

## Physical Therapy Department of Surgery

Doctoral Degree  
2007

Author	:	Anwer Abd El-Gayed Ebeed.
Title	:	Effect of isokinetic training on muscle torque and dynamic balance in burned patients.
Dept.	:	Physical Therapy Department for Surgery.
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Degree	:	Doctoral.
Year	:	2007.
Abstract	:	
<p><b>Purpose:</b>The purpose of this study was to determine the effect of burn injury on muscle torque and dynamic balance after second degree burns, and also to determine the effect of isokinetic protocol on trunk muscle torque and dynamic balance. <b>Subject:</b> Forty male patients were participated in this study, they were selected from burn unit at Om Elmasryeen hospital, they had second degree thermal burn injury affecting trunk area with total body surface area ranges from 35 to 40 % and their age ranges from 25 to 35 years. <b>Procedures:</b> During hospitalization period a sample of urine was taken from all patients and investigated to detect the level of creatinine on urine which reflect the catabolic effect of burn on skeletal muscles. After healing of wound the torque of flexors and extensors of the trunk was measured by using biodex system 3, also dynamic balance was measured by using biodex balance system. After that the experimental group patients start a special protocol of rehabilitation for six weeks, the control group start the traditional physical therapy program then the torque of both flexors and extensors muscles were measured by using biodex system 3 and dynamic balance was measured for all patients by using biodex balance system.<b>Results:</b> The results showed statistical significance difference between the creatinine level in urine and the normal creatinine level, which determine the catabolic effect of burn on skeletal muscles. Also, it showed statistical significance difference between the flexor and extensor torque, stability index and dynamic balance of stability of the experimental group more than control group. <b>Conclusion:</b>These results indicate that thermal burn injury affect trunk muscle torque and dynamic balance also biodex isokinetic protocol had a significant effect on development of muscle torque and is considered as a gold therapeutic tool in the management of skeletal muscle after burn injury.</p>		
Key words	1.	Burn.
	2.	Dynamic balance.
	3.	Isokinetic.
	4.	Muscle torque.
	5.	Physical therapy.
	6.	Trunk flexors and extensors.
Arabic Title Page	:	تأثير التدريب المتساوى على العزم العضلى والإتزان الديناميكي فى مرضى الحروق.
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**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL  
THERAPY DEPARTMENT OF SURGERY  
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Author	:	Mohamed Taher Ahmed Omar.
Title	:	Efficacy of transcutaneous electrical nerve stimulation and selective exercises program after groin hernia repair on male patients.
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Degree	:	Doctoral.
Year	:	2007.
Abstract	:	
<p><b>Purposes:</b> this study was designed to determine first; whether the inguinal hernia and its repair had effect on quality of life, pain, hip flexor muscles strength, and EMG activities of abdominal muscles; second whether the use of TENS and selective exercises program induce significant effect on postoperative pain, quality of life, hip flexor muscle strength and EMG activities of abdominal muscles. <b>Methods:</b> Forty fives male patients were diagnosed with primary inguinal hernia,(direct and indirect), their age ranged from 25to45 years(<math>34.2 \pm 6.35</math>years) were selected form material teaching hospital included in this study and randomly assigned into two experimental and one control groups. Group A: (TENS+ Exercises); received conventional TENS in addition to selective exercises therapy. Group B: (Placebo TENS +Exercises): received selective exercises program and placebo conventional TENS. Group C (Control group): who served as control group. The data regarding to patients' age, body mass index, types of hernias and its site, types of anesthesia, have been collected at entry of the study. Pain was assessed using serum cortisol level (SCL), while quality of life assessed through complete SF-36 questionnaires .The hip muscle strength and abdominal muscle activities (rectus abdominal, external and internal obloquies muscles), were evaluated using musculatures devices and electromyography respectively. The patients were evaluated at preoperative, seven days postoperative and post-rehabilitation. <b>Results;</b> The results demonstrated non significant differences in age, body mass index, types and sites of hernia, types of anesthesia and occupation among three groups. There were non statistical significance differences (<math>P &gt; 0.05</math>) in the SF-36 questionnaires, (SCL), hip muscle strength, and EMG activities of abdominal muscles; among three groups at preoperative and postoperative respectively. While there were significance differences(<math>P &lt; 0.05</math>) in the SF-36 questionnaires, (SCL), hip muscle strength, and EMG activities of abdominal muscles ,among three groups at post-rehabilitation in favoring to group A, then group B and C respectively. <b>Conclusion;</b> the findings of this study showed that the use of (TENS and selective exercises) are better than (placebo TENS and selective exercises), in the short – term effect for reduction of (SCL), improvement of quality of life, improvement of hip flexor muscles strength and EMG activities of abdominal muscles.</p>		
Key words	1.	Groin hernia.
	2.	EMG.
	3.	Pain.
	5.	TENS.
	6.	Rehabilitation.
Arabic Title Page	:	فاعلية التنبيه الكهربى العصبى عبر الجلد وبرنامج مختار من التمرينات بعد عمليات اصلاح الفتق الأربى على المرضى الرجال.
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