# Physical Therapy Department of Surgery

**Doctoral Degree**
**2020**

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| **Author** | **:** | **Ahmed Mohamed Abd El Fadiel Elewa Ahmed Sheri.** |
| **Title** | **:** | **Effect Of Shock Wave On Post Burn Tarsal Tunnel Syndrome.** |
| **Dept.** | **:** | **Physical Therapy Department for Surgery.** |
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| | **2.** | **Mohamed Ali Mostafa Nasr** |
| | **3.** | **Khadra Mohamed Ali** |
| **Degree** | **:** | **Doctoral.** |
| **Year** | **:** | **2020.** |
| **Abstract** | **:** | |

**Purpose: to detect the effect of the extracorporeal shock wave therapy (ESWT) on electrophysiological responses in patients suffering from tarsal tunnel syndrome after burn. Methods: Forty male and female individuals who have tarsal tunnel syndrome after burn injury were equally divided into two separate groups. 1st Group received the extracorporeal shock wave therapy (ESWT) in addition to a routine physical therapy program which consists of stretching of calf muscles followed by pulsed US, Ice massage and ankle pump exercise. 2nd Groupreceived only routine physical therapy program. The area of popliteal fossa (little bit laterally) was outlined and 100 impulses per $cm^2$ and another 100 impulses per $cm^2$ were administered over the area behind and above the medial malleolus. The two areas were administered, every two weeks for three months as a total period of treatment. Measurement of sensory and motor nerve conduction velocities of the lateral and medial plantar branches of the tibial nerve were performed before the treatment and after 3 months. Results: There were improvement and significant decrease in the prolonged motor and distal latencies of the two branches of the posterior tibial nerve of the shock wave group compared to the 2nd group ($p<0.05$).Conclusion: ESWT is effective in treating patients suffering from tarsal tunnel syndrome after burn as evidenced by decreasing the prolonged motor and sensory distal latencies of the two branches of the posterior tibial nerve.**



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| **Key words** | **1.** | **Extracorporeal shock wave therapy.** |
| | **2.** | **Burn.** |
| | **3.** | **Tarsal Tunnel Syndrome.** |
| | **4.** | **Nerve conduction velocity.** |
| **Classification number** | **:** | **000.000.** |
| **Pagination** | **:** | **210 p.** |
| **Arabic Title Page** | **:** | **تأثير الموجات التصادمية على ظاهرة نفق العظم الكاحلى فيما بعد الحروق.** |
| **Library register number** | **:** | **7147-7148.** |

# ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT OF SURGERY

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|---|---|---|
| **Author** | **:** | **Amany Refaat Mohamed Abdel Wahid.** |
| **Title** | **:** | **Exercise Interventions of Eye Muscles Post Strabismus Surgery.** |
| **Dept.** | **:** | **Physical Therapy Department for Surgery.** |
| **Supervisors** | **1.** | **Adel Abdel Hamid Nossier** |
| | **2.** | **Mohamed Yasser Sayed Saif** |
| | **3.** | **Walid Ahmed Ibrahim Abouelnaga** |
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| **Degree** | **:** | **Doctoral.** |
| **Year** | **:** | **2020.** |
| **Abstract** | **:** | |

**Purpose: The current study was conducted to examine the effect of exercise interventions of eye muscles on ocular deviation and visual acuity in patients who underwent strabismus surgery. Subjects and Methods: Forty patients who have done strabismus surgery and had remaining ocular deviation and amblyopia were participated in this study. Their ages ranged from 5-15 years. They were divided randomly into two equal groups and they were selected randomly from Research Institute of Ophthalmology. Group (A) was composed of 20 patients who were received exercises training at office and at home. Office exercises involved palming exercise, eye exercises in all directions, pencil push-ups, brock string exercise, thumb exercise (Near-distance jump), balance board exercise, Proprioceptors Neuromuscular Facilitating (PNF) exercise, and computer therapy for 1 hour, 2 times/week for 12 months; and home exercises involved eye exercises in all directions, pencil push-ups, thumb exercise (Near-distance jump), and dominant eye occlusion for 1 hour daily. They were received the usual care and medication after strabismus surgery like eye glasses and eye drops. Group (B) was composed of 20 patients who were received the usual care and medication after strabismus surgery like eye glasses and eye drops. Method of evaluation was using the cover tests to determine and measure the ocular deviation for distance as well as near fixation; and using Snellen chart test to measure visual acuity. Results: There were significant differences in improvement in patients treated with eye exercises than those who were received usual care and medication after strabismus surgery. Conclusion: Exercise interventions of eye muscles can be considered as an effective method to correct ocular deviation and improve visual acuity patients who have done strabismus surgery and had remaining ocular deviation.**


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| **Key words** | **1.** | **Eye exercises.** |
| | **2.** | **Ocular Deviation.** |
| | **3.** | **Strabismus Surgery.** |
| | **4.** | **Amblyopia.** |
| **Classification number** | **:** | **000.000.** |
| **Pagination** | **:** | **147 p.** |
| **Arabic Title Page** | **:** | **التمرينات العلاجية لعضلات العين بعد عملية الحول.** |
| **Library register number** | **:** | **7327-7328.** |

# ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT OF SURGERY

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|---|---|---|
| **Author** | **:** | **Doaa Atef Aly Abd El-Wahed.** |
| **Title** | **:** | **Virtual Reality versus Proprioceptive Neuromuscular Facilitation on Postmastectomy Lymphedema.** |
| **Dept.** | **:** | **Physical Therapy Department for Surgery.** |
| **Supervisors** | **1.** | **Wafaa Hussein Borhan** |
| | **2.** | **Ashraf El-Sebaei Mohamed El-Sebaei** |
| | **3.** | **Walid Ahmed Ibrahim Abouelnaga** |
| **Degree** | **:** | **Doctoral.** |
| **Year** | **:** | **2020.** |
| **Abstract** | **:** | |

**Background: Post-mastectomy lymphedema can be considered as the main cause of impairment which affects upper extremity function in patients with breast cancer. It impairs functions due to heaviness, pain and limited range of motion. Remaining untreated, lymphedema causes cellulitis, lymphangitis which may lead to gangrene in negligible cases. Purpose of the study: The aim of this study was to compare the therapeutic efficacy of virtual reality and proprioceptive neuromuscular facilitation (PNF) on lymphedema. Methods: Fifteen patients performed virtual reality based exercises and fifteen patients performed proprioceptive neuromuscular facilitation both groups performed manual lymph drainage, pneumatic compression and home program. The volume difference between normal and affected limbs was calculated before and after 4 weeks of treatment for both groups by using the circumferential method. And the upper limb function and shoulder range of motion were assessed before and after 4 weeks of treatment for both groups by using the Arabic version of the Quick DASH-9 scale and the electro-goniometer respectively. Results: The volume difference was significantly decreased in both groups (P value; group A= 0.001, group B= 0.005) and by comparing them, the result of the study had no significant difference between the two groups with P= 0.902 (mean of group A= 8605.14 ml/ mean of group B= 7966.11 ml) The analysis of shoulder range of motion showed a significant statistical difference in the values of shoulder flexion and abduction between both groups (p= 0.002, 0.05 respectively). While there was no significant statistical difference in the values of shoulder external rotation. The Quick DASH-9 scale score was not statistically significant between both groups (p= 0.935). Conclusion: It can be concluded that each of virtual reality and proprioceptive neuromuscular facilitation has a beneficial therapeutic effect on improving the edema in a patient with unilateral post-mastectomy lymphedema, and both methods can be used interchangeably except for the benefit of virtual reality on proprioceptive neuromuscular facilitation in motivation and providing visual feedback.**



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| **Key words** | **1.** | **virtual reality** |
| | **2.** | **proprioceptive neuromuscular facilitation** |
| | **3.** | **post-mastectomy lymphedema** |
| | **4.** | **Circumferential measurement.** |
| | **5.** | **Quick DASH scale.** |
| | **6.** | **electro-goniometer** |
| **Classification number** | **:** | **000.000.** |
| **Pagination** | **:** | **91 p.** |
| **Arabic Title Page** | **:** | **الواقع الإفتراضى مقابل التسهيلات الحسية العصبية العضلية على الإستسقاء الليمفاوى عقب استئصال الثدى.** |
| **Library register number** | **:** | **7235-7236.** |

# ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT OF SURGERY

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|---|---|---|
| **Author** | **:** | **Mohamed Ali Abdelmaksod Azab Elsafory.** |
| **Title** | **:** | **Effect of concurrent training on hand grip after gunshot wounds in upper extremity.** |
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| **Dept.** | **:** | **Physical Therapy Department for Surgery.** |
| **Supervisors** | **1.** | **Zakaria Mowafy Emam Mowafy** |
| | **2.** | **Ashraf Ahmed Mohamed Enb** |
| **Degree** | **:** | **Doctoral.** |
| **Year** | **:** | **2020.** |
| **Abstract** | **:** | |

**Purpose: to evaluate effect of concurrent training on hand grip after gunshot wounds in upper extremity. Design: single blind randomized controlled trial. Methods: Forty patients with Gunshot Wounds in Upper Extremity participated in the study, they were recruited from the police hospital, Egypt; their ages ranged from 20-50 years old. Confidentiality was assured. They were assigned randomly into two groups equally in number; 20 patients each: study Group (A) received concurrent training In addition to their traditional physical therapy program while control group (B) received traditional physical therapy program only. All treatments were administered on the affected upper limb, 3 times a week for 8 weeks. Measurement of disabilities of the arm, shoulder and hand questionnaire (DASH) scale was used to evaluate upper limb disability and Jamar hand dynamometer was used to assess hand grip strength (HGS). Descriptive statistics as mean, standard deviation, minimum and maximum were calculated for each group. Unpaired t test was conducted for comparison of (HGS) and (DASH) between both groups. Paired t test was conducted for comparison of (HGS) and (DASH) between pre and post treatment in each group. Alpha point of 0.05 was used as a level of significance. Results: When compared to the pre-treatment condition, HGS / DASH improved in the post test condition in group A and B. Between the groups, There was statistically significant difference was noted between the mean value of all dependent variables in group A and their corresponding value in group B. Conclusion: Concurrent training was effective and beneficial in improving hand grip strength after gunshot wounds in upper extremity as manifested by the highly increased (HGS) and the significant decrease in (DASH).**



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| **Key words** | **1.** | **Arm.** |
| | **2.** | **Gunshot wounds in upper extremity,** |
| | **3.** | **Jamar held dynamometer.** |
| | **4.** | **Shoulder and hand questionnaire (DASH).** |
| | **5.** | **Concurrent training, Hand grip strength** |
| | **6.** | **Hand grip.** |
| **Classification number** | **:** | **000.000.** |
| **Pagination** | **:** | **142 p.** |
| **Arabic Title Page** | **:** | **تأثير التدريب المتزامن على قبضة اليد بعد جروح الطلقات النارية بالطرف العلوي** |
| **Library register number** | **:** | **7143-7144.** |

# ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT OF SURGERY

| | | |
|---|---|---|
| **Author** | **:** | **Reham Alaa Atia Hassan Hassan Elkalla.** |
| **Title** | **:** | **Intraoral dual wavelengths laser diode therapy for chronic maxillary sinusitis.** |
| **Dept.** | **:** | **Physical Therapy Department for Surgery.** |
| **Supervisors** | **1.** | **Adel Abdel Hamid Nosseir** |
| | **2.** | **Mohamed Mahmoud El Sheikh** |
| | **3.** | **Ass. Prof. Rania Abd Elhady ELBehairy** |
| **Degree** | **:** | **Doctoral.** |
| **Year** | **:** | **2020.** |
| **Abstract** | **:** | |

**Background: Chronic sinusitis is one of the most common chronic diseases involving different age groups. The different etiological factors and difficult diagnostic procedures contribute to misdiagnosis and chronicity of sinusitis. There is no standard treatment for sinusitis. Long term use of corticosteroids and antibiotics may lead to numerous adverse side effects. Laser therapy has been suggested as a non-invasive treatment for sinusitis. It has anti-inflammatory and antibacterial effects. When considering maxillary sinusitis, discharge tends to collect in the sinus base due to its anatomy and altered physiology. To improve penetration of laser into the maxillary sinus, intraoral laser at the vestibule depth of the maxilla may be more effective. Material and methods: Fifty patients with chronic maxillary sinusitis. Their age ranged from 18-45 years old. They were assigned into two groups. All were assessed before and after treatment. Group A received intraoral laser radiation plus standard medical treatment and group B received medical treatment only. The treatment dosage for each sinus was 150 J using power density of 1 w/cm$^2$ . The treatment plan was performed in 12 consecutive sessions, 3 times per week using a Diode laser with a dual wavelength of 810 nm and 980nm. The SNOT-22 questionnaire and Computed Tomography were used to evaluate patients. A p-value < 0.05 was considered statistically significant. Results: Both groups showed a significant improvement in symptoms following treatment (p < .001), however, the laser therapy group demonstrated greater improvements for all variables in response to treatment as compared to the traditional treatment group (p < .001).Conclusions: Using high intensity intra-oral laser therapy with medical treatment is more effective than using medical treatment only for treatment of chronic maxillary sinusitis.**

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| **Key words** | **1.** | **Maxillary Sinusitis.** |
| | **2.** | **Sino Nasal Outcome Test.** |
| | **3.** | **High Intensity Laser Therapy** |
| **Classification number** | **:** | **000.000.** |
| **Pagination** | **:** | **101 p.** |
| **Arabic Title Page** | **:** | **فاعليه العلاج بالليزر ثنائي الطول الموجي بالتجويف الفمي على مرضى الجيوب الأنفية المزمنة.** |
| **Library register number** | **:** | **7171-7172.** |

# ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL THERAPY DEPARTMENT OF SURGERY

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|---|---|---|
| **Author** | **:** | **Sara Sami Abdel Azeiz Ali.** |
| **Title** | **:** | **Effect Of Isokinetic Training On Gait Parameters Post Lower Limb Burned Patients.** |
| **Dept.** | **:** | **Physical Therapy Department for Surgery.** |
| **Supervisors** | **1.** | **Adel Abd El Hamid Nossier** |
| | **2.** | **Ahmed Gamil El Sharkawy** |
| | **3.** | **Mohamed Mahmoud AbdelKhalek Khalaf** |
| **Degree** | **:** | **Doctoral.** |
| **Year** | **:** | **2020.** |
| **Abstract** | **:** | |

**Background: A burn is a type of injury to skin, or other tissues, caused by heat, cold, electricity, chemicals, friction, or radiation. Purpose: to investigate the effect of isokinetic training on gait response in lower limb burned patients. Subjects and methods: Sixty patients were recruited from outpatient clinic of faculty of physical therapy, and El Kasr El-Ainy hospital in Cairo, all patients signed a consent form before starting; they wer randomly allocated into 2 equal groups and treated for 8 weeks as follow: Group A (Experimental group): 30 patients complaining of 2nd degree lower limb burns and treated with traditional physical therapy plus isokinetic training. Group B (Control group): 30 patients complaining of 2nd degree lower limb burns and treated with traditional physical therapy. Results: The results showed no significant difference in step length either in affected or non-affected limb among and between groups (P>0,05), but when looking to isokinetic group step time there was significant decrease (34.36%) in affected limb (P=0.000) and significant increase (11.34%) in non-affected limb (P=0.007) and step width of the same group it could be found that affected step width increase (62.26%) significantly (P=0.015) while non-affected step width decrease (91.3%) significantly (P=0.000) and when looking to control group there is no significance regarding step time and width. Conclusion: Isokinetic training had statistically significant effect on gait in lower limb burned patients in terms of step time and width of affected and non-affected limbs**



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| **Key words** | **1.** | **Gait Response.** |
| | **2.** | **Lower Limb; Burn** |
| | **3.** | **Isokinetic Training.** |
| | **4.** | **Burned Patients.** |
| **Classification number** | **:** | **000.000.** |
| **Pagination** | **:** | **123 p.** |
| **Arabic Title Page** | **:** | **تأثير التدريبات الأيزوكينتيكيه على معايير المشي في مرضى حروق الطرف السفلي.** |
| **Library register number** | **:** | **7145-7146.** |