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

Doctoral Degree 2020

Author	**:**	**Eman Abd Allah Kamel Abd Allah.**
Title	**:**	**Trunk and hip muscles activation patterns in subjects with and without chronic low back pain: A systematic review.**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Salwa Fadle Abdelmageed**
	2.	**Hamed Mohammed El Khozamy**
	3.	**Karima Abdelaty Hassan**
Degree	**:**	**Doctoral.**
Year	**:**	**2020.**
Abstract	**:**	

Background: Chronic low back pain (CLBP) is one of the most common musculoskeletal disorder. Differences in muscle activation patterns have been linked to LBP and it is suggested that inappropriate motor control reactions of lumbopelvic muscles can be a perpetuating factor in these patients. Purpose: The purpose of this study was to determine the normal and abnormal patterns of activation of gluteus maximus (GM), hamstring (HAM), contralateral erector spinae (CES) and ipsilateral erector spinae (IES) muscles during prone hip extension (PHE) test in healthy or asymptomatic subjects and those with nonspecific CLBP through a systematic review. Data Sources: The review included studies reporting activation patterns in individuals with and without LBP. Studies have been recognized by searching electronic databases (EMBASE, MEDLINE / PubMed, Cochrane Library Web search, Pedro (physiotherapy evidence database) and CINAHL) and scanning articles reference lists from 1985 until Jull 2018. Limits have been set for the study of English language and human. The primary outcomes were muscles onset time measured by surface electromyography (SEMG) during PHE test and patterns of muscles activation. Results: Of 2112 citations and references list scanning, 15 articles were determined to be relevant to this review. From these studies, four studies investigated 157 subjects (88 asymptomatic and 69 LBP) with the age ranged between 20 to 43 years, and 11 studies investigated 257 healthy subjects with the age ranged between 20 to 36 years. The results of the moderate and weak quality studies found that the HAM and ES muscles are activated early and simultaneously, but the GM was consistently delayed in relation to leg movement and other three muscles.Conclusion: According to moderate evidence, HAM and ES muscles are activated simultaneously and early before the onset of the leg movement and the GM is significantly delayed in relation to HAM and ES muscles and to the onset of the leg movement, it is normal for the GM to be the last muscle in the pattern in healthy individuals. In LBP subjects the CES are delayed in comparison to healthy individuals. The GM is significantly delayed in LBP subjects who showed abnormal lumbar motions when compared to healthy ones.

Key words	**1.**	**Activation Patterns.**
	2.	**Systematic Review.**
	3.	**Prone hip extension**
	4.	**low back pain.**
Classification number	**:**	**000.000.**
Pagination	**:**	**95 p.**
Arabic Title Page	**:**	**أنماط تنشيط عضلات الجذع والفخذ في الأشخاص الذين يعانون والذين لايعانون من ألم أسفل الظهر المزمن "دراسة منهجية".**
Library register number	**:**	**7237-7238.**

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

Author	**:**	**Faten Fathy Ibrahim Hassan.**
Title	**:**	**Effects of Bilateral Flexible Flatfeet on Core Stability Muscles.**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Salwa Fadle Abd El-Majeed**
	2.	**Nasef Mohammed Nasef**
	3.	**Maha Mostafa Mohammed**
Degree	**:**	**Doctoral.**
Year	**:**	**2020.**
Abstract	**:**	

Background: Flexible flatfoot is a common deformity in adults that has been linked to the development of numerous lower limb injuries and back pain via a distal to proximal pathomechanical model. Core muscles act as stabilizers for the trunk and weak core places a person at greater risk of low back pain (LBP) and lower limb injuries. However, no study had evaluated the effect of flatfoot on core muscles' endurance. Purpose of the study: To investigate the effects of bilateral flexible flatfeet on core muscles' endurance. Subjects: Thirty subjects with bilateral flexible flatfeet (study group) were compared with thirty normal subjects (control group). Methods: Navicular drop test (NDT) was used to evaluate the medial longitudinal arch (MLA). Biodex system 3 pro was used to assess the endurance time of the hip abductors, extensors and external rotators bilaterally. A modified flexion, modified back extension, and lateral musculature endurance tests were used to evaluate the endurance of the trunk muscles. Results: No significant difference was observed in the endurance time of hip abductors, extensors, external rotators, trunk flexors and trunk extensors between the study and control groups. However, there was a significant decrease in the lateral trunk muscles' endurance time on both sides in the study group compared with that of the control group. Conclusion: Impairment of the lateral core endurance was observed in subjects with bilateral flexible flatfeet which may predispose to low back disorders and other lower limb injuries in those subjects.

Key words	**1.**	**pes planus**
	2.	**Endurance.**
	3.	**Core Stability Muscles.**
	4.	**Bilateral Flexible Flatfeet.**
Classification number	**:**	**000.000.**
Pagination	**:**	**129 p.**
Arabic Title Page	**:**	**تأثيرالقدم المسحاء اللينة على عضلات الثبات الجذعى.**
Library register number	**:**	**7239-7240.**

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

Author	**:**	**Huda Badr Abd El hamed Mohamed.**
Title	**:**	**The Relationship Between Subscapularis Trigger Points and Frozen Shoulder.**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Alaa El-din Abd El hakem Balbaa**
	2.	**Mohamed Omar Ahmed Soliman**
	3.	**Ebtessam Fawzy Gomaa**
Degree	**:**	**Doctoral.**
Year	**:**	**2020.**
Abstract	**:**	

Background: The diagnosis of frozen shoulder is often made when the real problem is muscular. Trigger points in the shoulder region muscle restrict movement of the shoulder and create pain on movement and at rest. One of the key muscle that must be examined is the subscapularis muscle. **Objective:** to investigate the relationship between subscapularis trigger points with shoulder pain and function, shoulder abduction and shoulder external rotation. **Methods:** data obtained from 50 patients diagnosed with frozen shoulder regarding pressure pain threshold using pressure algometry, shoulder pain and function using shoulder pain and disability index, shoulder abduction and external rotation range of motion using HUSKY digital level inclinometer. All data obtained were statistically analysed and compared. **Results:** Pearson correlation coefficient was conducted to investigate the correlation between pressure pain threshold with shoulder pain and disability index, shoulder abduction and external rotation range of motion. Simple linear regression was conducted to produce a formula to predict the values of shoulder pain and disability index, shoulder abduction and external rotation range of motion from pressure pain threshold, strong negative correlation between pressure pain threshold with shoulder pain and disability index, strong positive correlation between pressure pain threshold with shoulder abduction and external rotation. **Conclusion:** There is correlation between subscapularis trigger points with shoulder pain and function, shoulder abduction and external rotation range of motion in frozen shoulder.

Key words	**1.**	**frozen shoulder.**
	2.	**pressure pain threshold.**
	3.	**ROM.**
	4.	**Trigger Points.**
	5.	**SPADI.**
	6.	**Subscapularis.**
Classification number	**:**	**000.000.**
Pagination	**:**	**73 p.**
Arabic Title Page	**:**	**التقييم الكمى للاحساس العميق لمفصل الكتف فى حالات الالم العنقى المزمن.**
Library register number	**:**	**7263-7264.**

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

Author	**:**	**Marihan Zakaria Aziz Makary.**
Title	**:**	**Effect of Foot Orthosis and Physical Therapy in Treatment of Patellofemoral Pain Syndrome (Systematic Review).**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Salwa Fadle Abdelmageed**
	2.	**Karima Abdelaty Hassan**
Degree	**:**	**Doctoral.**
Year	**:**	**2020.**
Abstract	**:**	

Background Although foot orthosis may play a role in patellofemoral pain syndrome, its significance is still conflicting and previous studies are low evidence level. Objective To assess the latest evidence regarding the effectiveness of foot orthosis (FO) on adult patients with patellofemoral pain syndrome (PFPS). Methods A comprehensive electronic database search of PubMed, Cochrane Library Database, the Physiotherapy Evidence Database (Pedro), ProQuest, EBSCo host, and Ovid databases was performed for randomized controlled trials (RCTs) in the English language since January 2000 till February 2019 on an adult with patellofemoral pain syndrome treated by foot orthosis and physical therapy, with hand searching to reference lists of previous systematic reviews and included papers. At least one primary outcome measure for pain or function must have been reported. Two authors independently reviewed and assessed each citation for inclusion, The Cochrane risk of bias tool was used to rate methodological quality and risk of bias. Data was met analyzed when this was not possible, qualitative data analysis was performed. Results A total of nine RCTs with a total number of 914 patients (6 on non-runners and 3 on runners) were included. the findings were summarized in four main comparisons as follows 1)foot orthosis versus flat insoles these results showed the positive efficacy of FO on pain, function and muscular activity, 2) foot orthoses alone versus physiotherapy have a poor indication of PFO alone as an intervention alternative to physiotherapy for PFPS, 3)foot orthoses versus no treatment may provide greater improvements on pain, function and neuromotor changes than natural history concerning foot posture, and 4)foot orthoses combined physiotherapy is better than physiotherapy alone even though the success may relate to clinical foot predictors for foot orthosis. Conclusion The clinical efficacy of foot orthoses may correlate with targeting specific individuals based on specific foot measures and the comfort perception of the orthosis. On the kinematics, foot orthosis may behave minor neuromotor activity changes at the lower extremity. The evidence regarding the effects of combining foot orthoses with physical therapy are superior to physical therapy alone and produce better outcomes.

Key words	**1.**	**Patellofemoral pain syndrome**
	2.	**foot orthosis**
	3.	**systematic review**
	4.	
Classification number	**:**	**000.000.**
Pagination	**:**	**127 p.**
Arabic Title Page	**:**	**تأثير جبيرة القدم والعلاج الطبيعي متلازمة آلم الرضفة وأسفل عظمة الفخذ: دراسة منهجية.**
Library register number	**:**	**7057-7058.**

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

Author	**:**	**Marwa Abdel-Fattah Abdel-Rahman.**
Title	**:**	**Effect of Stretching in the Treatment of Muscle Strain: A Systematic Review.**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Nadia Abdelazim Fayaz**
	2.	**Nasr Awad Abdelkader**
	3.	**Karima Abdelaty Hassan**
Degree	**:**	**Doctoral.**
Year	**:**	**2020.**
Abstract	**:**	

Background: Although stretching may play a role in treatment of muscle strain, its significance is still conflicting and previous studies show a low level of evidence. Objective: To find out the latest evidence regarding the effectiveness of stretching as a treatment to patients with grade I&II muscle strain. Methods: A comprehensive electronic database search of PubMed, Cochrane Library Database, and the Physiotherapy Evidence Database (PEDro) was conducted for randomized controlled trials (RCTs) in English language from January 2008 to October 2019 on adults with muscle strain treated by stretching exercise. Manual searching was conducted for reference list of included studies. Two reviewers independently reviewed and assessed each article for inclusion. The Revised Cochrane risk-of-bias tool for randomized trials (RoB 2) was used to rate methodological quality and risk of bias. Results: A total of five RCTs with a total number of 197 patients were analyzed. Three trials used stretching exercises versus conventional physical therapy (basic range of motion exercise, postural stabilization, and concentric and eccentric exercises) showed the positive efficacy of static stretching on flexibility, strength, and ROM. Two trials used stretching based rehabilitation versus other treatment (vibration and cryotherapy) revealed superior effect of stretching rather than any other treatment. Conclusion The clinical efficacy of stretching may correlate with using static stretching in treatment of grade I &II muscle strain. The effects of combining stretching with other modalities may be superior to conventional physical therapy treatment and can result in better outcomes.

Key words	**1.**	**Muscle strain.**
	2.	**Systematic review.**
	3.	**Stretching exercises**
Classification number	**:**	**000.000.**
Pagination	**:**	**81 p.**
Arabic Title Page	**:**	**تأثيرتمرينات الأستطالة فى علاج تمزق العضلات: مراجعة منهجية.**
Library register number	**:**	**7061-7062.**

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

Author	**:**	**Mohamed Abdel Moneim Abo El Ros.**
Title	**:**	**Effect of Lidocaine Phonophoresis Versus Pulsed Ultrasound on Myofascial Pain Syndrome in Athletic Children.**
Dept.	**:**	**Physical Therapy Department for musculoskeletal disorder and its Surgery.**
Supervisors	**1.**	**Emam Hassan El Negmy**
	2.	**Samah Attia El Shemy**
	3.	**Asser A. Sallam**
Degree	**:**	**Doctoral.**
Year	**:**	**2020.**
Abstract	**:**	
Objective: This study aimed to compare between the effect of lidocaine phonophoresis and pulsed ultrasound on pain quality and functional performance in athletic children with myofascial pain syndrome. Methods: The study was conducted on 45 athletic children their ages ranged from 10 to 14 years, they were randomly assigned into three groups, 15 children each. Inflammatory biomarkers (serum interleukin-6), cervical range of motion, functional activities and pain quality were assessed before and after treatment. Control group A received especially designed physical therapy program, study group B received pulsed ultrasound while the study group C received lidocaine hydrochloride gel 5% phonophoresis. Both study groups received the same physical therapy program given to control group A. All groups received three sessions per week for three successive months. Results: The present study showed significant improvement in the three groups after treatment. Comparing post treatment results of the three groups revealed significant difference in favor of the study group C. Conclusion: Lidocaine phonophoresis and pulsed ultrasound were effective in rehabilitation of athletic children with myofascial pain syndrome but lidocaine phonophoresis has more beneficial effect.		
Key words	**1.**	**IL-6 concentration.**
	2.	**quality of pain.**
	3.	**Pulsed Ultrasound.**
	4.	**Lidocaine Phonophoresis.**
	5.	**Myofascial Pain Syndrome.**
	6.	**Athletic Children.**
	7.	**functinal activities.**
Classification number	**:**	**000.000.**
Pagination	**:**	**165 p.**
Arabic Title Page	**:**	**دراسة مقارنة تأثير انتقال عقار الليدوكايين والموجات فوق صوتية المتقطعة في حالات متلازمة الام العضلات والنسيج الضام لدى الأطفال الرياضيين.**
Library register number	**:**	**6975-6976.**