2011

Cairo University

Faculty of Physical Therapy

International Publication

Table of Contents

Research Title Index

1-Basic Science Department

International Publication 2011: Basic Science

1.1. Effects of cervical collar and cervical traction in pain and grip strength in patients with cervical radiculopathy.
Ahmed, A.R...
World Applied Sciences Journal, 2011; 14 (5):674-678.

Different modalities of physiotherapy are often applied in acute CR. The purpose of this study was to examine the effects of intermittent cervical traction and exercise with or without the use of semi-hard cervical collar on pain and grip strength in patients with recent cervical radiculopathy. Thirty one male patients with unilateral recent C7 radiculopathy were divided randomly into two treatment groups. The control group was treated by intermittent cervical traction and neck exercises, while the experimental group was treated with the same as the control group. In addition to the use of semi-hard cervical collar. Radicular cervical pain and grip strength at baseline and at the end of 6 weeks after treatment were evaluated. Results revealed clinically and statistically improvements in pain intensity and grip strength in both groups ($p<0.001$), with no significant differences between both groups ($p>0.05$). It could be included that, the addition of semi-hard cervical collar doesn't appears to improve pain intensity and grip strength for patients with recent CR who are already receiving intermittent cervical traction and neck exercises.

Keywords:Cervical collar; Cervical radiculopathy; Exercises; Traction

1.2.Efficacy of low-frequency electrical stimulation and massage in treatment of planter heel pain.
Ahmed, A.R.
World Applied Sciences Journal, 2011;13 (8): 1927-1932

Planter heel pain is one of the most common foot complains. The purpose of this study was to examine the efficacy of low frequency electrical stimulation in conjunction with specific planter fascial massage, stretching and strengthening exercises in treatment of planter heel pain. Twenty-six patients aged 18 to 60 years complaining from planter heel pain were assigned randomly to two treatment groups: control group received specific planter fascial massage, stretching and strengthening exercises and experimental group received the same treatment as in the control group in addition to low-frequency electrical stimulation. Visual analogue scale (VAS) and foot function activity level in terms of Foot Function Index (FFI) were assessed before and after 4 weeks of treatment. Results showed significant improvements in pain and foot function activity after treatment intervention in both groups ($p<0.05$) with non significant differences between the two groups ($p>0.05$). It could be concluded that planter fascial massage, stretching and strengthening exercises have short-term pain relief and improvement in foot functional activity level in patients with planter heel pain. The use of low-frequency electrical stimulation with the previous treatment protocol has no effect.

Keywords: Low frequency electrical stimulation; Massage; Painful heel; Planter fasciitis; Stretching exercises

1.3.Influence of low intensity laser therapy on diabetic polyneuropathy. Abdel-Raoof, N.A. Elnhas, N.G.b ,Elsayed,AIP Conference Proceedings, 2011:1380, 24-30.

Diabetic peripheral neuropathy is a consequence of diabetes-mediated impairment of blood flow, and resultant hypoxia of nerves that may develop within 10 years of the onset of diabetes in 40-50% of people with type 1 or type 2 diabetes. Low Intensity Laser Therapy (LILT) has been advocated for the treatment of chronic pain disorders as blood flow is an important determinant for pain relief. Comparing the effect of Helium-Neon Laser therapy versus Infrared laser therapy on blood vessels diameter and flow as well as level of sensation for neuropathy. Twenty diabetic patients suffering from neuropathy were enrolled in the study with age 45-55 years. They were assigned randomly into two equal groups in number; Group A underwent an application of He-Neon laser while Group B underwent an application of Infrared laser. Both groups received laser for 2 months. Blood flow velocity, and blood vessel diameter were investigated by using duplex Doppler ultrasound and peripheral neuropathy parameters were investigated by Semmes-Weinstein monofilament assessment. The results revealed that He-Neon laser as well as Infrared laser groups showed significant improvement in blood flow velocity, blood vessel diameter & neuropathy tested parameters after treatment but there was no significance difference between the two types of LILT. LILT is a safe, non-invasive and drug free method for improving blood flow & sensation in patients suffering from diabetic polyneuropathy in addition to preventing one of the most threatening microvascular complications of diabetes.

Keywords: Diabetic polyneuropathy; Duplex Doppler ultrasound; Helium-Neon Laser; Infrared laser; Low Intensity Laser Therapy;

1.4.Low Intensity Laser Therapy (LILT) versus transcutaneous electrical nerve stimulation on microcirculation in diabetic neuropathy. Battecha, K.H., Atya, A.M.AIP Conference Proceedings, 2011;1380: 18-23.

Reduced microcirculation is a morbid element of neuropathy and one of the most common complications of uncontrolled diabetes. Many physical modalities have gained a considerable attention for enhancing cutaneous [microcirculation in diabetic patients and prevent its serious complications. Accordingly, the present study was conducted to compare between the effect of low intensity laser therapy (LILT) and transcutaneous electrical nerve stimulation (TENS) on microcirculation in diabetic neuropathy. Thirty diabetic polyneuropathic patients ranged in age from 45-60 years participated in this study. They were randomly divided into two groups of equal number; patients in group (A) received LILT on plantar surface of foot with a dose of 3J/cm2 and wavelength (904 nm), while those in group (B) received TENS on lower leg for 30 minutes with frequency (2 HZ). Treatment was conducted 3 times/week for 6 weeks. The cutaneous microcirculation was evaluated by Laser Doppler flowmetry at the baseline and at the end of treatment. Results revealed that group (A) showed statistically significant increase in the cutaneous microcirculation compared with group (B). So, it was concluded that LILT has to be more efficient than TENS in increasing cutaneous microcirculation in patients with diabetic neuropathy.

Keywords: Diabetes mellitus; low Intensity laser Therapy; microcirculation; transcutaneous electric nerve stimulation

Semmes- Weinstein monofilament assessment

International Publication 2011: Basic Science

1.5. Slump stretching versus straight leg raising in the management of lumbar disc herniation. Rezk-Allah, S.S. ,Shehata, L.A. , Gharib, N.M. Egyptian Journal of Neurology, Psychiatry and Neurosurgery, 2011;48 (4):345-349..

Background: Intervertebral disc herniation is the most common source compressive radiculopathy. It is characterized by narrowing of the disc space and nerve root compression. Objective: The purpose of this study was to investigate the effect of slump stretching and straight leg raising on patients with lumbar disc herniation. Methods: Severity of pain and H-reflex latency were evaluated before and after treatment by using Visual Analogue Scale (VAS) and electromyography device respectively for 40 patients from both gender with lumbar disk herniation. The patients were randomly assigned into two equal groups (2 study groups). Their age ranged from 35-50 years old and they were selected from both gender. Slump stretching was conducted for patients in group I and straight leg raising was conducted for patients in group II for four weeks. Results: The results showed high significant reduction in pain and H-reflex latency ($p<0.01$) in comparison to pre-treatment values, they showed no significant difference in pain intensity between groups post-treatment while they showed a significant difference in H-reflex latency between groups post-treatment. Conclusion: It can be concluded that mobilization of the nervous system in the form of slump stretching and SLR significantly improved symptoms and decreases nerve root compression in patients with lumbar disc herniation. [Egypt J NeurolPsychiatNeurosurg. 2011; 48(4): 345-349]

Keywords: lumbar disc herniation; slump test; SLR test; pain; H-reflex latency.

1.6.Effect of sensorimotor training on balance in elderly patients with knee osteoarthritis. Ahmed, A.F.Journal of Advanced Research, 2011;2 (4):305-311.

Osteoarthritis (OA) is a chronic disabling disease that generates many impairments of functional health status. Impairments of balance are recognized in patients with knee OA. This study investigated the short term effect of sensorimotor training on balance in elderly patients with knee OA, and whether these changes were associated with impairment of functional performance. In addition the possible independent predictors of impaired balance were determined. Forty female patients with knee OA were divided into two equal groups. The control group received a traditional exercise programme and the study group received sensorimotor training in addition to traditional exercises. Blind assessment was conducted at the beginning of the study and after 6. weeks of training to measure balance [in the form of overall stability index (OSI), medial/lateral stability index (MLSI), anterior/posterior stability index (APSI)], perceived pain, proprioception acuity, knee extensor muscle torque, and functional disability. For the sensorimotor group, statistically significant improvements were recorded in all measured parameters, while the traditional exercise group recorded significant improvement only on measures of perceived pain, proprioception acuity, muscle torque, and functional disability, and non-significant changes on all balance measurements. Furthermore, the sensorimotor group produced significantly better improvement than the traditional group. The main predictor of balance was proprioception. The classic traditional exercise programme used in the management of knee OA is not enough for improving balance. Addition of sensorimotor training to the rehabilitation programme of these patients could produce more positive effects on balance and functional activity levels. The association between balance, proprioception and functional activity should be considered when treating knee OA. © 2011.

Keywords: Balance; Knee; Osteoarthritis;

International Publication 2011: Basic Science

1.7.Effect of low level laser therapy on bone histomorphometry in rats.

Adel, S.M. ,Ayad, K.E.b , Shaheen, A.A.

Life Science Journal, 2011;8 (2):372-378.

The aim of this study was to assess the histological effect of Low Level Laser Therapy (LLLT) (904 nm) on the repair of standardized bone defects on the femur of rats. Sixty male wistar rats were assigned into two equal groups. Group (A: laser group) and group (B: control group). A surgical fracture was done in middle third of femur of all rats. In group (A) a continuous wave 904 nm infrared laser was applied at dose 4 j/cm2 at fracture site immediately post operative for 7 sessions, each session was 5 minutes. The animals were killed by over dose of general anesthesia on the 15th,30th and 45th days after surgery, The specimens were processed and stained with Hematoxylin-eosin (H/E), special stain Masiontrichrome and analyzed by light microscopy. The descriptive analysis of histological imaging showed greater degree of new bone formation, osteoblastic surface and collagen fiber in the irradiated group when compared with the control group. Based on the obtained results, this study concluded that LLLT was efficient in promoting bone healing, and increasing new bone formation in the process of surgically fractured femur in animal study.

Keywords: Bone histomorphometry; Bone repair; Low Level Laser Therapy; Wistar rats

1.8. Laser versus nerve and tendon gliding exercise in treating carpal tunnel syndrome.

Atya, A.M., Mansour, W.T.

Life Science Journal, 2011;8 (2): 413-420.

Carpal tunnel syndrome (CTS) is a highly prevalent entrapment neuropathy with a major impact on hand functions. The purpose of this study was to compare the clinical effect of low level laser (LLLT) with nerve and tendon gliding exercise as a conservative treatment for carpal tunnel syndrome. Methods: Thirty female patients with mild to moderate carpal tunnel syndrome; ranged in age from 30-45 years, participated in this study. Patients were randomly divided into two groups of equal number; patients in group (A) received low level laser, while those in group (B) received nerve and tendon gliding exercises. Treatment was conducted three times/week for two successive months for both groups. Outcomes were assessed at the baseline and at the end of the two months using visual analogue Scale, grip strength measurement and nerve conduction studies. Results: Both groups showed a statistically significant reduction in pain, improvement of the grip strength and nerve conduction in favor to the group (A), that showed significant differences in all measured variables compared with group (B). Conclusion: LLLT has to be more effective treatment option than nerve and tendon gliding exercises for treatment of mild to moderate CTS. Further studies are recommended to investigate the combined effects of both interventions for treating CTS.

Keywords: Carpal tunnel syndrome; Low level laser; Nerve gliding exercises; Tendon gliding exercises

2. Biomechanics

International Publication 2011: Biomechanics

Effect of Hamstring Static Stretch Training on Knee Flexion Concentric Torque.

AmrAlmaz Abdel-aziem, Osama RagaaAbdelraouf.

Indian Journal of Physiotherapy and Occupational Therapy 2011;5 (3):100-133

Objectives: To determine the chronic effect of static stretching program of hamstring on knee flexors concentric torque. Methods: Twenty four volunteers male participants (age = 24.08 Â± 2.6 years, height 171 Â± 5.6 cm, weight = 66.5 Â± 5.8 kg). The participants performed a 30 sec static stretch for 6 weeks (three times/week). The knee extension range of motion (ROM) and hamstring concentric torque was measured before and after the static stretching program, ROM measured by universal goniometer. The hamstring concentric torque was evaluated by Biodex Multi-joint System 3, measurements performed at angular velocities 30Â° and 60Â°/sec.Results: Statistical analysis revealed significant increase in the concentric hamstring torque at angular velocities 30Â° and 60Â°/sec, also there is significant increase in the ROM due to static stretch. Conclusion: Static stretching program for the hamstring muscle was effective in increasing the concentric torque of the knee flexors at both angular velocities, also, induced increases in the amplitude of knee extension.

Keywords: Leg Exercises ;Angular Velocity

3-Cardiovascular/Respiratory Disorders and Geriatrics

International Publication 2011: Cardiovascular/Respiratory and Geriatrics

3.1.Moderate versus high intensity exercise training on leptin and selected immune system response in obese subjects.
El-Kader, S.M.A
European Journal of General Medicine, 2011;8 (4):268-272.

Obesity has adverse consequences on immune system, causing immunosuppression and thus, obese individuals have higher incidence of infections and certain types of cancer. The aim of this study was to compare changes in leptin and selected immune system response after moderate and intense aerobic exercise training in obese subjects. Method: Forty obese male subjects, their age ranged between 35 to 55 years old. The subjects were included into 2 equal groups; the first group (A) received moderate intensity aerobic exercise training. The second group (B) received high intensity aerobic exercise training for 3 months. Result: There was a 6.7% and 9.2% reduction in mean values of body mass index (BMI) and Leptin respectively and 4.8% increase in mean values of immunoglobulin G (IgG) in group (A). While, there was a 3.4% and 3.7% reduction in mean values of BMI and Leptin respectively and 2.3% increase in mean values of IgG in group (B). The mean values of BMI and Leptin were decreased and IgG was increased significantly in group (A) and group (B).Also; there was a significant difference between both groups after treatment. Conclusion: Moderate intensity aerobic exercise training on treadmill is appropriate to improve BMI, leptin and IgG in obese male patients.

Keywords: Aerobic exercise; Immune system; Leptin; Obesity

3.2. Laser acupuncture therapy combined with aerobic exercise training and pursed lips breathing in treatment of asthmatic children: A comparison of two treatment protocols.
El-Kader, S.M.A.
European Journal of General Medicine, 2011;8 (3):200-206.

Aim: About 11-15% of children less than 18 years of age suffer from bronchial asthma that impairs their overall physical ability and reduces heath related quality of life. Therefore, the development of nonpharmacological interventions to prevent asthma, reduce its severity and improve its prognosis is essential. This study compares two types of treatment protocols to determine the efficiency laser acupuncture therapy added to aerobic exercise training and pursed lips breathing in treatment of asthmatic children. Method: Forty asthmatic children, their age ranged between 8 -15 years participated in the study and divided into two groups, group (A) received laser acupuncture therapy, aerobic exercise training plus pursed lips breathing and group (B) received aerobic exercise training plus pursed lips breathing. The program consisted of three sessions per week for two months. Measurements of forced vital capacity (FVC), the forced expiratory volume in the first second (FEV1), the average of forced expiratory flow at 75-85% of forced vital capacity (FEF 75-85%) and maximum expiratory flow at 50% of forced vital capacity (MEF 50%) and number of asthmatic attacks per week were taken before and after treatment. Result: There was a significant reduction in number of asthmatic attacks per week and improvements in FVC, FEV¬1, FEF 75-85% and MEF 50% in both groups after treatment. However, there was a significant difference between mean levels of the investigated parameters in both groups after treatment. Conclusion: Laser acupuncture therapy added to aerobic exercise training and pursed lips breathing improves

treatment of asthmatic children.

Keywords: Aerobic exercise training; Bronchial asthma; Laser acupuncture therapy; Pursed lips breathing

International Publication 2011: Cardiovascular/Respiratory and Geriatrics

3.3Blood gases response to different breathing modalities in phase i of cardiac rehabilitation program after coronary artery bypass graft

El-Kader, S.M.A.

European Journal of General Medicine, 2011;8 (2):85-91.

Aim: One major cause of postoperative respiratory complications is pulmonary atelectasis. Atelectasis and the associated loss of functional alveolar units has been recognized as a major pathophysiological mechanism responsible for postoperative hypoxemia after coronary artery bypass graft (CABG). The aim of this study was to determine which therapeutic breathing method from incentive spirometry (IS), non-invasive intermittent positive pressure breathing (IPPB) and continuous positive airway pressure breathing (CPAP) in addition to postoperative pulmonary physiotherapy obtain the best improvement in blood gases in phase I of cardiac rehabilitation program after CABG. Method: Thirty six patients of both sexes who underwent CABG divided into three groups. Group (A) received breathing training with IS (5 minutes 5 times per day) in addition the chest physiotherapy program for patients after CABG and Group (B) received breathing training with CPAP (10 cmH2O for 15 minutes once daily) in addition to the chest physiotherapy program for patients after CABG., where Group(C) received breathing training with IPPB (maximum 15 cmH2O for 15 minutes once daily) in addition to the chest physiotherapy program for patients after CABG. Measurements of blood gases were done before the study in the first post operative day and repeated at the end of the study in the tenth postoperative day. Result: Blood gases were improved in all groups in addition to a significant difference between IS & CPAP and IS & IPPB groups. Where there was no significant difference between CPAP & IPPB groups. Conclusion: Incentive spirometry in addition to the

3.4 Role of aerobic exercise training in changing exercise tolerance and quality of life in alzheimer's disease

Abd El-Kader, S.M.

European Journal of General Medicine, 2011;8 (1):1-6.

Aim: Alzheimer's disease is one of the leading cause of all deaths worldwide, it contributes to a reduction in overall function and independent living and there is evidence that exercise can have an impact on the size, strength, and aerobic capacity of skeletal muscle in older people. This study was designed to detect changes in exercise tolerance and quality of life in Alzheimer's after aerobic exercise training in the form of walking and upper limbs exercises with the cycle ergometer. Method: Thirty patients with mild Alzheimer, their age ranged between 65 to 72 years and were included into 2 equal groups; group (A) received aerobic walking exercise training and upper limbs exercises with the cycle ergometer at a frequency of 3 sessions per week for two months. The second group (B) received no exercise training. Measurements of six minute walking test, hand grip strength and questionnaire of the quality of life (QOL) were obtained for both groups before and after the exercise program.Result: There was a significant increase in six minute walking test, hand grip strength and questionnaire of QOL of group (A), while the results of group (B) were not significant. There was a significant difference between both groups. Conclusion: aerobic exercise training program in the form of walking exercise and upper limbs exercises with the cycle ergometer for patients with Alzheimer's to improve their exercise tolerance and quality of life.

Keywords: Aerobic exercise; Alzheimer's disease; Exercise tolerance; Quality of life

usual respiratory physical therapy is recommended for patients in phase I of cardiac rehabilitation program after CABG.

Keywords: Blood gases; Coronary artery bypass graft; CPAP; Incentive spirometry; NIPP

International Publication 2011: Cardiovascular/Respiratory and Geriatrics

3.5Aerobic versus resistance exercise training in modulation of insulin resistance, adipocytokines and inflammatory cytokine levels in obese type 2 diabetic patients

Abd El-Kader, S.M.

Journal of Advanced Research, 2011;2 (2):179-183.

It is suggested that adipocytokines secreted by adipose tissue play a role in the development of obesity-related complications and diabetes. Regular aerobic exercise has been shown to reduce the risk of metabolic complications in obese type 2 diabetic subjects. The aim of this study was to compare the impact of aerobic versus resistance training on insulin resistance, adipocytokines and inflammatory cytokine in obese type 2 diabetic patients. Forty obese type 2 diabetic patients of both sexes with body mass index (BMI) ranging from 31 to 35kg/m2, non smokers, and free from respiratory, kidney, liver, metabolic and neurological disorders, were selected for this study. Their ages ranged from 34 to 56years. The subjects were divided into two equal groups: the first group received aerobic exercise training. The second group (B) received resisted exercise training three times a week for three months. The mean values of tumour necrosis factor-α (TNF-α), interleukin (IL-6), Assessment-Insulin Resistance (HOMA) index for insulin sensitivity and glycosylated hemoglobin (HBA1c), were significantly decreased in both groups. Also, there was a significant difference between the groups after treatment on all measured variables. It is suggested that in obese type 2 diabetic patients aerobic exercise is more appropriate for modulating insulin resistance,

3.6Ventilatory function among healthy young Saudi adults: A comparison with Caucasian reference values.

Alghadir, A.H, Aly, F.A.

Asian Biomedicine, 2011;5 (1):157-161.

Background: Ethnic differences in lung function are recognized. However, most of the modern lung functionequipments are pre-programmed with Caucasian reference values.
Objective: Measure spirometric values among healthy Saudi male and female adults and compare with theCaucasian reference values in a standard spirometer.Methods: Thirty healthy Saudi young adults (15 males and 15 females; mean age 25 years) participated in thisstudy. Forced vital capacity (FVC), forced expiratory volume in one second (FEV1), FEV1/FVC (%), and maximalvoluntary ventilation (MVV) were recorded using a portable digital spirometer.Results: Mean values of FVC, FEV1, FEV1/FVC (%) and MVV for the Saudi subjects were significantly lower thanthe Caucasians predicted values.
Conclusion: Interpretation of lung function tests of Saudi subjects based on the Caucasian prediction equationsis generally not valid, as the parameters of lung function tests in Saudi subjects are lower than the Caucasianreference values. The present results underline an urgent need for larger studies to develop prediction equationsbased on normative spirometric values for Saudi population involving subjects of all ages and both genders livingin different climates of the country.

Keywords: Caucasian, pulmonary function

adipocytokines and inflammatory cytokine levels than is resisted exercise training.

Keywords: Adipocytokines; Aerobic exercise; Inflammatory cytokine; Insulin resistance; Obesity; Resistance exercise

International Publication 2011: Cardiovascular/Respiratory and Geriatrics

3.7.Can lung volumes and capacities be used as an outcome measure for phrenic nerve recovery after cardiac surgeries?

El-Sobkey, S.B. Salem, N.A.

Journal of the Saudi Heart Association, 2011;23 (1):23-30.

Phrenic nerve is the main nerve drive to the diaphragm and its injury is a well-known complication following cardiac surgeries. It results in diaphragmatic dysfunction with reduction in lung volumes and capacities. This study aimed to evaluate the objectivity of lung volumes and capacities as an outcome measure for the prognosis of phrenic nerve recovery after cardiac surgeries. In this prospective experimental study, patients were recruited from Cardio-Thoracic Surgery Department, Educational-Hospital of College of Medicine, Cairo University. They were 11 patients with right phrenic nerve injury and 14 patients with left injury. On the basis of receiving low-level laser irradiation, they were divided into irradiated group and non-irradiated group. Measures of phrenic nerve latency, lung volumes and capacities were taken pre and post-operative and at 3-months follow up. After 3 months of low-level laser therapy, the irradiated group showed marked improvement in the phrenic nerve recovery. On the other hand, vital capacity and forced expiratory volume in the first second were the only lung capacity and volume that showed improvement consequent with the recovery of right phrenic nerve (P value <0.001 for both). Furthermore, forced vital capacity was the single lung capacity that showed significant statistical improvement in patients with recovered left phrenic nerve injury (P value <0.001). Study concluded that lung volumes and capacities cannot be used as an objective outcome measure for recovery of phrenic nerve injury after cardiac surgeries.

Keywords;Lung volumes and capacities; Phrenic nerve injury; Diaphragmatic dysfunction;Laser therapy

3.8.Pulmonary functions of children with asthma improve following massage therapy

Fattah, M.A. ,Hamdy, B.

Journal of Alternative and Complementary Medicine, 2011;17 (11):1065-1068.

Objectives: This study aimed at evaluating the effect of massage therapy on the pulmonary functions of stable Egyptian children with asthma. Design: This study was an open, randomized, controlled trial. Settings/location: The study was conducted in pediatric allergy and chest unit of the New Children's Hospital of Cairo University, Egypt. Subjects and interventions: Sixty (60) children with asthma were divided randomly into two equal groups: massage therapy group and control group. Subjects in the massage therapy group received a 20-minute massage therapy by their parents at home before bedtime every night for 5 weeks in addition to the standard asthma treatment. The control group received the standard asthma treatment alone for 5 weeks. Outcome measures: Spirometry was performed for all children on the first and last days of the study. Forced expiratory flow in first second (FEV1), forced vital capacity (FVC), FEV1/FVC and peak expiratory flow (PEF) were recorded. Results: At the end of the study, mean FEV1 of the massage therapy group was significantly higher than controls (2.3±0.8L versus 1.9±0.9L, p=0.04). There was no significant difference in FVC (2.5±0.8L versus 2.7±0.7L, p=0.43). However, FEV1/FVC ratio showed a significant improvement in the massage therapy group (92.3±21.5 versus 69.5±17, p<0.01). PEF difference was not significant (263.5±39.6 L/minute versus 245.9±32 L/minute, p=0.06). Conclusions: A beneficial role for massage therapy in pediatric asthma is suggested. It improved the key pulmonary functions of the children, namely, FEV1 and FEV1/FVC ratio. However, further research on a larger scale is warranted.

International Publication 2011: Cardiovascular/Respiratory and Geriatrics

3.9. Selected ventilatory functions response to closed and open kinematic chain training of the arm in elderly

Kandil, O.A.D.a ,Hamed, H.M.E.E.

Life Science Journal, 2011;8 (2):176-186.

Aging is associated with pulmonary alterations; these changes culminate in a decrease in muscle strength, lower level of endurance and impairment of mobility. Fortunately, increasing the level of physical activity may affect the declines of these parameters. The present work aimed to investigate the effect of closed vs. open kinematic chain exercises on ventilatory functions in elderly subjects. Thirty elderly subjects (13 female and 17 male) participated in the study their age ranged from 60 to 75 years. They were divided into two study groups equal in number. Group I comprised of 15 subjects received a training program of closed kinematic chain "supported arm exercise" and group II received a training program of open kinematic chain "unsupported arm exercise". Hand held Spirometer was used for measuring ventilatory functions. Arm ergometer, was used for closed kinematic chain (supported arm exercise group). Both groups were trained for 8 weeks, three times a week. The results showed that the vital capacity, the forced expiratory volume in 1 st second, and the maximum voluntary ventilation were significantly improved in both groups but the percentage of improvement was significantly higher in group I of closed kinematic chain training. It is concluded that the outcomes of this study may help to outline the most effective, curative and safety type of arm exercise to be included in training programs for pulmonary and orthopaedic problems in elderly.

KEYWORDS: **Kinematic chain; Mechanics of shoulder elevation; Pulmonary functions**

4-Musculoskeletal Disorders and its Surgery

International Publication 2011:Musculoskeletal Disorders and its Surgery

4.1. Taping and OKC exercises versus taping and CKC exercises in treating patients with patellofemoral pain syndrome.
Yehia N. AbdElhafz , Mohammed S. Abd El Salam , Samiha M. Abd Elkader
Indian Journal of Physiotherapy and Occupational Therapy 2011;5 (1):100-106

This study aimed to compare the combined effect (s) of taping and open kinetic chain (OKC) versus taping and closed kinetic chain (CKC) exercises in patients with patellofemoral pain syndrome (PFPS). Thirty patients with PFPS were randomly assigned to group A (tape, OKC), or group B (tape, CKC). Tape was applied, for both groups A and B using medial glide. Patients in both groups practiced exercises three times weekly for four weeks. A 10 cm visual analogue scale (VAS) was used for assessment pain. Q- angle, and congruence angle were used for assessment of patellar maltracking. Both OKC and CKC exercises combined with taping were significant in reducing pain and improving patellar alignment. However, neither intervention was significantly more efficient in reducing pain and improving patellar alignment compared to the other. Combined patellar taping and either OKC or CKC exercises were considered equally effective in treating PFPS.

Keywords: Open kinetic chain (OKC), closed kinetic chain (CKC), patellar taping, patellofemoral pain syndrome (PFPS).

5. Neuromuscular Disorders and its Surgery

International Publication 2011: Neuromuscular Disorders and its Surgery

5.1.Efficacy of gait trainer as an adjunct to traditional physical therapy on walking performance in hemiparetic cerebral palsied children: A randomized controlled trial.

Gharib, N.M.M. ,Abd El-Maksoud, G.M. , Rezk-Allah, S.S.

Clinical Rehabilitation 2011;25(10): 924-934.

Objective: To assess the effects of additional gait trainer assisted walking exercises on walking performance in children with hemiparetic cerebral palsy.Design: A randomized controlled study.Setting: Pediatric physical therapy outpatient clinic.Subjects: Thirty spastic hemiparetic cerebral palsied children of both sexes (10-13 years-19 girls and 11 boys).Methods: Children were randomly assigned into two equal groups; experimental and control groups. Participants in both groups received a traditional physical therapy exercise programme. Those in the experimental group received additional gait trainer based walking exercises which aimed to improve walking performance. Treatment was provided three times per week for three successive months.Main measures: Children received baseline and post-treatment assessments using Biodex Gait Trainer 2 assessment device to evaluate gait parameters including: average step length, walking speed, time on each foot (% of gait cycle) and ambulation index.Results: Children in the experimental group showed a significant improvement as compared with those in the control group. The ambulation index was 75.53±7.36 (11.93±2.89 change score) for the experimental group and 66.06±5.48 (2.13±4.43 change score) for the control group (t=3.99 and P=0.0001). Time of support for the affected side was 42.4±3.37 (7±2.20 change score) for the experimental group and 38.06±4.63 (3.33±6.25 change score) for the control group (t=2.92 and P=0.007). Also, there was a significant improvement in step length and

5.2.Effect of regular aerobic exercises on behavioral, cognitive and psychological response in patients with attention deficit-hyperactivity disorder.

Ahmed, G.M. , Mohamed, S.

Life Science Journal, 2011; 8 (2): 366-371.

Background and purpose: Attention Deficit-Hyperactivity Disorder (ADHD) is a common behavioral disorder started in childhood and is characterized by one or a combination of three behaviors, named hyperactivity, inattentiveness and impulsiveness. The aim of this study was to find out the value of aerobic exercises on improvement symptoms of ADHD. Patients, Materials and Methods: This study included 84 students diagnosed as having ADHD. Their age ranged from eleven to sixteen years. The students were randomly divided into two equal groups. The exercise group received ten weeks aerobic exercises program included upper limb, lower limb, trunk and neck exercises as well as running three sessions per week(In the first four weeks the session lasted for about 40 minutes and in the last six weeks the session extended to be 50 minutes). Behavior Rating scale was used to assess the students behavior before starting and after the end of ten weeks of the exercise program. Results: Results of the exercise group revealed a significant improvement in three of the five items involved in the scale(attention, motor skills and academic and classroom behavior) with $p < 0.05$ while there was no improvement in the control group ($p > 0.05$). Conclusion: It could be concluded that regular aerobic exercises program has a positive effect in improving symptoms of ADHD.

Keywords: Aerobic exercise; Attention Deficit Hyperactivity Disorder; Behavior; Cognition

walking speed in both groups.Conclusion: Gait trainer combined with traditional physiotherapy increase the chance of improving gait performance in children with spastic hemiparetic cerebral palsy..

Keywords: Cerebral palsy; gait; gait trainer; hemiparesis

International Publication 2011: Neuromuscular Disorders and its Surgery

5.3.The effect of surface spinal electric sensory stimulation on functional outcome in spastic stroke patients.

Sawan, S. AbdAllah, , Mohamed, N. , Hegazy, M.M , Gohar, Y.S

Egyptian Journal of Neurology, Psychiatry and Neurosurgery, 2011; 48 (2): 139-144.

Objective: The purpose of this study was to examine the effect of electrical sensory stimulation applied to thoracolumbar region on hyper-excitable monosynaptic reflex in stroke patients. Methods: Forty stroke patients were selected from Out-patient Clinic, Faculty of Physical Therapy, Cairo University and from El Haram specialized hospital. Patients were divided into two equal groups. Patients in the study group (n = 20) received the selected physical therapy program as well as electrical sensory stimulation to the thoraco-lumbar region where as patients in control group (n =20) received the selected physical therapy program as well as placebo electrical sensory stimulation. The following assessment including H/M ratio, dorsiflexion active range of motion and time of ten-meters walking test were measured before and after six weeks of treatment program. Results: before treatment there was no significant difference between the two groups regarding the grades of spasticity, dorsiflexion active range of motion and time of ten-meter walking test. After treatment there was a very highly significant difference between the study group and the control group regarding the grades of spasticity according to H/M ratio, highly significant difference between the study group and the control group regarding dorsiflexion active range of motion and time of ten-meter walking test. Conclusion: It can be concluded that surface electric sensory stimulation applied to thoraco-lumbar region is effective in controlling spasticity, increase dorsiflexion active range of

5.4.Does the duration of diabetes mellitus affect its complication on hand and foot? clinical and physical therapy study

Mansour, W.T. ,Aboumousa, A.M.

Egyptian Journal of Neurology, Psychiatry and Neurosurgery, 2011;48 (2): 171-176.

Background: Hand and ankle functions could be affected in diabetic patients via different factors such as neuropathy, entrapment or joint complications. The relation between these complication and duration of the diabetes is still controversy. Objective: This work aimed at assessment of the effect of duration of diabetes on the range of motion, muscle power at wrist and ankle joints beside assessment of nerve conduction of ulnar and peroneal nerves. Methods: Selection of 2 groups of diabetic patients [with relatively well controlled diabetes] with no statistical significant difference regarding the known confounding factors such as age, sex variability, level of diabetic control and body mass index to help in delineating the effect of the disease duration. A control group of healthy controls was studied also. Each group consisted of twenty patients of both sex. They were subjected to clinical neurological assessment, measuring of range of motion using electronic goniometer, muscle power using tensiometer and nerve conduction studies of ulnar and peroneal nerves. Results: Both groups of patients showed reduction in muscle power, range of motion and nerve conduction studies when compared to control. Males were more affected than females. There was no statistically significant difference due to the duration of the disease. Conclusion: Duration of diabetes did not influence the reduction of distal motor function in patients involved in this study. This may throw light to on the role of glycemic control rather than the duration of the disease on

motion of ankle and improving ten-meters walk test in stroke patients.

Keywords: Electrical sensory stimulation; Gait; H/m ratio; Spasticity; Stroke

the pathogenesis of diabetic complication.

KEYWORDS: Diabetic neuropathy; Digital goniometer; Electromyography; Muscle power; Nerve conduction velocities; Range of motion

International Publication 2011: Neuromuscular Disorders and its Surgery

5.5.Pedometer-based gait training in children with spastic hemiparetic cerebral palsy: A randomized controlled study.

Hamed, N.S. ,Abd-Elwahab, M.S.

Clinical Rehabilitation, 2011;25 (2):157-165.

Objective: To study the effect of pedometer-based gait training on changing gait parameters in children with spastic hemiparetic cerebral palsy. Design: Two group randomized controlled trial with pre-treatment and posttreatment measures. Setting: Rehabilitation clinics. Subjects: Thirty spastic hemiparetic children with cerebral palsy of both sexes (13 females and 17 males) ranging in age from six to eight years old with mean age 7.05 ± 0.78 years. Interventions: Children were randomized equally to receive pedometer-based gait training or a traditional gait training programme three times per week for three successive months. Main measures: Assessment was done before and after three months of treatment application using 3D motion analysis system with six pro-reflex cameras to evaluate spatiotemporal gait parameters. The primary outcome measure was the walking velocity while the secondary outcome measures were stride length, cadence and cycle duration. Results: There was a high statistically significant improvement in favour of the study group more than the control group concerning all the measured gait parameters. T-test results showed that velocity was 0.68 ± 0.09 m/sec (0.26 ± 0.07 change score) for study group and 0.42 ± 0.11 m/sec (0.06 ± 0.05 change score) for control group (t = 6.2) (P<0.0001) while cadence was much less significant 124.3 ± 4.3 step/min (-5.8 ± 2.1 change score) for study group and 128.7 ± 4.1 step/min (-0.86 ± 0.05 change score) for control group (t = 2.8) (P<0.008). Conclusion: Pedometer-based gait training is a useful tool that can be used in improving gait parameters in children with spastic hemiparetic cerebral palsy.

6-Obstetrics and Gynecology

International Publication 2011: Obstetrics and Gynecology

6.1.Effect of abdominal versus pelvic floor muscles exercises on vaginal and leak point pressures in mild stress urinary incontinence in obese women.

Kamel, D.M. Thabet, A.A. ,Tantawy, S.A. , Radwan, M.M.

Life Science Journal, 2011;8 (4):542-549.

Objective: To compare the benefits of 12 weeks abdominal and pelvic floor muscles (PFM) strength training for mild stress urinary incontinence (SUI) in obese women. Design: A randomized control trial with three months follow up. Setting: Bab El Sharia University Hospital. Subjects: Thirty female obese patients with mild SUI. Intervention: Abdominal exercises (Abd. ex's) group (n=15) received specific exercises for transversusabdominis and internal obliqus muscles. Whereas, pelvic floor exercises (PF ex's) group (n=15) received pelvic floor exercises. Main outcome measures: Vaginal pressure, leak point pressure (LPP) and waist hip ratio (WHR) were measured for both groups at three intervals (baseline, 12 weeks of intervention and 3months follow up i.e. 24 weeks from the start of the study). Results: Both abdominal and pelvic floor groups showed a significant increase in vaginal pressure after 12 weeks of intervention ($p < 0.0001$ and $p < 0.021$, respectively) and at follow up ($p < 0.0001$ and $p < 0.009$, respectively) compared to baseline. This effect was greater for Abd. ex's group at 12 weeks ($p < 0.041$) and at follow up ($p < 0.022$) when compared with PF ex's group. Also, both abdominal and pelvic floor groups showed a significant increase in LPP after 12 weeks of treatment ($p < 0.001$ and $p < 0.008$, respectively) and at follow up ($p < 0.0001$ and $p < 0.007$, respectively) compared to baseline; there were no significant differences between the two groups at these time points. Conclusion: Overall, the results of this study suggest that 12 weeks of abdominal

muscles strengthening training has superior effects compared to pelvic floor strength training for mild SUI in obese patients.

Keywords: Abdominal; Exercise; Obesity; Pelvic floor; Urinary incontinence

7. Pediatric and Pediatric Surgery

International Publication 2011: Pediatric and Pediatric Surgery

Traumatic brain injury in the Gaza Strip: Adults and children and their caregiver disability burden Hawamdeh, Z.M. , Ibrahim, A.I. , Mezher, A.A. **European Journal of Physical and Rehabilitation Medicine, 2011; 47 (2), 193-201.**	**Evaluation of bone mineral density in children with perinatal brachial plexus palsy: Effectiveness of weight bearing and traditional exercises.** **Ibrahim, A.I. ,Hawamdeh, Z.M. , AlSharif, A.A.** **Bone, 2011;49 (3):499-505.**
Background. Traumatic brain injury (TBI) may lead to long term behavioral, cognitive, physical, mental, social deficits which might influence daily activities of patient and caregiver. Aim. To determine the disability aspects and its levels among patients with TBI and their caregivers in Gaza Strip. Design. Cross section study with analytic descriptive structure. Setting. El-Wafa Medical Rehabilitation and Specialized Surgery Hospital in Gaza Strip in the period between 2000 to 2007. Population. A convenience sampling strategy was used to obtain one hundred patients with TBI and their caregivers. Methods. On-site visits were arranged with all participants to collect data about their functional outcome measures. These measures included: 1) Functional Independence Measurement (FIM); and 2) Disability Rating Scale (DRS) to evaluate the functional independence level and the degree of disability of patients with TBI respectively; 3) Community Integration Questionnaire (CIQ) to evaluate the degree of community integration of caregivers. Results. The worst performance of patients with TBI according to FIM was recorded in bowel and bladder control (40.1% and 35.8% respectively) while the DRS questionnaire revealed that employability established the area of greatest disability for patients with TBI (69-33%). In CIQ the greatest burden on caregivers was noted in productivity, social integration, and home integration with weight means equal 50.00%,	Purpose: 1) To investigate any evidence of bone mineral density (BMD) changes in children with Perinatal Brachial Plexus Palsy (PBPP). 2) To detect any relationship between these changes and the child age, weight, height, BMI, power index, gender, ethnicity, and the side affected. 3) To determine any possible effects of a designed weight bearing exercise program and the traditional one upon BMD of those children. Study design: Randomized single blind controlled trial. Method: A convenience sampling strategy was used to obtain 45 children with unilateral PBPP. Their ages ranged from 3 to 10. years. They were randomly divided to three equal groups. Groups were, then, randomly assigned to either interventions [Weight Bearing Exercises Program (WBEP) or Traditional Exercises Program (TEP)] or to the control treatment. Dual Energy X-Ray Absorptiometry (DXA) was used to evaluate BMD for all children at entry and approximately after six months treatment period. Results: We detected significant low entry level measurements of all BMD parameters of the affected side when compared to that of the unaffected sides (p=0.000). The mean value of the entry level calculated Z score for the affected side of all study children was equal to -1.12. ± 0.327 being in the osteopenic risk range. Furthermore, thirty children (66.7%) recorded less than (-1) Z score being in this risky range. Also, we recorded a significant improvement of all BMD parameters of the affected side after treatment in

51.67% and 56.00% respectively. Conclusions. Both patients with TBI and their caregivers reported high level of disability burden. Caregivers showed low level of community integration in the society due to caring patients with TBI. Clinical Rehabilitation Impact. This study enhances the responsible rehabilitation organizations (governmental, non-governmental and international) to improve the provided health services to patients with TBI and their caregivers and advocates these individuals' rights. **Keywords:**Brain injury; Caregivers; Disability evaluation	favor of the WBEP group when compared to that of the control and TEP groups (p=0.02, p=0.03 respectively for the affected both bones BMD parameter). Conclusions: BMD is significantly reduced in PBPP children. The retardation of bone accrual increases as the child height and weight decreases and the degree of paralysis increases. WBEP significantly promoted BMD improvement when compared to the TEP. **Keywords:** Bone density; DXA; Erb's palsy; Perinatal brachial plexus palsy; Weight bearing exercises

International Publication 2011: Pediatric and Pediatric Surgery

Geometrical analysis of back in response to spiral ankle foot orthosis in hemiplegic children.
El-Saeed, T.M.
Bioscience Research, 2011;8 (1):30-37.

This study was conducted at the Faculty of Physical Therapy, Cairo University, Egypt in 2009 through 2010, to determine any possible effects of spiral ankle foot orthosis (AFO) on back geometry in spastic hemiplegic children. Thirty spastic hemiplegic children from both sexes ranged in age from six to eight years and ranged in degree of spasticity from grade 1 to grade 2 according to the Modified Ashworth Scale were participated in this study. Control group included fifteen children and received a designed rehabilitation program. Study group included fifteen children and received the same designed rehabilitation program of control group in addition to spiral ankle foot orthosis. The rehabilitation program was conducted 3 times/week basis for 3 successive months. This evaluation protocol was conducted for every child in both groups at his/her entry prior to the start of treatment, as well as after three months using Formetric instrumentation system to measure back geometry. The obtained results indicate that, back geometrical parameters showed no statistical differences following spiral ankle foot orthosis in addition to designed exercise program at three months ($p>0.05$). From the obtained results, it can be concluded that, this study gives support to no effect of spiral ankle foot orthosis (AFO) on back geometry in spastic hemiplegic children during study time.

Posture outcomes for children suffering from obstetrical injuries.
Ismaeel, M.M.I., Al-Tohamy, A.M., Abdul-Wahab, M.S.
Bioscience Research, 2011;8 (1): 51-55.

This study was conducted at the lab of geometrical analysis of spine, Faculty of Physical Therapy, Cairo University, Egypt in 2006 to evaluate the geometrical analysis of spine of children suffering from brachial plexus injury at birth specially those of upper trunk lesion (Erb's type) and compare results with those of normal children to identify the differences between the two groups. Fifteen Erb's palsied children and fifteen normal children participated in this study. All children ranged in age from three to six years. Formetric (rastersterography) instrument was used for assessing the back geometry of both groups. The data of Erb's palsied children was compared with that of normal group through un-paired t-test with p-value at 0.05. The results of this study showed significant differences in the measured parameters including lateral deviation (rms), lateral deviation (max), kyphotic angle ICT-ITL (max) and kyphotic angle VP-T12 between the two groups. On the other hand, there was no significant difference when comparing kyphotic angle VP-ITL between both groups. From the obtained results, it can be concluded that, this study predicts the possible spinal deviations resulting from obstetrical brachial plexus injury.

Keywords: Back geometry; Hemiplegic children; Spiral ankle foot orthosis

Keywords: Erb's palsy; Rastersterography; Spinal geometry

International Publication 2011: Pediatric and Pediatric Surgery

Efficacy of cold therapy on spasticity and hand function in children with cerebral palsy **Abd El-Maksoud, G.M. ,Sharaf, M.A. , Rezk-Allah, S.S.** **Journal of Advanced Research, 2011;2 (4):319-325.**	**Endurance exercises versus treadmill training in improving muscle strength and functional activities in hemiparetic cerebral palsy.** **Khaled A. Olama.** **Egyptian Journal of Medical Human Genetics (2011) 12, 193–199**
Spasticity remains a major cause of disability among children with cerebral palsy (CP). Effective management depends on careful assessment and an interdisciplinary treatment approach. The purpose of this study was to investigate the effect of cold therapy when used in combination with conventional physical and occupational therapy to control upper limbs' spasticity and to improve hand function in children with spastic CP. Thirty children of both sexes (12 girls and 18 boys) with spastic CP with ages ranged from 4 to 6. years (mean age 62.2 ± 7.5. months) participated in this study. They had mild to moderate spasticity in elbow and wrist flexors. Children were randomly divided into two groups of equal number: group I and group II. Children in group I received cold therapy on elbow and wrist flexors immediately before the application of conventional physical and occupational therapy. Those in group II received the same conventional occupational and physical therapy only. In both groups treatment was conducted three times per week for a successive 3. months. Spasticity, range of motion (ROM) and hand function were evaluated before and after the treatment by using the Modified Ashworth Scale, the electronic goniometer and the Peabody Developmental Motor Scale, respectively. Both groups showed a statistically significant reduction in spasticity, increase in ROM and improvement of hand function but group I showed a more significant improvement. It can be concluded that	Weakness of the sound side in hemipareticcerebral palsy is one of the serious complicationswhich affect these children. Many children with hemiparetic cerebral palsy have diminished muscle power in the neglected sound side, and the application of strengthening exercises aim to improve the muscle strength and function activities and so may be helpful in the management of suchcases. In this study, endurance exercises and treadmill training was conducted to investigate its effecton increasing the strength of the quadriceps femoris and hamstring muscles of the sound side in spasticdiaplegic cerebral palsy in comparison to the effect of an endurance exercise program. Thirty spastichemiparetic children were the sample of this work. There were divided randomly into two equalgroups. The ratio of peak torque of quadriceps femoris muscle and the hamstring muscle and balancewere measured before and after six months of the application of the treatment program. Group Areceived the physiotherapy program and treadmill training, while group B received endurance exercisein the form ofDeLorme resistance exercise in addition to the same physiotherapy program givento group A. Significant improvement

cold therapy in conjunction with conventional physical and occupational therapy significantly reduced spasticity, increased ROM and improved hand function in children with spastic CP. **Keywords:**Cerebral palsy; Cold therapy; Hand function; Occupational therapy; Spasticity	were observed in all measuring variables when comparing thepost-treatment results in both groups**.** **Keywords;**Cerebral palsy;Hemi-paresis;Muscle weakness;Treadmill training;Balance

International Publication 2011: Pediatric and Pediatric Surgery

Low bone density management via capacitively coupled electrical fields and low intensity pulsed ultrasound in hemiparetic cerebral palsy. **Khaled A. Olama.** **Egyptian Journal of Medical Human Genetics 2011; 12, 193–199**	**The Effect of Transcutaneous Electrical Nerve Stimulation in the Treatment of Chronic Pelvic Pain Syndrome: Evidence based electromyographic studies.** **Ahmed F Samhan, Nermeen M Abd-Elhalim, Emam H Elnegmy, Mohamed M Roiah** **Indian Journal of Physiotherapy and Occupational Therapy. 2011;5 (3):14-17**
Osteoporosis is being increasingly recognized in pediatric practice as a consequence ofseveral factors. These include the increasing complexity of chronic conditions and the associatedtreatments managed by pediatricians. In addition, the improved care provided to children withchronic illness has led to many of them living long enough to develop osteoporosis. Many childrenwith cerebral palsy have diminished bone mineral density and the application of capacitively coupledelectrical fields and low intensity pulsed ultrasound aim to improve the formation of bone cellsand so may be helpful in the management of such cases. In this study, capacitively coupled electricalfields and low intensity pulsed ultrasound was conducted to investigate its effect on bone mineraldensity in spastic diaplegic cerebral palsy. Twenty spastic hemiparetic children were the sampleof this work. There were divided randomly into two equal groups. Bone mineral densities were measuredbefore and after six months of the application of the treatment program. Group A (control) received the physiotherapy program, while group B (study) received capacitively coupled electrical fields and low intensity pulsed ultrasound in addition to the same treatment program given to groupA. Significant improvement	Background and Objective; Chronic Pelvic Pain Syndrome type III or chronic non-bacterial prostatitis (CP/CPPS) is characterized by Lower Urinary Tract Symptoms, discomfort or pain in the pelvic region for at least 3 months of duration and sexual dysfunction. The purpose of the study was to evaluate the efficacy of TENS in the treatment of CPPS.Subjects and Methods; Forty male volunteer patients, suffering from non-bacterial CPPS, participated in the study their age was ranging from 35 to 55 years. Patients were randomly assigned into 2 groups of equal number study (group 1) and control (group 2). Patients in group 1 received TENS plus traditional medical treatment in the form of antibiotics (ofloxacin 300 mg t.d.s.), and analgesics (ibuprofen 400 mg b.d.). Patient in group 2 received placebo TENS plus the traditional medical treatment as in group 1. The parameters investigated including EMG activity at rest, and NIH-CPSI pain domain questionnaire scores.Results; The results revealed no significant difference between the two groups in all parameters (EMG activities at rest and NIH-CPSI pain, domain questionnaire) before treatment while after the treatment, significant improvement was recorded in all parameters in group 1 and non-significant was recorded in group 2.Conclusion: It could be

were observed in all measuring variables when comparing the posttreatmentresults in both groups in favor of group B. **Keywords;**Cerebral palsy;Hemi-paresis;Osteoporosis;Capacitively coupled electrical fields;Low intensity pulsedultrasound	concluded that TENS is an effective means of non-invasive symptomatic treatment of CPPS and the results of this study was based on the changes of electrical activity of pelvic floor muscles by EMG. **Keywords;**Transcutaneous Electrical Nerve Stimulation (TENS), Chronic Pelvic Pain Syndrome (CPPS), Electromyography (EMG).

8.Surgery

International Publication 2011: Surgery

Evaluation of hand function after early excision and skin grafting of burns versus delayed skin grafting: A randomized clinical trial.
Omar, M.T.A. , Hassan, A.A.
Burns, 2011;37 (4):707-713.

Introduction: Thermal injury of the hand is characterized by disfigurement and deformity with marked problems because the patient is no longer able to perform the daily living activities and function at school or work. Early excision and grafting (E&G) were introduced to decrease hospital stay, hospital cost, and septic complications and to eliminate burn toxins. In this study, E&G was compared with delayed skin grafting in deep hand burns. Materials and method: 40 patients with deep second- and third- degree hand burns with average burn size less than 30% total body surface area (TBSA) were randomly divided into E&G group and delayed grafting group. All hands in both groups were subjected to pre and post operative program of physiotherapy. Measurement of total active motion (TAM) of each digit and grip strength was recorded pre and post operative. Hand function using Jebsen-Taylor hand function test (JTHFT) was recorded three months after operation in both groups. Results: There were statistically significant differences in both groups regarding to TAM, hand grip strength and Jebsen-Taylor hand function test favoring the E&G group. Conclusion: The study concluded that early excision and skin grafting with physiotherapy gave better results than delayed grafting in terms of preservation of hand function and shortened hospital stay.

Keywords: Early surgical treatment; Hand burns; Physiotherapy

8.2.Treatment of post-mastectomy lymphedema with laser therapy: double blind placebo control randomized study.
MT, A. O., A. E. G. E. A, and E. M. AM.
J Surg Res, 2011; 185, (1): 82-90.

Background. In post-mastectomy patients, lymphedema has the potential to become a permanent progressive condition and become extremely resistant to treatment. Thus, it can results in function impairment and decrease quality of life. The aim of this study was to evaluate the effect of low level laser therapy (LLLT) on limb volume, shoulder mobility, and hand grip strength.
Material and Methods. Fifty women with breast cancer-related lymphedema were enrolled in a double- blind, placebo controlled trial. Patients were randomly assigned to active laser (n [25) and placebo (n [25) groups and received irradiation with Ga–As laser device that had wavelength of 904 nm, power of 5 mW, and spot size of 0.2 cm2 over the axillary and arm areas, three times a week for 12 wk. The total energy applied at each point was 300 mjoules over seven points, giving a dosage of 1.5 joules/cm2 in the active group. The placebo group received placebo therapy in which the laser had been disabled without affecting its apparent function. Limb circumference, shoulder mobility, and grip strength were measured before treatment and at 4, 8, and 12 wk. Results. The two groups had similar parameters at baseline. The reduction of limb volume tended to decline in both groups. The trend being more significantly pronounced in active LLLT group than placebo at 8 and 12 wk, respectively (P <0.05). Goniometric data for shoulder mobility and hand grip strength were statistically significance for LLLT group than for placebo.Conclusion. Laser treatment was found to

be effective in reducing the limb volume, increase shoulder mobility, and hand grip strength in approximately 93% of patients with postmastectomy lymphedema.

Keywords: LLLT; postmastectomy lymphedema; breast cancer.

International Publication 2011: Surgery

Anwar AbdelgayedEbid Effect of 12-weeks posterior tibial nerve stimulation in treatment of overactive bladder Indian Journal of Physiotherapy and Occupational Therapy 2011;5 (1):133-136	**Effect of isokinetic training on quadriceps pea K torque in healthy subjects and patients with burn injury** **Ahmed, E.T. , Abdel-Aziem, A.A. , Ebid, A.A.** **Journal of Rehabilitation Medicine, 2011;43 (10):930-934.**
Objective: the aim of this study is to investigate the effect of posterior tibial nerve electrical stimulation (PTN) on urodynamic parameters and its effect in treatment of overactive bladder Subjects: Sixty patients were included in this study. Their ages ranged from 20-70 years (mean age 52.96 ï¿½15.18). They were randomly allocated into two equal groups. Procedures: Group (A) received 12 weeks posterior tibial nerve electrical stimulation with frequency 1-10 HZ, pulse width 200 ï¿½HZ, intensity according to patient tolerance, duration of treatment 15 min 3 times /week for 12 weeks, while group (B) received pelvic floor exercises for 15 min 3 times/week for 12 weeks. Results: The result of this study revealed that, the bladder volume at first desire to void for group (A) as well as for group (B), showed no statistical significant difference. Bladder stability in group (A) showed a highly statistical significant improvement with a percentage 48.69% while for group (B) is not significant , by comparing both groups post-treatment, there was a statistical significant difference between groups with high percentage of improvement of the bladder stability in group (A) more than group (B). Maximum flow rate was significantly improved post-treatment for group (A) with a percentage of improvement 25.2% , as well as for group (B) with a percentage of improvement 12.37%, and by comparing both groups post treatment there was a statistical significant improvement in (A) group more than in group (B)	To evaluate the improvement rate of quadriceps muscle peak torque in healthy subjects and patients with burn injuries after an isokinetic training programme. Subjects: Thirty male volunteers, 15 healthy and 15 subjects with burn injury after complete healing, participated in the study. Methods: Concentric and eccentric torque of quadriceps was measured for both groups using an isokinetic dynamometer before and after 6 weeks of isokinetic training. The tests were performed at angular velocities of 30o/s and 90°/s. Results: There was a significant increase in the quadriceps peak torque for both groups at both angular velocities after isokinetic training. During eccentric contraction at angular velocities of 30°/s and 90°/s the percentage improvement in the burned group was higher than in the healthy group ($p = 0.003$ and $p = 0.0008$, respectively). During concentric contraction at an angular velocity of 30°/s the percentage improvement in the burned group was higher than the healthy group ($p = 0.020$). However, during concentric contraction at an angular velocity of 90°/s there was no significant difference between the groups ($p = 0.742$). Conclusion: The isokinetic training programme was effective in increasing the concentric and eccentric peak torque of the quadriceps muscle for healthy subjects and patients with burn injuries. **Keywords: Burns; Concentric training; Eccentric training.; Muscle contraction**

Conclusion: The results demonstrated that, there is objective effect of PTNS on urodynamic parameters especially bladder stability, and maximum flow rate, also PTNS is effective to suppress detrusor over activity in patient with overactive bladder. **Keywords: Posterior Tibial Nerve, Electrical stimulation, Overactive Bladder, Urgency.**	

Appendix-1

List of Journals (Publishers and Impact Factors)

N	Journal Name	Publisher	ISI(If)	N. of publication
1	AIP Conference Proceeding	American Institute of Physics (United States)		2*
2	Asian Biomedicine		**0.256***	1*
3	Bioscience Research	ISISnet publisher	-------	2
4	Bone	**Elsevier**	**4.023**	**1***
5	Burn	**Elsevier**	**1.962***	**1***
6	Clinical Rehabilitation	**SAGE**	**2.123***	**2***
7	Egyptian Journal of Medical Human Genetics	**Elsevier**		**2**
8	Egypt Journal of Psychiatric and Neurosurgery	**Elsevier**	**----**	**3**
9	European Journal of General Medicine			**4**
10	European Journal of Physical Medicine		**1.402***	**1***
11	Indian Journal of Physiotherapy and Occupational Therapy	**DevtechPublisher^printerPvt,Ltd., Fardbad**	**---**	**4**
12	Journal of Advanced Research	**Elsevier**	**---**	**3**
13	Journal of Alternative and Complementary Medicine		**1.585***	**1***
14	Journal of Rehabilitation Medicine		**2.049***	**1***

15	Journal of Surgical Research	**Elsevier**	**2.247**	**1***
16	Journal of Saudi Heart Association			**1**
17	Life science journal		**0.073***	**5***
18	World of Applied Science Journal	**IDOSI Publications**		**2**
	Total			**37**

Total number of publication (2011) =36

Total number of Publications in ISI journals = 16(43%)

Total numbers of Publication Internationally journals (non-ISI) =21(57%)

***ISI journals**

Appendix -2

List of Publications According to the Department

N	Departments	Number*	ISI journals N(%)	International (Non-ISI) N(%)	Ranke
1	**Basic Sciences**	**8**	**4 (50%)**	**4 (50%)**	**1**
2	**Biomechanics**	**1**	**----**	**1(100%)**	
3	**Cardiovascular/Respiratory Disorders and geriatric**	**9**	**3(33%)**	**6 (67%)**	**4**
4	**Musculoskeletal Disorders and its Surgery**	**1**	**---**	**1(100)**	
5	**Neuromuscular Disorders and its Surgery**	**5**	**3 (60%)**	**2(40%)**	**2**

6	**Obstetrics and Gynecology**	**1**	**1(100)**	**---**	**6**
7	**Pediatric and pediatric surgery**	**8**	**2(25%)**	**6(75%)**	**5**
8	**Surgery**	**4**	**3(75%)**	**1(25)**	**3**
Total		**37**	**16(43)**	**21(57%)**	

***Numbers According to the Initial Author**

[¥]Ranke (Number of ISI Publications)

[¶]Number According to Repetition of Authors

Appendix -3

List of Top Five Authors According to the Number of their Publications

N	Name	Department	ISI Journals
1	**Alaa I, Ibrahim**	**Pediatric PT**	**2**
2	**Mohammed TA, Omar**	**Surgery**	**2**
3	**Anwar Abd-elgyad**	**Surgery**	**2**
4	**Azza M Atya**	**Basic sciences**	**2**
5	**Nevein MM Gharib**	**Neurology PT**	**1**

Ranke According Number of Publication in ISI and their Impact Factors (IF)

Appendix-4

List of Top 10 Authors According to Highest Single Impact Factors

N	Name	Department	Single IF
1	**Alaa I, Ibrhaim**	**Pediatric**	**4.023**
2	**Mohammed Taher Ahmed Omar**	**Surgery**	**2.247**
3	**Anwar Abdelgayed**	**Surgery**	**2.247**
4	**Nevein MM Gharib**	**Neurology**	**2.123**
5	**NashwasayedHamed**	**Neurology**	**2.123**
6	**Manal Salah Abd-Elwahab**	**Pediatric**	**2.123**
7	**Gehan M Abd-Maksoud**	**Pediatric**	**2.123**

8	**Sheir S, Rezk-allah**	**Basic science**	**2.123**
9	**EmadTawfik Ahmed**	**Surgery**	**2.049**
10	**BasantHamdy**	**Cardiovascular**	**1.585**

Appendix 5

List of Top 10 Authors According Sum of Their Impact Factors

N	Name	Department	Sum IF
1	**Alaa I, Ibrhaim**	**Pediatric**	**2.712**
2	**Anwar Abdelgayed**	**Surgery**	**2.247**
3	**Nevein MM Gharib**	**Neurology**	**2.123**
4	**NashwasayedHamed**	**Neurology**	**2.123**
5	**Manal Salah Abd-Elwahab**	**Pediatric**	**2.123**
6			

	Gehan M Abd-Maksoud	**Pediatric**	**2.123**
7	**Sheir S, Rezk-allah**	**Basic science**	**2.123**
8	**Mohammed TA, Omar**	**Surgery**	**2.104**
9	**EmadTawfik Ahmed**	**Surgery**	**2.049**
10	**BasantHamdy**	**Cardiovascular**	**1.585**