively adducted hip joints.

Key words	**1.**	**patellofemoral osteoarthritis**
	2.	**squatting exercise**
	3.	**VMO**
	4.	**EMG**
	5.	**hip adduction**
Classification number	**:**	**000.000.**
Pagination	**:**	**111 p.**
Arabic Title Page	**:**	**دراسة مقارنة بين وضع القرفصاء و وضع القرفصاء مع ضم الفخذين في علاج الإلتهاب العظمى المفصلي للرضفة مع أسفل عظمة الفخذ**
Library register number	**:**	**4195-4196.**

Author	**:**	**Mahmoud Mohamed Mahmoud Nabhan**
Title	**:**	**Effect of Electromagnetic Therapy on Fascial Structure of Wiste Rats**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa Eldin Abd Elhakeem Balbaa**
	2.	**Haitham Sharaf El-Din Mohammed**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Purpose: The present study aimed at investigating the effects of Electromagnetic field (EMF) on the number of mechanoreceptors in thoracolumbar fascia. Animals: Sixteen healthy adult Wister male rats weighing between 250 to 300 gm. Methods: Rats were randomly divided into two groups: (I) EMF exposed (experimental) and (II) sham exposed animals. Each one of the EMF exposed animals was placed in a separate plastic cage inside electromagnetic set up cylinder coil (42cm diameter) that was connected to a main power supply (AC -50 Hz) and adjusted via variac to produce EMF of 0.3 mT. The EMF intensity was monitored with a probe connected to a digital tesla meter. Rats were exposed for 1h/day at the same time every day, six days/week for two weeks. Sham exposed animals went through the same procedures except that no EMF was generated. Six-hours following the last session, all animals were sacrificed. Tissues were harvested and the thoracolumbar fascia (TLF) was removed and immediately stained with 1% gold chloride solution for histological examination. Results: The number of Pacinian corpuscles significantly increased in the experimental group compared to that of the sham exposed group (P < 0.05). The Golgi tendon organs number and Ruffini corpuscles number were statistically not different between the two groups (p> 0.05). Conclusion: EMF is effective in increasing the number of Pacinian corpuscles in thoracolumbar fascia but not the number of Golgi tendon organs or Ruffini corpuscles in healthy Wister rats.

Key words	**1.**	**Electromagnetic Therapy**
	2.	**Fascia**
	3.	**mechanoreceptor**
	4.	**Wister Rats**
Classification number	**:**	**000.000.**
Pagination	**:**	**52 p.**
Arabic Title Page	**:**	**تأثير العلاج الكهرومغناطيسي على بنية اللفافة لفئران ويستر.**
Library register number	**:**	**4359-4360.**

Author	**:**	**Marwa Abd Elfattah Abd Elrahman Abd Elfattah**
Title	**:**	**Effect of Exercise Therapy in Treatment of Patellofemoral Pain Syndrome (Systematic Review)**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Lelian Albert Zaki**
	2.	**Ghada Mohamed Koura**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Background and Objective: Patellofemoral pain syndrome (PFPS) is one of most common knee pain syndromes encountered in orthopaedic physical therapy outpatient clinic. The incidence rate for PFPS was 22/1000 patients-year. The patellofemoral joint are not only completing proper knee function but also essential for performing functional daily living and working activities. Exercise therapy is shown to be effective in improving pain and function in patellofemoral pain syndrome patients. The goal of this study was to determine the most effective approach of exercise therapy on improving pain and functional mobility in patients with PFPS. Methodology: A-computer – aided search of Medline, physiotherapy evidence data base (PEDro), EMBASE, the Cochrane controlled trial register databases was undertaken from January 2004 until December 2014 for randomized controlled trials of exercise therapy for patellofemoral pain syndrome. Data were extracted and trials qualities were assessed. Results were summarized by PEDro score. Results: Three randomized controlled trials were identified, the results concluded that the evidence support the effect of exercise therapy for PFPS patients. Conclusion: The evidence summarized in this systematic review indicates that exercise therapy is more effective than no treatment or other conservative treatment for PFPS, PNF stretching exercise was more effective for pain than other exercises, leg press with hip adduction exercise and leg press exercise were more effective for functional mobility than the other exercises.

Key words	**1.**	**Anterior knee pain**
	2.	**patellofemoral pain syndrome**
	3.	**exercise therapy**
	4.	**Systematic Review**
Classification number	**:**	**000.000.**
Pagination	**:**	**90 p.**
Arabic Title Page	**:**	**تأثير العلاج بالتمرينات فى علاج مرضى متلازمة ألم أسفل الفخذ مع الرضفة (مراجعة منهجية).**
Library register number	**:**	**4605-4606.**

Author	**:**	**Mohammed Moustafa Aldosouki Hegazy**
Title	**:**	**Scapular Muscle Training versus Rhythmic Stabilization Exercises in Treatment of Shoulder Impingement syndrome/**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Khaled El-sayed Ayad,**
	2.	**Waleed Reda Awad Allah**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

BACKGROUND: Shoulder impingement syndrome is the most common disorder of the shoulder, resulting in functional loss and disability. OBJECTIVE: This study was designed to compare between the effects of scapular muscle training (Cool's exercises) versus rhythmic stabilization exercises in treatment of shoulder impingement syndrome. METHODS: Thirty patients participated in this study; they were assigned randomly into two experimental groups. The first experimental group (A) consisted of 15 patients with a mean age (21.87±2.72) years; they received graduated rhythmic stabilization exercises and stretching of the posterior capsule. The second experimental group (B) consisted of 15 patients with a mean age (22.27±2.94) years; they received scapular muscle training exercises in addition to stretching of the posterior capsule. Treatment was given 3 times per week, every other day, for 4 consecutive weeks. Patients were evaluated pretreatment and post treatment for shoulder pain severity, shoulder functional disability, scapular protraction, scapular upward rotation, Upper Trapezius/Serratus Anterior ratio (UT/SA) and External Rotators/Internal rotators ratio (ER/IR). RESULTS: Both groups showed improvement in all measured variables, but group (A) showed more improvement in UT/SA ratio than group (B), while group (B) showed more improvement in the ER/IR ratio than group (A). CONCLUSION: Both of rhythmic stabilization exercises and scapular muscle training are effective interventions to reduce shoulder pain severity, shoulder functional disability, scapular protraction, UT/SA ratio and increase scapular upward rotation and ER/ IR ratio.

Key words	**1.**	**Impingement syndrome**
	2.	**scapular exercises**
	3.	**rhythmic stabilization exercises**
	4.	**posterior capsule stretch**
	5.	**Scapular Muscle Training**
	6.	**Shoulder Impingement syndrome**
Classification number	**:**	**000.000.**
Pagination	**:**	**128 p.**
Arabic Title Page	**:**	**تدريب عضلات لوح الكتف مقابل تمرينات الثبات الإيقاعي فى علاج متلازمة انحشار الكتف**
Library register number	**:**	**4219-4220.**

Author	**:**	**Nagwa Abu Elwafa Ibrahim**
Title	**:**	**Changes in Fascia Structure in Response to Altered Muscular Activity in Wister Rats**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa Eldin Abdel Hakim Balbaa**
	2.	**Maha Baligh Zikry**
	3.	**Aliaa Rehan Youssef**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	
Background: Fascia is known to be one of the main stabilizers in the body. It plays an important role in musculoskeletal dynamics of various body regions. The role of fascia is not just a passive one, but an active role has been shown. Structural and mechanical changes in fascia may contribute to musculoskeletal dysfunction. However, it is not quite clear how changes in skeletal muscles by strength gain or loss may affect fascial structure. Purpose: To investigate whether fascia structure would change following 5 weeks of strengthening exercise to normal and weakened calf muscles in a rodent animal model. Subjects: Thirty-two adult healthy Wister rats were divided equally into 4 groups, with 8 rats in each group as follows: control, exercise, BTX-A (Botulinum type A toxin induced weakness of calf muscle), and BTX-A (weakened calf) and exercise groups. Methods: Animals in the control group received no intervention, whereas those in the exercise group were made to swim for 1h daily / 5days per week /5weeks. Animals in the BTX-A group were unilaterally injected with BTX-A into the calf muscles and were left to practice their normal daily activities without any intervention, meanwhile animals in the BTX-A and exercise group were injected similar to the BTX-A group and were then engaged in the same protocol as exercise group. Animals were euthanized after 5 weeks and the calf muscles and the overlying crural fascia were harvested and prepared for histological analysis using the standard procedures. Fascial thickness, mean area of collagen fibers and mean area % of myofibroblasts were quantified. Results: Histological analysis showed significant changes in crural fascia following strengthening exercises to the calf muscle in normal and weakened animals as evident by increased area of collagen fibers including its thickness and number and the thickness of fascia as well as myofibroblasts expression. Conclusion: Changing mechanical environment by weakness or strength gain has a significant effect on fascia structure.		
Key words	**1.**	**Fascia**
	2.	**strengthening exercise**
	3.	**BTX-A.**
	4.	**Muscular Activity**
	5.	**Wister Rats**
Classification number	**:**	**000.000**
Pagination	**:**	**XIV,88,3 p.**
Arabic Title Page	**:**	**التغيرات في هيكل اللفافة استجابة لتغير النشاط العضلي لدى فئران ويستر.**
Library register number	**:**	**4119-4120.**

Author	**:**	**Rania Saleh EL Emam Yassin**
Title	**:**	**Assessment of the severity of forward head posture in patients w chronic neck pain**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa Eldin Abd Elhakem Balbaa**
	2.	**Amr Abd Allah Azam**
	3.	**Mohammed Rehan Youssef**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

Background: Forward head posture (FHP) is the most common postural fault associated with neck pain. However, it is not clear if it is a common postural fault in young adults with mechanical neck pain or not. Furthermore, there is no consensus whether standing or seated positions should be used during the assessment of this posture fault. Purpose: The primary purpose of this study was to compare the severity of FHP in patients with mechanical neck pain and asymptomatic matched controls from the standing and sitting positions. The secondary purpose was to determine if there was any relationship between the severity of FHP and pain and disability reported in those patients. Participants: Eighty adult females were enrolled in this study (40 patients with mechanical neck pain and 40 asymptomatic participants). Methods: The severity of FHP was quantified by measuring the craniovertebral (CVA) and gaze angles using the photogrammetric method. The Arabic version of Neck Disability Index was also used to assess neck pain and disability in patients with mechanical neck pain. Results: The CVA and gaze angles in patients with mechanical neck pain were not different than that of asymptomatic participants when assessed from standing and sitting positions. Furthermore, within each participant, the two measured angles were not different between standing and sitting positions. A significant negative weak correlation existed between CVA measured from standing (r=-.44, P=0.004), and sitting (r=-.41,P=0.008) and neck disability index scores. However, no correlation existed with regards to the gaze angle measured from standing (r=-.05,P=0.75), or sitting(r=-.23,P=0.133). Conclusion: The severity of FHP is not different in patients with chronic mechanical neck pain compared to asymptomatic participants in sitting and standing positions. Furthermore, forward head posture may explain partly increased disability seen in patients with mechanical neck pain.

Key words	**1.**	**Neck pain**
	2.	**Forward head posture,**
	3.	**Neck disability index.**
	4.	**forward head posture**
	5.	**Assessment of neck pain**
Classification number	**:**	**000.000.**
Pagination	**:**	**72 p.**
Arabic Title Page	**:**	**تقييم شدة الوضع الأمامي للرأس في مرضي ألم العنق المزمن.**
Library register number	**:**	**4409-4410.**

Author	**:**	**Sozan Morees Shoukry**
Title	**:**	**The Effect of Lumbar Stabilization Exercises on H-Reflex in Discogenic Sciatica**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Khaled El-Sayed Ayad**
	2.	**Hanan Hosny Abd Al-Aleem**
	3.	**Magdolin Mishel Samy**
Degree	**:**	**Master.**
Year	**:**	**2015.**
Abstract	**:**	

The purpose of the study was to determine the effect of lumbar stabilization exercises on pain, functional disability, and H-reflex in patients with discogenic sciatica. Methods: The study was carried out on 30 patients of both sexes (15 men and 15 women) who had discogenic sciatica with age ranged between 20-50 years. They were selected from the outpatient clinic in the Faculty of Physical therapy, Cairo University. The patients were randomly assigned into two groups equal in number. Group (A) who received lumbar stabilization exercises and (ultrasonic& infrared) three times per week for four weeks. Group(B) who received Ultrasonic and Infrared only three times per week for four weeks .Assessment was conducted for both groups by Visual analog scale(VAS) for pain intensity, Oswestry functional disability test for function disability and by H-reflex pre program, and post program, with 4 weeks of the treatment program. Results: The results of this study showed that there was significant improvement in pain, functional disability and H-reflex in group (A) than in group (B) with ($p< 0.05$). Conclusion: It was concluded that lumbar stabilization exercises combined with ultrasonic and infrared is better than ultrasonic and infrared only in dealing with signs and symptoms of discogenic sciatica.

Key words	**1.**	**Lumbar**
	2.	**Stabilization**
	3.	**H-reflex**
	4.	**Discogenic Sciatica**
Classification number	**:**	**000.000.**
Pagination	**:**	**81 p.**
Arabic Title Page	**:**	**تأثير تمرينات التثبيت القطني على منعكسة هوفمان في التهاب عصب النسا الغضروفي**
Library register number	**:**	**4499-4500.**