

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT
DISORDER IN CHILDREN AND ITS SURGERY
PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

Physical Therapy Department for Growth and Development Disorder in children and Its Surgery

Doctoral Degree

2010

Author	:	Ahmed Maher Mohammed Gabr.
Title	:	Effect of intensive reactive balance training on selective locomotor parameters in spastic children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohammed Eltohamy.
	2.	Mohammed Tawfik Mahmoud.
	3.	Hekmat Elghadban.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	<p>BACKGROUND: Children with spastic type of cerebral palsy have difficulties in maintaining balance and postural control which is reflected on their ability to ambulate with ease and their progress in motor development especially in locomotion items of gross motor development. Increasing balance in children with spastic cerebral palsy can increase their locomotion abilities. OBJECTIVE: the purpose of this study is to evaluate the effect of balance training on balance acquisition and locomotion in spastic children. METHODS: forty children had participated in this study; they were assigned into two groups. One group represents diplegic children and the other group represents hemiplegic children. Their age was about fourteen months developmentally. Both groups received physical therapy in the form of intensive reactive balance training on the biodex system five times every week (one hundred perturbations each time) in addition to neurodevelopmental therapy based on Bobath approach. Children were evaluated pre and post treatment (three successive months) using dynamic balance testing of the biodex system (anteroposterior balance, mediolateral balance, overall balance) and locomotion subtest of the Peabody developmental motor scale II. RESULTS: the results revealed that there were significant differences in all tested parameters at the end of treatment in both groups (pre and post) with significant difference in overall balance and mediolateral balance in favor of diplegic group and of locomotive subtest of the Peabody in favor of hemiplegic group. CONCLUSION: improving balance in spastic children has positive effect on locomotion but it is not the solitary parameter that affects locomotive ability.</p>
Key words	1.	Cerebral palsy.
	2.	Spasticity.
	3.	Balance.
	4.	Biodex
	5.	Children.
	6.	Peabody.
	7.	locomotor parameters.
Arabic Title Page	:	تأثير تمارين التوازن المكثفة على بعض القياسات الحركية المختارة لدى الأطفال المصابين بالتشنج العضلي.
Library register number	:	2197-2198.

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Author	:	Amira El-Sayed Mohamed Rezk El-Bagalaty.
Title	:	Effect of Vibration on Bone Density in Obese Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Elham El-Sayed Salem.
	2.	Hatem Abd El-Rahman Sharaf El-Dien.
	3.	Sahar Abd Al-Aziz Khairy.
	4.	Gehan Mosaad Abd El-Maksoud.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	
<p>The purpose of this study was to investigate the effect of proprioceptive stimulation in the form of whole body vibration (WBV) on bone mineral density (BMD) and on body weight (BW) in obese stunted children. Thirty obese stunted children ranged in age from eight to twelve years participated in this study. They were classified into two groups of equal numbers (I and II). Dual X-ray absorptiometry (DXA) Instrumentation for measuring bone density was used for both groups, before and after three successive months of application of the treatment programs. Control group (I) received a balanced diet regimen for weight reduction, and a specially selected physiotherapy program in the form of aerobic exercise for three successive months; while study group (II) received the same regimen for weight reduction and the same selected physiotherapy program, in addition to proprioceptive stimulation in the form of (WBV) for three successive months. The pre treatment results revealed non significant differences between the two groups. Comparing the pre, post treatment mean values of the measuring variables for children of both groups revealed significant improvement in all measuring variables($P=0.0001$) but in favor to group (II) in weight reduction and decreasing body mass index, while there was no significant difference between both groups in BMD ($P=0.14$).</p>		
Key words	1.	Obese stunted children.
	2.	Balanced diet regimen.
	3.	Aerobic exercise.
	4.	Whole body vibration.
	5.	Children.
	6.	Bone mineral density.
	7.	Body weight.
	8.	Body mass index.
Arabic Title Page	:	تأثير الاهتزاز على الكثافة العظمية في الأطفال المصابين بالسمنة.
Library register number	:	2273-2274.

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PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED

Author	:	Arafa Hamed Sanosy.
Title	:	Effect of Aquatic Breathing Program on Ventilatory Functions in Asthmatic Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Elham El- Sayed Salem.
	2.	Mohamed Tawfik Mahmoud.
	3.	Mona Mostafa Mahmoud Elfalaki.
	4.	Azza Kamal Abd-Elmegied.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	
<p>The purpose of this study was to investigate the effect of aquatic breathing program on ventilatory functions in asthmatic children as compared to breathing exercises after immersion and the traditional chest physiotherapy program. Subjects: Forty five asthmatic children mild to moderate controlled persistent asthma in symptoms free intervals. (24 males and 21 females) with age ranged from 7 to10 years they were classified into three groups of equal numbers groupA,B & C Methods: All groups were evaluated before and after treatment program for ventilatory functions by using spirometry (FVC%, FEV1%, FVC / FEV1%, FEF25%, FEF50%, FEF75% and PEF %). A traditional chest physical therapy program that included positioning, manual squeezing, vibration and deep breathing exercises was established for control group A. Group B received specially designed chest physical therapy program that included positioning, manual squeezing, vibration deep breathing exercises were done after static immersion in whirl pool bath. While group C also received specially designed chest physical therapy program that included positioning, manual squeezing, vibration and deep breathing exercises were done during static immersion in whirl pool bath. The treatment program conducted for three successive months,at frequency three times per week Results: Pre and post treatment findings of the current study revealed statistically significant improvements in measured variables (FVC%, FEV1%, FEF25%, FEF50%, FEF75% and PEF%) for each group and among the three groups with comparing post treatment results. There were statistically significant mean differences between control group (A) and both study groups B & C. Although the percent of improvement (FVC% & FEV1%) parameters were higher in study group C than study group B the statistical difference between the two studies groups B & C was not significant. Conclusion: breathing exercises during immersion in whirlpool bath and / or breathing exercises after water immersion in addition to chest squeezing and vibration established a greater improvement in ventilatory functions of asthmatic children than traditional chest physical therapy program and they were considered to be safe and effective chest physical therapy programs for children with mild to moderate persistent asthma.</p>		
Key words	1.	Ventilatory Functions.
	2.	Asthmatic Children.
	3.	Aquatic Breathing Program.
	4.	Children.
Arabic Title Page	:	تأثير برنامج التمرينات التنفسية في الماء على الوظائف الرئوية في الأطفال المصابين بحساسية الصدر.
Library register number	:	2199-2200.

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Author	:	Manal Radwan Salim.
Title	:	The Prediction Of Functional Neurological Outcome In High Risk Infants.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El-Sayed Shoukry.
	2.	Amani Moussa Mohamed.
	3.	Reem Nabil Said.
	4.	Nermeen Ramy Mohamed.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	
<p>A longitudinal prospective follow up study aimed to describe the neurological statuses and neurodevelopmental statuses at different assessment ages in NICU, (at 1, 3, 6, 9 and 12 months), identify the functional neurological outcome (FNO) in high risk infants (HRI) at one year age and to compare the abilities of Brain Imaging (BI) in NICU, Neurological Examination (NE), Alberta Infant Motor Scale (AIMS) and Denver developmental screening tool (DDST) in predicting the neurological and neurodevelopmental statuses of HRI at subsequent ages and their functional neurological outcome till the end of the first year. One hundred HRI (fifty six males and forty four females) were admitted to the neonatal intensive care unit (NICU) in the Pediatric Hospital (El-Mounira), Cairo University. Each child underwent a neurological examination, neurodevelopmental levels determined by AIMS in NICU to 12 months, DDST from third to twelfth month. The results revealed that the assessment tools used in this study showed good matching between their findings from the age of 1st month. The neurological and neurodevelopmental outcomes at subsequent ages till the age of one year and FNO at the age of one year of HRI could be excellently predicted with the used assessment tools from the 3rd month except for FNO prediction with DDST as it was good. It was shown also that the predictive power of all scales showed a decreasing pattern as the time span increases between assessment ages. The AIMS scale showed the highest degree of predictive validity to the functional neurological outcome than both NE and DDST at all assessment ages from NICU till nine months age, while DDST showed the lowest degree of predictive validity at those assessment ages. NE showed no false negative cases of CP at the age of one year, AIMS and DDST having few false negative cases of CP at the age of one year in HRI so they can be used perfectly if a rule out strategy is proposed by the rehabilitation services providers. The AIMS is recommended in the regular assessment of high risk infants in addition to neurological examination at early periods of development.</p>		
Key words	1.	High Risk Infants.
	2.	Functional Neurological Outcome.
	3.	Predictability.
	4.	Neurological Outcome.
	5.	Infants.
Arabic Title Page	:	التنبؤ بالتطور العصبي الوظيفي لدى الأطفال حديثي الولادة الأكثر عرضة للأمراض.
Library register number	:	2223-2224.

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Author	:	Marwa Mostafa Ibrahim Ismael.
Title	:	Effect Of Shoes Insert On Planter Pressure In Children With Flat Feet.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohamed El-Tohamy.
	2.	Yehia Nour El-Din Tarraf.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	<p>The purpose of this study was to evaluate the effect of shoe insert on children with flat feet those with fallen longitudinal arch and compare results with those of normal children to identify the differences between them. Thirty children with flat feet divided into two groups. Group (B) received Intensive therapeutic exercises and group (C) received shoe insert in addition to Intensive therapeutic exercises and fifteen normal children group (A) participated in this study. All children ranged in age from seven to eight years. A foot scan system was used for assessing the planter pressure distribution of the three groups. The data of the two groups of children with flat feet were compared with that of normal group pre and post treatment through ANOVA test. And the data of the two groups of children with flat feet was compared with each other to identify the effect of shoe insert in treatment of those children through t-test. The results of this study showed significant differences in the foot pressure parameters including medial heel, lateral heel, mid foot, big toe, second toe and third toe between the three groups except the parameter of fourth and fifth toes.</p>
Key words	1.	Flat feet.
	2.	Shoes insert.
	3.	Intensive therapeutic exercises.
	4.	Foot scan.
	5.	Children.
	6.	Planter Pressure.
Arabic Title Page	:	تأثير فرشاة الحذاء على توزيع الضغط على القدم لدى الأطفال المصابين بتقلاطح القدمين.
Library register number	:	2238-2239.

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Author	:	Mohamed Fawzy El-Banna.
Title	:	Effect of Suit Therapy on Standing Posture Pattern in Spastic Diplegic Cerebral Palsied Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Emam Hassan El-Negmy.
	2.	Amina Hendawy.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	<p>The purpose of this study was to evaluate the effect of wearing the therapeutic suit during the application of a specially designed physical therapy program on standing posture pattern in spastic diplegic cerebral palsied children. Thirty spastic diplegic children with twelve months of age according to Denver developmental screening test participated in this study. They were classified randomly into two groups of equal numbers, control and study groups. The Formetric instrument system was used to evaluate the spinal geometry in the form of trunk imbalance, pelvic tilt, pelvic torsion, surface rotation, and lateral deviation for the two groups before and after four successive weeks of application of the treatment programs. The control group received a specially designed physical therapy program. The study group received the same specially designed physical therapy program given to the control group while wearing the therapeutic suit. The pre-treatment results revealed non significant difference in all measuring variables between the two groups. In comparing the pre and post-treatment results for the control and study groups revealed significant improvement in all measuring variables of the two groups. Post treatment significant improvement was recorded in all measuring variables between the two groups in favor of the study group.</p>
Key words	1.	Cerebral palsy.
	2.	Diplegia.
	3.	standing posture.
	4.	suit therapy.
	5.	Children.
	6.	Spastic Diplegic
Arabic Title Page	:	تأثير البدلة العلاجية علي انموذج الوقوف في الاطفال المصابين بالشلل المخي التصلبي المزودج.
Library register number	:	2215-2216.

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Author	:	Rami Mahmoud Mohammed Gharib.
Title	:	Elbow Flexor Tightness Control In Erb's Palsied Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Emam Hassan El-Negmy.
	2.	Amina Hendawy.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	
<p>The purpose of this study was to determine the effect of physical therapy on treatment of nerve dysfunction and muscle tightness following Erb's palsy, detecting which nerve root is mostly involved and introducing the right protocol to deal with elbow flexor tightness. Thirty children aged between 3 and 6 years participated in this study. They were divided randomly into two groups of equal number, 15 patients each. One group received a specifically designed program for treatment of elbow flexors tightness while the other received the traditional physical therapy program only. Evaluation of the patients in the two groups was conducted before and after the treatment program by recording the amplitude of the musculocutaneous and radial nerves on both sides to find the percentage of degeneration on the affected side using electromyography and recording the elbow extension range of motion using the goniometer. Treatment of each patient in both groups was conducted for 3 successive months at 3 times/week basis. At the end of the treatment program the results of this study revealed a significant improvement in elbow extension range of movement in both groups, also showed significant difference between both groups in favour of the study group while insignificant differences were recorded concerning amplitude changes in both radial and musculocutaneous nerves. From the obtained results it can be concluded that the selected physical therapy modalities may be considered as an important treatment modality that can control elbow flexor tightness in Erb's palsied children.</p>		
Key words	1.	Erb's palsy.
	2.	Elbow flexor tightness.
	3.	Children.
Arabic Title Page	:	التحكم فى قصر عضلات ثنى الكوع لدى الأطفال المصابين بالشلل الاربى.
Library register number	:	2301-2302.

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Author	:	Tamer Mohammed El-Saeed.
Title	:	Solid versus Spiral Ankle Foot Orthosis on Back Geometrical Analysis in Hemiparetic Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Faten Hassan Abd Al-Azeim.
	2.	Ehab Ragaa Abd El-Raaof.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	<p>The purpose of this study was to compare the effects of solid and spiral ankle foot orthosis on back geometry in spastic hemiparetic children. Thirty spastic hemiparetic children ranged in age from six to eight years participated in this study. They were classified into two groups of equal numbers (A and B). Formetric Instrumentation System for measuring back geometrical parameters was used for both groups, before, after three months and after four months of application of the treatment programs. Group A received a specially selected rehabilitation program for four months in addition to wearing solid ankle foot orthosis for first three months only while group B received the same specially selected rehabilitation program given to group A for four months in addition to wearing spiral ankle foot orthosis for first three months only. The pre treatment results revealed no significant differences between the two groups. Comparing the before treatment, after three months of treatment and after four months of treatment mean values of the measuring variables of the two groups revealed significant improvement. However, comparing the post treatment results of the two groups revealed no significant differences. It can be concluded that, there is no significant difference between using solid and spiral ankle foot orthosis on back geometry in spastic hemiparetic children.</p>
Key words	1.	Hemiparesis.
	2.	Spiral AFO.
	3.	Back Geometry.
	4.	Solid AFO.
	5.	Children.
Arabic Title Page	:	تأثير جبيرة القدم المصمتة مقابل الحلزونية على التحليل الهندسي للظهر لدى الأطفال المصابين بالخلل النصفي الطولي.
Library register number	:	2241-2242.

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Author	:	Zeinab Ahmed Hussein.
Title	:	Effect of Proprioceptive Stimulation of Upper Limb on Gait of Spastic Hemiplegic Cerebral Palsied children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohamed El Tohamy.
	2.	Ali Mustafa Ali.
	3.	Manal S. El-Din Abd El-Wahab.
Degree	:	Doctoral.
Year	:	2010.
Abstract	:	
<p>The purpose of this study was to determine the effect of proprioceptive stimulation on motion of upper limb during gait cycle of spastic hemiplegic cerebral palsied children. Forty spastic hemiplegic cerebral palsied children ranged in age from 4 to 6 years participated in this study, were classified into two groups of equal number, (control and study). The control group received a designed therapeutic exercise program based on neurodevelopmental technique while the study group received the same previous therapeutic exercise program in addition to proprioceptive stimulation for upper limb. The treatment program was conducted for both groups three days per week, over a period of six successive months. Angular displacements of shoulder, elbow, hip, knee, and ankle joints during phases of gait cycle in sagittal plane were assessed using the motion analysis for both groups before and after the suggested treatment duration. The results of this study revealed statistically significant improvement ($P<0.05$) in the measuring variables for both control and study groups in favor to study group. So proprioceptive stimulation for upper limbs can be added as an additional therapeutic modality to improve range of motion during gait cycle of hemiplegic children.</p>		
Key words	1.	Gait.
	2.	cerebral palsy.
	3.	proprioceptive stimulation.
	4.	Hemiplegia.
	5.	Children.
	6.	Upper Limb.
	7.	Spastic Hemiplegic.
Arabic Title Page	:	تأثير التقبل الذاتي للذراع علي مشي الأطفال المصابين بالشلل النصفي الطولي التشنجي.
Library register number	:	2227-2228.