

## Department of Basic Science

Doctoral Degree  
2007

Author	:	Alyaa Attiah Mohamed Diaab.
Title	:	Influence of extension traction on lumbar configuration and muscle activity.
Dept.	:	Department of Basic Science.
Supervisors	1.	Fatma sedik Amin.
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	3.	Mona Nada.
Degree	:	Doctoral.
Year	:	2007.
Abstract	:	
<p><b>Background:</b> there has been a surge of interest in the biomedical literature about the normal shape and magnitude of the lumbar lordosis. <b>The purpose:</b> this study was conducted to investigate the influence of extension traction on lumbar configuration and muscle activity in cases of hypolordotic lumbar spine. <b>Subjects:</b> Forty subjects with hypolordotic lumbar spine were participated in this study. Their age ranged from 18 to 24 years. Subjects were divided into two groups (study and control), each group included 20 subjects. The study group received extension traction. <b>Method:</b> the lumbar lordotic angle, thoracic kyphotic angle and the amplitude of lumbar and thoracic erector spinae muscles MUAPs were measured before and after the extension traction which applied 3/week for ten week to serve as objective indicator of therapy effectiveness. <b>Results:</b> the lumbar extension traction produced significant increase in lumbar lordotic angle, thoracic kyphotic angle (51.1%) (P &lt; 0.0001) &amp; (36.99%) (P &lt; 0.0001) respectively. And in the amplitude of lumbar and thoracic erector spinae muscle MUAPs (46.4%) (P&lt;0.0001) &amp; (28.4%) (P&lt;0.0001) respectively. For the control group there was no statistically significant change in the lumbar lordotic angle, thoracic kyphotic angle and in the amplitude of lumbar and thoracic erector spinae muscle MUAPs (1.24%) (P= 0.0966), (1.79) (0.1032), (5.4%) (P= 0.0583) and (3.17%) (P=0.3501) respectively. For the study group, there was a positive correlation between the amplitude of lumbar and thoracic erector spinae muscle MUAPs and lumbar lordotic angle <math>r = + 0.84</math> (P&lt; 0.0001) and <math>r = + 0.6</math> (P&lt; 0.0043) respectively, and there was a positive correlation between the lumbar lordotic angle and thoracic kyphotic angle <math>r = + 0.7</math> (P&lt;0.0001). <b>Conclusion:</b> it was concluded that lumbar extension traction is safe and efficient modality to improve the sagittal lumbar curve and muscle activity.</p>		
Key words	1.	Extension traction.
	2.	Muscle activity.
	3.	Lumbar lordosis.
Arabic Title Page	:	تأثير الشد من وضع الانبساط على هيئة تكوين الفقرات القطنية و النشاط العضلي.
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**ELECTRONIC GUIDE TO THESES APPROVED BY  
DEPARTMENT OF BASIC SCIENCE  
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

<b>Author</b>	:	Azza Mohamed Atya.
<b>Title</b>	:	Efficacy of magnetic field and proprioception training in the treatment of knee osteoarthritis.
<b>Dept.</b>	:	Department of Basic Science.
<b>Supervisors</b>	1.	Mohsen M. El-Sayyad.
	2.	Maher A. El-Kabalawy.
<b>Degree</b>	:	Doctoral.
<b>Year</b>	:	2007.
<b>Abstract</b>	:	<p>Background Osteoarthritis is a significant public health problem that frequently restricts patients activity with a major impact on the knee joint stability and function. Magnetic field and Proprioception training are recently used treatment options for knee osteoarthritis. The purpose of this study was to investigate the efficacy of Magnetic field and Proprioception training in the treatment of knee Osteoarthritis. Subjects. 40 patients with knee osteoarthritis(13males, 27females), age (47.78±8.87) years were randomly assigned into two groups: group (A) received Magnetic field &amp; group (B) received Magnetic field and proprioception training. the program was applied 3 times/week for eight weeks. Results. there was a significant improvement within the two groups in pain, range of motion, functional activities and proprioception acuity with the best results in group (B). Pain score was decreased from (6.95±0.94) to (5.85±0.94) in group (B) and from (7.45±0.99) to (6.85 ±1.08) in group (A).The ROM was increase from (90.85±8.99) to (93.93±0.9) in group (B) and from (99.45±12.15) to (100.8 ±13.01) in group (A). with greater improvement in functional activity and proprioception acuity in group(B)than group(A) Conclusion. The addition of proprioception training to Magnetic field in treating knee osteoarthritis produces better overall treatment outcomes than Magnetic field alone in term of pain reduction, improvement of the knee joint range of joint motion, functional activities and proprioception acuity.</p>
<b>Key words</b>	1.	Osteoarthritis.
	2.	Magnetic field.
	3.	Proprioception.
<b>Arabic Title Page</b>	:	فاعلية المجال المغناطيس و التدريب للمستقبلات الحسية العميقة في علاج خشونة الركبة.
<b>Library register number</b>	:	1617-1618.

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

Author	:	Nabil Mahmoud Ismail.
Title	:	Variability of cervical range of motion measurements in normal subjects.
Dept.	:	Department of Basic Science.
Supervisors	1.	Mohsen El-Sayyad.
	2.	Neveen Abd El-Latife.
Degree	:	Doctoral.
Year	:	2007.
Abstract	:	
<p>The purposes of this study was to examine the intra-examiner and inter-examiner reproducibility of range of motion measurements, to obtain norm-referencing values of active ROM of cervical spine of Egyptian population in different age groups measured by CROM instrument, and to study the effect of age and gender on cervical ROM values. Three hundred and thirty normal subjects participated in this study. Thirty normal subjects participated in testing the inter-rater and intra-rater reliability of measurements. The remaining three hundred normal subjects were assigned into five equal groups according their ages The study revealed there was good to high reliability for all motions of cervical spine except left rotation, normal range of motion of cervical spine in healthy Egyptian population are different from those reported previously in other population, males have a greater cervical range of motion than females and normal cervical range of motion decrease with age. The level of significance for all tests was set as (<math>P \leq 0.05</math>).</p>		
Key words	1.	AROM.
	2.	CROM.
	3.	Anthropometry..
	4.	Ergonomics.
	5.	Cervical spine.
	6.	Age.
	7.	Gender.
Arabic Title Page	:	الاختلافات في قياس مدى الحركة في الفقرات العنقية لدى الاشخاص الاصحاء.
<b>Library register number</b>	:	<b>1509-1510.</b>