

**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**

**Master Degree
2012**

Author	:	Ahmed Mohamed Naguib Abdel Sattar.
Title	:	Role of intermittent cryotherapy on hamstring strain in young athletes.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Khaled Ahmed Olama.
	2.	Hesham Anwar Amer.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to determine the role of intermittent ice application on hamstring strain in young athletes. Thirty young athletes with age range from 10-14 years all diagnosed with hamstring strain were included in this study, fifteen of them were assigned into group A (control group) and they received traditional physical therapy program which consisted of interferential current, ultrasound, eccentric exercises and stretching. The other fifteen were assigned into group B (Study group) and they received intermittent ice application for 20 minutes at the beginning at in the end of the treatment sessions along with the traditional physical therapy program mentioned before. Each group received 12 treatment sessions. Range of motion, straight leg raising and pain level were measured before and after the treatment, the data collected and analyzed statistically showed significant improvement in range of motion and straight leg raising in both the groups but no significant difference between the groups, where as pain improved significantly in the study group rather than in the control group. In conclusion both the traditional treatment and the traditional treatment plus ice application showed significant improvement regarding range of motion and straight leg raising but traditional treatment plus ice proved to be more effective and showed significant improvement regarding pain levels.</p>		
Key words	1.	hamstring strain.
	2.	Cryotherapy.
	3.	ice application.
	4.	interferential current and ultrasound.
	5.	young athletes.
Arabic Title Page	:	تأثير العلاج المتقطع بالتلج على شد العضلة الخلفية عند الرياضيين الصغار تأثير العلاج المتقطع بالتلج على شد العضلة الخلفية عند الرياضيين الصغار
Library register number	:	3093-3094.

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Author	:	Amy Zein El Din Shehata.
Title	:	Visual Perceptual Stimulation in Sensory Room and Selecting Locomotor Abilities in Children with Cerebral Palsied Spastic Diplegia.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El Sayed Shoukry.
	2.	Tarek El Sayed Omar.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to evaluate the selecting locomotor abilities (walking, running and jumping) in spastic diplegic children following the participation in visual perceptual stimulation program in addition to the designed therapeutic exercises program. Thirty spastic diplegic children of both sexes, ranged in age from five to seven years participated in this study. They were classified randomly into two groups of equal number, (study and control). The control group received selected physical therapy program. The study group received visual perceptual stimulation program (sensory pool environment) in addition to the selected therapeutic exercise program. Children were assessed using Gross Motor function Measure (GMFM), before and after 3 successive months of the treatment program. The pre- treatment results revealed no differences between the two groups. Comparing the pre and post treatment mean values of the measuring variables of each group revealed significant improvement but the study group more than control group. From the obtained results of this study, it could be concluded that, visual perceptual stimulation program had beneficial effect to be applied as modality in addition to traditional techniques used to improve the selecting locomotor abilities in children with spastic diplegia.</p>		
Key words	1.	Spastic diplegia.
	2.	locomotor abilities.
	3.	visual perceptual stimulation program.
	4.	sensory room.
	5.	Cerebral Palsied.
	6.	Spastic Diaplegic Children.
Arabic Title Page	:	التنبيه الادراكي- البصرى فى غرفة الاحاسيس و القدرات الحركيه المختاره للاطفال المصابين بالشلل الدماغى التقلصى المزدوج
Library register number	:	3049-3050.

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL
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Author	:	Asmaa Abd Elrhman Ahmed Ahmed.
Title	:	The Influence Of Trunk Control Changes On Reaching In Spastic Diaplegic Cerebral Palsied Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El Sayed Shoukry.
	2.	Gehan Mosad Abd El Maksoud.
	3.	Mostafa Hassan Aboulftoh Elsherbini.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>Background: Reaching is a critical skill that engaged in all activities of the child daily living. Although trunk control representing the core stability for whole body and main factor to gain smooth, controlled and accurate upper limb movement, there is few studies concerning the relation between trunk control changes and reaching in children with spastic diplegia. Purpose: To determine the effect of using trunk control exercises program on forward reaching and fine hand skills in spastic diplegic cerebral palsied children, and also to determine the correlation between trunk control, forward reaching and fine hand skills. Subjects: One group consisted of forty children with spastic diplegic cerebral palsy of both sexes received selected therapeutic exercise program for trunk control for one hour and half, three times per week for successive four months. Methods: Trunk control was evaluated by using Gross Motor Function Measure Scale, while hand skills was assessed using Peabody Developmental Motor Scale and angle of shoulder flexion was measured using CorelDraw Graphics Suite X5 before, after two and after four months of successive treatment. Result: Trunk control, shoulder flexion angle and hand skills showed a highly significant improvement after two months and at the end of the treatment. Conclusion: Improving the trunk control is essential for proper sitting, better forward reaching and fine hand skills.</p>
Key words	1.	Trunk control.
	2.	Reaching.
	3.	Diplegia.
	4.	Cerebral palsy.
	5.	Spastic Diaplegic Children.
Arabic Title Page	:	تأثير تغيرات التحكم في الجذع علي مهاره التوصيل في حالات الشلل التقلصي.
Library register number	:	3101-3102.

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL
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Author	:	Asmaa Mohamed Mohamed Ghalwash.
Title	:	Adhesive Taping Versus Knee Cage In Controlling Genu Recurvatum In Children With Cerebral Palsy.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Manal Salah El Dein
	2.	Shorouk Ahmed Wagdy El Shennawy.
	3.	Ihab Ragaa Abd El Raouf.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>Most children with spastic diplegia easily develop genu recurvatum due to excessive activity of the calf muscles that lead to recurvatum gait. The purpose of this study was to investigate whether there is difference between the proprioceptive effect of adhesive taping and postural awareness re-education of knee cage in controlling genu recurvatum in diplegic children. Twenty eight spastic diplegic children with chronological age ranged from 5 to 7 years participated in this study. They were evaluated using AutoCAD analysis, screen protractor and gross motor functional measurement scale before and after the 3 months treatment programs. Subjects were classified randomly into two groups of equal number. Group A received a specially designed physical therapy program while wearing knee Cage, Group B: received the same physical therapy program given to group A, while applying adhesive tapping. The results of this study revealed statistically non significant differences ($p>0.05$) between knee cage and adhesive tapping in controlling genu recurvatum in children with cerebral palsy. It can be concluded that both modalities were helpful in genu recurvatum control but knee cage was more accepted by patients.</p>
Key words	1.	Cerebral Palsy.
	2.	Spastic Diplegic Children.
	3.	Genu Recurvatum.
	4.	Knee Cage.
	5.	Adhesive Taping.
Arabic Title Page	:	دراسة مقارنة بين الأشرطة اللاصقة وجبيرة الركبة في التحكم في الانحناء الخلفي للركبة عند الأطفال المصابين بالشلل الدماغي.
Library register number	:	3059-3060.

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Author	:	Dina Hamdy Dosoki.
Title	:	Constraint -Induced Movement Therapy versus Hand Arm Bimanual Intensive Training on Hand Functions of Children with Hemiplegia.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Manal Salah El-Din Abd El-Wahab.
	2.	Ehab Ragaa Abd El-Raouf.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Background: Children with hemiplegia have limited capacity to use the impaired upper limb and bimanual coordination deficits which negatively impact daily activities. Objective: The purpose of this study was to determine the most appropriate method in improving hand functional abilities of children with hemiplegia using two interventional modalities; constraint-induced movement therapy versus bimanual hand training. Subjects and procedures: Thirty hemiparetic children from both sexes ranging in age between three and seven years participated in this study. They were classified randomly into two groups of equal numbers representing two study groups (A and B). A hand held dynamometer for measuring hand grip strength of the affected upper limb and a Peabody developmental motor scale were used for evaluating both groups, before and after 21 days of intervention. Children in group (A) received constraint induced movement therapy while those in group (B) received hand arm bimanual intensive training. Results: The pre treatment assessment revealed no statistically significant differences between the two groups. Comparing the pre and post treatment values of each group revealed significant improvement. However, comparing the post treatment results of the two groups revealed significant improvement in favor of the study Group (B). Conclusion: Hand-arm bimanual intensive training is better than constraint induced movement therapy in improving hand functions of hemiparetic children.</p>		
Key words	1.	Hemiplegia.
	2.	Constraint-Induced Movement Therapy.
	3.	Hand Functions.
	4.	Bimanual Hand Use.
	5.	Hand Arm Bimanual Intensive.
Arabic Title Page	:	مقارنة بين العلاج الحركي الناتج عن التقييد و العلاج باستخدام اليدين معاً في تغيير الوظائف اليدوية في الأطفال ذوي الشلل النصفي.
Library register number	:	3023-3024.

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Author	:	Dina Mohammed Mustafa.
Title	:	Aquatic versus land-based exercises on standing postural control in hemiparetic children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Gehan Hassan El-Meniawy.
	2.	MohammedBedair Ibrahim.
	3.	HatemAbd El-Rahman.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to compare between aquatic and land-based exercises on standing postural control in hemiparetic children. This study was conducted on thirty children from both sexes (19 boys and 11 girls) diagnosed as hemiparesis, their ages ranged from 6-9 years old. They were selected from the National Institute of Neuromotor System. They were classified randomly into two groups of equal number: study group I and study group II. The study group I received aquatic exercise program, and study group II received land-based exercise program. Balance parameters (overall, mediolateral, and anteroposterior stability indices) were evaluated using Biodex balance system. Evaluation for each child in the two groups was done before and after three months of treatment. The results of this study revealed significant improvement in the measuring variables of both study group I and study group II when comparing their pre and post treatment mean values. However, more improvement with significant difference was noticed in the study group I when comparing the post treatment results of the two groups. From these results, it could be concluded that the use of aquatic therapy for hemiparetic children is beneficial for improvement of standing postural control.</p>		
Key words	1.	Aquatic exercise.
	2.	Land-based exercise.
	3.	Standing postural control.
	4.	Hemiparesis.
Arabic Title Page	:	التمرينات المائية مقابل التمرينات الارضية على التحكم في القوام من وضع الوقوف لدى الاطفال المصابين بالخذل النصفي.
Library register number	:	3007-3008.

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Author	:	Eatedal Abdel Maula Ali.
Title	:	Effect of scapular taping on scoliotic deviation in Erb's palsied children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Gehan Hassan El-Meniawy.
	2.	Hassan Magdy El – Barbary.
	3.	Nahed Shukri Thabet.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>The purpose of this study was to determine the efficacy of scapular taping on scoliotic deviation in Erb's palsied children. This study was conducted on thirty children of both sexes(13 girl and 17 boy) having unilateral Erb's palsy, their ages ranged from 4 to 6 years old. They were from the out-patient clinic of the Faculty of Physical Therapy, Cairo University. The children back geometry was evaluated using formetric instrumentation system before and after three months of treatment. The children were classified randomly into two groups of equal number. Group (A) received a selected physical therapy program, where group (B) received the same physical therapy program given to group A, in addition to scapular taping. The results revealed significant improvement was observed in all the measured variables of the two groups (A and B), when comparing their pre and post-treatment mean values. Significant difference was also observed when comparing the post-treatment results of the two groups in the favor of group B. From the obtained results of this study it can be concluded that using scapular taping has significant effect on scoliotic deviation of Erb's palsied children, which recommended using taping technique in conjunction with different treatment procedures for children with Erb's palsy.</p>
Key words	1.	Scapular taping.
	2.	Erb's palsy.
	3.	Scoliotic deviation.
Arabic Title Page	:	تأثير لصق عظمة لوح الكتف باللاصق على الانحراف الجانبي للعمود الفقري في حالات ملخ الولادة.
Library register number	:	2793-2794.

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Author	:	El Sayed Said Abd ElKader Salem.
Title	:	Efficacy of selected chest physical therapy on neonates with respiratory distress syndrome.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohamed El-Tohamy.
	2.	Ola Said Ismiel.
Degree	:	Master.
Year	:	2012.
Abstract	:	Our study was aiming to investigate efficacy of selected chest physical therapy on neonates with respiratory distress syndrome. RDS, known as Hyaline Membrane Disease (HMD), is an acute lung disease present at birth which usually affects premature babies. Thirty neonates were included in the study, their ages ranged from 1-28 days. They were randomly divided into two equal groups. Group (A) was the control group which received medical treatment; Group (B) was the study group who received the same medical treatment in addition to chest physical therapy program in form of postural drainage positioning, percussion, vibration and suctioning. The physiotherapy sessions were conducted daily until the baby discharged from the hospital which varied for each child. The results showed significant improvement among the study group compared to control group regarding the clinical symptoms, radiological, arterial blood gases, the duration of ventilation and hospitalization. From the obtained results, it could be concluded that chest physiotherapy was of value in the management of neonatal RDS.
Key words	1.	Chest physical therapy.
	2.	respiratory distress syndrome.
	3.	neonates.
Arabic Title Page	:	العلاج الطبيعي للأطفال حديثي الولادة المصابين بمتلازمة ضيق التنفس.
Library register number	:	2835-2836.

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Author	:	Emad Abd El- Maboud Mahmoud .
Title	:	Kinematical characteristics of reaching in children with hemiplegic cerebral palsy.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Hoda Abd EL Azim EL-Talawy.
	2.	Eman Abd EL- Raouf.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>Purpose: The purposes of this study are to differentiate between spastic and normal reaching using three dimensional (3D) motion analysis, to investigate the most sensitive spatiotemporal kinematic parameter to discriminate the difference between spastic and normal reaching, and to quantify the interference of spasticity on reaching movement in children with congenital hemiplegic cerebral palsy (CHCP). Methods: Fifteen children with CHCP as study group with mean age of (6.49 ± 0.47 years) and fifteen normal typically developing (TD) children as control group with mean age of (6.25 ± 0.69 years) were studied. Participants were asked to reach forward, at self selected pace, toward one target (under one level of accuracy) at a normalized distance. Motion analysis system was used to record the trajectory of reaching performance. Kinematical variables were computed and analyzed. The interference of the degree of spasticity on reaching was determined through assessing the correlation between Modified Ashworth Scale and the kinematical variables. Findings: There were significant differences between the normal and spastic reaching. Modified Ashworth Scale was significantly correlated with Normalized Jerk Score (NJS), Number of movement units (NMU) and Peak Velocity (PV) (r=0.7-0.8). Measure of movement smoothness (NJS) presented the most sensitive kinematic parameter to discriminate between normal and spastic reaching. Interpretation: Practitioners need more sensitive measure to quantify reaching movement for judgment of the treatment effects and reflecting the degrees of motor impairment in upper extremities. It is concluded that the degree of spasticity has strong interference upon the level of motor performance. The measure of movement smoothness could be applied as a sensitive index to quantify the level of coordinative motor performance for subjects with spastic movement disorder.</p>
Key words	1.	Hemiplegic cerebral palsy.
	2.	Assessment.
	3.	Reaching.
	4.	Kinematics.
Arabic Title Page	:	الخصائص الكينيماتيكية لقدرة الوصول لليد عند الاطفال المصابين بالشلل النصفي التقلصي.
Library register number	:	2903-2904.

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Author	:	Hanaa Mohsen Abd El-Fattah EL-Mehrezy.
Title	:	Influence of Virtual Reality on Activities of Daily Living In Hemiparetic Cerebral Palsy.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El-Sayed Shoukry.
	2.	Samah Attia Tolba EL-Shemy
	3.	Mohamed Hesham Mohamed Safouh.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to determine the effect of Virtual Reality (Wii therapy) on upper limb functions which interfere with functional activities in children with hemiparesis. Thirty hemiparetic children from both sexes participated in this study. Their ages ranged from five to seven years. They were classified into two groups of equal number control group (A) and study group (B). Patients in group (A) received a designed physical therapy program and selected upper extremity exercise training program, while patients in group (B) received the same program given to group (A) in addition to Wii therapy. The Quality Upper Extremity Skill Test (QUEST) was used to evaluate the quality of upper extremity skill function in four domains: dissociated movement, grasp, weight bearing , and protective extension. The pre- treatment results revealed no significant differences between group A and B. Comparing the pre and post treatment mean values of the measuring variables of the two groups revealed significant improvement. Moreover, comparing the post treatment results of two groups revealed highly significant improvement in favor to group (B).</p>		
Key words	1.	Hemiparesis.
	2.	Virtual Reality.
	3.	Wii therapy.
	4.	Quality Upper Extremity Skill Test.
	5.	Daily Living In Hemiparetic.
	6.	Cerebral Palsy.
Arabic Title Page	:	تأثير العلاج بالواقع الافتراضية على أنشطة الحياة اليومية عند الأطفال المصابين بالخلل الشقي.
Library register number	:	2875-2876.

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Author	:	Hesham Abd-Albarry Fathy Omar.
Title	:	Effect of Whole Body Vibration on Dynamic Balance in Cerebral Palsied Children with Spastic Diplegia.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El Sayed Shoukry.
	2.	Mohamed Hossam El-Sabbagh.
	3.	Amira El-Sayed Mohamed.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to evaluate dynamic balance in spastic diplegic cerebral palsied children following participation in a physical therapy program which included designed physical therapy program and Whole Body Vibration program; three times per week for three successive months. Thirty spastic diplegic children of both sexes (15 boys and 15 girls), their age ranged from five to seven years old, chosen from the outpatient clinic of Faculty of Physical Therapy, Cairo University. They were classified randomly into two groups of equal number (Study and Control). Dynamic balance parameters were assessed by using the Biodex Balance System before and after the application of the treatment program. The results of this study revealed statistically significant improvement in the measured variables of the study and control groups when comparing their pre and post treatment mean values. In conclusion, more improvement was noticed in the study group when comparing the post treatment mean values of the study group with the control group.</p>		
Key words	1.	Cerebral Palsy.
	2.	Diplegia.
	3.	Dynamic balance.
	4.	Whole Body Vibration.
	5.	Spastic Diplegic Children.
Arabic Title Page	:	تأثير برنامج الإهتزاز الكلي للجسم على تحسين الإلتزان الديناميكي عند الأطفال المصابين بالشلل الدماغى المزدوج التقلصى فى الساقين.
Library register number	:	2775-2776.

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Author	:	Islam Mohsen Ibrahim Abdelmohsen.
Title	:	Effect of treadmill training with partial body support on children with cerebral palsy (A Systematic Review).
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohamed El Tohamy.
	2.	Shorouk Ahmed Wagdy El-Shennawy.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>Objective: The aim of this work was to discuss the studies which assess the effects of treadmill training with partial body support on functional outcomes for children with cerebral palsy in a systematic way Methods: Systematic review of randomized and clinical control trials studies. A search was made in Medline, Cochrane library, Physiotherapy evidence data base; till December 2011. Intervention: Partial body weight support treadmill training (PBWSTT) programs performed by the physical therapist in children with cerebral palsy with age between births to eighteen years. Outcome measures: Walking speed, walking endurance, spasticity, motor control, strength and gross motor function. Results: Only 3 studies met the inclusion criteria. Meta-analysis could not be done and the current level of evidence to support the effectiveness of treadmill training in children with cerebral palsy remains weak. As according to this review there is no enough support enough to use PBWSTT for children with cerebral palsy. Conclusion: The current level of evidence to support the effectiveness of treadmill training on children with cerebral palsy is not sufficient.</p>
Key words	1.	Systematic Review.
	2.	Cerebral Palsy.
	3.	Treadmill training.
	4.	Partial body support.
	5.	Gross motor function.
Arabic Title Page	:	تأثير التدريب على جهاز المشي مع الدعم الجزئي لوزن الجسم على أطفال الشلل الدماغي (فحص منهجي).
Library register number	:	3035-3036.

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Author	:	Mahmoud Samir Mohammed.
Title	:	Systematic Review Neurodevelopment Therapy for Children with Cerebral Palsy.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Elham Elsayed Salem.
	2.	Eman Abd Elraaouf Mohammed
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Purpose: The aim of this work was to systematically review the studies which assess the effects of neurodevelopmental treatment on functional activities and activities of daily living for children with cerebral palsy Methods: Neurodevelopmental treatment (NDT) programs performed by the physical therapist in children diagnosed as cerebral palsy with age between births to eighteen years. Results: Only 5 studies met the inclusion criteria. Meta-analysis could be done and the current level of evidence to support the effectiveness of neurodevelopmental treatment in children with spastic CP becomes strong. As according to this review there is no support enough to use NDT for children with cerebral palsy Conclusion: The current level of evidence to support the effectiveness of neurodevelopmental treatment on children with spastic cerebral palsy is not sufficient.</p>		
Key words	1.	Systematic Review.
	2.	Neurodevelopment Therapy.
	3.	Cerebral Palsy.
	4.	Spasticity.
	5.	Functional abilities.
	6.	bobath technique.
Arabic Title Page	:	فحص منهجي : علاج الاطفال المصابين بالشلل الدماغى بطريقة العلاج العصبى التطورى.
Library register number	:	2815-2816.

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL
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Author	:	Marian Mamdouh Fayez.
Title	:	Efficacy of hand reaching on balance in children with hemiparesis.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohamed El Tohamy.
	2.	Mohamed El Sayed El Awady.
	3.	Abd El Aziz Ali Sherief.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>Purpose: this study was designed to study the effect hand reaching on balance in children with hemiparesis. Subjects: Thirty children with age ranged from 6 to 9 years participated in this study, divided randomly into two groups of equal numbers (control & study). Methods: The control group (GA) received a specially designed exercise program for hemiparesis, while the study group (GB) received a specially designed exercise program for reaching in addition to same exercise program given to (GA). Assessment applied before and after three successive months of treatment for both groups. Assessment of balance was done by Biodex Balance master and assessment of reaching improvement was done by Reaching Performance Scale. Result: Results revealed a significant improvement in balance in both groups following treatment, also significant improvement in reaching between the two groups (post treatment) was recorded in favor of the study group. Conclusion: Bilateral arm exercises with load to the involved arm and the physical therapy designed program improve the dynamic balance for children with hemiparesis.</p>
Key words	1.	Hemiparesis.
	2.	Hand reaching.
	3.	Balance.
Arabic Title Page	:	كفاء الوصول بالذراع للهدف على الاتزان لدى الأطفال المصابين بالخلل النصفى الطولى.
Library register number	:	2763-2764.

**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**

Author	:	Mohamed Abdel Moneim Abo El Ros.
Title	:	Diclofenac phonophoresis versus classic RICE regimen in treatment of pain in Osgood Schlatter disease in athletic children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Emam H. El Negmy
	2.	Sherif M. Sokkar.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>Objective: The aim of this work was to make a comparative study between the effect of diclofenac phonophoresis in treatment of pain, enhancing range of motion in the knee joint and swelling relief of Osgood Schlatter disease in athletic children in comparison and classic RICE regimen. Methods: The study was conducted on 30 athletic children their ages, ranged from 11 to 15 years old, they were randomly assigned into two groups, 15 each. The evaluation included Visual Analogue Scale, range of motion assessment and girth measurements were done for the more affected knee before and after treatment in the two study groups. Intervention: Diclofenac phonophoresis was applied six times per week for one month (after one week of injury), which was applied at a frequency of 1 MHz and a dosage of 1.5 W /cm² and pulsed mood of 1 ms on and 5ms off. RICE was applied for one month immediately after injury. Results: the present study showed significant differences in relieving pain and increasing range of motion of flexion and extension in the more affected knee in the study group II treated with diclofenac phonophoresis while there was a significant differences in swelling relief only in the study group I treated with classic RICE regimen. Conclusion: According to the results of this study supported by the relevant literature, diclofenac phonophoresis has a significant effect in relieving pain and increasing knee range of motion of flexion and extension in patients with Osgood Schlatter disease , rather than RICE regimen.</p>
Key words	1.	Diclofenac Phonophoresis.
	2.	Osgood Schlatter disease.
	3.	RICE regimen.
	4.	Range of Motion.
	5.	pain.
	6.	athletic children.
Arabic Title Page	:	مقارنة تأثير انتقال عقار ديكلوفيناك الصوديوم مع العلاج التقليدي على علاج الألم في حالات التهاب قمة النتوء الأعلى لعظمة الساق لدى الأطفال الرياضيين.
Library register number	:	2749-2750.

**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**

Author	:	Mohamed Gaber Abd-Elrahman Shukel.
Title	:	Rotational gait abnormalities in response to lower limb modified spiral strapping in diplegic children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Gehan Hassan Elmeniawy.
	2.	Samah Attia Elshemy.
	3.	Hassan Magdy Elbarbary.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to determine the effect of modified spiral strapping on the rotational gait pattern in the ambulant spastic diplegic children. Thirty spastic diplegic children ranged in age from four to six years participated in this study. Pro-Reflex 3-D system was used to measure both hip and knee angles in transverse and sagittal plan. Each child was measured 3 times, before the period of treatment (pre) and twice 3 months post treatment, while using spiral strapping (post-1) and without it (post-2). The results of this study revealed statistically significant difference between the measuring variables when comparing its (pre) with (post-1) and (post-2) treatment mean values, in favor of measurement while wearing the modified spiral strapping (post-1). It can be concluded that the angles of both hip and knee rotation and flexion become modulated after treatment with spiral strapping but it was more modulated while wearing this modified spiral strapping.</p>		
Key words:		
Key words	1.	Rotational gait pattern.
	2.	Spiral strapping.
	3.	lower limb modified.
	4.	diplegic children.
	5.	Diplegia.
Arabic Title Page	:	استجابة أنموذج المشي الالتفافي للتربيط الحلزوني المعدل للأطراف السفلية للأطفال ذوي الشلل التقلصي المزدوج.
Library register number	:	2799-2800.

**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**

Author	:	Radwa Said Shahat Ahmed.
Title	:	Kinesio Arm Taping As Prophylaxis Against The Development Of Erb's Engram.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Emam Hassan El Negmy.
	2.	Amina Hendawy Salem.
	3.	Abd El Aziz Ali Sherief.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Aim: The purpose of this study was to investigate the effect of Kinesio taping over the deltoid and the forearm on the development of proper upper extremity function in recovering Erb's palsied children. Methods Thirty patients with Erb's Palsy (age ranges from 1 to 5 months) were equally divided into two groups; control group (A) and study group (B). Group (A) received a designed physical therapy program for the treatment of Erb's Palsy, while group (B) received the same designed treatment program in addition to Kinesio taping over the deltoid and the forearm. The subjects were evaluated and scored functionally, using the Toronto Active Motion Scale, and objectively, using an EMG device utilized to obtain the percentages of degeneration of the deltoid and the biceps muscles, at different time intervals; pretreatment and three months later during which they underwent the treatment program. Results: The results revealed statistically significant improvement in the measuring variables of both groups when comparing their pre and post-treatment mean values. Comparing the two groups' post-treatment variables, significant difference is revealed in favor of the study group (B). Conclusion The obtained results strongly support the introduction of Kinesio taping of the deltoid and the forearm as an additional procedure to the treatment program of Erb's palsied children.</p>		
Key words	1.	Erb's Palsy.
	2.	Erb's Engram.
	3.	Toronto Active Motion Scale
	4.	ENoG
	5.	Percentage of Degeneration
	6.	Kinesio Taping.
Arabic Title Page	:	لصق الذراع بشريط الكانيزيو كوقاية من نشوء أثر شلل الإرب الدائم في الفسيولوجيا العصبية.
Library register number	:	2747-2748.

**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**

Author	:	Ragae Saeed Mahmoud Al-Sakhawi.
Title	:	Effect of gait training on balance by using treadmill in children with hemophilia.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Emam Hassan El-Negmy.
	2.	Mohamed El-Sayed Alawady.
	3.	Abd ElAziz Ali Sherief.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Purpose: The present study was conducted to investigate the effect of gait training by using treadmill on balance in children with hemophilia. Subjects and Methods: Thirty hemophilic children ranging in age from seven to eleven years were assigned randomly into two groups of equal number (control and study). Control group received selective physical therapy program aiming to facilitate balance. Study group received the same exercises as the control group in addition to gait training using treadmill. Balance Master System was used to evaluate dynamic balance of all children in both groups before and after three successive months of treatment. Results: the results revealed significant differences of all measured variables of dynamic balance in two groups after three months of treatment, also revealed significant difference when compared the two groups after treatment in favor of the study group. Conclusion: Gait training using treadmill can be added to the physical therapy program aiming to improve balance in hemophilic children.</p>		
Key words	1.	Hemophilia.
	2.	Balance.
	3.	Gait training.
	4.	Balance Master System.
	5.	Treadmill.
Arabic Title Page	:	تأثير تمرين المشي على التوازن باستخدام المشاية الكهربائية في الأطفال المصابين بسيولة الدم.
Library register number	:	3109-3110.

**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**

Author	:	Rasha Salah Eldin Mohamed Mohamed.
Title	:	Response of bone mineral density to low intensity pulsed ultrasound in children with myelomeningocele.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Khaled Ahmed Olama.
	2.	Rokia Abd El- Shafy Soliman El-Banna.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to investigate the response of bone mineral density to low intensity pulsed ultrasound in children with myelomeningocele. Twenty children with age ranged from 2 to 4 years participated in this study, divided randomly into two groups of equal numbers (A&B). Dual Energy X-ray Absorptiometry device was used to measure bone density before and after three months for two groups, group A received a selected exercise program for bone mineral density, while group B received low intensity pulsed ultrasound in addition to the same program given to group A. Results: revealed statistically significant improvement in bone density in both groups ($P < 0.01$) when comparing pre and post-treatment results but with higher percentage of improvement of the study group. Conclusion: The results of this study concluded that low intensity pulsed ultrasound is effective therapeutic modality for improving bone mineral density in children with myelomeningocele.</p>		
Key words	1.	Bone Mineral Density.
	2.	Low Intensity.
	3.	Pulsed Ultrasound.
	4.	Myelomeningocele.
Arabic Title Page	:	إستجابة كثافة العظام للموجات فوق الصوتية المنخفضة الشدة المترددة في الاطفال المصابين بفتق الحبل الشوكي و سحاياه.
Library register number	:	2941-2942.

**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**

Author	:	Rehab HamedSediek.
Title	:	Function Abilities in Children with Diplegic Cerebral Palsy.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Amira Mohamed El-Tohamy.
	2.	HassanMagdy EL-Barbary.
	3.	Gehan Mosad Abd El-Maksoud.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>The purpose of the study was to determine the effect of intensive suit therapy on gross motor function abilities in spastic diplegic cerebral palsy children. Thirty children with spastic diplegic CP ranged in age from 5 to 7 years participated in this study. The study samples were divided randomly into two groups of equal numbers (study and control group). The study group received especially designed intensive physical therapy program while wearing suit (3hours per day for five days per week). The control group received the same especially designed intensive physical therapy program without suit application. Evaluation was carried out for each child of both study and control groups before and after 3 successive week of intensive treatment. It included measuring the scores of kneeling and standing dimensions by using Gross Motor Function Measure Scale (GMFM). The result of this study revealed significant improvement in kneeling and standing domain for both study and control group after the treatment. Also, significant improvement was noticed in kneeling and standing activities for study group when compared with control group after the treatment period. It can be concluded that intensive suit therapy is effective in improving gross motor skills (kneeling and standing) in children with spastic diplegic CP.</p>
Key words	1.	Cerebral palsy.
	2.	Diplegia.
	3.	Intensive Suit Therapy.
	4.	Function Abilities.
Arabic Title Page	:	فاعلية جبيرة تدريب الإحساس الداخلى الحركى على القدرات الحركية الكبرى لدى الأطفال المصابين بالشلل الدماغى التقلصى المزدوج.
Library register number	:	2849-2850.

**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**

Author	:	Sara Samir Saad El- Deen.
Title	:	Influence of Visual Perceptual Stimulation On Rolling Pattern In Children With Spastic Diplegic Cerebral Palsy.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El-Sayed Shoukry.
	2.	Mohamed Tawfik.
	3.	Marian Yousry Fahmy Guirgigs.
Degree	:	Master.
Year	:	2012.
Abstract	:	<p>The purpose of this study was to evaluate the posture pattern of rolling in spastic diplegic children following the participation in visual perceptual stimulation program in addition to the designed therapeutic exercise program. Thirty spastic diplegic children of both sexes. Their ages ranged from one to one and half years participated in this study. They were classified into two groups of equal number control group (A) and study group (B). Patients in group (A) received a selected physical therapy program, while patients in group (B) received the same program given to group (A) in addition to the visual perceptual stimulation program. Rolling dimension was assessed using Gross Motor Function Measure (GMFM), before and after 3 successive months of application of the treatment program. The pre-treatment results revealed no significant differences between group A and B. Comparing the pre and post treatment mean values of the measuring variables of each group revealed significant improvement. Moreover, comparing the post treatment results of two groups revealed highly significant difference in favor of group (B). Which suggest using visual perceptual stimulation as an additional modality in physical therapy program for spastic diplegic cerebral palsy patients.</p>
Key words	1.	spastic diplegic.
	2.	rolling pattern.
	3.	visual perceptual stimulation program.
	4.	Cerebral Palsy.
Arabic Title Page	:	تأثير برنامج تنبيه الادراك البصري علي أنموذج التقلب عند الاطفال المصابين بالشلل الدماغى التقلصى المزودج.
Library register number	:	2819-2820.

**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**

Author	:	Seham Mohamed Abd El-Moghny.
Title	:	Efficacy of Proprioceptive Stimulation on Degree of Genu Recurvatum in Children with Central Hypotonia.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Manal Salah El-Din Abd El-wahab.
	2.	Abd El-Aziz Ali Abd El-Aziz.
	3.	Fatemah Ali El-Shabacy.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Background: Children with central hypotonia suffering from genu recurvatum have knee pain, delayed functional development, and limited functional mobility than others without genu recurvatum. Objective: The purpose of this study was to determine the effect of rebounding exercise as a way of proprioceptive stimulation on genu recurvatum in children with central hypotonia. Subjects and procedures: Thirty children with central hypotonia of both sexes (including cerebral palsy and Down`s syndrome patients), ranged in age from three to five years old participated in this study. They were divided randomly to four groups (study and control for cerebral palsy and study and control for Down`s syndrome). The control groups received the treatment program including exercises following the normal developmental sequences. The study groups received rebounding exercise program in addition to the same program of the control group for three successive months. All groups were subjected to the same evaluation procedures using plain radiograph (X-ray), electrogoniometer, and GMFM scale before and after the treatment period. Results: The results of this study show a significant improvement in all measuring parameters. However, a significant difference was noticed in post treatment results for all groups in all measuring variables in favor to study groups and Down`s syndrome groups. Conclusion: The rebounding exercise could help in controlling the genu recurvatum in children with central hypotonia and improve the functional abilities especially with Down`s syndrome.</p>		
Key words	1.	Proprioceptive stimulation.
	2.	genu recurvatum.
	3.	central hypotonia.
Arabic Title Page	:	تأثير تنبيه الاحساس بحركة ووضع الجسم على الركبة المحدبة للخلف عند الاطفال المصابين بضعف التوتر العضلي المركزي.
Library register number	:	3033-3034.

**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**

Author	:	Shaimaa Mahmoud Hassan.
Title	:	Efficacy of dual-task training program on dynamic balance in children with spastic diplegia.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El Sayed Shoukry.
	2.	Kamilia Saad Abdel Hameed.
	3.	Gehan Mosad Abdel Maksoud.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Background: The purpose of this study was to investigate the efficacy of dual-task training program (dynamic balance training simultaneously with attentional task), in addition to traditional physical therapy program on dynamic balance in children with spastic diplegic. Objectives: To evaluate dynamic balance stability in children with spastic diplegic after single-task training (traditional Physical therapy program) versus dual-task training (traditional Physical Therapy program with attentional tasks) and to compare it with those healthy children. Methods: Fifteen healthy children (normal group) and twenty spastic diplegic children (classified randomly into two groups of equal number, study group I, and study group II) from both sexes, their age ranged from six to nine years, chosen from the outpatient clinic of Faculty of Physical Therapy, Cairo University. Dynamic balance parameters were assessed by using both (1) Biodex Stability System (BSS) which measured the dynamic balance parameters before and after the application of single and dual-task training program, and (2) Berg Balance Scale (BBS) which measured the parameters before and after one, two, and three months of application of the single and dual-task training program. Results: (1) The BSS revealed a statistically significant improvement in the study group I. (2) the BBS revealed statistically significant differences between study group I and study group II with significant improvement in favor of study group I. Conclusion: The significant improvement in the dynamic balance parameters (study group I) was attributed to dual-task training program.</p>		
Key words	1.	Cerebral palsy.
	2.	Postural control.
	3.	Cognition
	4.	Attention,
	5.	Dual-task.
	6.	Spastic diplegia
	7.	dynamic balance.
	8.	balance.
Arabic Title Page	:	تأثير برنامج التدريب بالمهمة المزدوجة علي الإتزان الديناميكي عند الأطفال المصابين بالشلل التقلصي المزدوج.
Library register number	:	2737-2738.

**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**

Author	:	Shimaa Mohamed Refaat.
Title	:	A Systematic Review Clinical Measures to Evaluate Children With Scoliosis.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Faten Hassan Abd El-Azim.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Study Design: A systematic review that systematically assign an observational studies (cross-sectional and cohort) for scoliosis screening. Objective: To evaluate the best current evidence on the clinical effectiveness of the Scoliometer assessment tool in children with scoliosis. Background Data: the use of Scoliometer assessment tool is controversial, and its clinical effectiveness has been diversely reported. Methods: Data sources included 3 databases, namely, Pub-Med, Google scholar, Cochrane, and the references from identified reviews and studies. Studies were included if: (1) they adopted an observational evaluative study design; (2) Were screened using mainly the Scoliometer only or combined with other screening methods (3) Reported results of diagnostic accuracy and reliability of the Scoliometer; and results of relationship of Scoliometer and Cobb angle value and its relationship with different tests. Results: Eight eligible studies, met the selection criteria, from these 3 studies involved in meta-analysis. The pooled estimate for Scoliometer diagnostic accuracy across the three studies was 71% specificity and 40% sensitivity in detecting scoliotic curvature at 5 degree criterion level by Scoliometer and measuring 10-20 degree by Cobb method at 95% confidence interval. Other outcomes were subjected to descriptive analysis. It was reported that the Scoliometer has a higher reliability for intra-rater than inter-rater measurements, and at thoracic more than lumbar region. It was reported significant correlation between Scoliometer values and Cobb angles especially at the single thoracic and thoracolumbar curves while not significant in lumbar curve. Conclusion: The results of these studies allowed us to be more confident about the results obtained from Scoliometer, which is a noninvasive means for observing trunk asymmetry, if the measurements are done by the same observer as it is easy, inexpensive, and convenient to use, it is also useful for monitoring small curves, reduce over referral, and useful for beginner screeners.</p>		
Key words	1.	Systematic review.
	2.	Clinical measures.
	3.	Scoliosis.
	4.	Evaluate Children With Scoliosis.
Arabic Title Page	:	إجراء فحص منهجي للقياسات الاكلينيكية لتقييم الاطفال ذوى الجنف.
Library register number	:	2829-2830.

**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**

Author	:	Walaa El Desoukey Tolba Heneidy.
Title	:	Gait Parameters in Children with Different Weight Abnormalities.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Kamal El Sayed Shoukry.
	2.	Sahar Abd Al Aziz Mohamed Khairy.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>The purpose of this study was to evaluate the effect of different categories of weight abnormalities on gait parameters in children. Two hundred children of both sexes (100 boys and 100 girls) divided into four groups of equal number, fifty children in each group (fifty obese, fifty overweight, fifty underweight and fifty normal weight children), their age ranged from twelve to fourteen years old, and recruited from outpatient clinic of National Nutrition Institute. Gait parameters were evaluated by using the Biodex gait trainer treadmill and compared with gait parameters of normal weight children. The results of this study revealed statistically significant differences in the measured variables between four groups. In conclusion, the obese children walked little distance with significantly slower gait speed by taking shorter steps with decrease in average step cycle than the other subjects when compared to normal weight children. While the results of the underweight children were better than the other groups but still less than the normal weight group.</p>		
Key words	1.	Obesity.
	2.	Overweight.
	3.	Underweight.
	4.	Gait Parameters.
	5.	Weight Abnormalities.
Arabic Title Page	:	مقاييس المشي عند الأطفال ذوي الأوزان غير الاعتيادية.
Library register number	:	2823-2824.

**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**

Author	:	Walaa Mahfouz Ali Bahr.
Title	:	Systematic Review: Effect Of Multi-Sensory Stimulation On Motor Development In High Risk Infants.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Faten Hassan Abd El-Azim.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Objective The aim of this systematic review was to study the effectiveness of multi-sensory stimulation on motor development in high risk infants. Methods Systematic Review of randomized controlled trials, search made in pub med, Ovid, Pedro, Cochrane and goggle scholar web site, all studies were post 1999. Selection criteria: Randomized controlled trials in which infants with gestational age between 23 weeks and 24 months corrected age or birth weight ≥ 750 grams and < 2500 g received multi-modal sensory stimulation. Intervention: Multi-modal sensory stimulation in form of: auditory-tactile-visual-vestibular and kinesthetic stimulation, it was applied either combined or at least two stimulation in high risk infants. Outcomes classified into primary; Motor development in the form of Neurodevelopmental Measures and Motor performance and secondary; Anthropometric measures, Neurological variables, Length of hospitalization, Behavioral State Responses, Physiologic Responses and Mother–Infant Interactions. Data extraction and management: two independent reviewers extracted data from included studies in this systematic review using data extraction form developed by the American Academy for cerebral palsy and Developmental Medicine. The methodological quality of the included studies reviewed through Pedro scale, assessment of risk of bias and AACPDm method of quality assessment. Results seven studies were selected, two studies included in Meta-analysis for the primary outcome, motor developmental measures, and one of secondary outcomes, weight gain. The other outcomes were subjected to descriptive analysis. Multi-sensory stimulation had a significant effect on Psychomotor Developmental Index and Mental Developmental Index, while in weight gain; it wasn't statistically significant. Conclusion There is weak evidence supporting the effect of multi-sensory stimulation on motor development in high risk infants.</p>		
Key words	1.	Systematic review.
	2.	motor development.
	3.	high risk infant.
	4.	sensory stimulation.
	5.	Multi-Sensory Stimulation.
Arabic Title Page	:	فحص منهجي: تأثير التنبيه الحسي المتعدد على النمو الحركي لدى الرضع الأكثر عرضة للخطر.
Library register number	:	2833-2834.

**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**

Author	:	Walaa Mohammad Ahmed Gado.
Title	:	Normative Data of Spinal Geometrical Measurements of Preadolescent Children.
Dept.	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
Supervisors	1.	Manal Salah El- Dein.
Degree	:	Master.
Year	:	2012.
Abstract	:	
<p>Background: Video rasterstereography device has been developed for optical back shape measurement and for biomechanical analysis of spinal and pelvic geometry. Analysis of one single measurement permits 3-dimensional reconstruction of the back surface and calculation of shape parameters. The purpose: to provide a base of normative values of spinal geometry in children in preadolescent stage aiming to be a reference base for researchers and physical therapist working in the field of children rehabilitation. Subjects: two hundred volunteer children from different primary schools in Menofia, Giza, and Cairo were divided into two groups of equal numbers Group A: 50 boys and 50 girls with two age strata from 8-10 years old and from above 10-12 years old. Group B: 50 boys and 50 girls with two age strata from 8-10 years old and from above 10-12 years old. Methods: back geometrical parameters were assessed by using the formetric rasterstereography system. Results: this study revealed no statistically significant change in the all measured variables between boys and girls. Conclusions: it was concluded that there was no statistical significant difference in back geometrical measurements of boys and girls in prepubertal stage.</p>		
Key words	1.	Back geometrical measurements.
	2.	preadolescent children.
	3.	formetric Rasterstereography.
	4.	Normative Data of of Preadolescent Children.
	5.	Spinal Geometrical Measurements.
Arabic Title Page	:	قياسات العمود الفقري في الأطفال الطبيعيين قبل البلوغ.
Library register number	:	3011-3012.

**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**

Author	:	Wessam Ali Saied Saied..
Title	:	Effect of gravity force stimulation on balance in children with Down syndrome.
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Abstract	:	
<p>The purpose of this study was to evaluate the effect of gravity force stimulation on balance in children with Down syndrome. Thirty children with Down syndrome of both sexes, their age ranged from five to eight years old, chosen from Special needs schools (El-Tarbeya El- Fekreya). They were classified randomly into two groups of equal number (Control and Study groups respectively). All children trained three times per week for thirty six sessions. Balance parameters were assessed by using the Biodex Balance System before and after the suggested treatment duration. The results of this study revealed statistically significant change in the measured variables between the study and control groups when comparing their post treatment mean values. Conclusions, Gravity force stimulation can be used for treatment of balance in children with Down syndrome.</p>		
Key words	1.	Down syndrome.
	2.	Balance.
	3.	Gravity Force Stimulation.
	4.	gravity force stimulation.
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